DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

September 1st, 2005

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

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BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

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SEPTEMBER 1st, 2005

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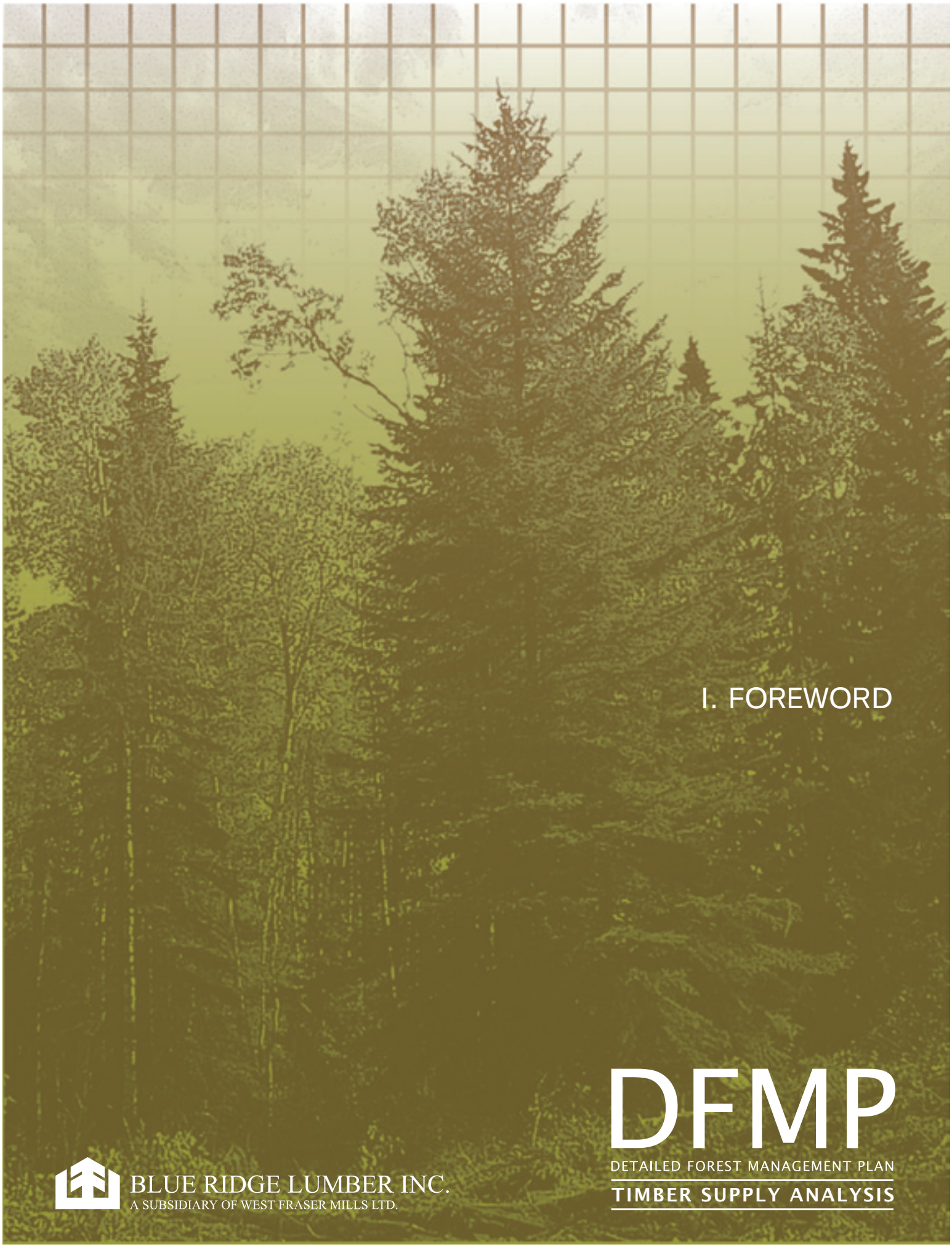


I. FOREWORD

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

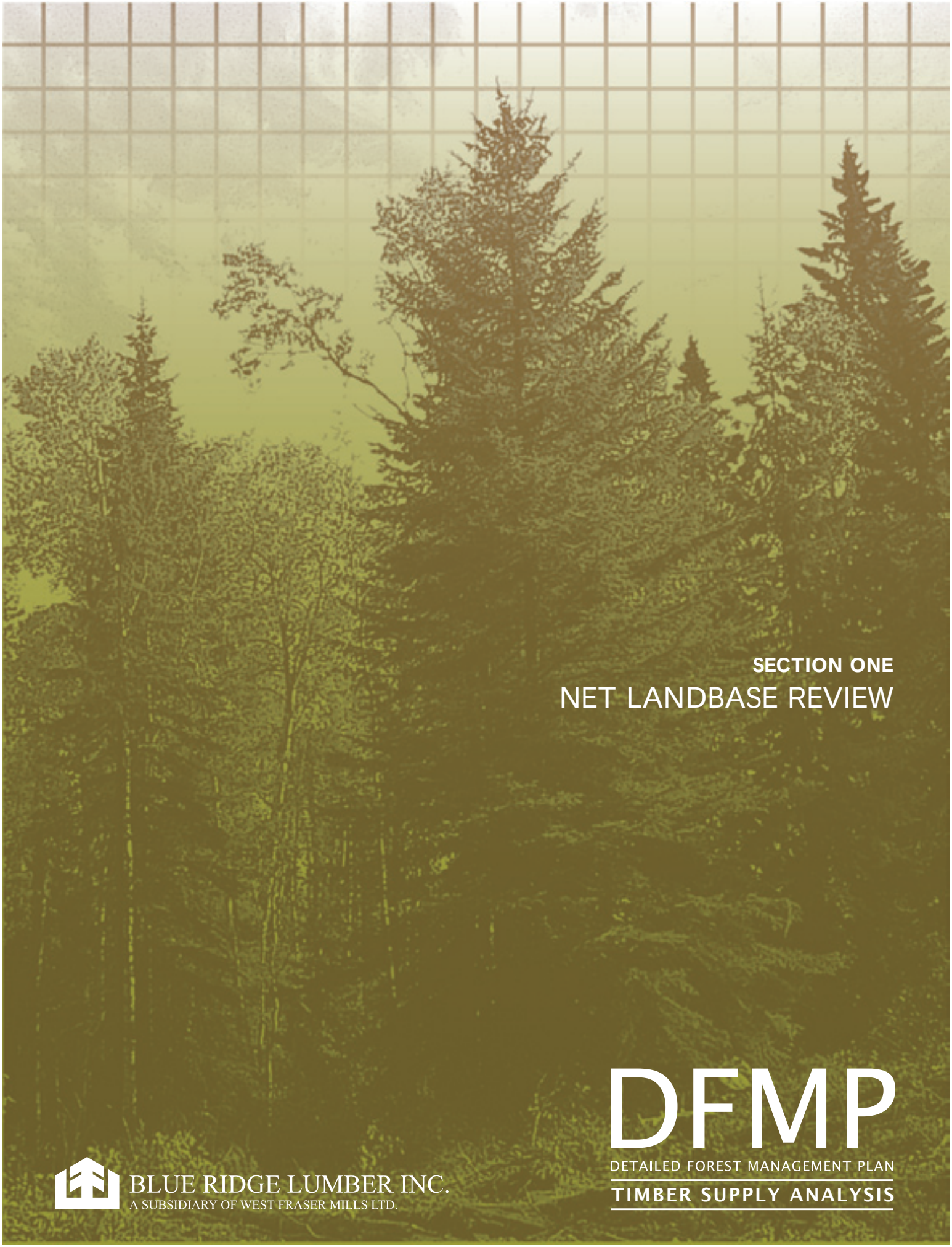
Foreword

The purpose of this document is to present the timber supply analysis (TSA) that has been undertaken for the Blue Ridge Lumber Inc. (BRL) FMA area (FMU W14). The analysis presented has evolved over several years. TSA results were presented at numerous meetings held between BRL, Quota Holders and Alberta Sustainable Resource Development (ASRD) from 2002 to 2005.

On June 1, 2004, BRL submitted a detailed forest management plan (DFMP) detailing a preferred forest management strategy (PFMS) and harvest levels for their FMA area. The DFMP was approved by ASRD on October 25, 2004 subject to approval conditions (see Executive Summary and Appendix 1 in DFMP Text Report). One of the approval conditions was to produce a 20 year tactical and operationalized spatial harvest sequence (SHS) acceptable to all tenure holders in the FMA area. This revised SHS has been incorporated into the PFMS.

To document the revision to the PFMS, as well as the actions and processes to address the other approval conditions, a re-submission of the DFMP document was required. All reporting on the PFMS was updated and is presented in the following sections.

- SECTION 1.0: Net Landbase Review – The net landbase was approved for use in the TSA by ASRD on March 20, 2002. This section highlights changes that have been made since the approval. The final net landbase data is provided on the enclosed DVD.
- SECTION 2.0: Growth and Yield Review – The growth and yield information was approved for use in the TSA by ASRD on April 16, 2002. This section highlights revisions that have been made since the approval and presents the final yield curves used in the TSA. Yield data is provided on the enclosed DVD.
- SECTION 3.0: TSA Procedures – This section highlights several of the forest management strategies (FMS) that have been reviewed throughout the BRL DFMP planning process. Comparative analysis between a single and two pass harvest scenario is also provided in this section.
- SECTION 4.0: Preferred Forest Management Strategy (PFMS) – This section presents a brief summary of the original 2004 PFMS along with a detailed analysis of the updated 2005 PFMS. A significant amount of reporting was completed on the 2005 PFMS to determine its affects on future forest conditions, patch size distributions, Grizzly Bear habitat, etc. Also summarized in this section are the 2005 PFMS annual allowable cut (AAC) estimates. The 2005 AAC estimates are very close to the 2004 estimates; including the revised SHS information ddid not have a dramatic AAC impact. The SHS data is provided on the enclosed DVD.
- SECTION 5.0: Sensitivity Analysis – There were numerous FMS that were evaluated through the BRL DFMP planning process; this section highlights some additional FMS that were completed at the request of ASRD. Also provided in this section is an indication of some future information that will be included in the TSA.



SECTION ONE

NET LANDBASE REVIEW

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

1.0 Net Landbase Review

1.1 Approved Net Landbase

A spatial coverage and associated database file of the net landbase was reviewed and approved by ASRD March 20, 2002 (Net Landbase Determination W2E, W3E & W4E). Following the approval of the net landbase analysis, several revisions occurred and were presented through the DFMP planning meetings held between BRL, quota holders and ASRD from 2002 to 2005. The purpose of this section is to highlight these net landbase revisions; the effective date of all analysis remains 2001.

1.2 Final Landbase Stratification

Table 1-1 summarizes the input coverages used in updating the approved landbase coverage. A detailed description of all the fields in the final net landbase coverage is provided in APPENDIX A.

Table 1-1: Input Spatial Coverages

GIS COVERAGE	DESCRIPTION	NET LANDBASE DATABASE FIELDS
2001 LANDBASE DETERMINATION PROCESS	APPROVED NET LANDBASE	PLEASE REFER TO THE NET LANDBASE DETERMINATION DOCUMENT FROM DECEMBER 2001
PRELIMINARY WATERSHED BOUNDARIES	PRELIMINARY WATERSHEDS BOUNDARIES DEVELOPED FOR THE BRL FMA AREA	SHED, BASIN
2004 PLANNED AND HARVESTED BLOCK UPDATES	SUPPLIED BY BRL AND QUOTA HOLDERS	OPRT_YR2, REMARK_2
OPERATIONALIZED SEQUENCE	SELECTION OF BLOCKS TO BE INCLUDED IN THE 2005 PFMS 20YR SHS BY BRL, MOSTOWICH, MWFP AND ANC	PRIORITY
MARGINALLY MERCHANTABLE STANDS	MARGINALLY MERCHANTABLE STANDS NOT TO BE INCLUDED IN THE TSA	BOG_FLAG
2004 DETAILED CONIFER INVENTORY	DETAILED CONIFER INVENTORY FOR THE AREA OF INTEREST IN VSA 2	US_AREA, UNDERKEY, O_CDENSI, O_SPATTE, O_CANOPY, O_AVG_HT, O_HT_RAN, O_SP1, O_PER1, O_SP2, O_PER2, O_SP3, O_PER3, O_FCHECK, O_YCHECK, U_CDENSI, U_SPATTE, U_CANOPY, U_AVG_HT, U_HT_RAN, US_SP1, US_PER1, US_SP2, US_PER2, US_SP3, US_PER3

1.3 Landbase Determination Revisions

Revision to the approved net landbase were disclosed and documented through the BRL DFMP planning team process. The revisions include:

1.3.1 FMU revision;

1.3.2 Preliminary watershed boundary development;

1.3.3 Cutblock species group assignment revisions;

1.3.4 Updating planned and harvested cutblock boundaries;

1.3.5 Marginally merchantable stand identification;

1.3.6 Cutblock leading species identification;

1.3.7 2004 detailed conifer inventory addition;

1.3.8 Final conifer understorey classification.

1.3.1 FMU Revision

As of December 1, 2003 FMUs W2, W3, and W4 were officially amalgamated into FMU W14. Two Volume Supply Areas (VSAs) were created; the area previously known as FMU W2 is VSA 1 and the areas previously known as FMU W3/W4 are now encompassed by VSA 2. The revised FMU and VSA assignments are illustrated in Map 1-1.

1.3.2 Preliminary Watershed Boundary Development

Preliminary Watershed Boundaries were developed using a combination of medium scale Provincial DEM and local Blue Ridge Lumber Inc. staff knowledge. These watershed boundaries have been included in the updated landbase coverage as described in Table 1-1 and are illustrated in Map 1-2.

1.3.3 Cutblock Species Group Assignment Revisions

Blue Ridge Lumber Inc. staff reviewed the landbase yield strata assignments to cutblocks and re-assigned the species groups where required. These assignments are present in the field "R_SPGP".

Map 1-1: Revised FMU and VSA Assignments

Map 1-2: Preliminary Watersheds

1.3.4 Updating Planned and Harvested Cutblock Boundaries

In December 2003, the task of incorporating the most current cutblock information into the net landbase spatial planning layer was completed. In general, harvested block boundary information current to May 1, 2003 and planned block information to the 2009/2010 harvest season was incorporated. All of these updated block boundaries were considered planned blocks for the purposes of the 2004 Timber Supply Analysis. As a result of including this new information, some revisions to the boundaries of the update and planned blocks identified in the approved landbase occurred.

The portions of update cutblocks in the approved landbase that are now identified as not harvested had all relevant attributes (i.e. YCCRWN, YC_STRAT, YCNUM, AGE, SAGE, AGECLASS) recalculated (consistent with the approved net landbase procedure). Specific revisions to the update and planned cutblocks in the approved net landbase include:

- An area within a block identified as a deletion by BRL (REMARK_2 = 'DELETE' or REMARK_2 = 'DELETE PORTION') and were within the net landbase (NETDOWN = 0) and were considered an update block in the approved landbase (CUTBLOCK = 1) were identified as (DELFLAG = 1).
- The areas to be removed from the planned blocks are identified as (REMARK_2 = 'REMOVE').

1.3.4.1 Proposed Cutblock Identifier (PLANBLC2)

All proposed blocks and update harvest blocks to be sequenced in the 2004 TSA are identified as (PLANBLC2 = 1 or 2). Proposed block assignments are illustrated in Map 1-3.

1.3.4.2 Operationalized Sequence

In October 2005, the task of incorporating the most current cutblock information into the net landbase spatial planning layer for the 2005 TSA was completed. In general, harvested block boundary information current to May 1, 2004 and planned block information for the remainder of the 20 year SHS was incorporated. All of these updated block boundaries were considered planned blocks for the purposes of the 2005 TSA. As a result of including this new information, some revisions to the boundaries of the update and planned blocks identified in the approved landbase occurred.

All operationalized harvest areas to be sequenced in the 2005 TSA are identified as (PRIORITY=1). Operationalized harvest area assignments are illustrated in Map 1-4.

1.3.5 Marginally Merchantable Stand Identification (MARMERCH)

As a result of an ecologically based review of the merchantable stands in the net landbase over 20,000 ha of net area was identified as marginally merchantable. This area is flagged as follows:

- Within the net productive area (NETDOWN = 0) and identified as a marginally merchantable stand (BOG_FLAG = 'BOG') and not a planned block (PLANBLC2 = 0) and not a cutblock (CUTBLOCK = 0) were identified as (MARMERCH = 1).[1]

This area is not being identified as landbase deletions rather they are stands within the net landbase that will not be sequenced for harvest over the entire planning horizon in the Timber Supply Analysis. The revised marginally merchantable stand assignments are illustrated in Map 1-5.

1.3.6 Cutblock Leading Species Identification

Blue Ridge Lumber Inc. staff identified a leading species for each harvested polygon. These cutblock leading species assignments, along with the AVI leading species assignments are illustrated in Map 1-6.

[1] *Based on the decision rules 10.64 ha should be identified as (MARMERCH = 1), but is identified as (MARMERCH = 0) in the landbase. This was the result of the cutblock layer changing slightly just prior to the 2004 submission (some polygons that BRL identified as cutblocks were revised and no longer identified as cutblocks). Since this affects minimal amount of area, no adjustments were made.*

Map 1-3: 2004 Proposed Blocks

Map 1-4: 2005 Operationalized Sequence

Map 1-5: Marginally Merchantable

Map 1-6: Leading Species

1.3.7 2004 Detailed Conifer Inventory Addition

A new 2004 detailed conifer inventory was completed for selected townships within the Blue Ridge Lumber Inc. FMA in March 2004 (see Map 1-7). The purpose of this inventory was to quantify conifer presence within stands with a high deciduous component (as classified in Figure 1-1). Large-scale (1:10,000) color infrared "leaf-off" aerial photography was acquired in May, 2002 for this purpose. Meetings were held between BRL, ASRD, and Silvacom in the fall of 2003 to review and discuss the detailed conifer inventory protocol. BRL, ASRD, and Silvacom also participated in a field trip on the BRL FMA on November 28, 2003 to evaluate the protocol from an operational perspective. A detailed description of the final specifications used in the classification is provided in APPENDIX B.

The detailed conifer inventory polygons (≥1 ha in size) were delineated independently of the AVI line work. An identified conifer polygon can have a maximum of two distinct layers, a primary layer and secondary layer as shown in Figure 1-2 . In cases where specific layers cannot be defined (but a range in height exists) a complex call can be used. Inventory attributes identified for each polygon layer include:

- Conifer Density Class (Stems/Hectare);
- Stem Dispersal/Canopy Pattern Descriptor;
- Average Height (m);
- Height Range (m) (included for complex layers only) ;
- Species Composition.

The 2004 detailed conifer inventory was completed by experienced AVI Level 3 certified photo interpreters in March, 2004. Numerous ground calibration plots were established in the field, prior to the commencement of the classification.

Figure 1-3 summarizes the candidate area by the presence of any conifer (> 1 stems/ha). Figure 1-4 summarizes the candidate area by the presence of significant conifer understorey (as defined by BRL, see Figure 1-6). Table 1-2 summarizes the density of conifer identified in the candidate area.

1.3.7.1 2004 Detailed Conifer Inventory Candidate Stand Selection

All conifer inventory stands identified as candidates for interpretation are defined as being in the inventory area (US_AREA = 'IN') and selected as a candidate stand (O_CDENSI ≠ ' '). The candidate stands selection scheme is outlined in Figure 1-1.

Figure 1-1: 2004 Detailed Conifer Inventory Stands Selection Scheme

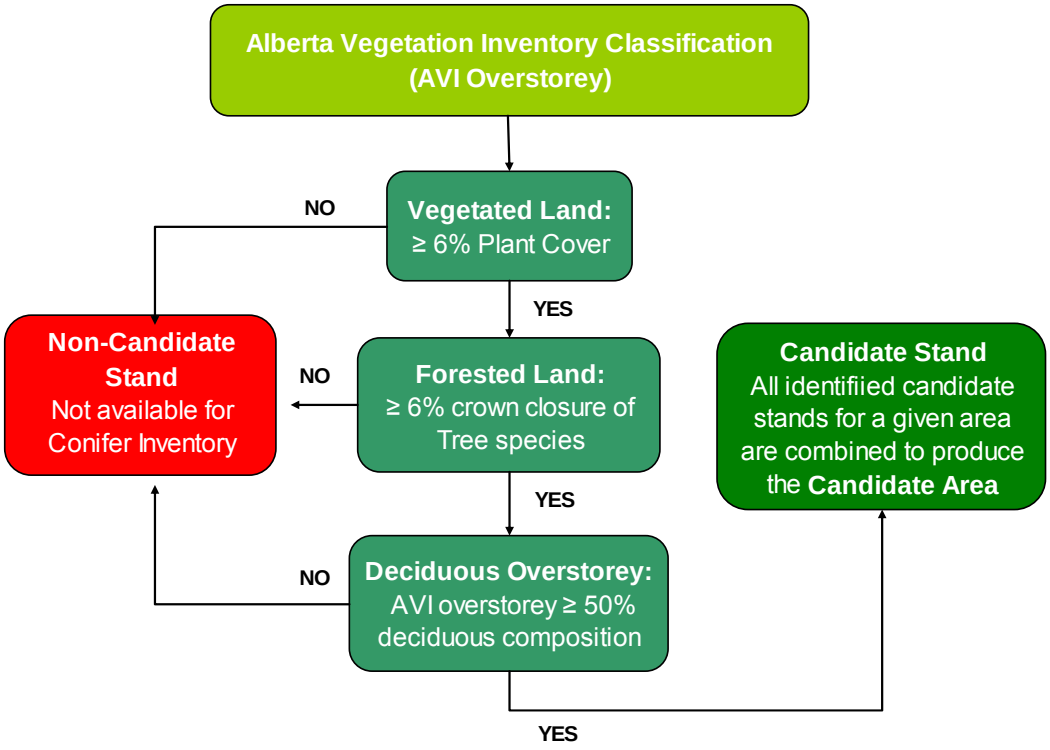
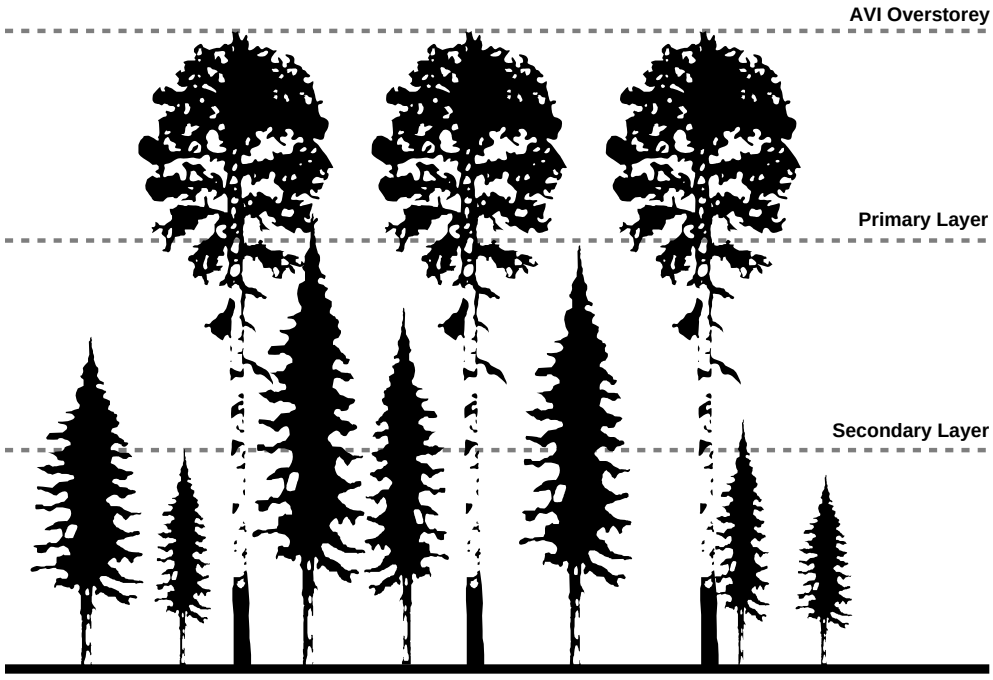


Figure 1-2: 2004 Detailed Conifer Inventory Layer Classification



Map 1-7: 2004 Detailed Conifer Inventory

Figure 1-3: Conifer Presence in the Candidate Area

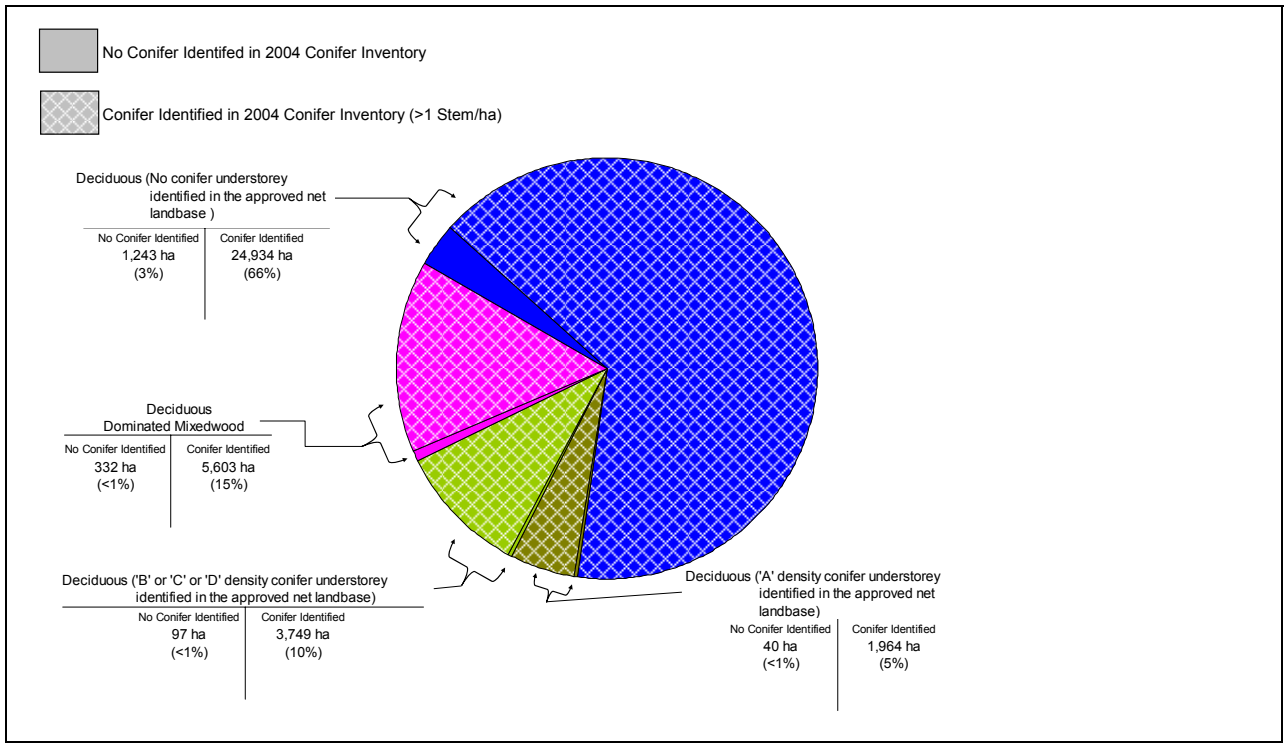


Figure 1-4: Significant Conifer Identified in the Candidate Area (as per Figure 1-7)

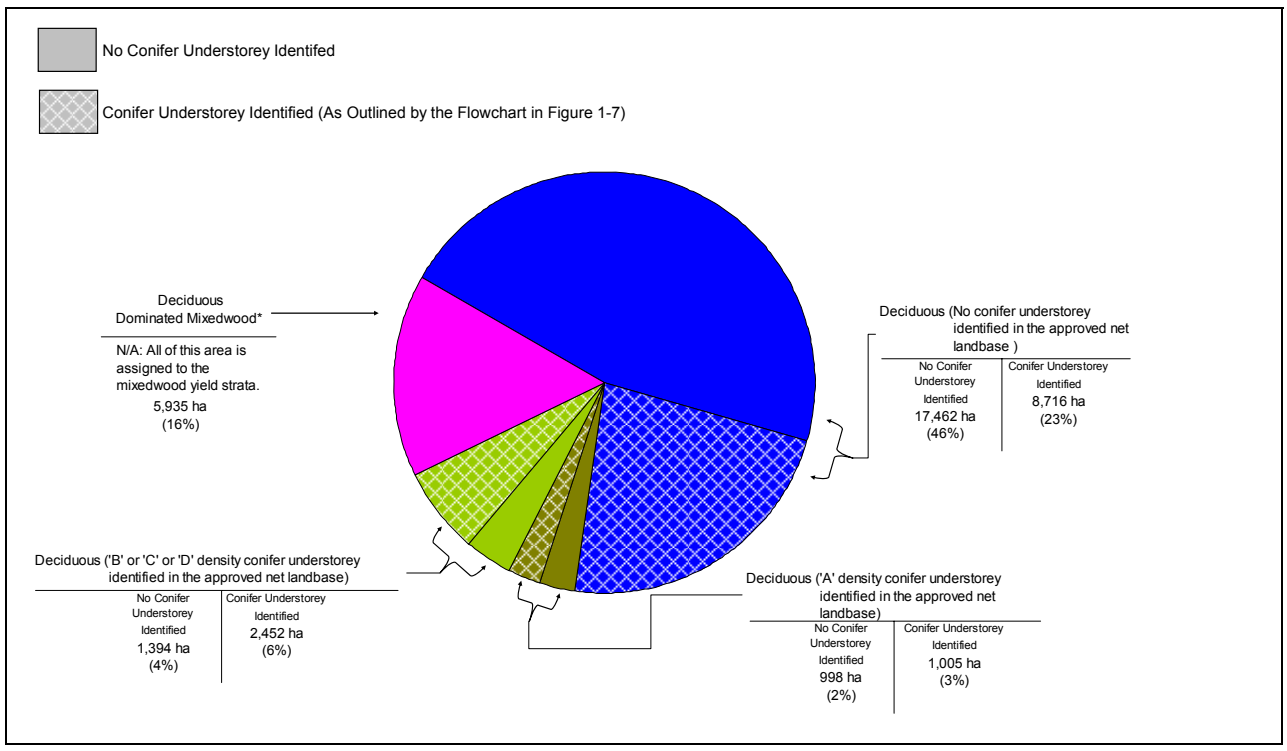
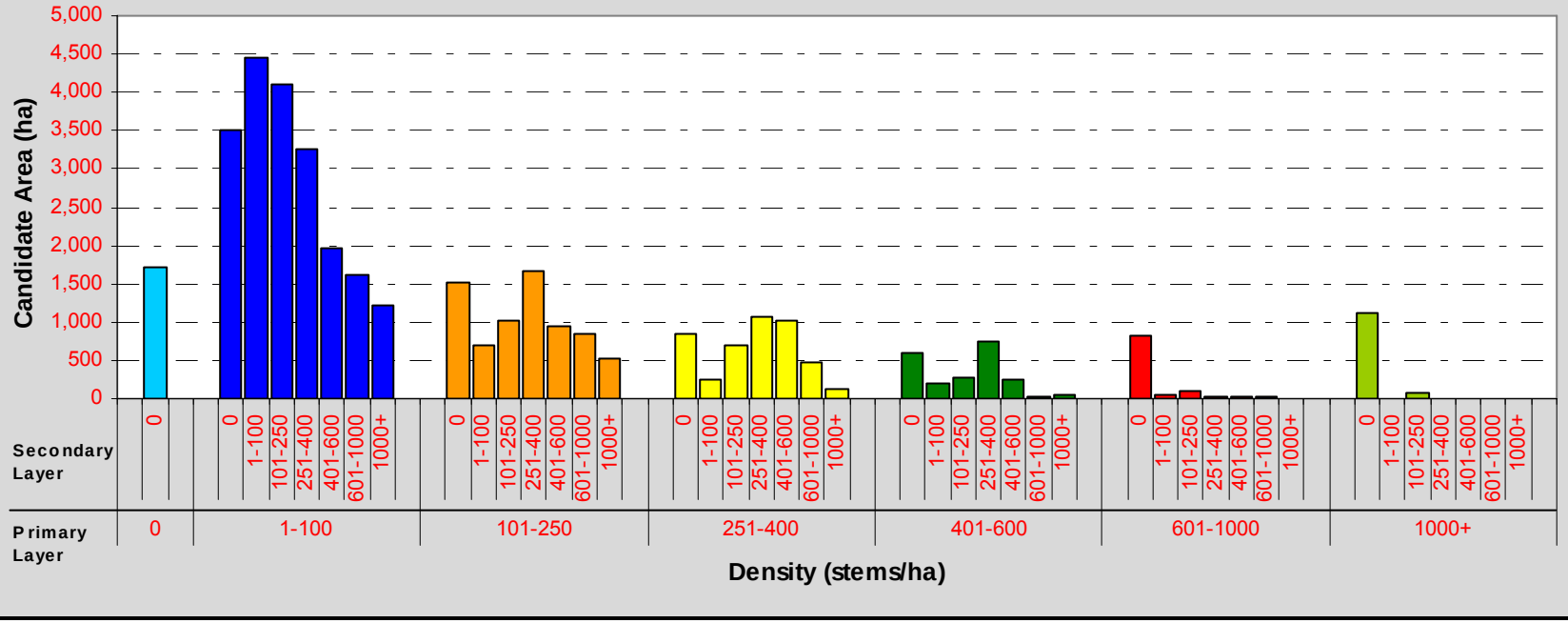


Table 1-2: 2004 Detailed Conifer Inventory Density Summary

CONIFER PRIMARY LAYER DENSITY CLASS	CONIFER SECONDARY LAYER DENSITY CLASS (STEMS/HA)															
	0		1-100		101-250		251-400		401-600		601-1000		1000+		TOTAL	
	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA	AREA (ha)	% OF CANDIDATE AREA
0	1,711	4.5	0	0	0	0	0	0	0	0	0	0	0	0	1,711	4.5
1-100	3,514	9.3	4,445	11.7	4,092	10.8	3,262	8.6	1,977	5.2	1,620	4.3	1,216	3.2	20,126	53.0
101-250	1,518	4.0	704	1.9	1,012	2.7	1,670	4.4	952	2.5	858	2.3	530	1.4	7,244	19.1
251-400	839	2.2	238	0.6	706	1.9	1,066	2.8	1,022	2.7	465	1.2	133	0.4	4,469	11.8
401-600	604	1.6	198	0.5	281	0.7	757	2.0	242	0.6	17	0.04	41	0.1	2,140	5.6
601-1000	817	2.2	46	0.1	97	0.3	37	0.1	34	0.1	17	0.04	11	0.03	1,059	2.8
1000+	1,122	3.0	9	0.02	75	0.2	7	0.02	0	0	0	0	0	0	1,213	3.2
TOTAL	10,125	26.7	5,640	14.9	6,263	16.5	6,799	17.9	4,227	11.1	2,977	7.8	1,931	5.1	37,962	100.0



1.3.7.2 Assigning Ages to the 2004 Detailed Conifer Inventory Polygons

As part of the 2004 detailed conifer inventory specifications review between ASRD, BRL, and Silvacom, it was decided that origins would not be part of the detailed conifer inventory interpretation. As such, a process for assigning ages to detailed conifer inventory polygons was required and the intensive sample of origin information was used as the data source[2]. The Chapman-Richard's Model, Equation 1, was fitted to individual tree age[3] and height data collected from ground truth plots in the inventory area[4]. From the fitted height-age model, age was expressed as a function of height and the resulting equation was used to predict understorey tree ages from their interpreted heights. Figure 1-5 displays the individual tree data and the associated fitted model curve. The individual tree data is summarized in Table 1-3 and Table 1-4.

Table 1-3: Individual Tree Data Count by Species and Age Class

Species	Age Class (years)										Total
	0-20	20-40	40-60	60-80	80-100	100-120	120-140	140-160	160-180	180-200	
FB	3	10	7	1	2						23
LT			2				1				3
PL		1	5	1	2		1				10
SB		10	10	2	2					1	25
SW	42	236	235	76	36	30	9	5			669
TOTAL	45	257	259	80	42	30	11	5	0	1	730

Table 1-4: Individual Tree Data Count by Species and 10 m Height Class

Species	Height Class (M)				Total
	0-10*	10-20	20-30	30-40	
FB	14	8	1		23
LT		3			3
PL		4	6		10
SB	14	11			25
SW	267	296	101	5	669
TOTAL	295	322	108	5	730

*No trees aged below 1.3 meters were measured.

[2] *730 origins were measured during the ground truthing portion of the conifer inventory*

[3] *Tree ages taken at stump height (0.3 m)*

[4] *Individual tree data collection procedures outlined in APPENDIX B*

Equation 1: Chapman Richard's Model

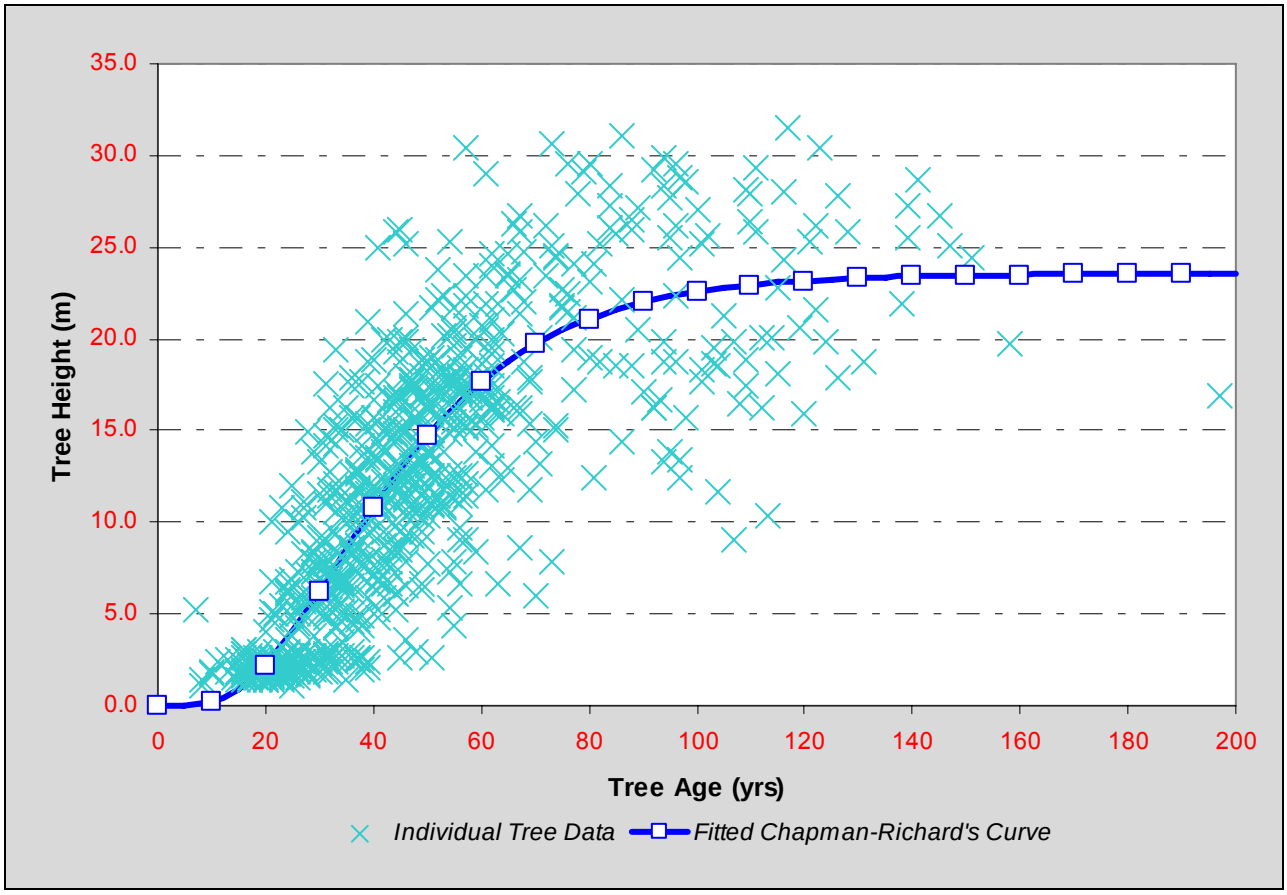
Where:

- H = Predicted tree height (m)
- a, b and c = Nonlinear regression coefficients
- age = Observed tree age

Table 1-5: Parameter Estimates for Equation 1

PARAMETER	ESTIMATE	STANDARD ERROR	APPROXIMATE 95% C LIMITS		R-SQUARE
			LOWER LIMIT	UPPER LIMIT	
a	23.543700	0.547100	22.469600	24.617900	0.740446
b	0.047400	0.003230	0.041100	0.053700	
c	4.818100	0.559400	3.719800	5.916300	

Figure 1-5: Overlay of Individual Tree Data with Fitted Age Prediction Curve



1.3.8 Final Conifer Understorey Classification

As a result of the November 13, 2003 protocol meeting and the new 2004 detailed conifer inventory, the classification of conifer understorey polygons has been revised from what was presented in the approved landbase. Figure 1-6 outlines the process used to classify the stands as conifer understorey polygons.

1.3.8.1 Reassignment of Conifer Understorey Stands Outside of the 2004 Detailed Conifer Inventory

As per the November 13, 2003 ASRD protocols, conifer understorey stands outside of the new 2004 detailed conifer inventory area were reassigned (these stands were part of the 'D(C)' strata in the approved net landbase) to a pure deciduous stratum if they did not have a conifer understorey identified in the AVI, or if the conifer understorey was a low density. Specifically, the following criteria were used to reassign the stands to the pure 'D' strata:

- Polygons not in the 1994 conifer inventory area (STUDY = 0) and have the following properties:
  - Previously identified as a conifer understorey stand (YC_STRAT = 'D(C)');
  - Not in the 2004 detailed conifer understorey area (US_AREA = ' ');
  - Low density understorey crown closure (SCROWN = '0', '1', or '2').
- Polygons within the 1994 conifer inventory area (STUDY = 1) had the following requirements met:
  - Previously identified as a conifer understorey stand (YC_STRAT = 'D(C)');
  - Not in the 2004 detailed conifer understorey area (US_AREA = ' ');
  - Low density understorey crown closure as identified in the study (U_CROWN = 'A').

All stands that were reassigned had all relevant attributes (i.e. YCCRWN, YC_STRAT, YCNUM, AGE, SAGE, AGECLASS) recalculated to be consistent with the approved net landbase procedure.

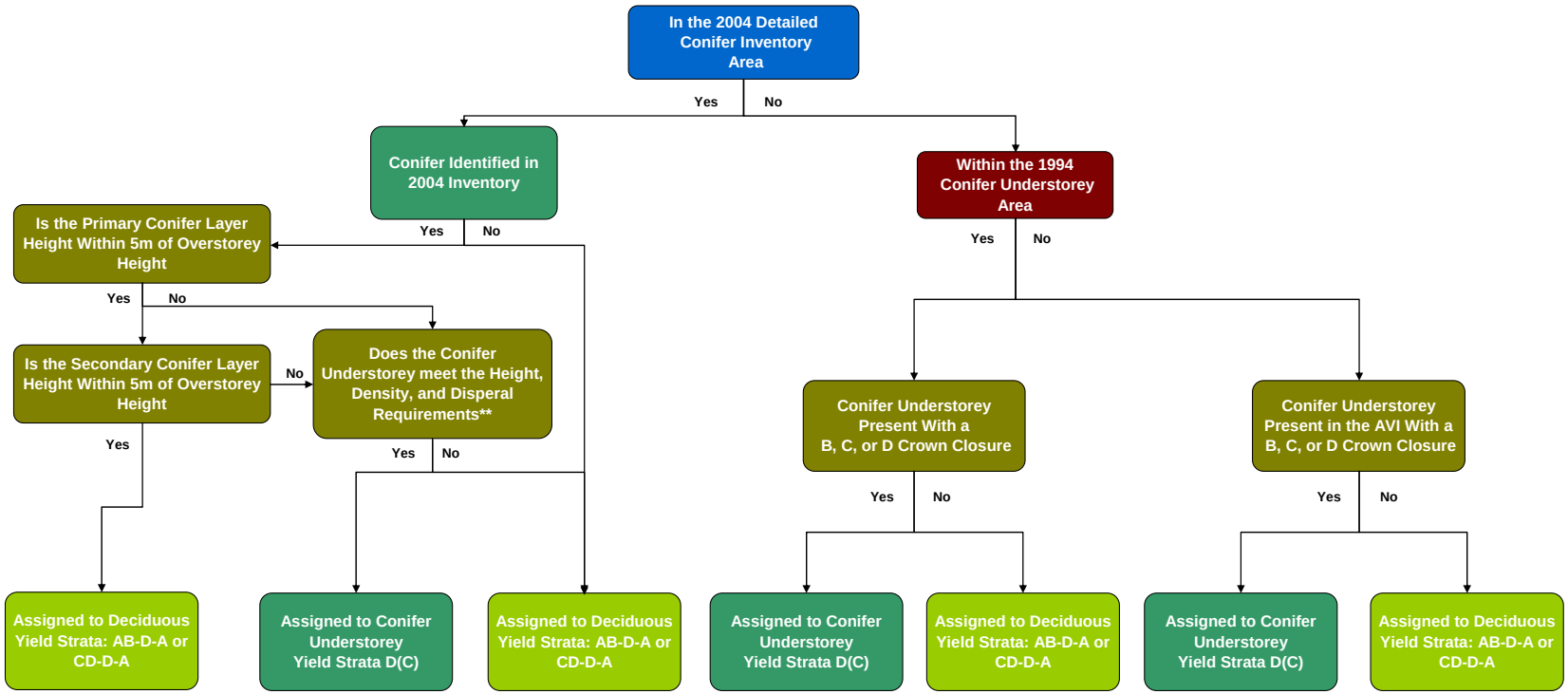
1.3.8.2 Reassignment of Conifer Understorey Stands within the 2004 Detailed Conifer Inventory

The following process, outlined in Figure 1-6, was used to identify and classify stands as conifer understorey polygons within the new 2004 detailed conifer inventory area (US_AREA = 'IN').

It must be noted that both tree layers in the conifer inventory contribute to a combined density and dispersal, provided the primary layer is not within 5 metres of the AVI overstorey height (or greater than the AVI overstorey height).

Also, the height of the conifer understorey layer is determined by using information. If the primary understorey layer has a density of 400 stems/ha or greater the height of the primary layer is used for assignment purposes. If the density of the primary layer is less then 400 stems/ha, the height of the understorey layer with the greatest density is used for assignment purposes.

Figure 1-6: Conifer Understorey Stands Classification Scheme



**** The following requirements had to be met in order for a deciduous stand to be considered a conifer understorey stand:**

1) A conifer understorey greater than or equal to 8m tall, a density of 299 stems/ha or more, and a dispersal class of 3 or more;

2) A conifer understorey less than 8m tall, a density of 499 stems/ha or more, and a dispersal class of 3 or more.

1.3.8.2.1 Primary Conifer Layer Stems/ha Class Average (OSTEMAVE)

The primary conifer layer stems/ha classes were identified as follows:

- If (O_CDENSI = 'S') then "OSTEMAVE = 50";
- If (O_CDENSI = 'L') then "OSTEMAVE = 175";
- If (O_CDENSI = 'M') then "OSTEMAVE = 325";
- If (O_CDENSI = 'P') then "OSTEMAVE = 500";
- If (O_CDENSI = 'H') then "OSTEMAVE = 800";
- If (O_CDENSI = 'T') then "OSTEMAVE = 1000".

If the height of the primary conifer layer was within 5 metres of the AVI overstorey height or greater than the overstorey height, the stems/ha class was reset to 0:

- If ((HEIGHT) – (O_AVG_HT)) ≤ 5 then "OSTEMAVE = 0";
- If ((HEIGHT) ≤ (O_AVG_HT)) then "OSTEMAVE = 0".

1.3.8.2.2 Secondary Conifer Layer Stems/ha Class Average (USTEMAVE)

The secondary conifer layer stems/ha classes were identified as follows:

- If (U_CDENSI = 'S') then "USTEMAVE = 50";
- If (U_CDENSI = 'L') then "USTEMAVE = 175";
- If (U_CDENSI = 'M') then "USTEMAVE = 325";
- If (U_CDENSI = 'P') then "USTEMAVE = 500";
- If (U_CDENSI = 'H') then "USTEMAVE = 800";
- If (U_CDENSI = 'T') then "USTEMAVE = 1000".

If the height of the secondary conifer layer was within 5 metres of the AVI overstorey height or greater than the overstorey height, the stems/ha class was reset to 0:

- If ((HEIGHT) – (U_AVG_HT)) ≤ 5 then "USTEMAVE = 0";
- If ((HEIGHT) ≤ (U_AVG_HT)) then "USTEMAVE = 0".

1.3.8.2.3 Combined Average Conifer Layer Stems/ha Class (UNDERAVE)

The sum of the primary and secondary conifer layer stems/ha classes were used to determine the combined understorey average:

- (OSTEMAVE) + (USTEMAVE) = "UNDERAVE".

1.3.8.2.4 Primary Conifer Layer Dispersal Code (OPVAL)

The primary conifer layer dispersal code was identified as follows:

- If (O_SPATTE = 'P0') then "OPVAL = 0";
- If (O_SPATTE = 'P1') then "OPVAL = 1";
- If (O_SPATTE = 'P2') then "OPVAL = 2";
- If (O_SPATTE = 'P3') then "OPVAL = 3";
- If (O_SPATTE = 'P4') then "OPVAL = 4";
- If (O_SPATTE = 'P5') then "OPVAL = 5";
- If (O_SPATTE = 'P6') then "OPVAL = 6".

If the height of the primary conifer layer was within 5 metres of the AVI overstorey height or greater than the overstorey height, the dispersal code was reset to 0:

- If ((HEIGHT) – (O_AVG_HT)) ≤ 5 then "OPVAL = 0";
- If ((HEIGHT) ≤ (O_AVG_HT)) then "OPVAL = 0".

1.3.8.2.5 Secondary Conifer Layer Dispersal Code (UPVAL)

The secondary conifer layer dispersal code was identified as follows:

- If (U_SPATTE = 'P0') then "UPVAL = 0";
- If (U_SPATTE = 'P1') then "UPVAL = 1";
- If (U_SPATTE = 'P2') then "UPVAL = 2";
- If (U_SPATTE = 'P3') then "UPVAL = 3";
- If (U_SPATTE = 'P4') then "UPVAL = 4";
- If (U_SPATTE = 'P5') then "UPVAL = 5";
- If (U_SPATTE = 'P6') then "UPVAL = 6".

If the height of the secondary conifer layer was within 5 metres of the AVI overstorey height or greater than the overstorey height, the dispersal code was reset to 0:

- If ((HEIGHT) – (U_AVG_HT)) ≤ 5 then "UPVAL = 0";
- If ((HEIGHT) ≤ (U_AVG_HT)) then "UPVAL = 0".

1.3.8.2.6 Combined Conifer Layer Dispersal Code (TOTPVAL)

The sum of the primary and secondary conifer layer dispersal codes were used to determine the combined dispersal code:

- (OPVAL) + (UPVAL) = "TOTPVAL".
- If (TOTPVAL > 6) THEN "TOTPVAL = 6".

1.3.8.2.7 Conifer Understorey Effective Height (NEWHGT)

The following decision rules were used to decide as to whether the height of the primary or secondary layer was used as the effective height of the understorey:

If the primary conifer layer stems/ha class average is greater than or equal to 400 stems/ha (OSTEMAVE ≥ 400) then "NEWHGT=O_AVG_HT";

If the primary conifer layer stems/ha class average is less than 400 stems/ha (OSTEMAVE < 400) and the primary layer has a greater than or equal density than the secondary layer (OSTEMAVE ≥ USTEMAVE) then "NEWHGT=O_AVG_HT";

If the primary conifer layer stems/ha class average is less than 400 stems/ha (OSTEMAVE < 400) and the primary layer has a lower density than the secondary layer (OSTEMAVE < USTEMAVE) then "NEWHGT=U_AVG_HT".

1.3.8.2.8 Identification of Conifer Understorey Polygons

The following decision rules were used to identify conifer understorey polygons within the extent of the 2004 detailed conifer inventory (YC_STRAT = "D(C)"):

If the understorey effective height is greater than or equal to 8 metres (NEWHGT ≥ 8) and a combined understorey stems/ha class average is greater than 299 (UNDERAVE > 299) and the combined dispersal code is greater than or equal to 3 (TOTPVAL ≥ 3) and has a deciduous species group (YCSPGP = 'D') or;

If the understorey effective height is less than 8 metres (NEWHGT < 8) and a combined understorey stems/ha class average is greater than 499 (UNDERAVE > 499) and the combined dispersal code is greater than or equal to 3 (TOTPVAL ≥ 3) and has a deciduous species group (YCSPGP = 'D').

All other polygons with a deciduous species group (YCSPGP = 'D') that are not identified as a conifer understorey polygon remained a deciduous polygon and all relevant attributes (i.e. YCCRWN, YC_STRAT, YCNUM, AGE, SAGE, AGECLASS) were assigned consistent with the approved net landbase procedure.

1.3.8.3 Age Assignments for Polygons Identified With a Conifer Understorey Within the 2004 Detailed Conifer Inventory Area

Polygons within the 2004 detailed conifer inventory that were identified as having a conifer understorey had their ages recalculated. Effective height defined in section 1.3.8.2.7 was used as the input to reassign conifer understorey ages using the process described in section 1.3.7.2 and is represented by the field OS_USAGE. The only exceptions to this were stands selected as candidate stands for the conifer understorey protection strategy (YCNUM 12 or 13). In those cases ages were calculated in a manner consistent with the approved net landbase procedure, using the AVI overstorey[5]. The age class was calculated using the approved procedure outlined in the 2002 net landbase document.

[5] *Please see both the yield curve and PFMS development section for further detail on conifer understorey transition strategies.*

1.4 Final Revised Landbase Summaries

A revised FMA-wide landbase categories map is presented in Map 1-8. Map 1-9 illustrates the FMA-wide species group and age class distribution within the net productive area. Each landbase category is summarized for each VSA and the entire FMA in Table 1-6 through Table 1-8. Figure 1-7 through Figure 1-9 summarizes age class distribution for each VSA and the entire FMA.

Map 1-8: Net Landbase Categories

Map 1-9: Species Group and Age Class Distribution

Table 1-6: Landbase Area Summary: Entire FMA

LANDBASE CATEGORIES	AREA (HA)	PERCENT (%)
Gross Area	662,392	100.0
Non-forested / Unproductive Area		
♦ Natural	39,859	6.0
♦ Anthropogenic	22,962	3.5
Sub-total	*62,821*	*9.5*
Temporary Subjective Deletions		
♦ Excluded Dispositions	349	0.1
♦ Steep Slopes	506	0.1
♦ Inoperable Areas	1,107	0.2
Sub-total	*1,962*	*0.3*
Watercourse Buffers		
♦ Lake Buffers (100m)	2,163	0.3
♦ River Buffers (60m)	7,709	1.2
♦ Stream Buffers (30m)	7,211	1.1
Sub-total	*17,083*	*2.6*
Net Forested Area		
Merchantability Deletions	96,871	14.6
Net Productive Area	483,655	73.0
Marginally Merchantable Area	20,171	3.0
Net Operable Area	463,484	70.0

Figure 1-7: FMA Net Landbase Age Class Distribution: Entire FMA

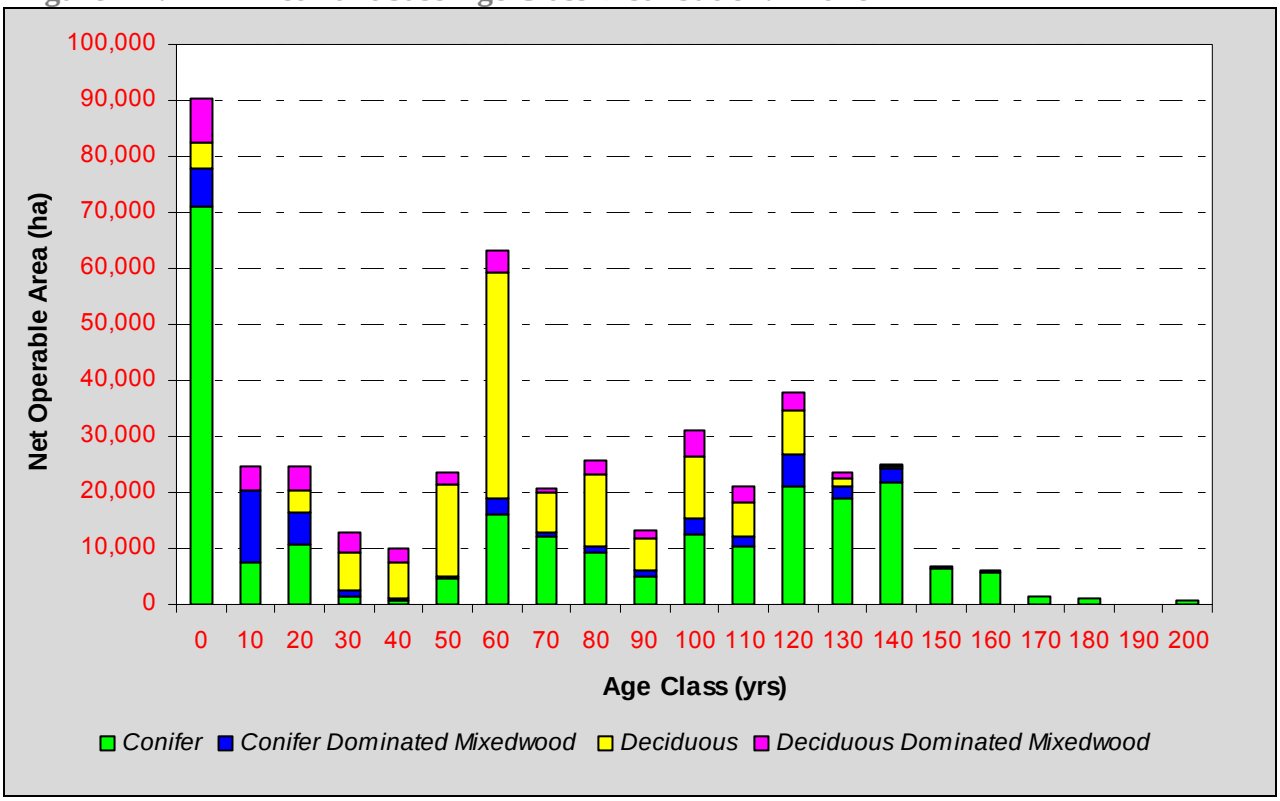


Table 1-7: Landbase Area Summary: VSA 1

LANDBASE CATEGORIES	AREA (HA)	PERCENT (%)
Gross Area	226,934	100.0
Non-forested / Unproductive Area		
♦ Natural	15,111	6.7
♦ Anthropogenic	8,668	3.8
Sub-total	*23,779*	*10.5*
Temporary Subjective Deletions		
♦ Excluded Dispositions	349	0.2
♦ Steep Slopes	0	0.0
♦ Inoperable Areas	444	0.2
Sub-total	*793*	*0.3*
Watercourse Buffers		
♦ Lake Buffers (100m)	990	0.4
♦ River Buffers (60m)	3,045	1.3
♦ Stream Buffers (30m)	1,423	0.6
Sub-total	*5,458*	*2.4*
Net Forested Area		
Merchantability Deletions	36,753	16.2
Net Productive Area	160,151	70.6
Marginally Merchantable Area	12,400	5.5
Net Operable Area	147,751	65.1

Figure 1-8: FMA Net Landbase Age Class Distribution: VSA 1

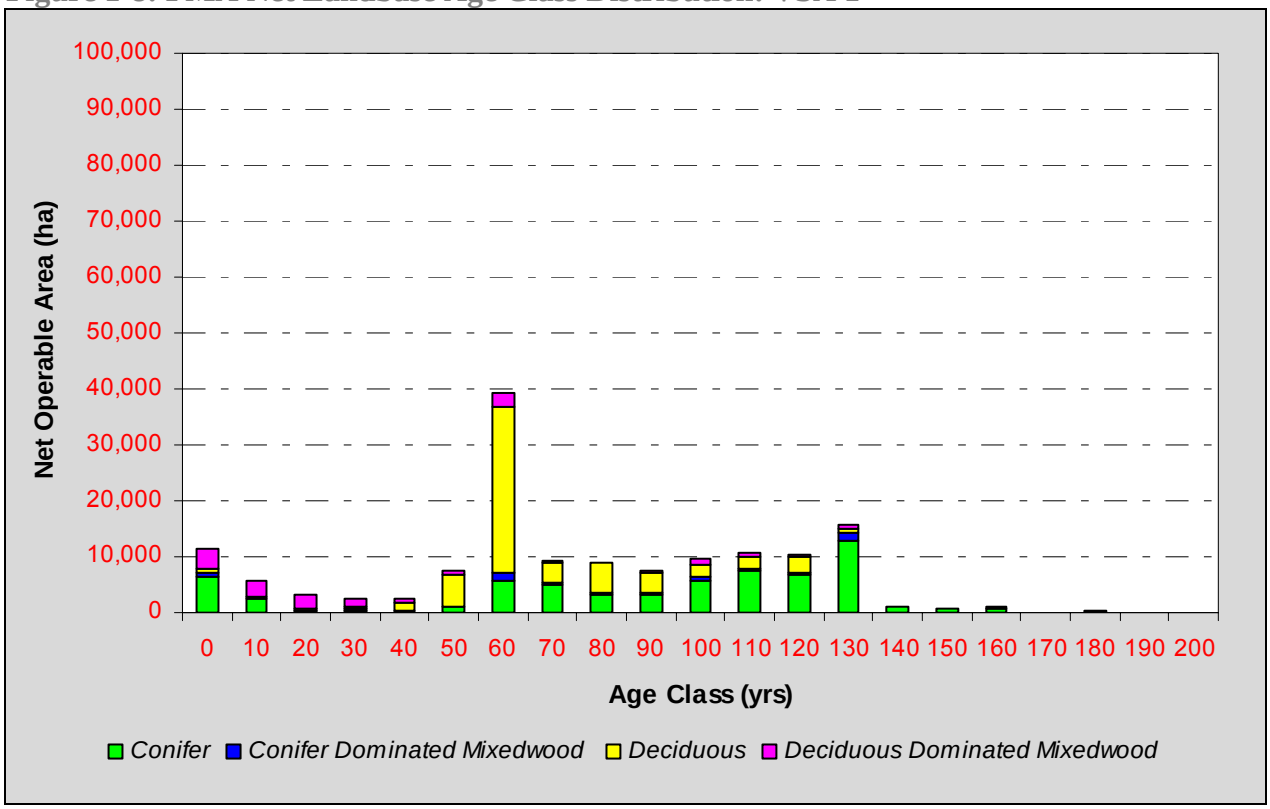
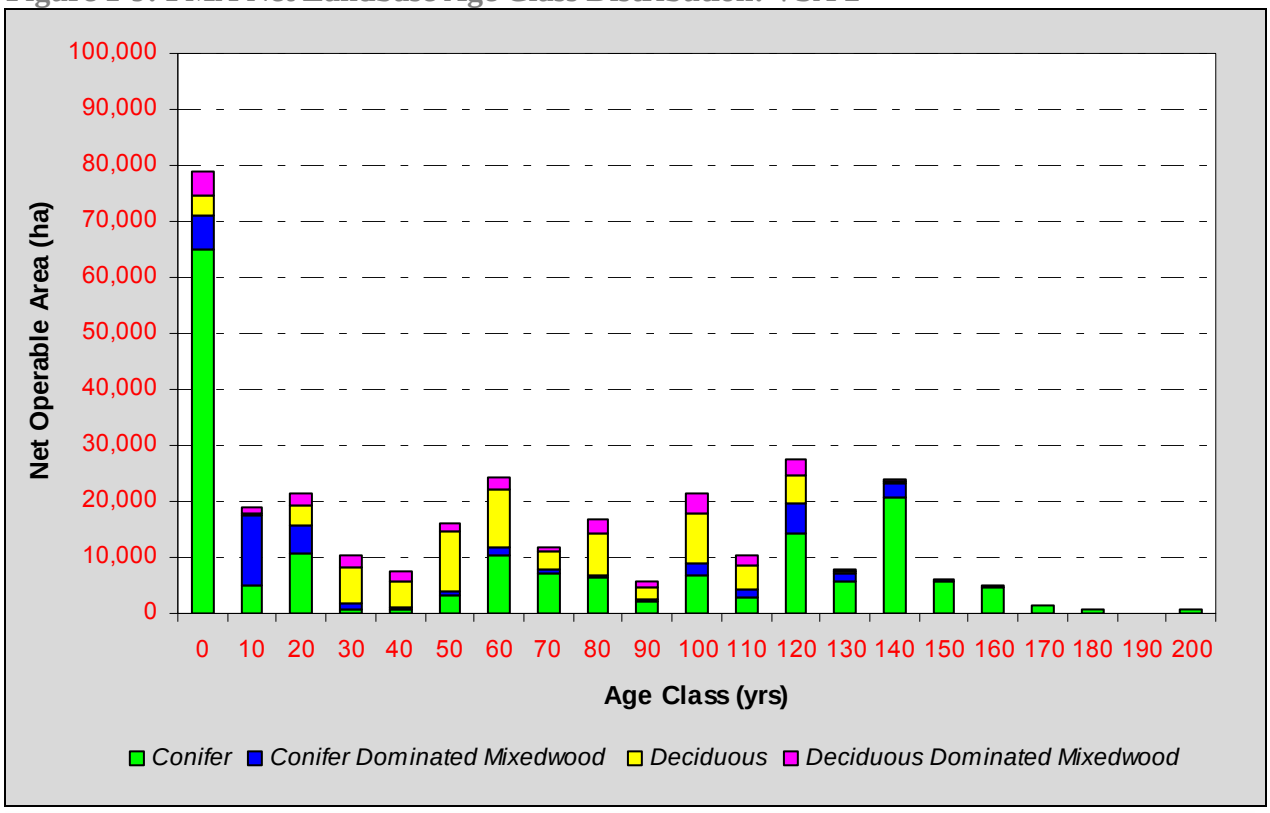


Table 1-8: Landbase Area Summary: VSA 2

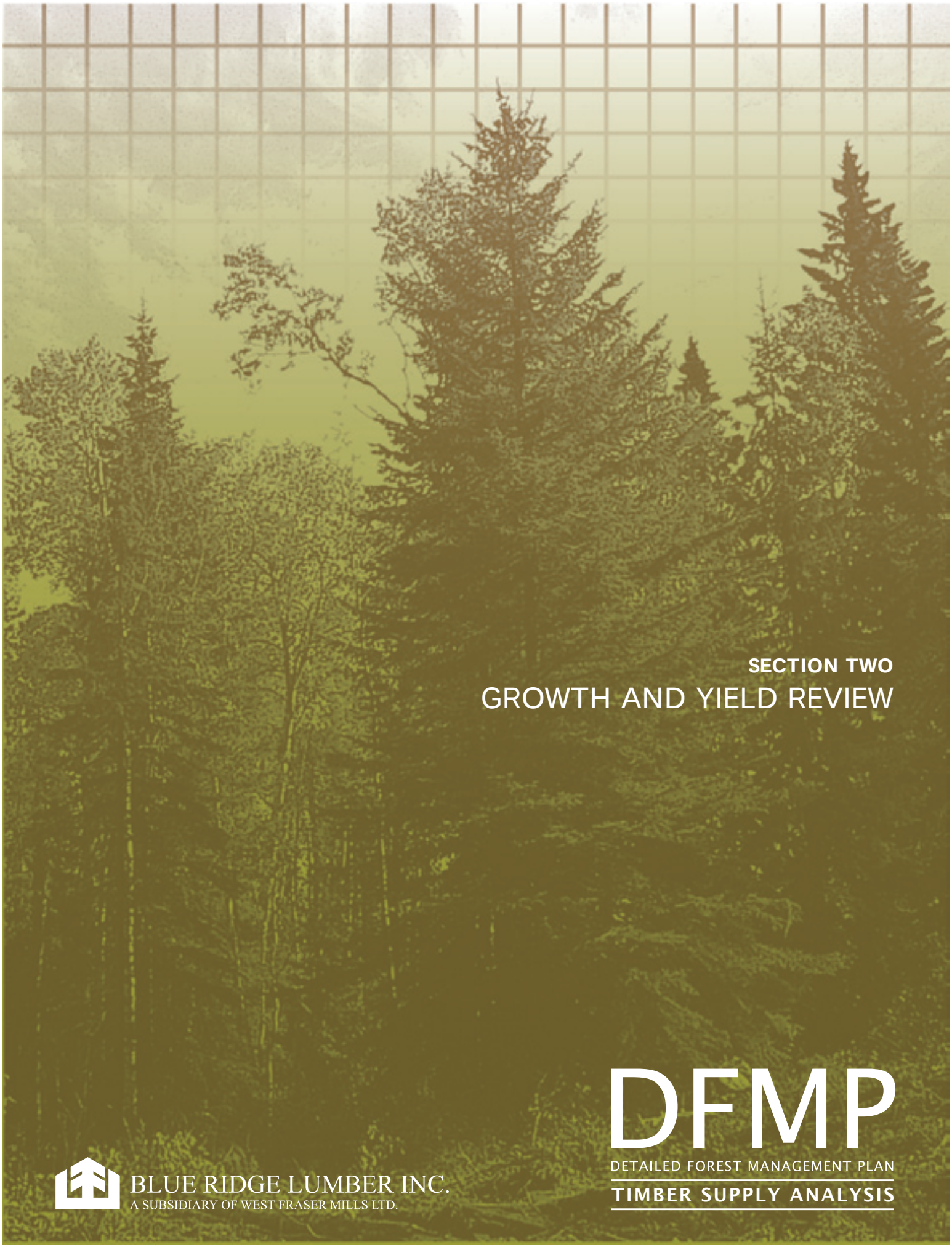
LANDBASE CATEGORIES	AREA (HA)	PERCENT (%)
Gross Area	435,457	100.0
Non-forested / Unproductive Area		
♦ Natural	24,748	5.7
♦ Anthropogenic	14,294	3.3
Sub-total	*39,042*	*9.0*
Temporary Subjective Deletions		
♦ Excluded Dispositions	0	0.0
♦ Steep Slopes	506	0.1
♦ Inoperable Areas	663	0.2
Sub-total	*1,169*	*0.3*
Watercourse Buffers		
♦ Lake Buffers (100m)	1,173	0.3
♦ River Buffers (60m)	4,664	1.1
♦ Stream Buffers (30m)	5,787	1.3
Sub-total	*11,624*	*2.7*
Net Forested Area		
Merchantability Deletions	60,118	13.8
Net Productive Area	323,504	74.3
Marginally Merchantable Area	7,771	1.8
Net Operable Area	315,733	72.5

Figure 1-9: FMA Net Landbase Age Class Distribution: VSA 2



1.5 GIS Coverage Data and Final Net Landbase Database

The enclosed DVD contains the ArcInfo net landbase coverage and the associated net landbase spatial database. The link between the coverage and the net landbase spatial database is GL130905 (please note: GIS40304 from the 2004 DFMP is included for reference). The net landbase spatial database structure and description can be found in APPENDIX A.



SECTION TWO

GROWTH AND YIELD REVIEW

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

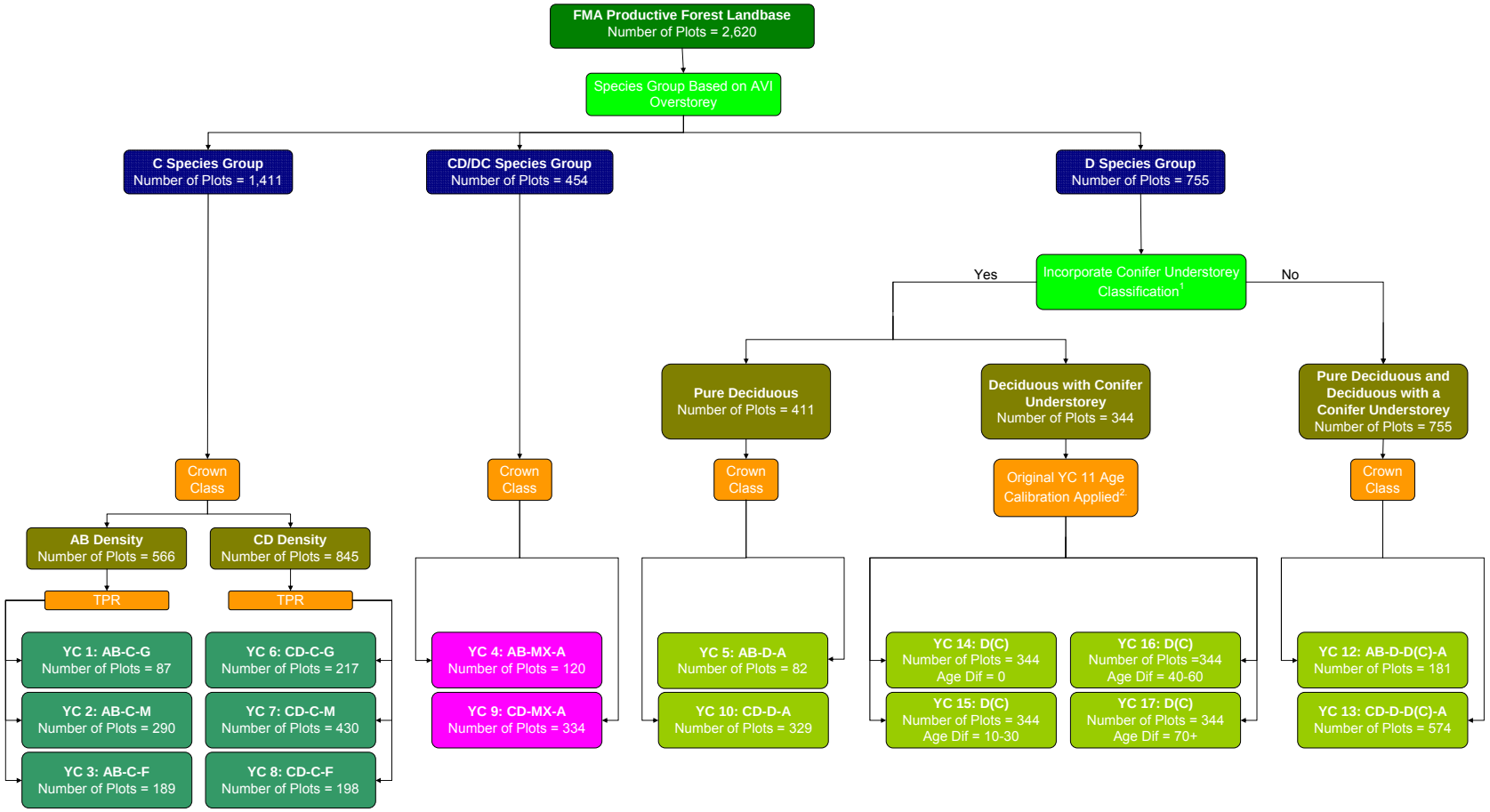
2.0 Growth and Yield Review

The intent of this section is to provide a summary of the growth and yield information used in the timber supply analysis (TSA). A comprehensive growth and yield document was submitted to ASRD and approved for use in TSA on April 16, 2002. Further details on volume sampling and plot compilation procedures are provided in the 2002 document. Through the DFMP meeting process between BRL, quota holders and ASRD some revisions were made to the yield curves. A summary of the changes made as well as the final yield curves used in the TSA are provided in this section. A copy of the uncompiled and compiled yield curve data is provided on the enclosed DVD.

2.1 Yield Curve Stratification

Figure 2-1 provides an overview of the applied yield curve stratification, a summary of the number of plots by yield strata is also provided (sample plots were sourced from the entire BRL FMA area). The Alberta Vegetative Inventory (AVI 2.1) and the 1994 conifer understorey inventory was the basis for the plot stratification. Map 2-1 displays the yield curve assignments across the net landbase.

Figure 2-1: Yield Strata Assignments



[1] The conifer understorey classification is consistent with the classification in the October, 2001 approved growth and yield documentation.
[2] Age calibration is the process of adjusting volumes based on the age difference between the deciduous overstorey and the conifer understorey, please see section 2.2.2 for further clarification.

Map 2-1: Yield Curve Assignments

2.2 Yield Curves Used in TSA

The yield curves used in the final TSA are presented in Figure 2-2 through Figure 2-17. Table 2-18 provides a summary of each yield curve. These yield curves are based on a 15/10 utilization standard. General procedures used to develop the yield curves are consistent with the methodology presented in the October, 2001 Growth and Yield documentation, the only exception being the approach used to determine plot ages. As identified in the DFMP meeting process (DFMP meetings in fall of 2002) a revision to the approach used to calculate plot age was made and yield curves were re-fitted. In the October, 2001 growth and yield analysis, plot ages were calculated using an effective date of 2001 (i.e. 2001-stand origin). This methodology was changed to use the plot establishment date as the reference age for plot age calculation (the reference years are 1995 for VSA 2 and 1997 for VSA 1). Thus, plot ages were calculated as: 1997-stand origin for VSA 1 and 1995-stand origin for VSA 2. Plot ages for the D(C) stands were calculated based on the understorey origin, determined from either AVI or from the 1994 conifer understorey study. The complete set of plot data used to develop the final yield curves is provided on the enclosed DVD.

2.2.1 Yield Curve 12 and 13 Assignment

These yield curve strata were not presented in the October, 2001 growth and yield documentation. They were developed by pooling all stands from AVI pure deciduous (yield curves 5 and 10) and D(C) (yield curve 11) (Figure 2-1). These curves are being used in concert with the 2005 PFMS understorey protection strategy outlined in Section 3.2.

2.2.2 D(C) Yield Curve Age Calibration

Following ASRD approval of the growth and yield analysis, a strategy was developed with ASRD to address deciduous volumes realized from the D(C) yield strata (yield curve 11). As part of this strategy, deciduous volumes in the D(C) yield strata were “calibrated” based on the difference between the deciduous overstorey age and the conifer understorey age. Table 2-1 provides a cross tabulation of the deciduous overstorey age against the conifer understorey age. It identifies how the age differences were determined for the D(C) yield strata (YCNUM=14, 15, 16 and 17). Figure 2-14 to Figure 2-17 show yield curves of the D(C) yield strata. The deciduous volumes were determined by matching the volume predictions of the deciduous yield curve (using deciduous overstorey age classes) with understorey conifer age classes. In each case, the deciduous yield curve is shifted towards the origin, along the age class axis by a magnitude equal to the average age difference between the deciduous overstorey and the conifer understorey.

Table 2-1: Overstorey/Understorey Age Class Comparison and Area Summary of D(C) Yield Curves

OVERSTOREY AGE CLASS (YEARS) \ UNDERSTOREY AGE CLASS (YEARS)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190
0		8	5	3																
10																				
20			43				1													
30			22	6	5															
40			10	58	151	15														
50		1	254	733	442	1,083	224	19	81							6				
60		2	741	1,240	367	2,605	14,968	18	32	2	3									
70		2	47	239	177	148	941	789	11	1	20									
80		1	174	846	850	321	573	761	1,104		4									
90		1	85	471	259	50	466	247	858	365			6		11					
100			148	1,039	987	557	412	272	1,043	940	212			8						2
110		2	199	1,108	503	92	185	233	434	196	37	93	7							
120			8		3	11	5				28		5							
130																				
140																				
150																				
160																				
170																				
180																				
190																				

YC 14 Area =19,311ha *YC 15 Area =13,173ha* *YC 16 Area=6,153ha* *YC 17 Area= 3,108ha*

Figure 2-2: Yield Curve 1: AB-C-G (15/10 Utilization)

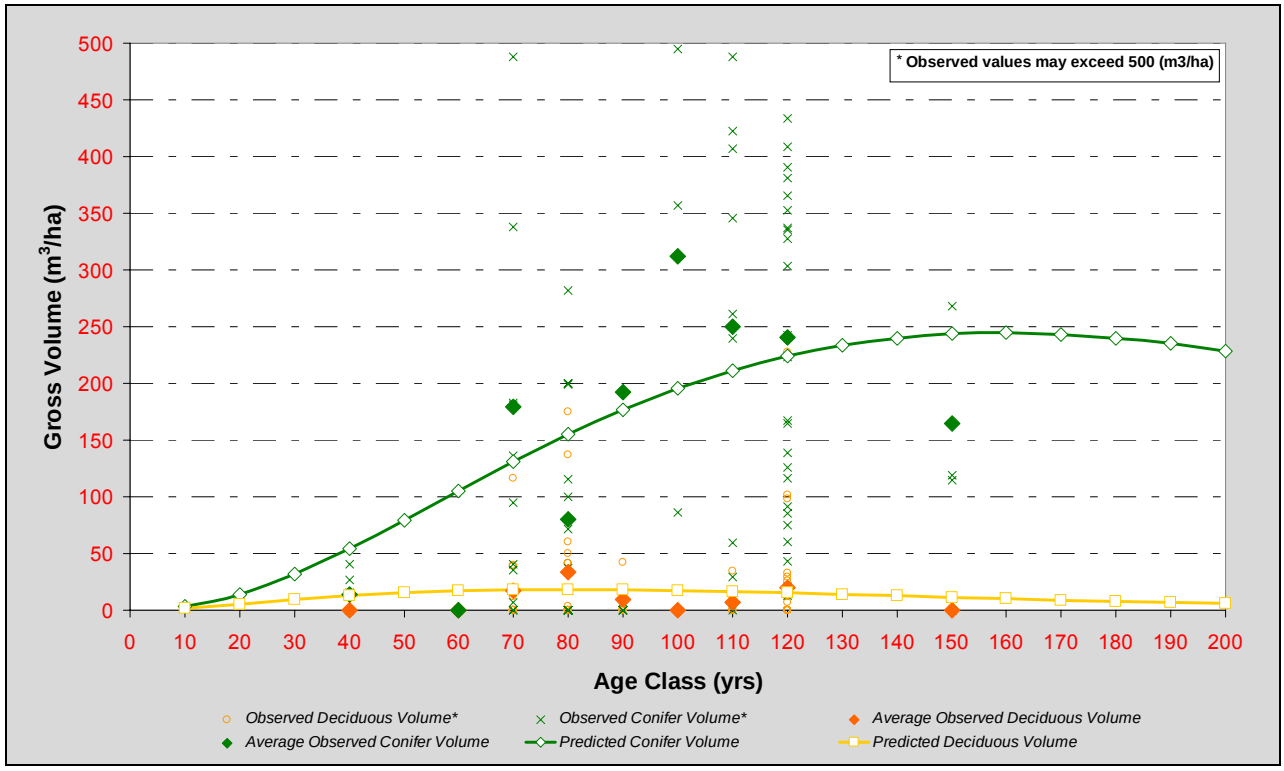


Table 2-2: Yield Table 1: AB-C-G (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			3	2	0.31	0.17	
20			14	5	0.70	0.27	
30			32	9	1.06	0.31	
40	14	0	54	13	1.35	0.32	6
50			79	15	1.59	0.31	
60	0	0	105	17	1.76	0.29	3
70	179	17	131	18	1.87	0.26	12
80	80	34	155	18	1.94	0.23	15
90	192	10	177	18	1.97	0.20	6
100	312	0	196	18	1.96	0.18	3
110	250	7	212	17	1.92	0.15	9
120	240	20	224	15	1.87	0.13	27
130			234	14	1.80	0.11	
140			240	13	1.71	0.09	
150	165	0	244	11	1.62	0.08	6
160			245	10	1.53	0.06	
170			243	9	1.43	0.05	
180			240	8	1.33	0.04	
190			235	7	1.24	0.04	
200			229	6	1.14	0.03	

Figure 2-3: Yield Curve 2: AB-C-M (15/10 Utilization)

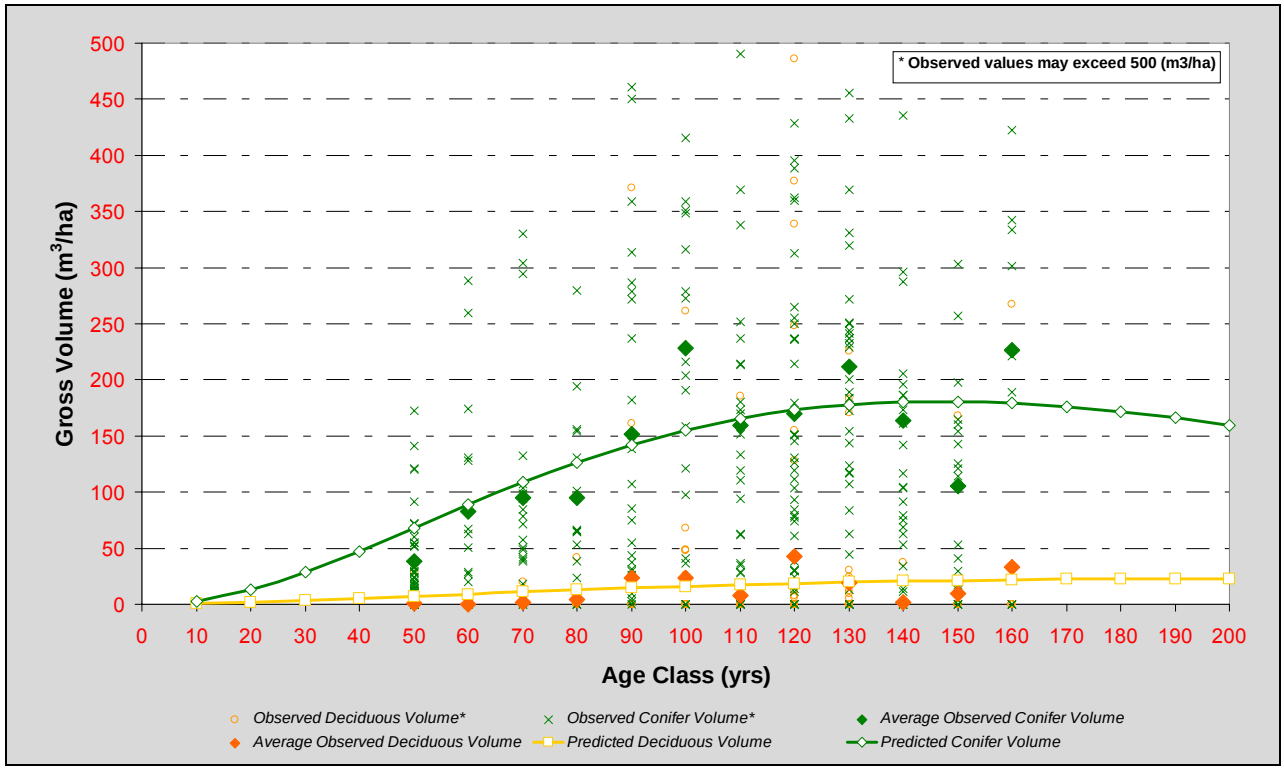


Table 2-3: Yield Table 2: AB-C-M (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.0	0.00	
10			3	1	0.30	0.05	
20			13	2	0.64	0.09	
30			28	3	0.94	0.11	
40			47	5	1.18	0.13	
50	39	1	68	7	1.36	0.14	39
60	83	0	89	9	1.48	0.15	15
70	95	2	109	11	1.55	0.16	21
80	95	5	127	13	1.58	0.16	15
90	151	23	142	14	1.58	0.16	24
100	228	24	155	16	1.55	0.16	21
110	159	8	165	17	1.50	0.16	26
120	170	43	173	19	1.44	0.16	41
130	211	19	178	20	1.37	0.15	35
140	164	1	180	21	1.29	0.15	27
150	106	9	181	21	1.20	0.14	18
160	226	33	179	22	1.12	0.14	8
170			176	22	1.04	0.13	
180			172	23	0.95	0.13	
190			166	23	0.87	0.12	
200			160	23	0.80	0.11	

Figure 2-4: Yield Curve 3: AB-C-F (15/10 Utilization)

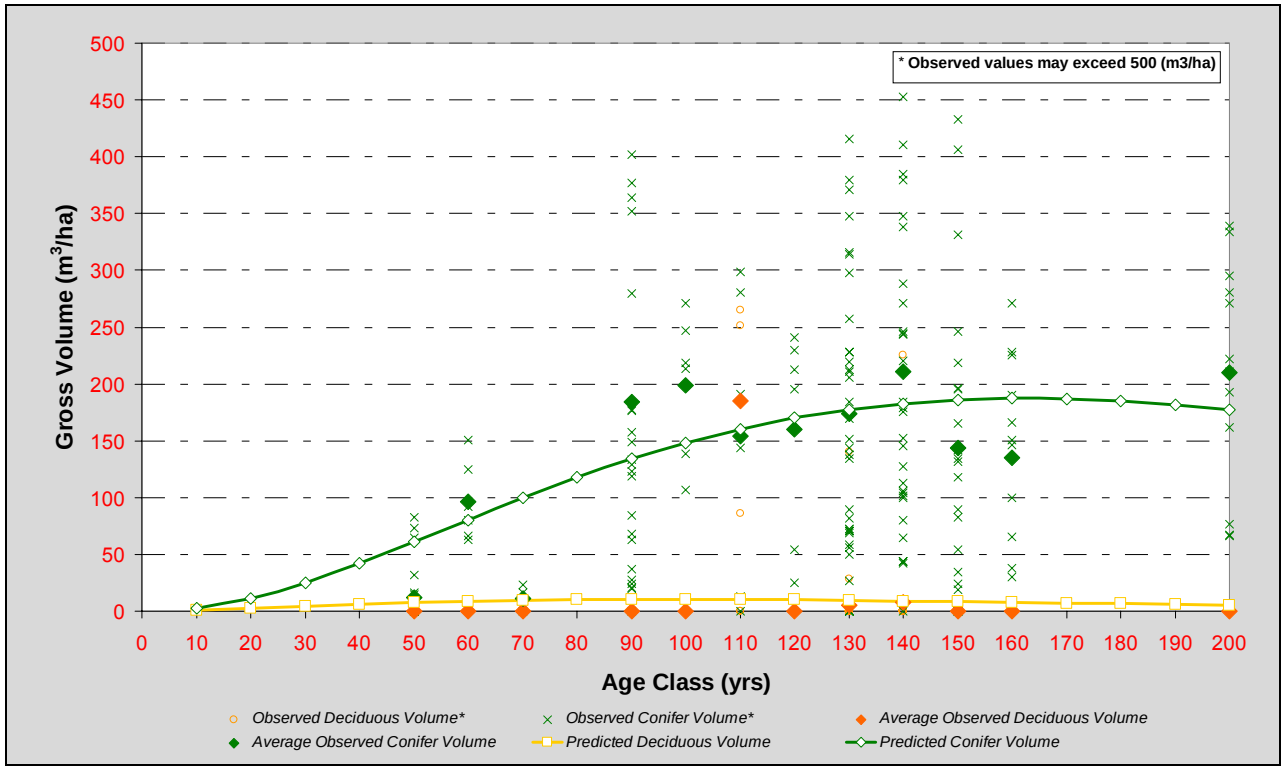


Table 2-4: Yield Table 3: AB-C-F (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			3	1	0.26	0.09	
20			11	3	0.56	0.13	
30			25	5	0.82	0.15	
40			42	6	1.04	0.16	
50	12	0	61	8	1.21	0.16	24
60	96	0	80	9	1.34	0.15	6
70	11	0	100	10	1.42	0.14	6
80			118	10	1.47	0.13	
90	184	0	134	11	1.49	0.12	24
100	199	0	148	11	1.48	0.11	6
110	154	185	160	10	1.46	0.09	6
120	160	0	170	10	1.42	0.08	6
130	174	5	178	10	1.37	0.07	36
140	211	8	183	9	1.31	0.06	30
150	144	0	186	8	1.24	0.06	21
160	135	0	187	8	1.17	0.05	12
170			187	7	1.10	0.04	
180			185	7	1.03	0.04	
190			182	6	0.96	0.03	
200	210	0	177	6	0.89	0.03	12

Figure 2-5: Yield Curve 4: AB-MX-A (15/10 Utilization)

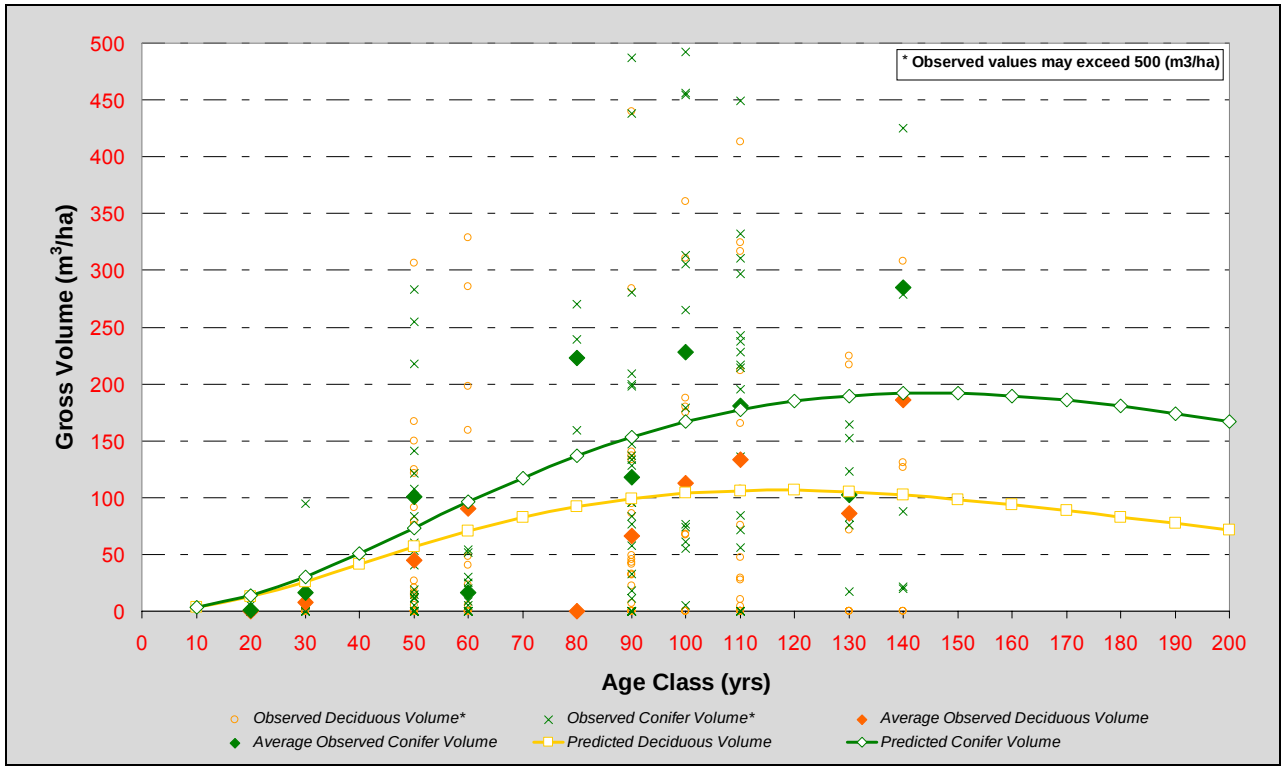


Table 2-5: Yield Table 4: AB-MX-A (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			3	3	0.32	0.31	
20	1	0	14	13	0.69	0.63	6
30	17	8	31	26	1.02	0.87	6
40			51	41	1.28	1.03	
50	101	45	74	57	1.47	1.13	27
60	16	91	96	71	1.60	1.18	12
70			117	83	1.68	1.18	
80	223	0	136	92	1.71	1.15	3
90	118	66	153	99	1.70	1.10	24
100	228	112	167	104	1.67	1.04	12
110	181	134	177	106	1.61	0.96	18
120			185	106	1.54	0.89	
130	102	86	190	105	1.46	0.81	6
140	285	186	192	102	1.37	0.73	6
150			192	98	1.28	0.66	
160			190	94	1.18	0.59	
170			186	89	1.09	0.52	
180			181	83	1.00	0.46	
190			174	77	0.92	0.41	
200			167	71	0.83	0.36	

Figure 2-6: Yield Curve 5: AB-D-A (15/10 Utilization)

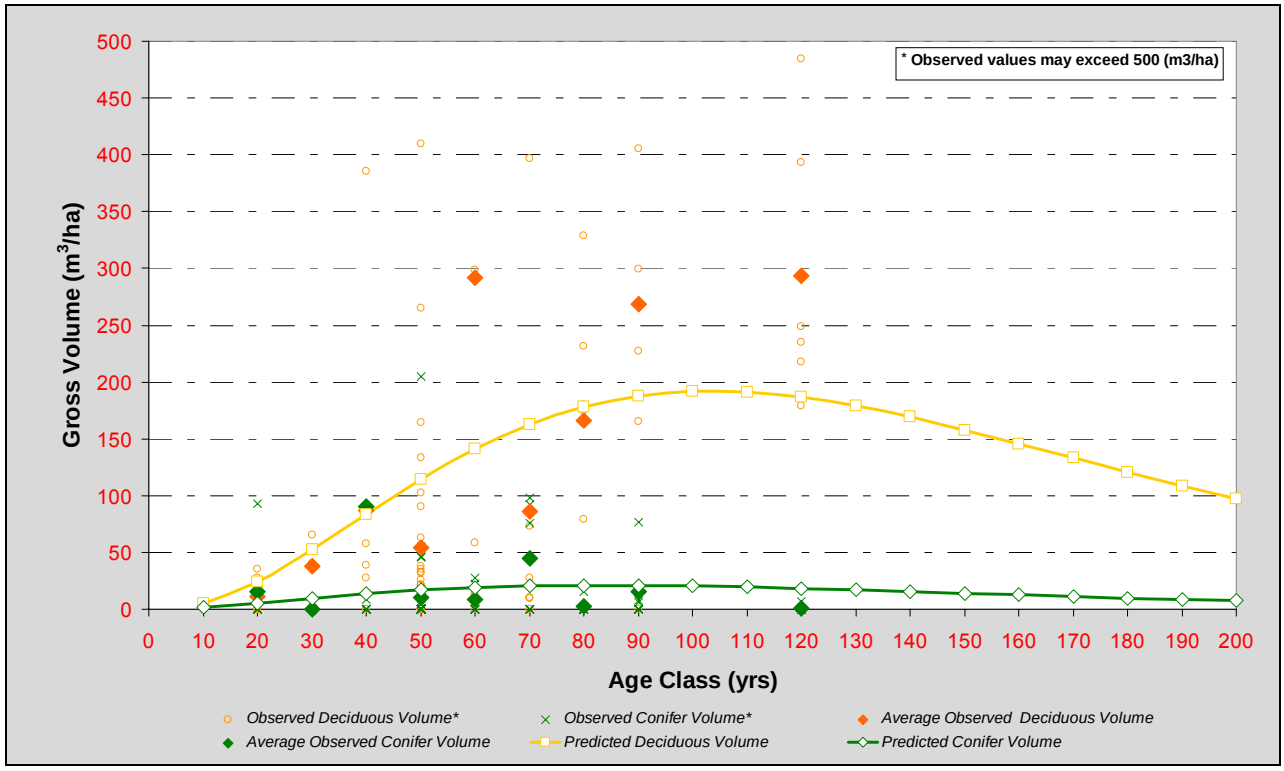


Table 2-6: Yield Table 5: AB-D-A (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			2	6	0.18	0.56	
20	15	11	6	24	0.28	1.22	6
30	0	38	10	52	0.33	1.74	3
40	90	87	14	84	0.34	2.09	6
50	11	54	17	114	0.34	2.29	37
60	8	292	19	141	0.32	2.35	6
70	44	86	20	163	0.29	2.33	6
80	3	166	21	178	0.26	2.23	6
90	15	269	21	188	0.23	2.09	6
100			20	192	0.20	1.92	
110			19	191	0.18	1.74	
120	1	293	18	186	0.15	1.55	6
130			17	179	0.13	1.38	
140			15	169	0.11	1.21	
150			14	158	0.09	1.05	
160			13	146	0.08	0.91	
170			11	133	0.07	0.78	
180			10	121	0.05	0.67	
190			9	109	0.05	0.57	
200			8	97	0.04	0.49	

Figure 2-7: Yield Curve 6: CD-C-G (15/10 Utilization)

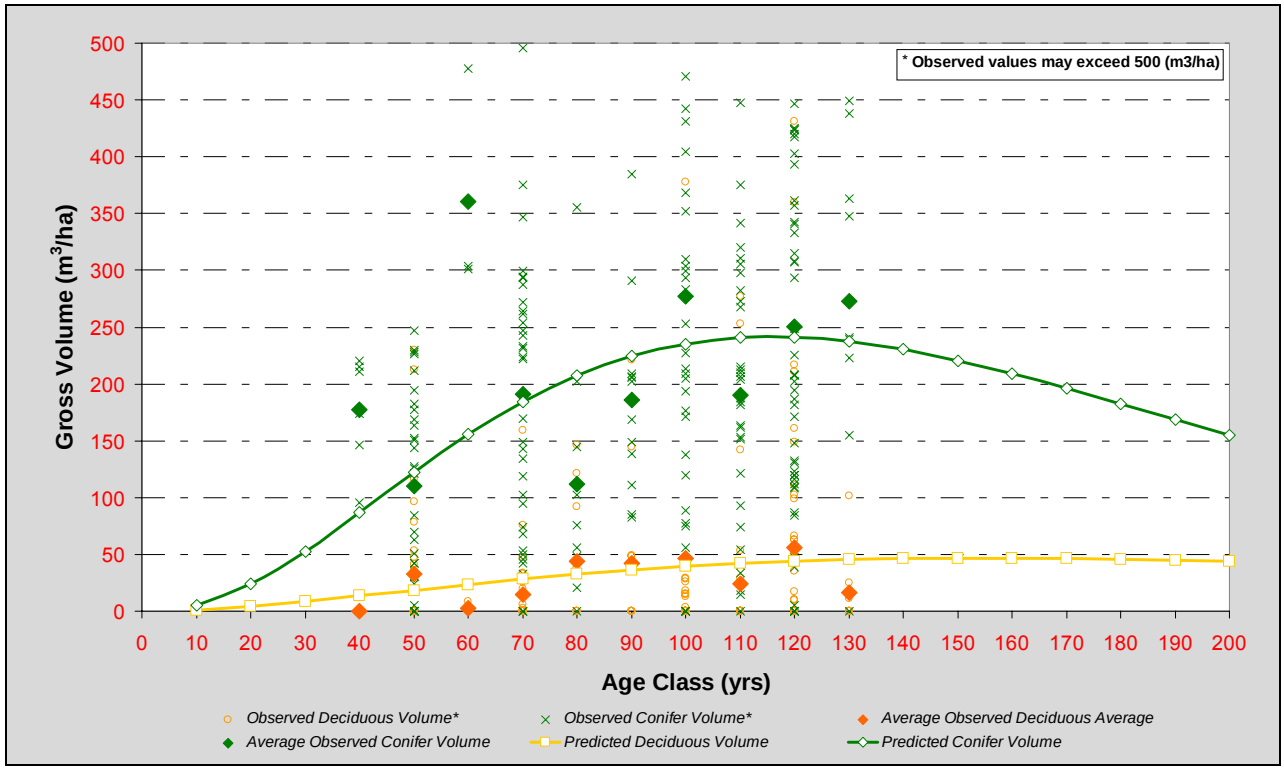


Table 2-7: Yield Table 6: CD-C-G (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			5	1	0.53	0.12	
20			24	4	1.20	0.21	
30			53	8	1.76	0.28	
40	177	0	87	13	2.18	0.33	6
50	110	33	123	18	2.45	0.37	30
60	361	3	156	23	2.59	0.39	3
70	191	15	184	28	2.63	0.40	35
80	112	44	207	32	2.59	0.40	9
90	186	42	224	36	2.49	0.40	12
100	277	46	235	39	2.35	0.39	33
110	190	24	241	42	2.19	0.38	31
120	251	56	241	44	2.01	0.36	49
130	273	17	237	45	1.83	0.35	9
140			230	46	1.65	0.33	
150			221	47	1.47	0.31	
160			209	47	1.31	0.29	
170			196	46	1.15	0.27	
180			183	46	1.01	0.25	
190			169	45	0.89	0.24	
200			155	44	0.77	0.22	

Figure 2-8: Yield Curve 7: CD-C-M (15/10 Utilization)

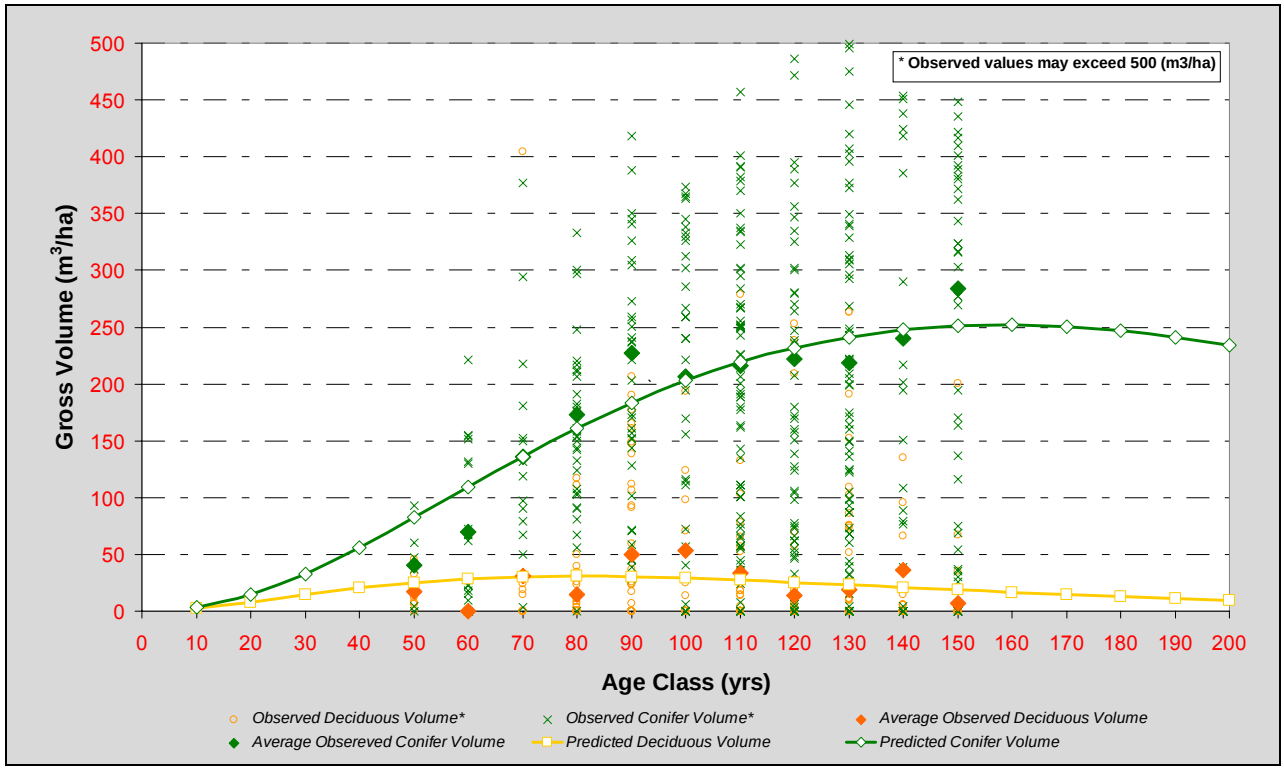


Table 2-8: Yield Table 7: CD-C-M (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			3	2	0.32	0.24	
20			14	8	0.72	0.40	
30			33	14	1.10	0.48	
40			56	20	1.41	0.51	
50	40	17	82	25	1.65	0.50	6
60	70	0	110	28	1.83	0.47	18
70	136	31	136	30	1.94	0.43	15
80	173	14	161	31	2.01	0.38	33
90	227	50	183	30	2.04	0.34	39
100	206	53	203	29	2.03	0.29	36
110	216	33	219	27	1.99	0.25	69
120	222	14	232	25	1.93	0.21	67
130	218	19	241	23	1.86	0.18	78
140	240	36	248	21	1.77	0.15	24
150	284	7	251	19	1.67	0.12	45
160			252	16	1.57	0.10	
170			250	14	1.47	0.08	
180			247	13	1.37	0.07	
190			241	11	1.27	0.06	
200			234	9	1.17	0.05	

Figure 2-9: Yield Curve 8: CD-C-F (15/10 Utilization)

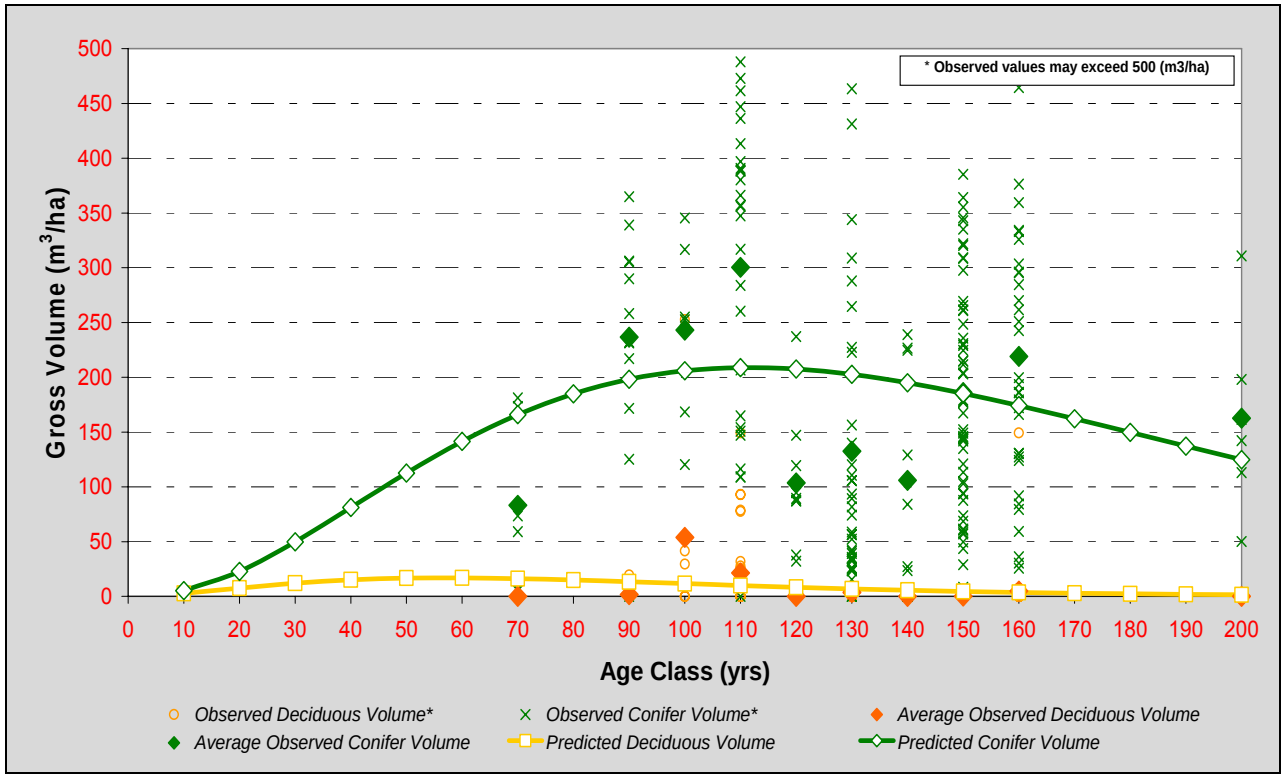


Table 2-9: Yield Table 8: CD-C-F (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			5	3	0.52	0.26	
20			23	7	1.14	0.37	
30			50	12	1.66	0.40	
40			81	15	2.03	0.38	
50			113	17	2.25	0.33	
60			142	17	2.36	0.28	
70	83	0	166	16	2.37	0.23	6
80			185	15	2.31	0.19	
90	237	2	198	13	2.20	0.15	12
100	243	54	206	12	2.06	0.12	6
110	300	21	209	10	1.90	0.09	27
120	104	0	208	8	1.73	0.07	9
130	133	4	203	7	1.56	0.05	36
140	106	0	195	6	1.39	0.04	9
150	186	0	185	5	1.24	0.03	54
160	219	5	174	4	1.09	0.02	33
170			162	3	0.95	0.02	
180			150	2	0.83	0.01	
190			137	2	0.72	0.01	
200	163	0	125	1	0.62	0.01	6

Figure 2-10: Yield Curve 9: CD-MX-A (15/10 Utilization)

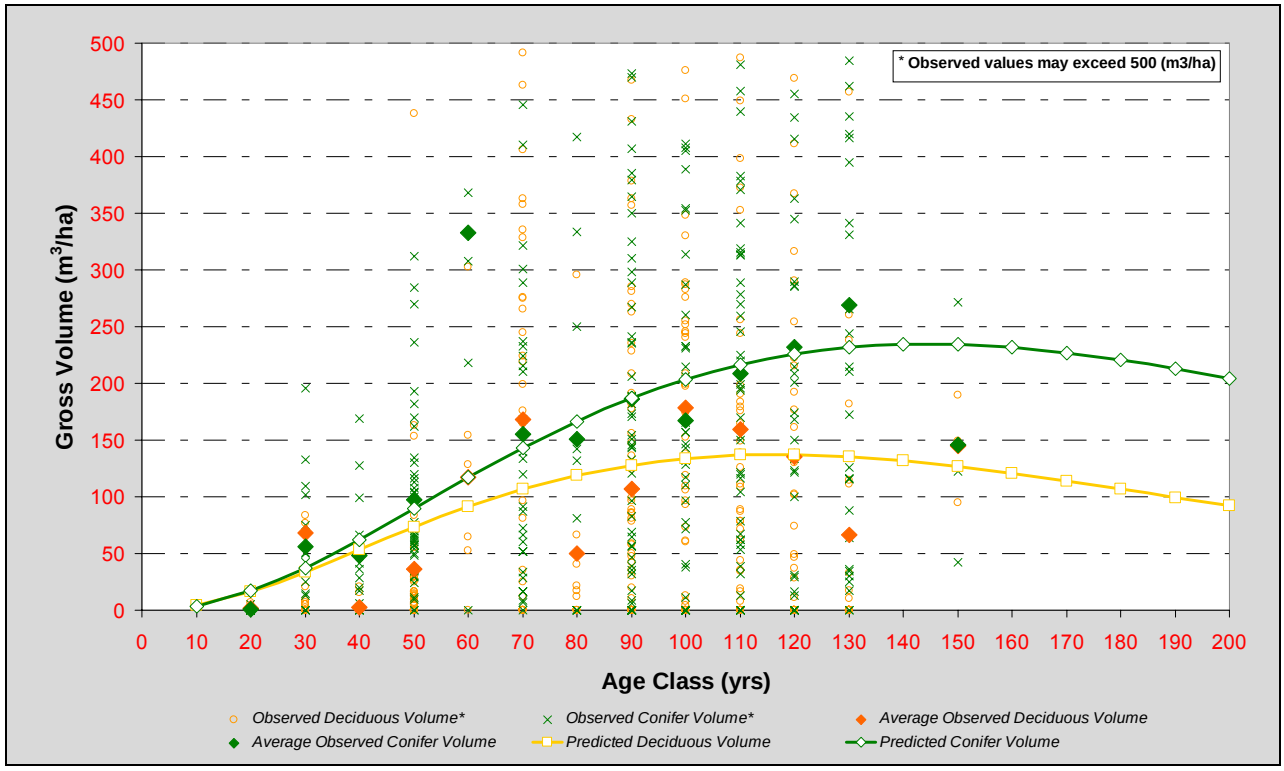


Table 2-10: Yield Table 9: CD-MX-A (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			4	4	0.39	0.40	
20	1	2	17	16	0.84	0.81	6
30	56	68	37	34	1.24	1.12	15
40	48	2	62	53	1.56	1.33	15
50	98	36	90	73	1.80	1.46	39
60	333	117	117	91	1.95	1.52	6
70	155	168	143	107	2.05	1.52	30
80	151	50	167	119	2.08	1.49	9
90	186	107	187	128	2.08	1.42	56
100	167	179	204	134	2.04	1.34	47
110	208	159	217	137	1.97	1.24	45
120	232	136	226	137	1.88	1.14	33
130	269	67	232	135	1.78	1.04	30
140			234	132	1.67	0.94	
150	145	144	234	127	1.56	0.85	3
160			232	121	1.45	0.76	
170			227	114	1.33	0.67	
180			221	107	1.23	0.59	
190			213	99	1.12	0.52	
200			204	92	1.02	0.46	

Figure 2-11: Yield Curve 10: CD-D-A (15/10 Utilization)

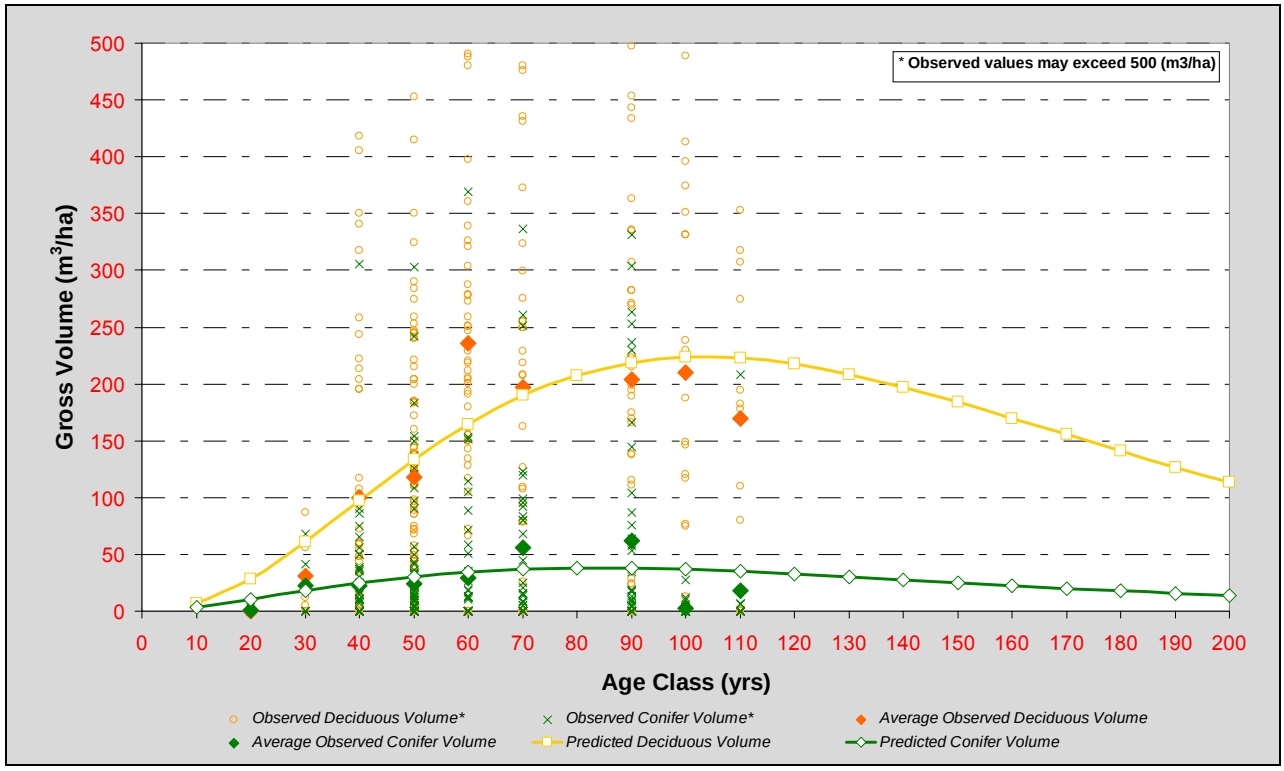


Table 2-11: Yield Table 10: CD-D-A (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			3	7	0.32	0.65	
20	1	0	10	28	0.50	1.42	12
30	22	31	18	61	0.59	2.03	6
40	22	100	25	98	0.62	2.44	48
50	25	118	30	133	0.61	2.67	103
60	30	236	34	165	0.57	2.74	46
70	56	197	37	190	0.53	2.71	33
80			38	208	0.47	2.60	
90	62	204	38	219	0.42	2.43	46
100	3	210	37	224	0.37	2.24	23
110	18	169	35	223	0.32	2.02	12
120			33	217	0.27	1.81	
130			30	209	0.23	1.60	
140			28	197	0.20	1.41	
150			25	184	0.17	1.23	
160			23	170	0.14	1.06	
170			20	155	0.12	0.91	
180			18	141	0.10	0.78	
190			16	127	0.08	0.67	
200			14	113	0.07	0.57	

Figure 2-12: Yield Curve 12: AB-D-D(C)-A (15/10 Utilization)

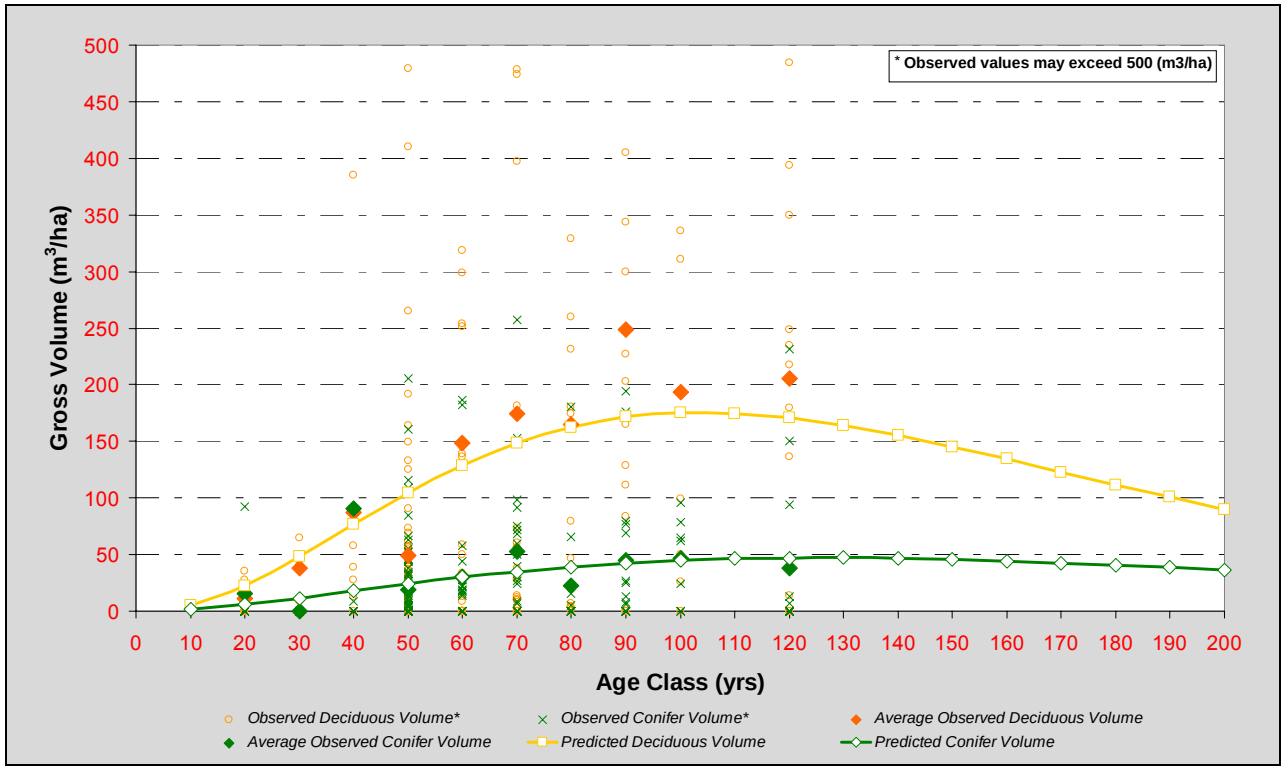


Table 2-12: Yield Table 12: AB-D-D(C)-A (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			2	5	0.16	0.52	
20	15	11	6	23	0.29	1.13	6
30	0	38	12	48	0.39	1.60	3
40	90	87	18	77	0.45	1.92	6
50	19	49	24	105	0.48	2.09	78
60	30	148	30	129	0.50	2.15	21
70	53	175	35	149	0.50	2.12	20
80	22	165	39	163	0.49	2.03	12
90	45	249	42	171	0.47	1.91	15
100	47	194	45	175	0.45	1.75	7
110			46	175	0.42	1.59	
120	38	205	47	171	0.39	1.42	13
130			47	164	0.36	1.26	
140			47	155	0.33	1.11	
150			46	145	0.30	0.97	
160			44	134	0.28	0.84	
170			43	123	0.25	0.72	
180			41	112	0.23	0.62	
190			39	101	0.20	0.53	
200			37	90	0.18	0.45	

Figure 2-13: Yield Curve 13: CD-D-D(C)-A (15/10 Utilization)

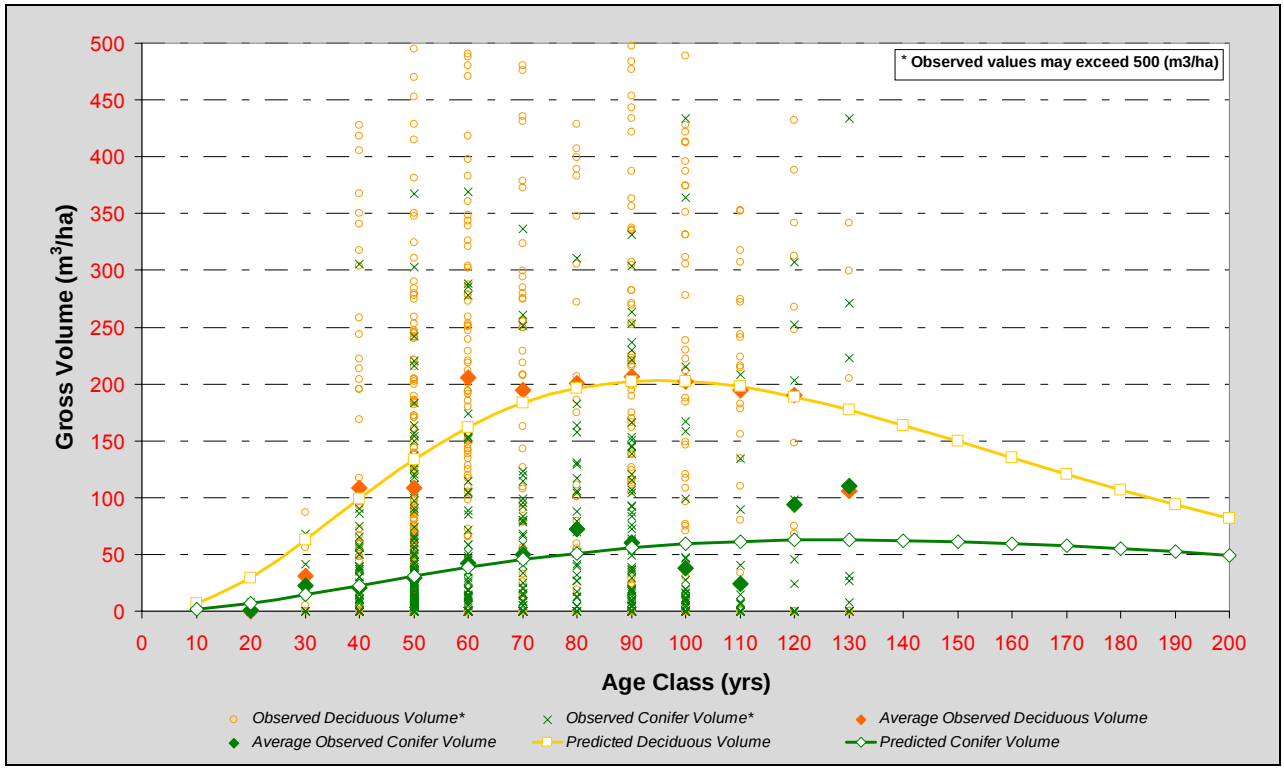


Table 2-13: Yield Table 13: CD-D-D(C)-A (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			2	7	0.19	0.67	
20	1	0	7	29	0.36	1.47	12
30	22	31	14	63	0.48	2.09	6
40	21	109	23	99	0.56	2.48	57
50	29	108	31	133	0.61	2.67	188
60	42	206	38	162	0.64	2.70	76
70	50	195	45	183	0.65	2.61	47
80	72	200	51	196	0.64	2.45	27
90	60	206	56	203	0.62	2.25	74
100	37	202	59	203	0.59	2.03	45
110	24	194	61	198	0.56	1.80	21
120	93	190	62	189	0.52	1.57	12
130	110	106	63	177	0.48	1.36	9
140			62	164	0.45	1.17	
150			61	149	0.41	1.00	
160			60	135	0.37	0.84	
170			57	120	0.34	0.71	
180			55	107	0.31	0.59	
190			52	94	0.28	0.49	
200			49	82	0.25	0.41	

Figure 2-14: Yield Curve 14: D(C) (15/10 Utilization) (0 Age Difference)

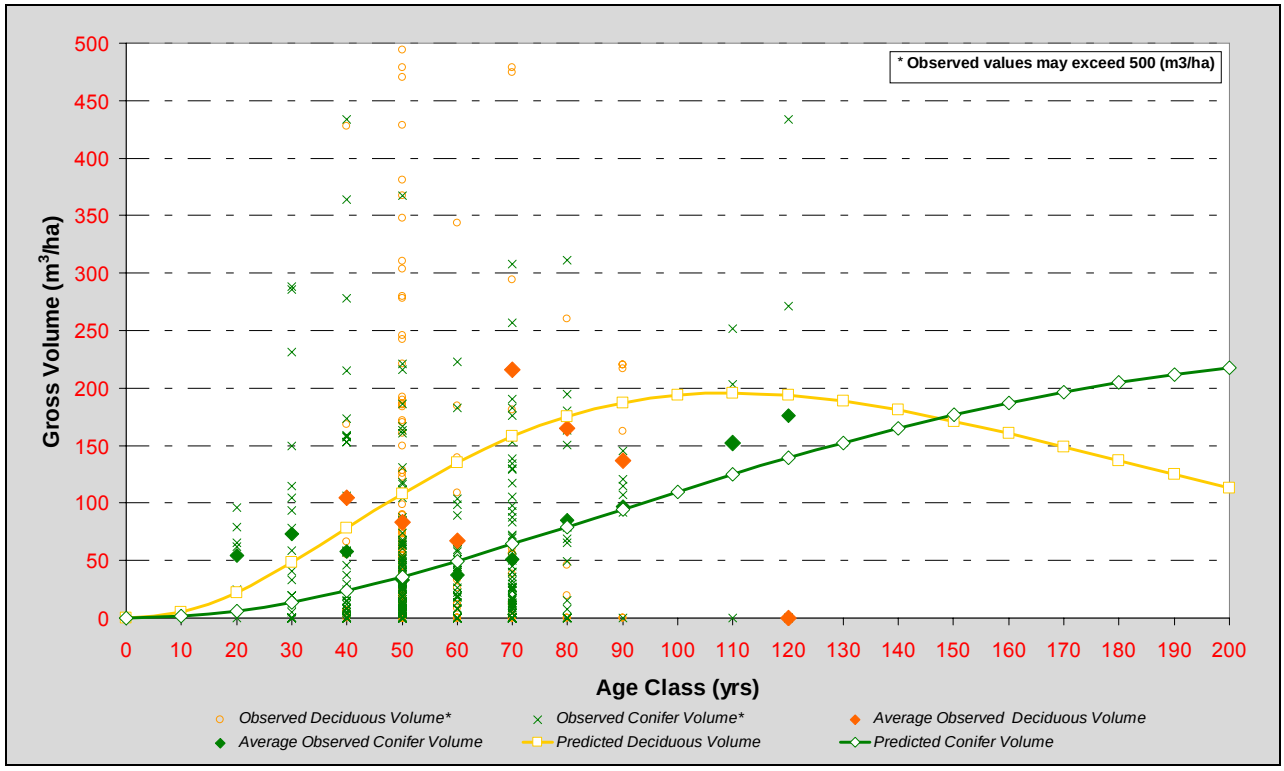


Table 2-14: Yield Table 14: D(C) (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)		NUMBER OF PLOTS (N)
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	
0			0	0	0.00	0.00	
10			1	5	0.14	0.51	
20	54		6	22	0.30	1.12	6
30	73		14	48	0.45	1.61	21
40	58	104	24	78	0.60	1.96	48
50	33	83	36	108	0.72	2.16	135
60	37	67	50	135	0.83	2.25	38
70	51	216	64	158	0.92	2.26	67
80	85	165	79	175	0.99	2.19	16
90	97	137	95	187	1.05	2.08	6
100			110	194	1.10	1.94	
110	152		125	196	1.13	1.78	3
120	176	0	139	194	1.16	1.61	4
130			152	189	1.17	1.45	
140			165	181	1.18	1.29	
150			177	171	1.18	1.14	
160			187	160	1.17	1.00	
170			196	149	1.15	0.88	
180			205	137	1.14	0.76	
190			212	125	1.11	0.66	
200			218	113	1.09	0.57	

Figure 2-15: Yield Curve 15: D(C) (15/10 Utilization) (10-30 Age Difference)

Table 2-15: Yield Table 15: D(C) (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)	
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
0			0	22		1.12
10			1	48	0.14	1.61
20	54		6	78	0.30	1.96
30	73	130	14	108	0.45	2.16
40	58	138	24	135	0.60	2.25
50	33	146	36	158	0.72	2.26
60	37	226	50	175	0.83	2.19
70	51	229	64	187	0.92	2.08
80	85	258	79	194	0.99	1.94
90	97		95	196	1.05	1.78
100			110	194	1.10	1.61
110	152	301	125	189	1.13	1.45
120	176	135	139	181	1.16	1.29
130			152	171	1.17	1.14
140			165	160	1.18	1.00
150			177	149	1.18	0.88
160			187	137	1.17	0.76
170			196	125	1.15	0.66
180			205	113	1.14	0.57
190			212	102	1.11	0.49
200			218	92	1.09	0.42

Figure 2-16: Yield Curve 16: D(C) (15/10 Utilization) (40–60 Age Difference)

Table 2-16: Yield Table 16: D(C) (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)	
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
0			0	108		2.16
10			1	135	0.14	2.25
20	54		6	158	0.30	2.26
30	73	181	14	175	0.45	2.19
40	58	153	24	187	0.60	2.08
50	33	331	36	194	0.72	1.94
60	37	141	50	196	0.83	1.78
70	51	157	64	194	0.92	1.61
80	85		79	189	0.99	1.45
90	97		95	181	1.05	1.29
100			110	171	1.10	1.14
110	152		125	160	1.13	1.00
120	176		139	149	1.16	0.88
130			152	137	1.17	0.76
140			165	125	1.18	0.66
150			177	113	1.18	0.57
160			187	102	1.17	0.49
170			196	92	1.15	0.42
180			205	82	1.14	0.36
190			212	73	1.11	0.30
200			218	64	1.09	0.26

Figure 2-17: Yield Curve 17: D(C) (15/10 Utilization) (70+ Age Difference)

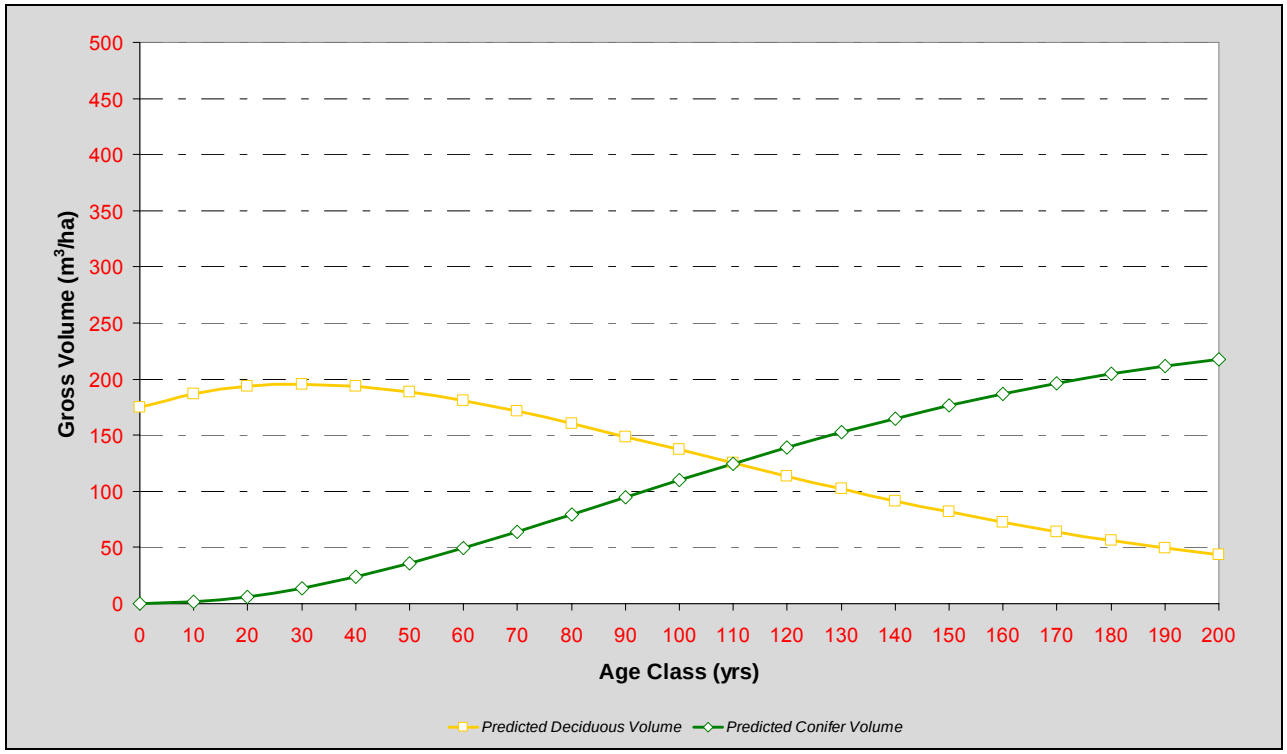


Table 2-17: Yield Table 17: D(C) (15/10 Utilization)

AGECLASS (YRS)	AVERAGE OBSERVED VOLUME (M^3/HA)		PREDICTED GROSS VOLUME (M^3/HA)		MEAN ANNUAL INCREMENT (M^3/HA/YR)	
	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
0			0	175		2.19
10			1	187	0.14	2.08
20	54	218	6	194	0.30	1.94
30	73	152	14	196	0.45	1.78
40	58		24	194	0.60	1.61
50	33		36	189	0.72	1.45
60	37	91	50	181	0.83	1.29
70	51		64	171	0.92	1.14
80	85		79	160	0.99	1.00
90	97		95	149	1.05	0.88
100			110	137	1.10	0.76
110	152		125	125	1.13	0.66
120	176		139	113	1.16	0.57
130			152	102	1.17	0.49
140			165	92	1.18	0.42
150			177	82	1.18	0.36
160			187	73	1.17	0.30
170			196	64	1.15	0.26
180			205	56	1.14	0.22
190			212	49	1.11	0.18
200			218	43	1.09	0.15

2.2.3 Area Weighted Composite Yield Curve

Figure 2-18 is an area-weighted composite yield curve of the predicted yields for the Blue Ridge Lumber Inc. FMA. The curve was created by using the 2005 PFMS net area, summarized by yield class and age class, to weight the yield volume predictions. The computed area-weighted volumes by age class were used for the FMA composite yield curve.

Figure 2-18: Area-Weighted Composite Yield Curve – 15/10 Utilization

2.2.4 Cull Deductions

The yield curves presented in this section are gross volumes. Cull deductions were applied to these volumes prior to conducting TSA. A cull deduction of 4.2% was applied to the gross conifer volumes and gross deciduous volumes were cull reduced by 5.9%.

Table 2-18: Summary of the Yield Curves Used in the TSA

YIELD CURVE STRATA	YIELD CURVE NUMBER	YIELD CURVE MODEL	YIELD CURVE COEFFICIENTS			FINAL NET AREA INITIALLY ASSIGNED TO YIELD CURVE IN PFMS	GENERAL YIELD CURVE DESCRIPTION
			COEFFICIENT	CONIFER	DECIDUOUS		
AB-C -G	1	$y = ax^b e^{(-ax)}$	a	0.0149698	0.0244310	7,783	This yield curve is consistent with the AB-C-G yield curve presented in October, 2001 growth and yield document.
			b	2.3834286	1.9589204		
AB-C -M	2	$y = ax^b e^{(-ax)}$	a	0.0159513	0.0091085	40,682	This yield curve is consistent with the AB-C-M yield curve presented in October, 2001 growth and yield document.
			b	2.3405433	1.8203962		
AB-C -F	3	$y = ax^b e^{(-ax)}$	a	0.0142793	0.0187597	23,347	This yield curve is consistent with the AB-C-F yield curve presented in October, 2001 growth and yield document.
			b	2.3183040	1.7814951		
AB-MX-A	4	$y = (a+ct)x^b e^{(-ax)}$	a	0.0163354	0.0196096	21,873	This yield curve is consistent with the yield curve 4 presented in October, 2001 growth and yield document. This curve was guided by yield curve 9 during fitting. The variable t is 0 for this curve and 1 for yield curve 9. Please note: this yield curve is a transition yield curve (curve #18) in the PFMS conifer understorey transition strategy outlined on page 66.
			b	2.3590722	2.2876432		
			c	0.0036213	0.0056617		
AB-D -A	5	$y = (a+ct)x^b e^{(-ax)}$	a	0.0236611	0.0239253	19,124	This yield curve is consistent with the AB-D-A yield curve presented in October, 2001 growth and yield document. This curve was guided by yield curve 10 during fitting. The variable t is 0 for this yield curve and 1 for yield curve 10.
			b	1.9817969	2.4714296		
			c	0.0188516	0.0039699		
CD-C -G	6	$y = ax^b e^{(-ax)}$	a	0.0214232	0.0129156	33,020	This yield curve is consistent with the CD-C-G yield curve presented in October, 2001 growth and yield document.
			b	2.4854393	2.0214685		
CD-C -M	7	$y = ax^b e^{(-ax)}$	a	0.0151419	0.0258619	96,305	This yield curve is consistent with the CD-C-M yield curve presented in October, 2001 growth and yield document.
			b	2.3923650	2.0867775		
CD-C -F	8	$y = ax^b e^{(-ax)}$	a	0.0220961	0.0352758	37,514	This yield curve is consistent with the CD-C-F yield curve presented in October, 2001 growth and yield document.
			b	2.4645553	2.0242328		
CD-MX-A	9	$y = (a+ct)x^b e^{(-ax)}$	a	0.0163354	0.0196096	72,605	This yield curve is consistent with the yield curve 9 presented in October, 2001 growth and yield document This curve was used to guide yield curve 4 during fitting. The variable t is 1 for this yield curve and 0 for yield curve 4.
			b	2.3590722	2.2876432		
			c	0.0036213	0.0056617		

YIELD CURVE STRATA	YIELD CURVE NUMBER	YIELD CURVE MODEL	YIELD CURVE COEFFICIENTS			FINAL NET AREA INITIALLY ASSIGNED TO YIELD CURVE IN PFMS	GENERAL YIELD CURVE DESCRIPTION
			COEFFICIENT	CONIFER	DECIDUOUS		
CD-D -A	10	$y=(a+ct)x^{b}e^{(-ax)}$	a	0.0236611	0.0239253	66,489	This yield curve is consistent with the yield curve 10 presented in October, 2001 growth and yield document. This curve was used to guide yield curve 5 during fitting. The variable t is 1 for this yield curve and 0 for yield curve 5.
			b	1.9817969	2.4714296		
			c	0.0188516	0.0039699		
D(C)	11	$y=ax^{b}e^{(-ax)}$	a	0.0087044	0.0263026	-	This yield curve is not used in the TSA but was presented in the 2002 growth and yield information submission. This yield curve was fitted using understorey age for both conifer and deciduous. It has since been expanded into yield curves 14 to 17 according to Figure 2-1.
			b	2.2398779	2.5116216		
AB- D- D(C) -A	12	$y=(a+ct)x^{b}e^{(-ax)}$	a	0.0163608	0.0236118	889	This yield curve strata was not presented in the October, 2001 growth and yield documentation. It was developed by pooling all AVI pure deciduous and D(C) stands (Figure 2-1) with A or B crown closure. The curve is being used in concert with the PFMS understorey protection strategy outlined on page 66. The variable t is 0. (Please note: Net volumes are reduced by 10% for deciduous and 10m^3 for conifer in TSA; see page 66 for details).
			b	2.0735168	2.4479841		
			c	0.0049634	0.0048774		
CD- D- D(C) -A	13	$y=ax^{b}e^{(-ax)}$	a	0.0165533	0.0265151	2,108	This yield curve was not included in the in the 2001 growth and yield document. It was developed by pooling all AVI pure deciduous and D(C) stands with C or D crown closure. The curve is being used in concert with the PFMS understorey protection strategy. (Please note: Net volumes are reduced by 10% for deciduous and 10m3 for conifer in TSA; see page 66 for details).
			b	2.1352912	2.5173773		
D(C)	14	$y=ax^{b}e^{(-ax)}$	a	0.0087067	0.0223688	19,311	This yield curve is consistent with yield curve 11 (D(C)). However, only stands that do not show any noticeable difference between their AVI overstorey age and AVI/field measured understorey conifer age are included in this stratum. The deciduous curve is fitted using overstorey age.
			b	2.2398546	2.4545007		
D(C)	15	$y=ax^{b}e^{(-ax)}$	a	0.0087067	0.0223688	13,173	This yield curve is consistent with yield curve 11 (D(C)). However, only stands with difference between their AVI overstorey age and AVI/field measured understorey conifer age of between 10 and 30 years are included in this stratum. The deciduous curve is fitted using overstorey age.
			b	2.2398546	2.4545007		
D(C)	16	$y=ax^{b}e^{(-ax)}$	a	0.0087067	0.0223688	6,152	This yield curve is consistent with yield curve 11 (D(C)). However, only stands with difference between their AVI overstorey age and AVI/field measured understorey conifer age of between 40 and 60 years are included in this stratum.The deciduous curve is fitted using overstorey age.
			b	2.2398546	2.4545007		
D(C)	17	$y=ax^{b}e^{(-ax)}$	a	0.0087067	0.0223688	3,109	This yield curve is consistent with yield curve 11 (D(C)). However, only stands with difference between their AVI overstorey age and AVI/field measured understorey conifer age of 70 years and above are included in this stratum. The deciduous curve is fitted using overstorey age.
			b	2.2398546	2.4545007		

2.3 Additional Growth and Yield Analysis

2.3.1 Utilization Conversion Factors

Adjustment factors were developed for converting the 15/10 utilization conifer and deciduous volumes to satisfy the utilization requirements of some tenures on the BRL FMA. Growth and yield analysis was completed to predict conifer and deciduous volumes to the various utilization standards; the net area harvested in the first 20 years of the 2005 PFMS was used to weight the predicted volumes by age classes. Details of the calculations of the adjustment between 15/10 and 15/11 conifer and between 15/10 and 13/7 deciduous volumes are given in Table 2-19. Volume adjustments are the differences between 15/10 and the target utilization standards (15/11 or 13/7), expressed as percentages of the 15/10 utilization volume. For each species group (conifer and deciduous), the conversion factor was calculated as the area-weighted average of the percentage differences between 15/10 and 15/11 for conifer and between 15/10 and 13/7 for deciduous.

Table 2-19: Detailed Calculations of Factors for Converting Conifer Volume from 15/10 to 15/11 and Deciduous Volume from 15/10 to 13/7 Utilization

AGE CLASS (YRS)	PFMS HARVESTED AREA (ha) (1st 20YRS)	AVERAGE DECIDUOUS VOLUME (m^3/ha)			AVERAGE CONIFER VOLUME (m^3/ha)		
		15/10 UTILIZATION	13/7 UTILIZATION	PERCENTAGE DIFFERENCE (%)	15/10 UTILIZATION	15/11 UTILIZATION	PERCENTAGE DIFFERENCE (%)
50	29	78.98	101.84	28.94	64.99	60.72	-6.57
55	3	50.75	63.52	25.18	92.16	86.37	-6.28
60	361	60.43	73.75	22.03	91.69	86.17	-6.02
65	39	83.32	99.46	19.37	92.95	87.57	-5.79
70	984	43.82	51.31	17.09	125.62	118.62	-5.57
75	159	53.98	62.15	15.12	144.64	136.88	-5.37
80	1,553	56.59	64.18	13.43	142.69	135.30	-5.18
85	679	67.25	75.29	11.95	152.51	144.88	-5.00
90	1,406	46.11	51.02	10.65	162.43	154.57	-4.84
95	2,099	46.74	51.19	9.51	175.61	167.39	-4.68
100	3,536	57.69	62.60	8.51	172.56	164.73	-4.54
105	4,121	58.92	63.41	7.62	181.81	173.81	-4.40
110	4,067	52.91	56.53	6.84	188.50	180.46	-4.27
115	4,181	52.77	56.01	6.14	192.78	184.79	-4.14
120	6,373	57.77	60.95	5.52	188.83	181.23	-4.02
125	4,396	62.00	65.08	4.96	180.33	173.28	-3.91
130	6,869	54.51	56.95	4.47	191.57	184.28	-3.80
135	10,325	47.44	49.35	4.03	195.10	187.88	-3.70
140	10,572	46.68	48.37	3.63	197.86	190.72	-3.60
145	18,004	45.98	47.49	3.27	195.29	188.44	-3.51
150	11,438	45.23	46.56	2.95	188.65	182.20	-3.42
155	2,786	29.33	30.11	2.67	191.93	185.53	-3.33
160	1,921	32.14	32.91	2.41	191.63	185.40	-3.25
165	2,535	29.12	29.76	2.17	187.62	181.67	-3.17
170	1,057	21.04	21.46	1.96	183.55	177.87	-3.09
175	0	0.00	0.00	0.00	0.00	0.00	0.00
180	855	20.51	20.83	1.61	162.36	157.57	-2.95
185	0	0.00	0.00	0.00	0.00	0.00	0.00
190	82	24.86	25.19	1.31	195.70	190.20	-2.81
195	0	0.00	0.00	0.00	0.00	0.00	0.00
200	520	29.42	29.74	1.07	147.96	143.98	-2.69
205	0	0.00	0.00	0.00	0.00	0.00	0.00
210	35	15.63	15.77	0.88	178.25	173.68	-2.57
TOTAL AREA	100,985						
Area Weighted Mean Volume (m^3/ha)		**48.29**	**50.76**		**187.57**	**180.48**	
RECOMMENDED PERCENTAGE CONVERSION FACTORS (%)				**4.8**			**-3.8**

* The 2004 PFMS resulted in recommended conversion factors of 4.6% for 13/7 to 15/10 deciduous utilization and -3.8% for 15/11 to 15/10 conifer utilization (see June 1, 2004 DFMP).

2.3.2 Deciduous Separate Species Analysis

Given that some tenures on the BRL FMA vary with respect to deciduous species, volume estimate by separate deciduous species is required. A methodology was developed through DFMP planning meetings to allocate total deciduous volume harvested by individual species (Aspen, Balsam Poplar and White Birch). Actual TSP observations were used to calculate area-weighted average proportions (by volume) of the individual deciduous species. First, average volumes and percentages by species were calculated for each yield stratum. The yield stratum level averages were then area-weighted by the 2005 PFMS net area cut in each stratum and the overall weighted average proportion of each species was calculated. Table 2-20 presents the average volumes and proportions by species for the overall FMA as well as the individual yield strata.

Table 2-20: Detailed Calculations of Factors for Allocating Total Deciduous Volume Harvested by Individual Species[6]

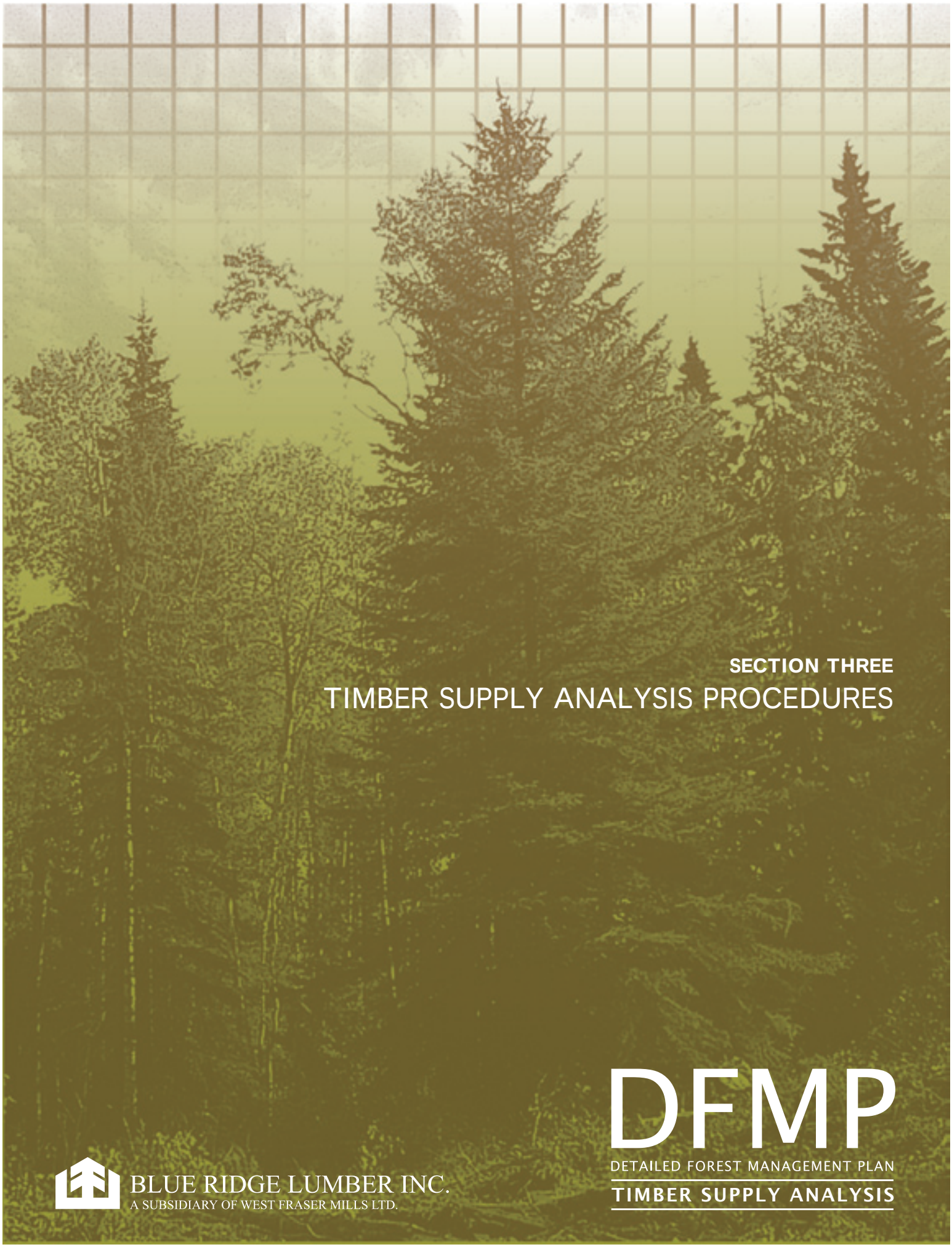
YIELD STRATUM	PFMS HARVESTED AREA (ha) (1st 20YRS)	ASPEN VOLUME		POPLAR VOLUME		BIRCH VOLUME		TOTAL DECIDUOUS VOLUME (m^3/ha)
		M^3/HA	%	M^3/HA	%	M^3/HA	%	
AB-C -G	1,362	5.54	35.28	1.91	12.13	8.27	52.59	15.72
AB-C -M	9,508	11.88	80.06	1.45	9.77	1.51	10.17	14.83
AB-C -F	6,373	7.26	90.49	0.74	9.23	0.02	0.28	8.02
AB-MX-A	3,162	60.21	77.51	12.81	16.49	4.66	6.00	77.67
AB-D -A	3,995	73.47	64.51	36.76	32.28	3.65	3.21	113.89
CD-C -G	8,594	23.52	67.26	6.08	17.38	5.37	15.36	34.97
CD-C -M	28,101	20.93	83.40	2.96	11.81	1.20	4.79	25.09
CD-C -F	6,923	4.80	77.98	1.26	20.42	0.10	1.60	6.16
CD-MX-A	10,490	93.49	84.09	15.43	13.88	2.26	2.04	111.19
CD-D -A	18,247	114.46	74.25	34.18	22.17	5.51	3.58	154.16
D(C)	4,229	115.04	80.17	24.76	17.25	3.69	2.57	143.50
Total	100,985							
AREA WEIGHTED AVERAGE		49.81	76.81	12.31	18.98	2.73	4.21	64.85
RECOMMENDED PERCENTAGE CONVERSION FACTORS (%)			76.8		19.0		4.2	

* The 2004 PFMS resulted in recommended deciduous species allocation factors of 77.0% for aspen, 18.7% for balsam poplar and 4.3% for birch (see June 1, 2004 DFMP).

[6] *Gross 15/10 utilization volumes were used as the basis.*

2.4 Digital Yield Curve Information

The enclosed DVD contains the uncompiled and compiled yield curve data. The databases' structure and description can be found in APPENDIX C.



SECTION THREE

TIMBER SUPPLY ANALYSIS PROCEDURES

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

3.0 Timber Supply Analysis Procedures

This Section summarizes the procedures, results and assumptions applied in several of the forest management strategies that were evaluated throughout the BRL DFMP planning process. Comparative analysis between a single and two pass harvest scenario is also provided at the end of this section.

3.1 Timber Supply Modeling

3.1.1 Primary Model - SILVASYM

SILVASYM is Silvacom's proprietary timber supply simulation model. The model simulates the effect of management strategies on sustainable harvest levels over a specified planning horizon. In its most basic form, SILVASYM is a model which cuts and grows each stand in the forest, according to user-defined yield functions and forest policy constraints. SILVASYM maintains a full spatial link to the net landbase GIS coverage and attribute file over the entire planning horizon. Operating unit sequencing can also be introduced to reflect "real-world" limitations such as accessibility and multi-pass harvesting rules. Adjacency constraints can also be applied on a stand-by-stand basis to:

- Control the distribution (or concentration) of the harvest and;
- Mimic operational planning strategies.

A number of sorting rules are available that define the harvest priorities assigned to each stand. The simulation model uses binary search methods to assess harvest levels. Average harvest age and post harvest forest conditions are evaluated at the end of each simulation to determine whether the even-flow harvest levels are too low or too high. Reports and GIS map products can be produced for each scenario to evaluate the condition of the forest throughout and at the end of the planning horizon.

Standard run control parameters used in analysis are defined in Table 3-1.

Table 3-1: Harvest Simulation Control Parameter Definitions

Constraint	Definition
Harvest Unit	Description of the administrative area under analysis.
Planning horizon	Total time period for the analysis scenario (years).
Target average harvest age at the end of the planning horizon	Average age (years) of stands scheduled for harvest in the last twenty years of the planning horizon, typically with a specified tolerance (e.g. 80 ±5).
Minimum harvest age	Minimum age of stands that are eligible for harvest scheduling, may vary by yield stratum (years).
Landbase	Landbase available for analysis (discrete, single…).
Sorting rules	Factors used to prioritize stands for harvest sequencing.
Modulation	Reduces the annual variability in the harvest of the secondary species by distributing the "peaks" in secondary harvest flow to periods with little or no secondary harvest.

Constraint	Definition
Harvest flow constraint	Scheduled harvest level of the primary species between harvest periods (may have tolerances applied).
Yield curve sets	Predicted yields for individual strata at a specified utilization standard.
Cull deductions	Percent reduction of predicted yields, to account for losses due to defect.
Regeneration transition	Assumptions applied for the regeneration of stands scheduled for harvest.
Regeneration lag	Assumed time period required for the establishment of regeneration after harvest.
Introduce harvest plans	Incorporation of existing harvest plans into the harvest sequence.
Spatial stand adjacency	The process of protecting other resource values by spatially identifying and scheduling inventory polygons (stands) that share a boundary.
Adjacency - Time horizon	Total time period that stand adjacency is incorporated into the analysis (years).
Adjacency - Green-up	The time period applied restricting the harvest of adjacent polygons (years).
Adjacency - Accumulate adjacent stands	Maximum total area of adjacent stands scheduled for harvest in the same harvest period.

3.1.2 Supplementary Timber Supply Modeling

3.1.2.1 Long Run Sustained Yield Average

Long Run Sustained Yield Average (LRSYA) is a measure of forest productivity and is calculated as the sum of growth per year of regenerated stands at a selected rotation age. It is derived from the theoretical concept of a regulated forest with a static and uniform age class distribution, a single rotation age and a single yield function operating across equally productive sites. Under this assumption, the annual harvest equates the annual growth in the selected age class. LRSYA is calculated using the following formula:

$$LRSYA = \sum_{1}^{k} MAI_i \bullet A_i$$

Where:

LRSYA = long run sustained yield average (m^3/yr);

MAI_i = mean annual increment (m^3/ha/yr) for yield class '*i*';

A_i = net area (ha) for yield class '*i*';

k = number of yield strata.

The LRSYA estimates are provided in Table 3-2 through Table 3-7.

3.1.2.2 WOODSTOCK™

Cursory level WOODSTOCK™ simulation and optimization analysis was used as an additional model input and volume estimate quality control mechanism. These results are not presented as they were only used for this purpose.

Table 3-2: LRSYA Estimates: "Status Quo" Regeneration Transition – ENTIRE FMA*

YIELD STRATA	NET OPERABLE AREA (ha)	MAI (m^3/ha/yr) @ 80 YEARS		LRSYA (m^3/yr)	
		CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
AB-C-G	7,783	1.86	0.22	14,469	1,694
AB-C-M	40,682	1.52	0.15	61,735	6,127
AB-C-F	23,347	1.41	0.12	32,888	2,822
AB-MX-A	21,873	1.63	1.08	35,751	23,722
AB-D-A	19,124	0.25	2.10	4,824	40,091
CD-C-G	33,020	2.48	0.38	81,966	12,552
CD-C-M	96,305	1.93	0.36	185,741	34,642
CD-C-F	37,514	2.21	0.18	83,053	6,590
CD-MX-A	72,605	2.00	1.40	144,979	101,479
CD-D-A	66,489	0.45	2.44	30,131	162,511
D (C) - 12	889	0.34	1.72	305	1,532
D (C) - 13	2,108	0.49	2.08	1,023	4,381
D (C) - 14	19,311	0.95	2.06	18,369	39,803
D (C) - 15	13,173	0.95	2.28	12,530	30,016
D (C) - 16	6,152	0.95	2.22	5,852	13,644
D (C) - 17	3,109	0.95	1.89	2,957	5,866
Total	**463,484**			**716,573**	**487,471**

Table 3-3: LRSYA Estimates: "Fully Stocked" Regeneration Transition – ENTIRE FMA*

YIELD STRATA	NET OPERABLE AREA (ha)	MAI (m^3/ha/yr) @ 80 YEARS		LRSYA (m^3/yr)	
		CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
AB-C-G	7,783	2.48	0.38	19,321	2,959
AB-C-M	40,682	1.93	0.36	78,462	14,634
AB-C-F	23,347	2.21	0.18	51,688	4,101
AB-MX-A	21,873	2.00	1.40	43,676	30,571
AB-D-A	19,124	0.45	2.44	8,667	46,743
CD-C-G	33,020	2.48	0.38	81,966	12,552
CD-C-M	96,305	1.93	0.36	185,741	34,642
CD-C-F	37,514	2.21	0.18	83,053	6,590
CD-MX-A	72,605	2.00	1.40	144,979	101,479
CD-D-A	66,489	0.45	2.44	30,131	162,511
D (C) - 12	889	2.13	1.09	1,894	969
D (C) - 13	2,108	2.13	1.09	4,489	2,297
D (C) - 14	19,311	2.00	1.40	38,561	26,991
D (C) - 15	13,173	2.00	1.40	26,303	18,411
D (C) - 16	6,152	2.00	1.40	12,285	8,599
D (C) - 17	3,109	2.00	1.40	6,207	4,345
Total	**463,484**			**817,426**	**478,393**

*Minor differences may exist due to rounding

Table 3-4: LRSYA Estimates: "Status Quo" Regeneration Transition – VSA 1*

YIELD STRATA	NET OPERABLE AREA (ha)	MAI (m^3/ha/yr) @ 80 YEARS		LRSYA (m^3/yr)	
		CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
AB-C-G	3,499	1.86	0.22	6,504	761
AB-C-M	10,917	1.52	0.15	16,567	1,644
AB-C-F	829	1.41	0.12	1,168	100
AB-MX-A	8,764	1.63	1.08	14,325	9,505
AB-D-A	8,502	0.25	2.10	2,144	17,822
CD-C-G	22,406	2.48	0.38	55,619	8,517
CD-C-M	24,062	1.93	0.36	46,407	8,655
CD-C-F	1,592	2.21	0.18	3,525	280
CD-MX-A	17,203	2.00	1.40	34,352	24,045
CD-D-A	21,271	0.45	2.44	9,639	51,990
D (C) - 12	297	0.34	1.72	102	512
D (C) - 13	599	0.49	2.08	291	1,245
D (C) - 14	17,459	0.95	2.06	16,607	35,984
D (C) - 15	9,663	0.95	2.28	9,191	22,018
D (C) - 16	681	0.95	2.22	648	1,511
D (C) - 17	7	0.95	1.89	6	12
Total	**147,751**			**217,096**	**184,603**

Table 3-5: LRSYA Estimates: "Fully Stocked" Regeneration Transition – VSA 1*

YIELD STRATA	NET OPERABLE AREA (ha)	MAI (m^3/ha/yr) @ 80 YEARS		LRSYA (m^3/yr)	
		CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
AB-C-G	3,499	2.48	0.38	8,685	1,330
AB-C-M	10,917	1.93	0.36	21,056	3,927
AB-C-F	829	2.21	0.18	1,836	146
AB-MX-A	8,764	2.00	1.40	17,500	12,249
AB-D-A	8,502	0.45	2.44	3,853	20,780
CD-C-G	22,406	2.48	0.38	55,619	8,517
CD-C-M	24,062	1.93	0.36	46,407	8,655
CD-C-F	1,592	2.21	0.18	3,525	280
CD-MX-A	17,203	2.00	1.40	34,352	24,045
CD-D-A	21,271	0.45	2.44	9,639	51,990
D (C) - 12	297	2.13	1.09	633	324
D (C) - 13	599	2.13	1.09	1,276	653
D (C) - 14	17,459	2.00	1.40	34,862	24,402
D (C) - 15	9,663	2.00	1.40	19,295	13,506
D (C) - 16	681	2.00	1.40	1,360	952
D (C) - 17	7	2.00	1.40	13	9
Total	**147,751**			**259,912**	**171,764**

*Minor differences may exist due to rounding

Table 3-6: LRSYA Estimates: "Status Quo" Regeneration Transition – VSA 2*

YIELD STRATA	NET OPERABLE AREA (ha)	MAI (m^3/ha/yr) @ 80 YEARS		LRSYA (m^3/yr)	
		CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
AB-C-G	4,285	1.86	0.22	7,965	932
AB-C-M	29,765	1.52	0.15	45,168	4,483
AB-C-F	22,518	1.41	0.12	31,720	2,722
AB-MX-A	13,109	1.63	1.08	21,426	14,217
AB-D-A	10,623	0.25	2.10	2,679	22,269
CD-C-G	10,614	2.48	0.38	26,347	4,035
CD-C-M	72,243	1.93	0.36	139,333	25,987
CD-C-F	35,922	2.21	0.18	79,528	6,310
CD-MX-A	55,401	2.00	1.40	110,627	77,434
CD-D-A	45,218	0.45	2.44	20,492	110,521
D (C) - 12	592	0.34	1.72	203	1,020
D (C) - 13	1,509	0.49	2.08	733	3,136
D (C) - 14	1,853	0.95	2.06	1,762	3,819
D (C) - 15	3,510	0.95	2.28	3,338	7,997
D (C) - 16	5,471	0.95	2.22	5,204	12,133
D (C) - 17	3,102	0.95	1.89	2,951	5,854
Total	**315,733**			**499,477**	**302,868**

Table 3-7: LRSYA Estimates: "Fully Stocked" Regeneration Transition – VSA 2*

YIELD STRATA	NET OPERABLE AREA (ha)	MAI (m^3/ha/yr) @ 80 YEARS		LRSYA (m^3/yr)	
		CONIFER	DECIDUOUS	CONIFER	DECIDUOUS
AB-C-G	4,285	2.48	0.38	10,636	1,629
AB-C-M	29,765	1.93	0.36	57,406	10,707
AB-C-F	22,518	2.21	0.18	49,852	3,955
AB-MX-A	13,109	2.00	1.40	26,176	18,322
AB-D-A	10,623	0.45	2.44	4,814	25,964
CD-C-G	10,614	2.48	0.38	26,347	4,035
CD-C-M	72,243	1.93	0.36	139,333	25,987
CD-C-F	35,922	2.21	0.18	79,528	6,310
CD-MX-A	55,401	2.00	1.40	110,627	77,434
CD-D-A	45,218	0.45	2.44	20,492	110,521
D (C) - 12	592	2.13	1.09	1,261	645
D (C) - 13	1,509	2.13	1.09	3,214	1,645
D (C) - 14	1,853	2.00	1.40	3,700	2,589
D (C) - 15	3,510	2.00	1.40	7,008	4,906
D (C) - 16	5,471	2.00	1.40	10,924	7,647
D (C) - 17	3,102	2.00	1.40	6,194	4,336
Total	**315,733**			**557,513**	**306,629**

*Minor differences may exist due to rounding

3.2 Timber Supply Analysis Regeneration Transition Strategies

3.2.1 Transition Strategy # 1

For all forest management strategies presented, a fully stocked yield transition was assumed with the D(C) yield strata transitioning to the fully stocked mixedwood yield strata.

Table 3-8: Transition Strategy #1

CROWN CLOSURE	SPECIES GROUP	TPR	YIELD CURVE NUMBER	YIELD CURVE STRATA	TRANSITION CURVE STRATA
A or B	C	G	1	AB-C-G	CD-C-G
A or B	C	M	2	AB-C-M	CD-C-M
A or B	C	F	3	AB-C-F	CD-C-F
A or B	CD/DC	ALL	4	AB-MX-A	CD-MX-A
A or B	D	ALL	5	AB-D-A	CD-D-A
C or D	C	G	6	CD-C-G	CD-C-G
C or D	C	M	7	CD-C-M	CD-C-M
C or D	C	F	8	CD-C-F	CD-C-F
C or D	CD/DC	ALL	9	CD-MX-A	CD-MX-A
C or D	D	ALL	10	CD-D-A	CD-D-A
A or B or C or D	D (with C/U)	ALL	14,15,16,17*	D(C)	CD-MX-A

* The D(C) yield strata have age calibration applied (see page 34 for details).

3.2.2 Transition Strategy # 2

For the forest management strategies that include the conifer understorey protection strategy (FMSs outlined in the light blue boxes, excluding FMS-46, in Figure 3-2) an alternative transition strategy was applied to ~3,000 ha of net area harvested over the first 20 years of the planning horizon. For a detailed description of the conifer understorey protection strategy see Figure 3-1. This strategy incorporates conifer understorey planned protection in which the model assumes:

- 10% of the deciduous volume is left uncut to protect the conifer understorey from windthrow. This estimate is based on operational experience and evaluation of the understorey protocols of other companies;
- $10m^3$/ha of merchantable coniferous volume is left uncut. This estimate is based on pre-harvest surveys carried out in 2003. The average volume of the merchantable understorey was calculated at approximaely $20m^3$/ha and with enhanced protection approximately 50% would remain after harvest. The merchantable understorey left is mainly composed of young coniferous trees that are barely merchantable and just beginning to accumulate significant volume;

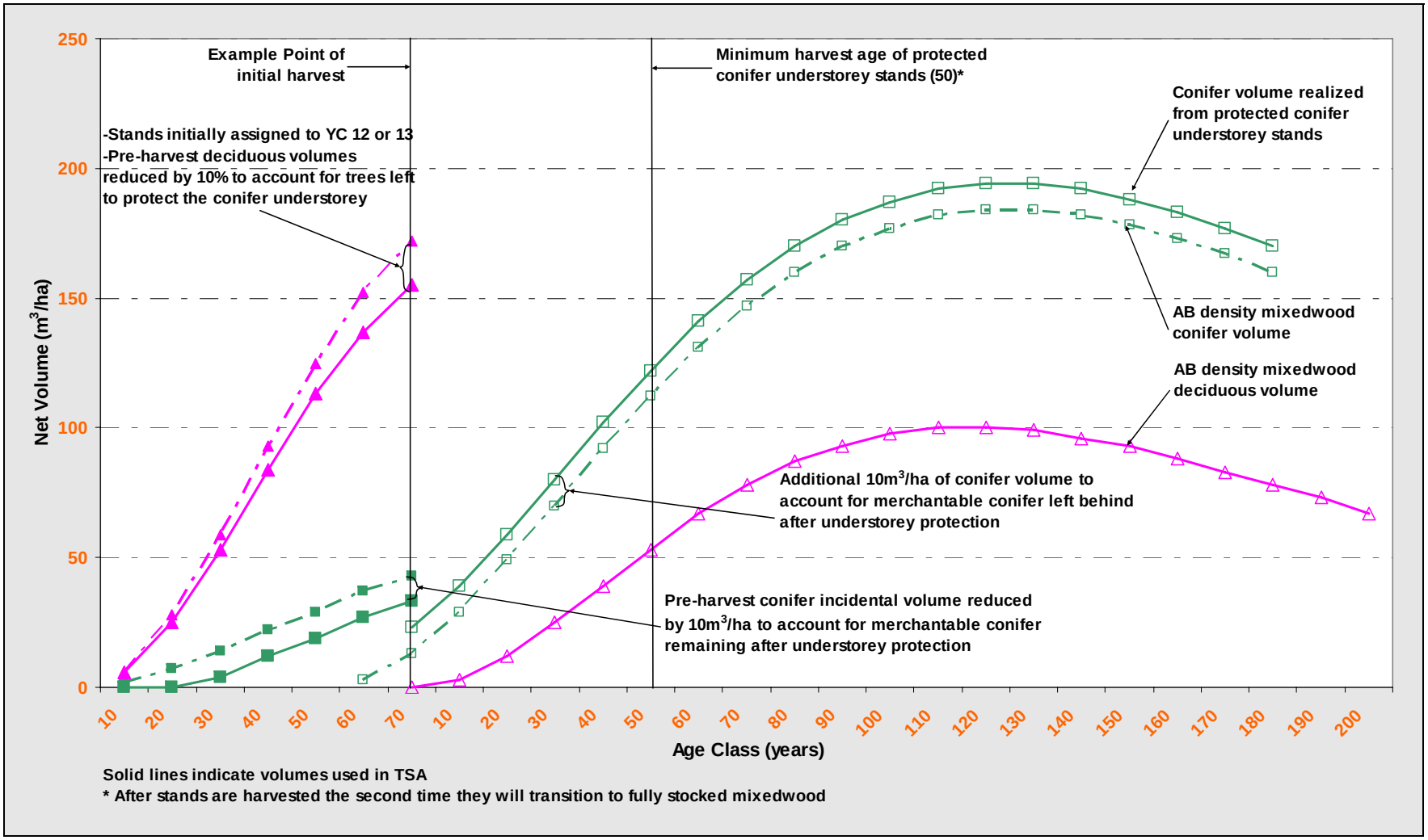
- Stands come back on an AB density mixedwood curve. This curve is used in order to reflect the type protection (i.e. skid trails that are clearcut) which results in strips/clumps of conifer that are not evenly distributed.

Table 3-9: Transition Strategy #2

CROWN CLOSURE	SPECIES GROUP	TPR	YIELD CURVE NUMBER	YIELD CURVE STRATA	TRANSITION CURVE STRATA
A or B	C	G	1	AB-C-G	CD-C-G
A or B	C	M	2	AB-C-M	CD-C-M
A or B	C	F	3	AB-C-F	CD-C-F
A or B	CD/DC	ALL	4	AB-MX-A	CD-MX-A
A or B	D	ALL	5	AB-D-A	CD-D-A
C or D	C	G	6	CD-C-G	CD-C-G
C or D	C	M	7	CD-C-M	CD-C-M
C or D	C	F	8	CD-C-F	CD-C-F
C or D	CD/DC	ALL	9	CD-MX-A	CD-MX-A
C or D	D	ALL	10	CD-D-A	CD-D-A
A or B	D (with C/U)	ALL	12*	AB-D-D(C)-A	AB-MX-A**
C or D	D (with C/U)	ALL	13*	CD-D-D(C)-A	AB-MX-A **
A or B or C or D	D (with C/U)	ALL	14,15,16,17***	D(C)	CD-MX-A

* See Section 2 for details on yield curve development.
** See Figure 3-1 for conifer understorey protection transition curve.
*** The D(C) yield strata have age calibration applied (see page 34 for details).

Figure 3-1: Conifer Understorey Protection Strategy (Part of Transition Strategy # 2)

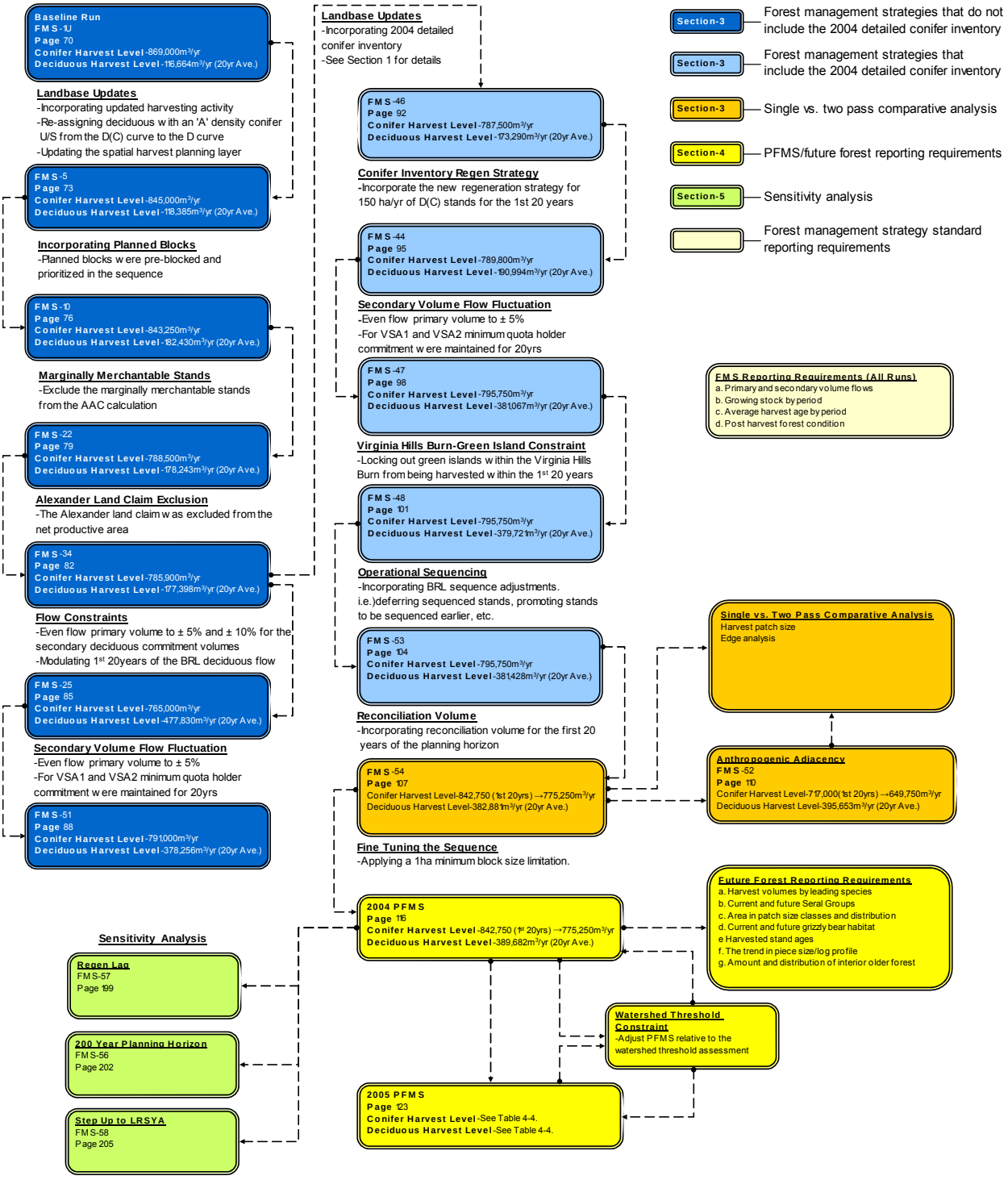


For a detailed description of the yield curves used in this strategy see Section 2.

3.3 Timber Supply Analysis Results

Throughout the DFMP planning process several forest management strategies (FMS) were produced and evaluated to facilitate the development of the 2005 preferred forest management strategy (PFMS). Figure 3-2 summarizes a selection of the FMS that were evaluated and the general process undertaken to arrive at the 2005 PFMS. The tables that follow relate directly to Figure 3-2 and summarize the harvest simulation control parameters, simulation outputs (used to assess each management strategy) and the associated 20-year harvest sequence maps for each FMS. TSA was completed both including and excluding the new 2004 detailed conifer inventory. The detailed LRSYA calculations for the entire FMA, as well as by each VSA are provided in Table 3-2 through Table 3-7.

Figure 3-2: 2005 PFMS Development Process



3.3.1 TSA Excluding 2004 Detailed Conifer Inventory

The following forest management strategies correspond with the dark blue boxes on the 2005 PFMS development process flow chart (see Figure 3-2). These do not include the new 2004 detailed conifer inventory and were included to show various steps taken towards the 2005 PFMS and for comparison purposes.

3.3.1.1 Forest Management Strategy – 1U

Table 3-10: FMS Description / Harvest Simulation Control Parameters – FMS No. 1U

FMS BACKGROUND INFORMATION	
General Information	This strategy was originally presented at the March 20, 2003 DFMP working group meeting. For this strategy all pure deciduous stands with any identified conifer understorey in the AVI or 1994 conifer inventory study area are assigned to the D(C) conifer understorey yield strata.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase with the above mentioned landbase assignments. Total net area = 485,487ha 84.9% conifer 15.1% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details)

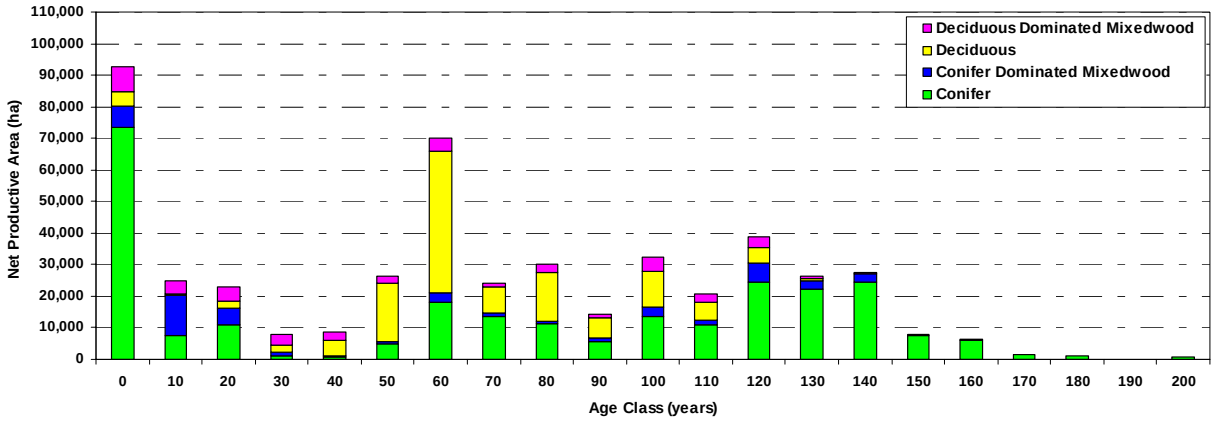
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Not applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-3: Harvest Simulation Results – FMS No. 1U

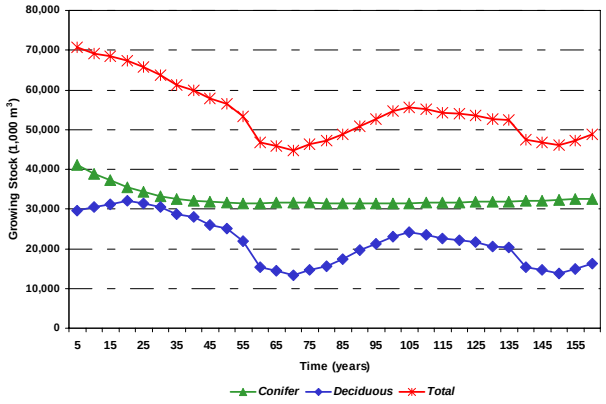
TIMBER SUPPLY SUMMARY

Conifer harvest level	869,000 m^3/yr	Deciduous harvest level	116,664 m^3/yr (20 year Average)

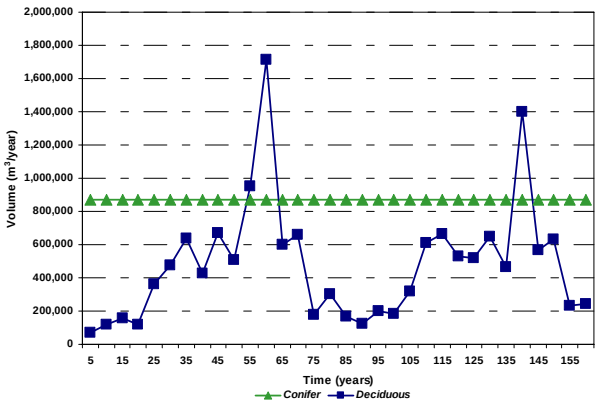
INITIAL AGE CLASS DISTRIBUTION



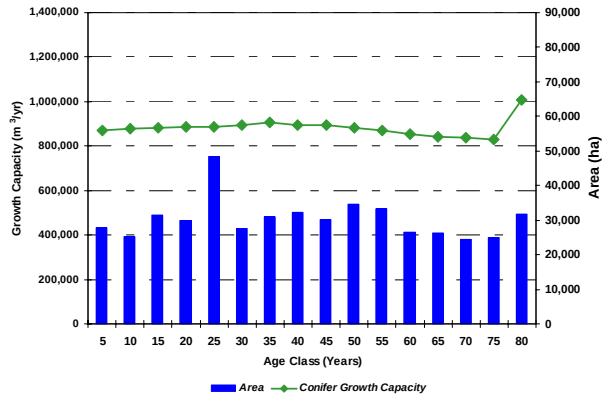
GROWING STOCK



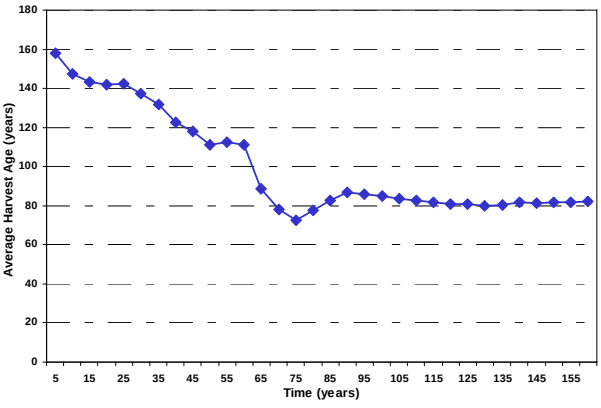
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-1: 20 Year Harvest Sequence – FMS No. 1U

3.3.1.2 Forest Management Strategy – 5

Table 3-11: FMS Description / Harvest Simulation Control Parameters – FMS No. 5

FMS BACKGROUND INFORMATION	
General Information	As outlined in the ASRD protocols provided Nov 13, 2003 the landbase was updated with cutblocks harvested since the time of net landbase approval, new planned block boundaries were incorporated and the re-assignment of pure deciduous stands with an 'A' density conifer understorey from the D(C) yield strata to the D yield strata.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase with the above mentioned updates. Total net area = 485,487ha 81.1% conifer 18.9% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

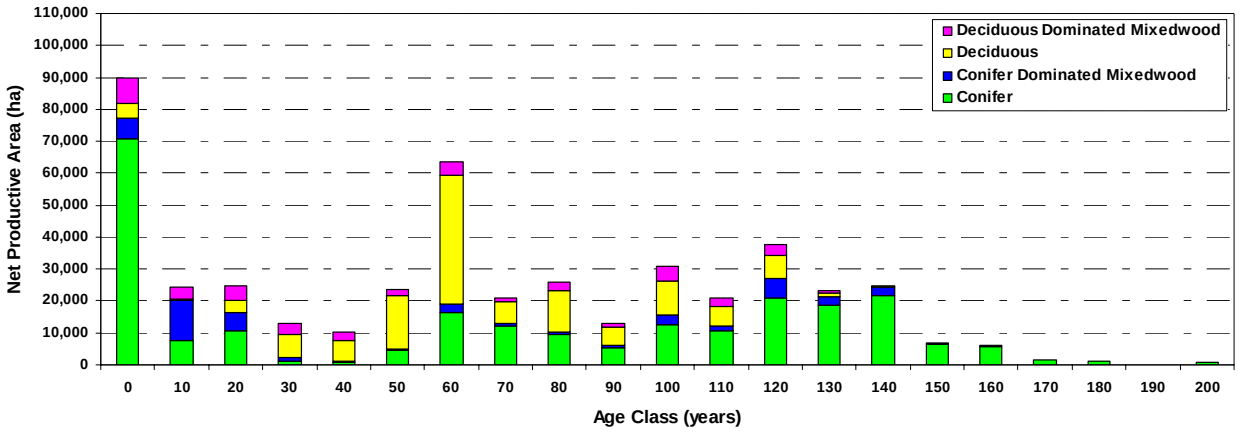
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Not applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-4: Harvest Simulation Results – FMS No. 5

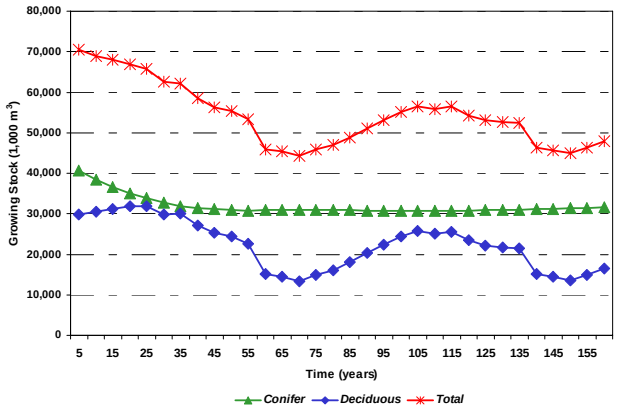
TIMBER SUPPLY SUMMARY

Conifer harvest level	845,000 m^3/yr	Deciduous Harvest Level	118,385 m^3/yr (20 year Average)

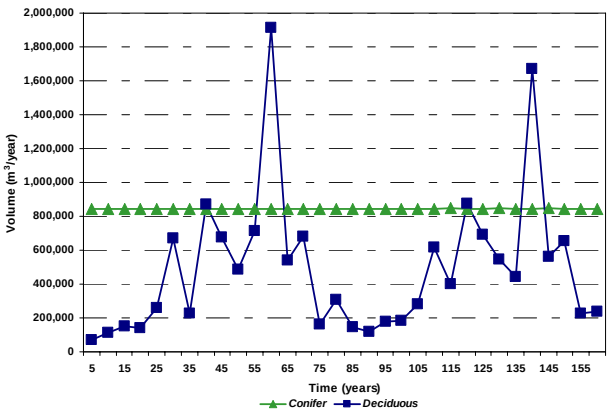
INITIAL AGE CLASS DISTRIBUTION



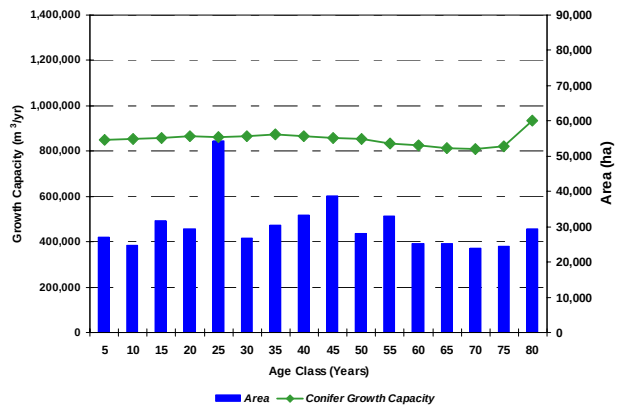
GROWING STOCK



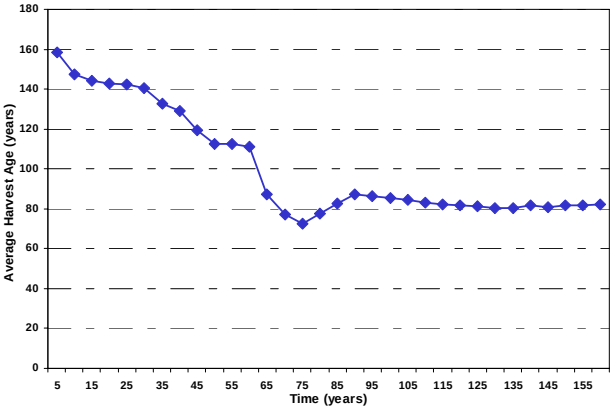
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-2: 20 Year Harvest Sequence – FMS No. 5

3.3.1.3 Forest Management Strategy – 10

Table 3-12: FMS Description / Harvest Simulation Control Parameters – FMS No. 10

FMS BACKGROUND INFORMATION	
General Information	This FMS has the same landbase assignments as FMS-5 with over 27,000ha of planned blocks prioritized early in the sequence.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase. Total net area = 485,487ha 81.1% conifer 18.9% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

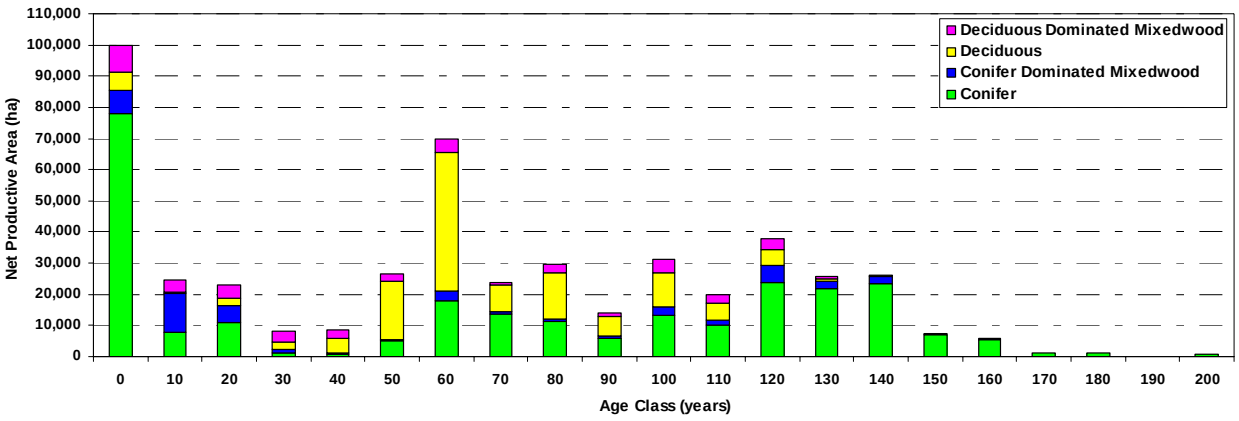
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-5: Harvest Simulation Results – FMS No. 10

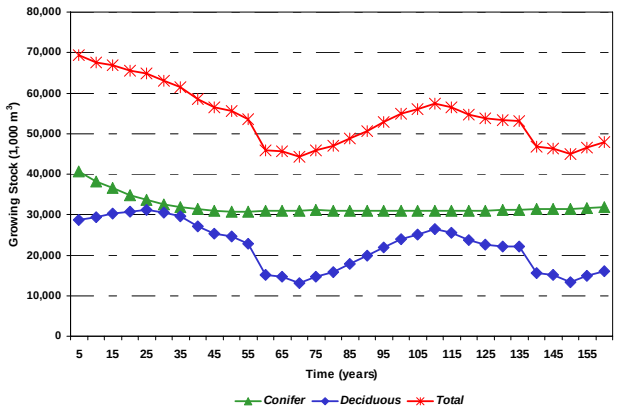
TIMBER SUPPLY SUMMARY

Conifer harvest level	843,250 m^3/yr	Deciduous Harvest Level	182,430 m^3/yr (20 year Average)

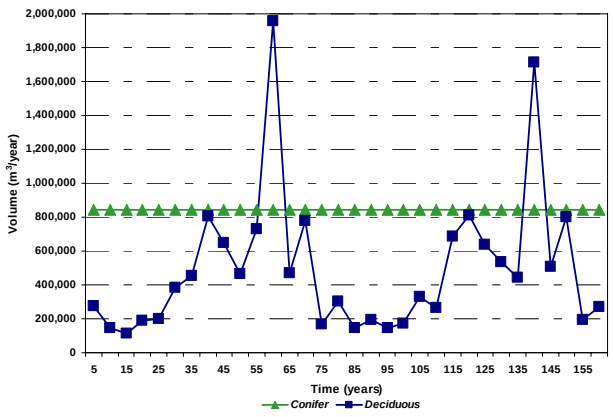
INITIAL AGE CLASS DISTRIBUTION



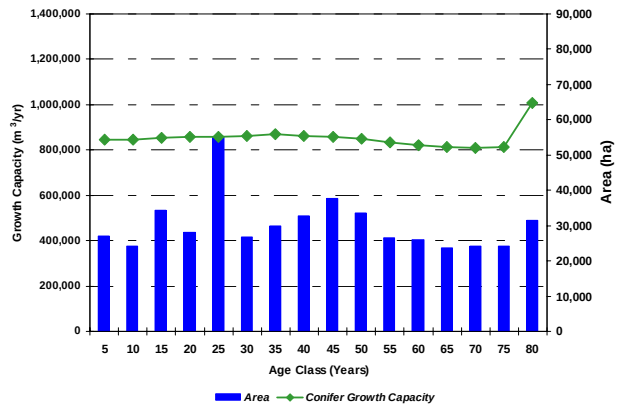
GROWING STOCK



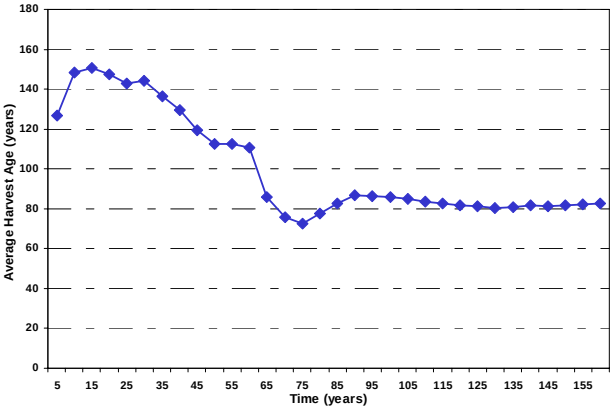
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-3: 20 Year Harvest Sequence – FMS No. 10

3.3.1.4 Forest Management Strategy – 22

Table 3-13: FMS Description / Harvest Simulation Control Parameters – FMS No. 22

FMS BACKGROUND INFORMATION	
General Information	In an effort to generate a operationally realistic spatial harvest sequence while balancing non-timber values, BRL has identified 20,171ha of marginally merch/wildlife thermal cover stands within the net productive landbase that will not be harvested and therefore not contribute to the AAC calculation.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase. Total net area = 485,487ha 81.1% conifer 18.9% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

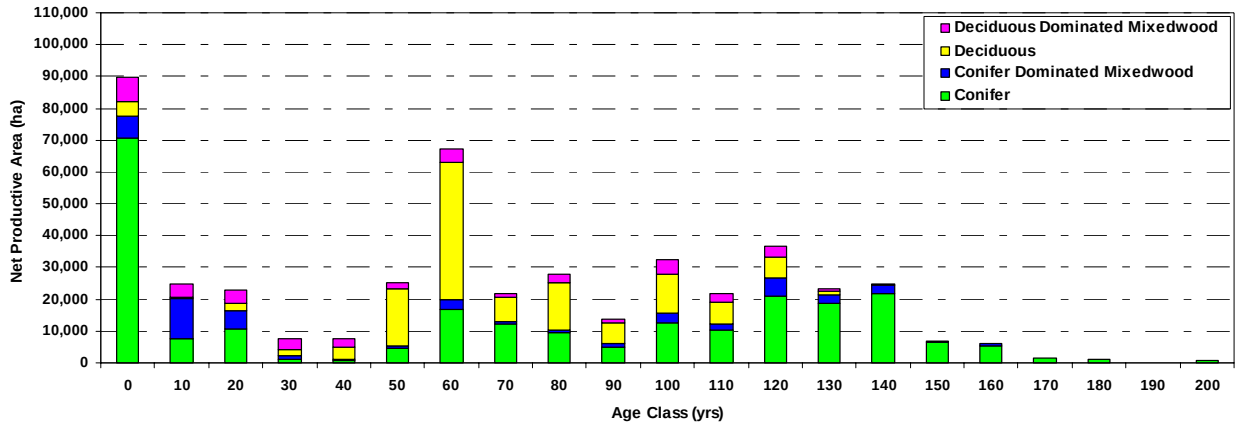
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-6: Harvest Simulation Results – FMS No. 22

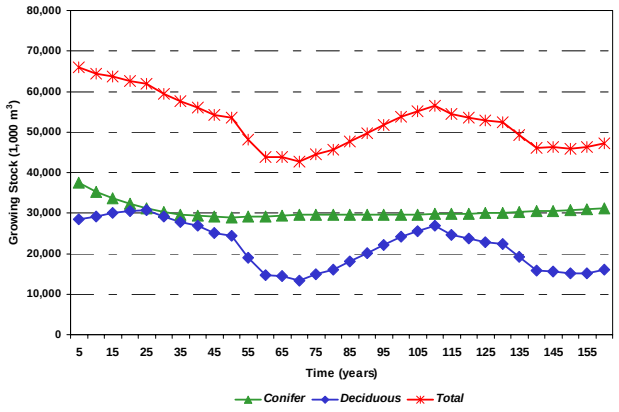
TIMBER SUPPLY SUMMARY

Conifer harvest level	788,500 m^3/yr	Deciduous Harvest Level	178,243 m^3/yr (20 year Average)

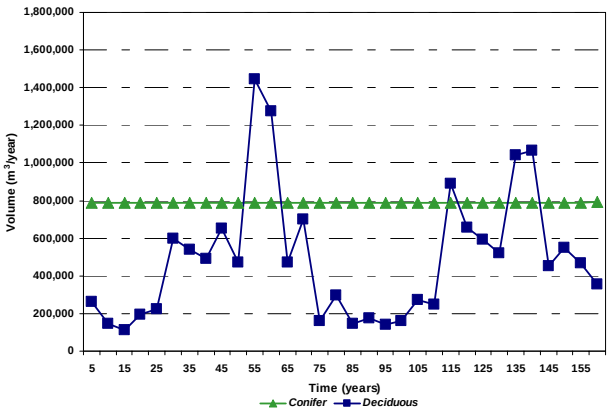
INITIAL AGE CLASS DISTRIBUTION



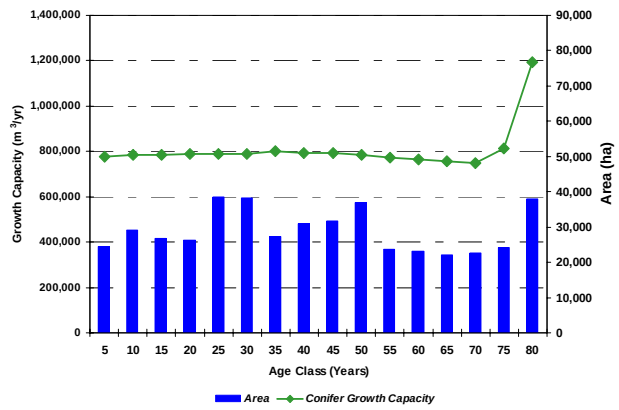
GROWING STOCK



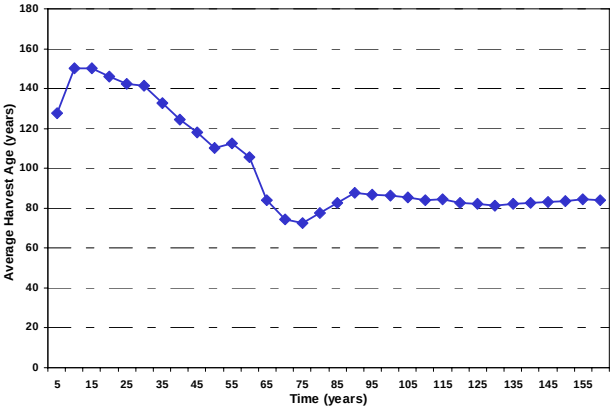
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-4: 20 Year Harvest Sequence – FMS No. 22

3.3.1.5 Forest Management Strategy – 34

Table 3-14: FMS Description / Harvest Simulation Control Parameters – FMS No. 34

FMS BACKGROUND INFORMATION	
General Information	For FMS 34 the Alexander Land Claim is considered a landbase exclusion. (Alexander Land Claim **gross area: 2,270ha**; **net area: 1,831ha**).
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 81.1% conifer 18.9% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

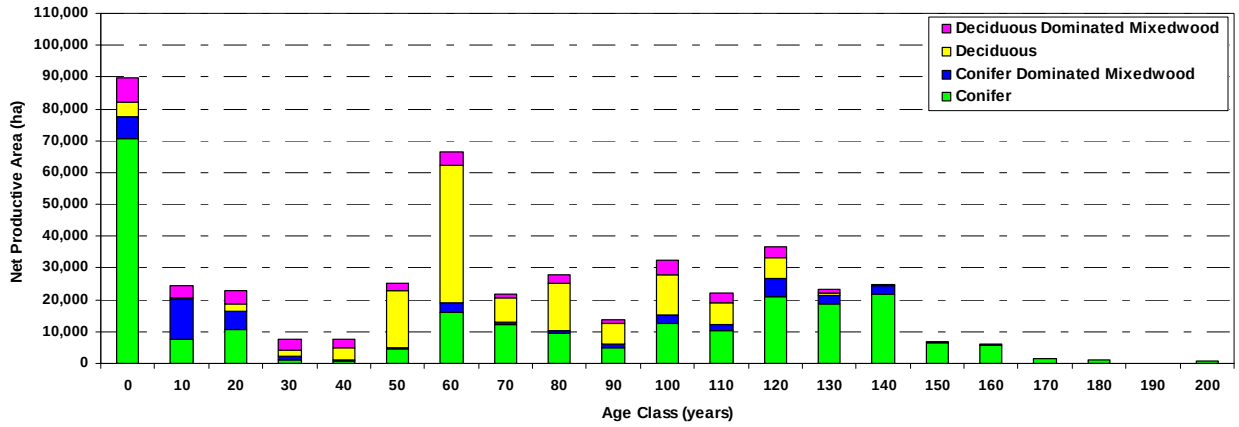
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-7: Harvest Simulation Results – FMS No. 34

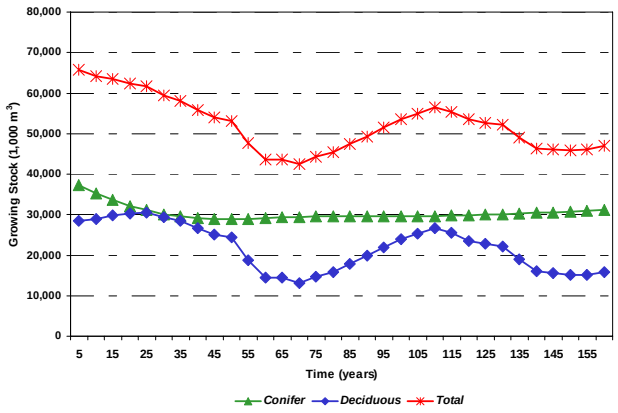
TIMBER SUPPLY SUMMARY

Conifer harvest level	785,900 m^3/yr	Deciduous Harvest Level	177,398 m^3/yr (20 year Average)

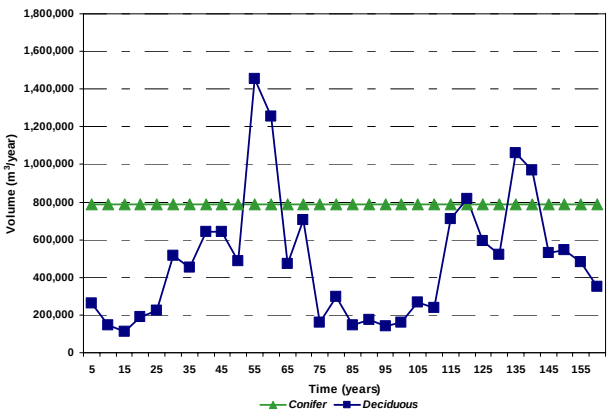
INITIAL AGE CLASS DISTRIBUTION



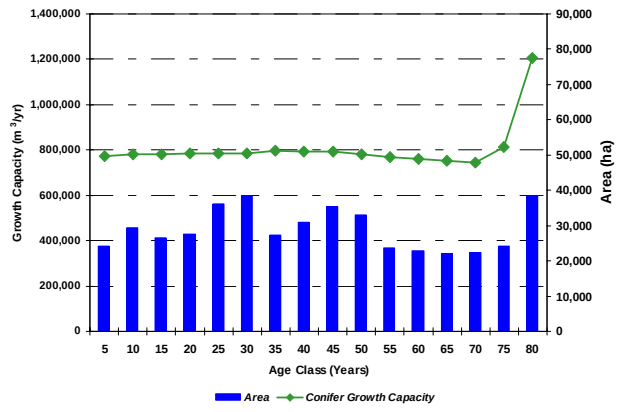
GROWING STOCK



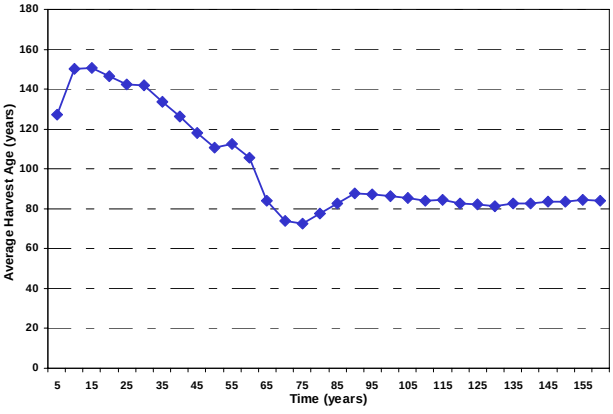
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-5: 20 Year Harvest Sequence – FMS No. 34

3.3.1.6 Forest Management Strategy – 25

Table 3-15: FMS Description / Harvest Simulation Control Parameters – FMS No. 25

FMS BACKGROUND INFORMATION	
General Information	The objective of this forest management strategy is to maintain an evenflow of the primary volume to within ± 5% and ± 10% for the secondary deciduous commitment volumes as well as providing a relatively even amount of incidental deciduous volume from VSA 2 for the first 20 years of the planning horizon.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 81.1% conifer 18.9% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

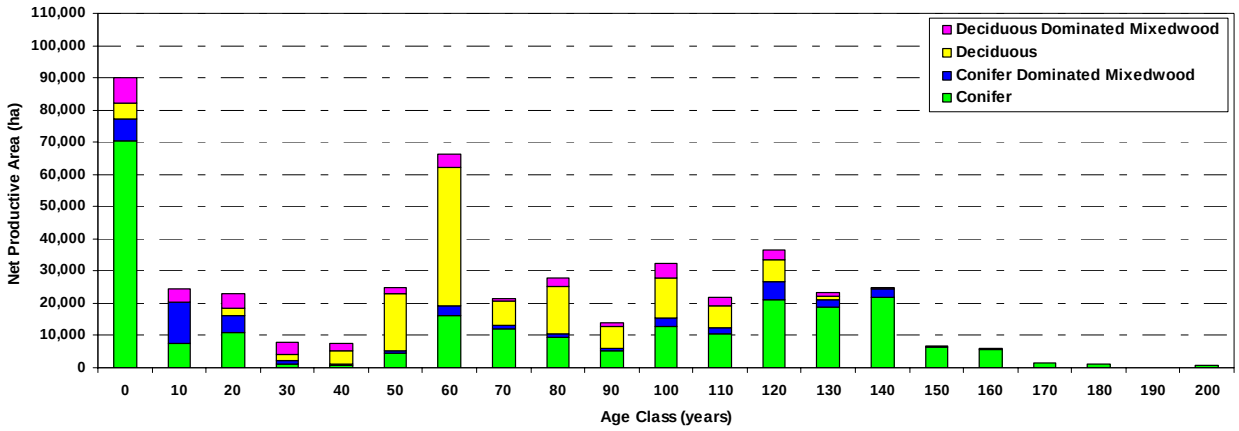
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest first 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Even flow conifer 2) Maintain deciduous commitments (within $\pm$ 10%) by VSA for the entire planning horizon
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-8: Harvest Simulation Results – FMS No. 25

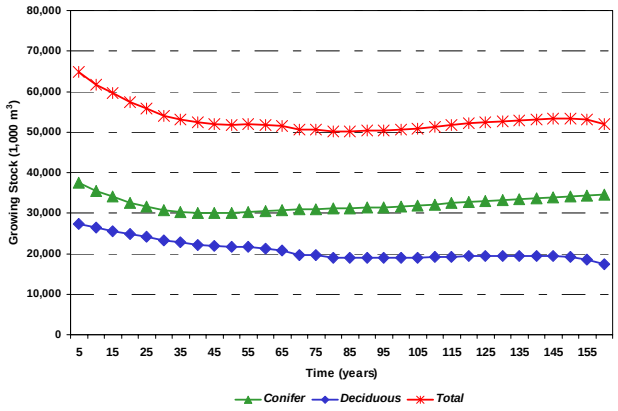
TIMBER SUPPLY SUMMARY

Conifer harvest level	765,000 m^3/yr	Deciduous Harvest Level	477,830 m^3/yr (20 year Average)

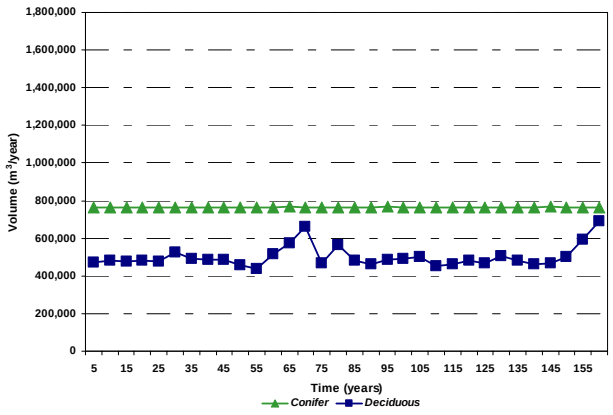
INITIAL AGE CLASS DISTRIBUTION



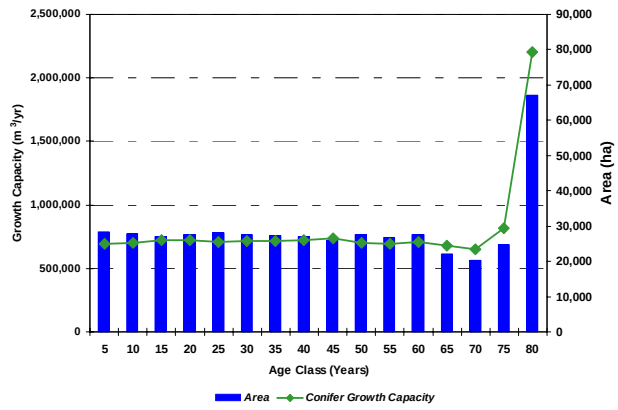
GROWING STOCK



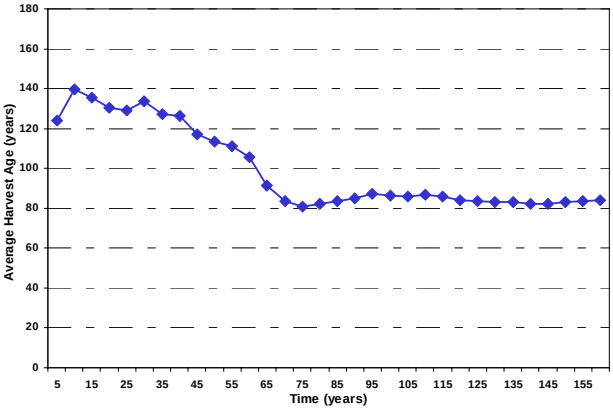
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-6: 20 Year Harvest Sequence – FMS No. 25

3.3.1.7 Forest Management Strategy – 51

Table 3-16: FMS Description / Harvest Simulation Control Parameters – FMS No. 51

FMS BACKGROUND INFORMATION	
General Information	BRL is committed to maximizing conifer while maintaining the current quota holder commitments on the FMA. This forest management strategy provides an evenflow conifer harvest level within ± 5% variance while meeting the quota holder commitments for the 1st 20 years of the planning horizon.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 81.1% conifer 18.9% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

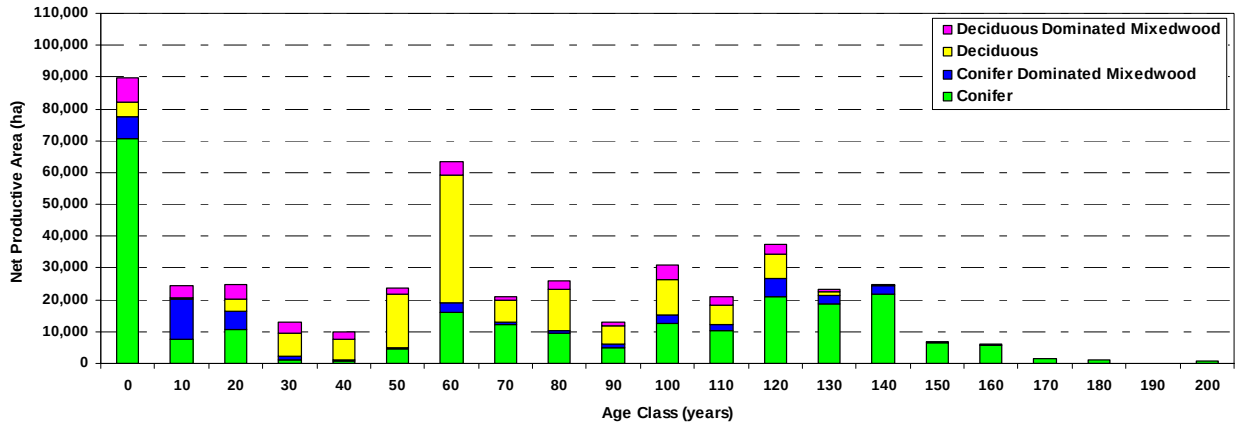
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Even flow conifer 2) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-9: Harvest Simulation Results – FMS No. 51

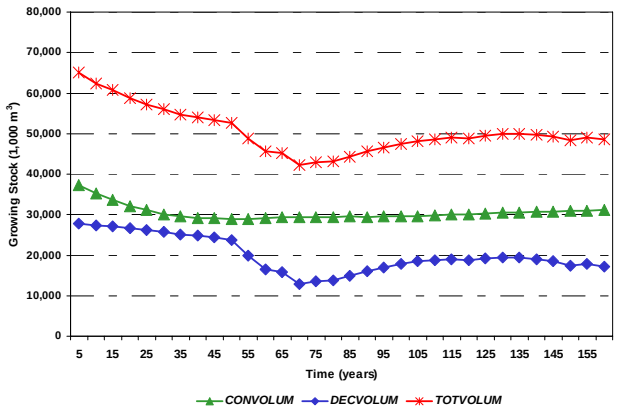
TIMBER SUPPLY SUMMARY

Conifer harvest level	791,000 m^3/yr	Deciduous Harvest Level	378,256 m^3/yr (20 year Average)

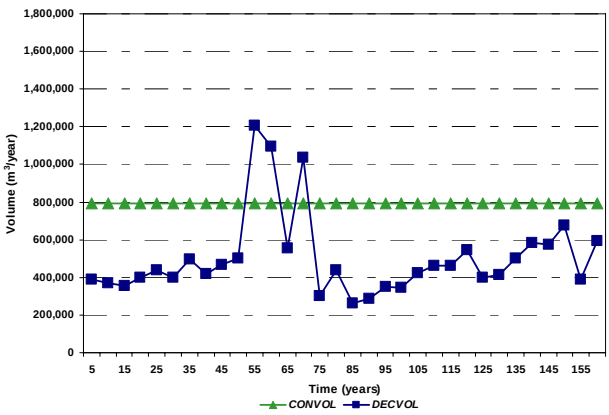
INITIAL AGE CLASS DISTRIBUTION



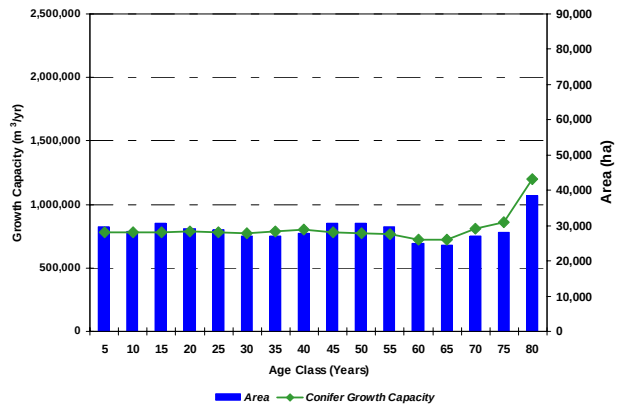
GROWING STOCK



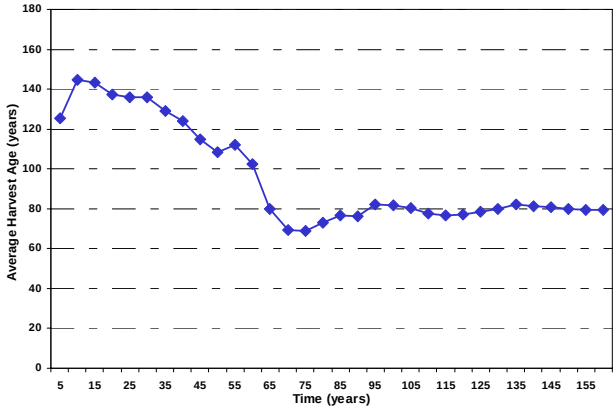
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-7: 20 Year Harvest Sequence – FMS No. 51

3.3.2 TSA Including 2004 Detailed Conifer Inventory

The following forest management strategies correspond with the light blue boxes on the 2005 PFMS development process flow chart (see Figure 3-2). These FMS include the new 2004 detailed conifer inventory and show additional steps taken towards developing the 2005 PFMS such as delaying the harvesting of green islands within the Virginia Hills fire, operationalizing the sequence, and locking out sliver polygons. For further detail on the new 2004 detailed conifer inventory please see section 1.3.7 and 1.3.8.

For details on assigning stands to the conifer understorey yield strata see Figure 1-7. Prior to the inclusion of the 2004 conifer inventory there were 36,533 ha of deciduous with a conifer understorey (yield strata D(C)). With the inclusion of the new conifer inventory there is an additional 8,209 ha of area assigned to the D(C) yield strata for a total of 44,742 ha. Of the total D(C) area BRL has identified ~3000 ha that will be managed using conifer understorey protection over the next 20 years (150 ha/year). The remaining area will be managed as outlined in yield curve transition strategy 1 on page 66. For details on the conifer understorey protection strategy used see Figure 3-1.

3.3.2.1 Forest Management Strategy – 46

Table 3-17: FMS Description / Harvest Simulation Control Parameters – FMS No. 46

FMS BACKGROUND INFORMATION	
General Information	This forest management strategy was completed to show the impact of including the new 2004 detailed conifer inventory. For a direct comparison of impact to the conifer AAC by excluding the 2004 detailed conifer inventory see FMS 34 (page 3-22).
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 1 is used. (see Section 3.2.1 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

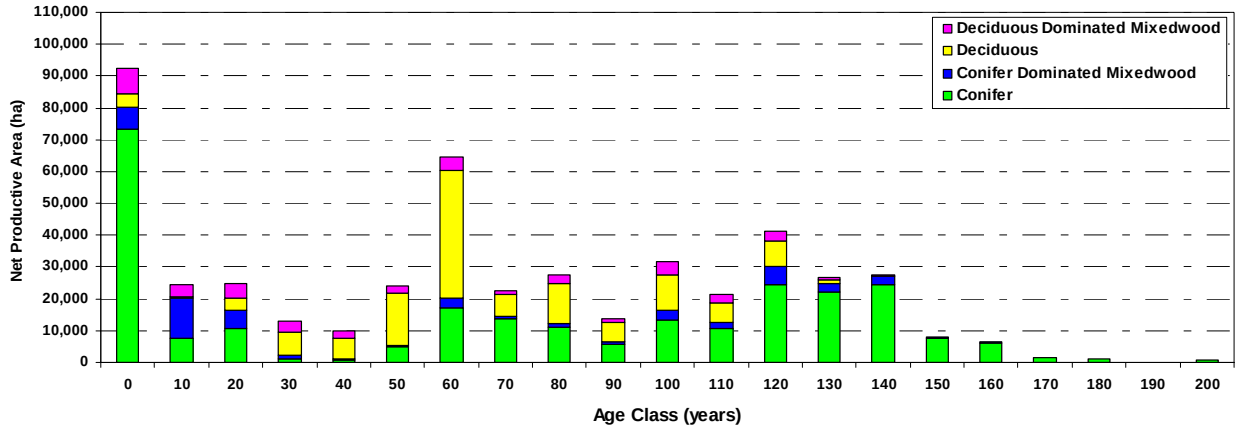
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 1
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-10: Harvest Simulation Results – FMS No. 46

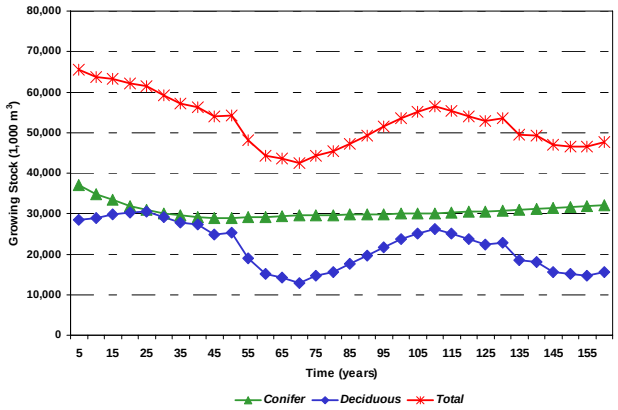
TIMBER SUPPLY SUMMARY

Conifer harvest level	787,500 m^3/yr	Deciduous Harvest Level	173,290 m^3/yr (20 year Average)

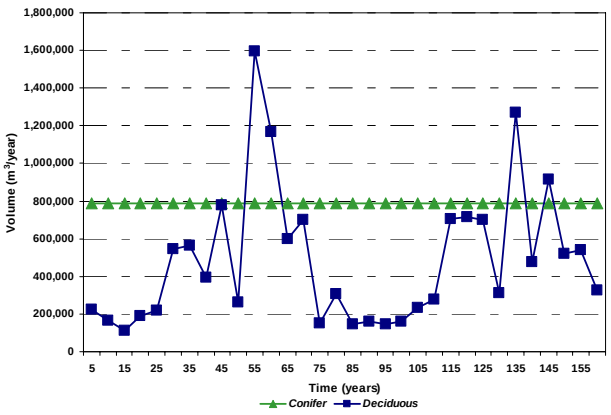
INITIAL AGE CLASS DISTRIBUTION



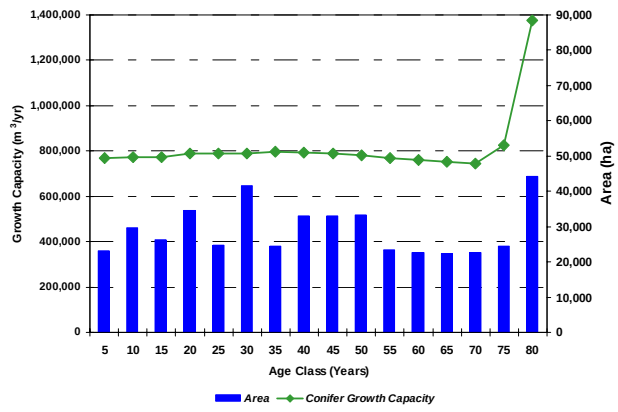
GROWING STOCK



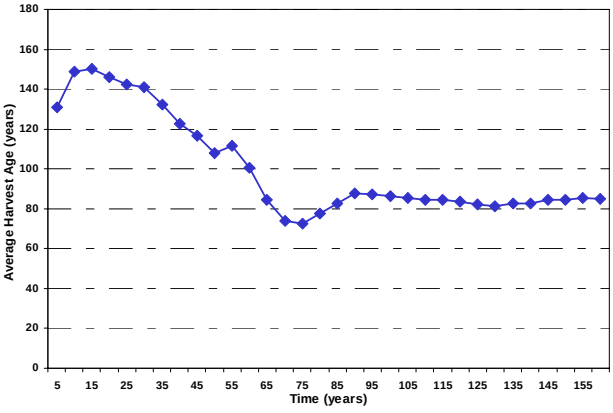
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-8: 20 Year Harvest Sequence – FMS No. 46

3.3.2.2 Forest Management Strategy – 44

Table 3-18: FMS Description / Harvest Simulation Control Parameters – FMS No. 44

FMS BACKGROUND INFORMATION	
General Information	BRL has committed to harvesting 150ha/yr of the D(C) yield strata for 20 years using the conifer understorey protection strategy outlined in Figure 3-1.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see page 66 for details) Conifer understorey age calibration is applied. (see page 35 for details)

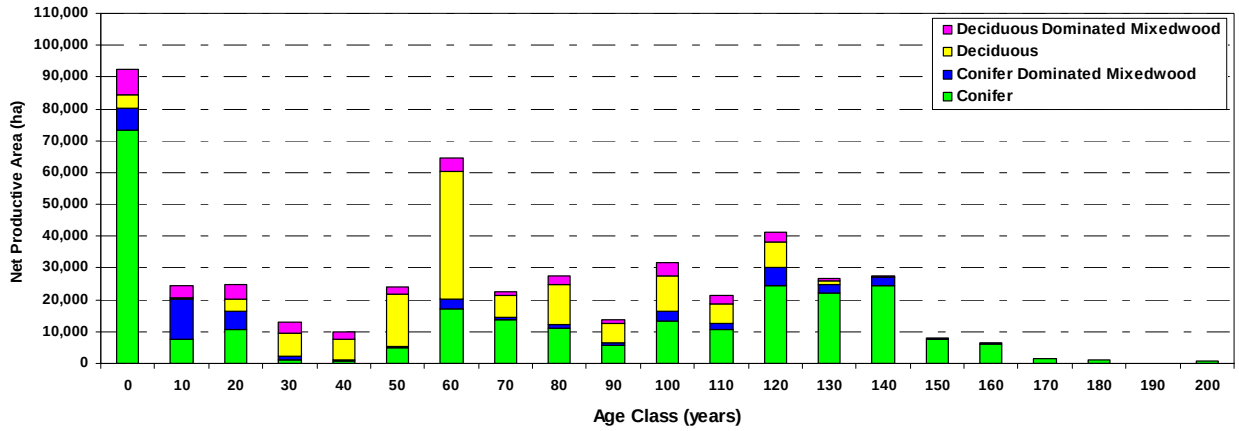
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Maximize conifer harvest
Harvest flow constraint:	Even flow conifer
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-11: Harvest Simulation Results – FMS No. 44

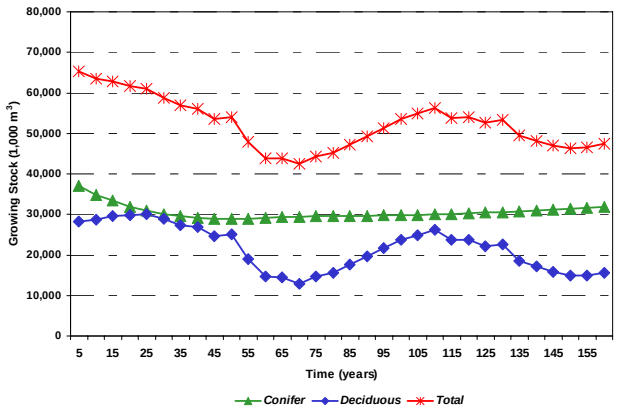
TIMBER SUPPLY SUMMARY

Conifer harvest level	789,800 m^3/yr	Deciduous Harvest Level	190,994 m^3/yr (20 year Average)

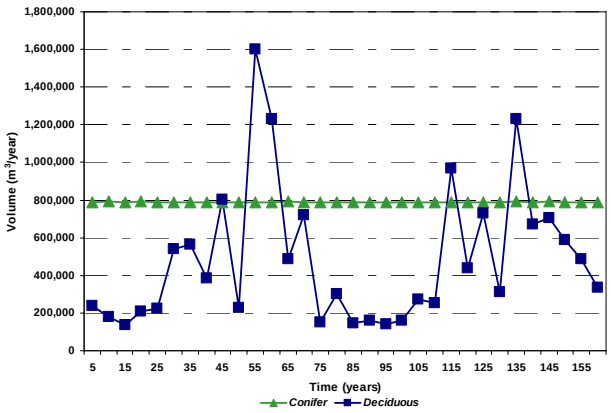
INITIAL AGE CLASS DISTRIBUTION



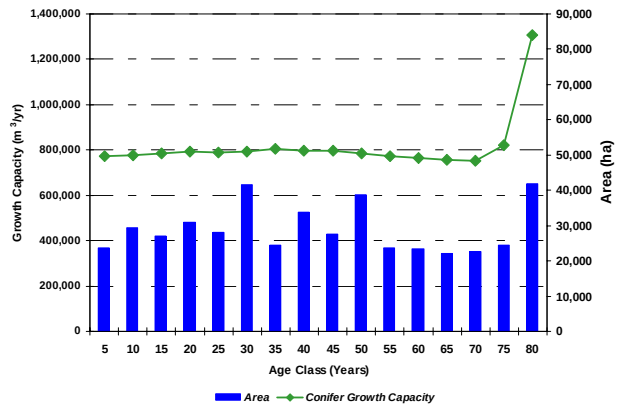
GROWING STOCK



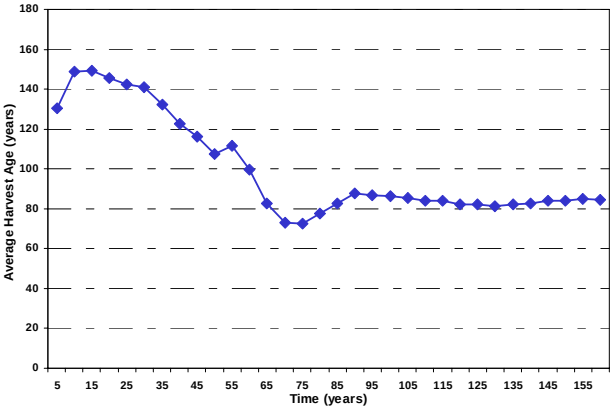
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-9: 20 Year Harvest Sequence – FMS No. 44

3.3.2.3 Forest Management Strategy – 47

Table 3-19: FMS Description / Harvest Simulation Control Parameters – FMS No. 47

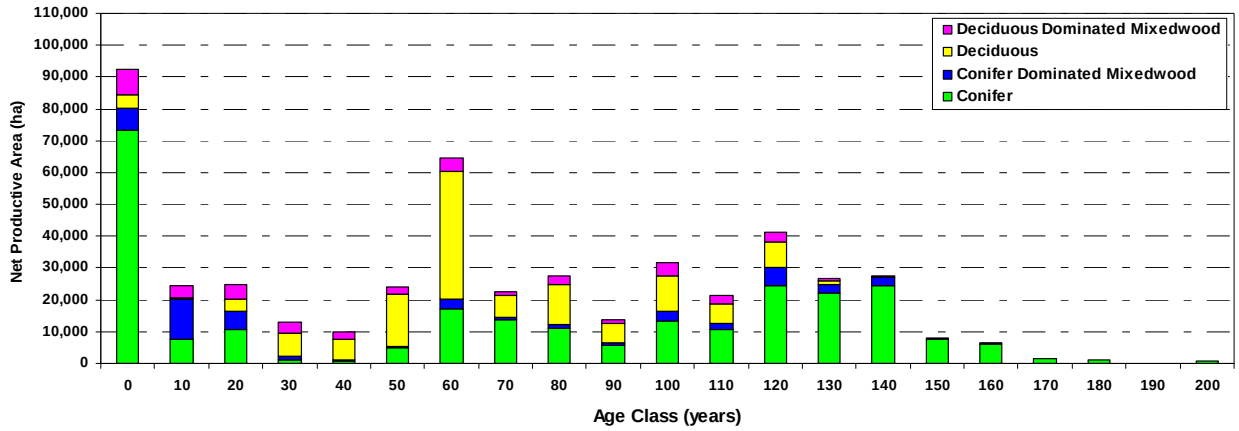
FMS BACKGROUND INFORMATION	
General Information	BRL is committed to maximizing conifer while maintaining the current quota holder commitments on the FMA. This forest management strategy provides an evenflow conifer harvest level within ± 5% variance while meeting the quota holder commitments for the 1st 20 years of the planning horizon.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Even flow conifer 2) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

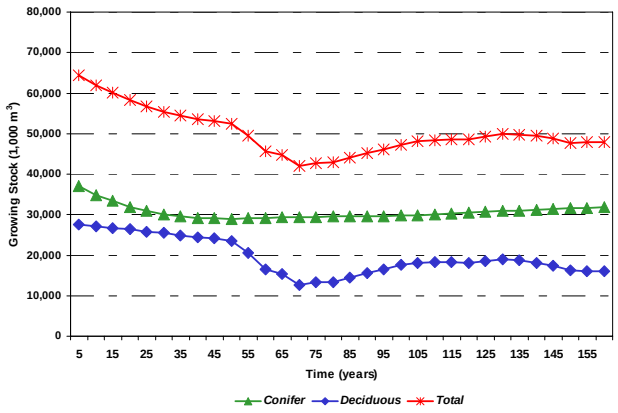
Figure 3-12: Harvest Simulation Results – FMS No. 47

TIMBER SUPPLY SUMMARY			
Conifer harvest level	795,750 m^3/yr	Deciduous Harvest Level	381,067 m^3/yr (20 year Average)

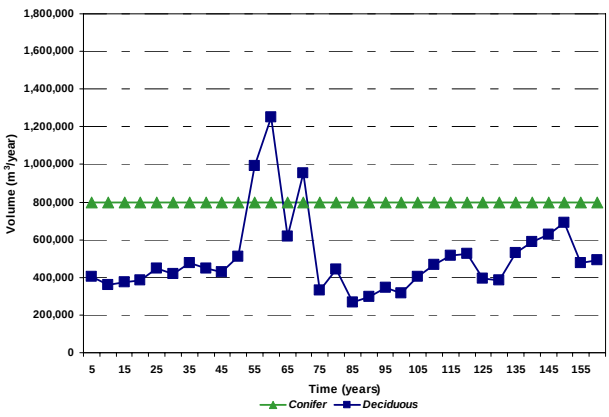
INITIAL AGE CLASS DISTRIBUTION



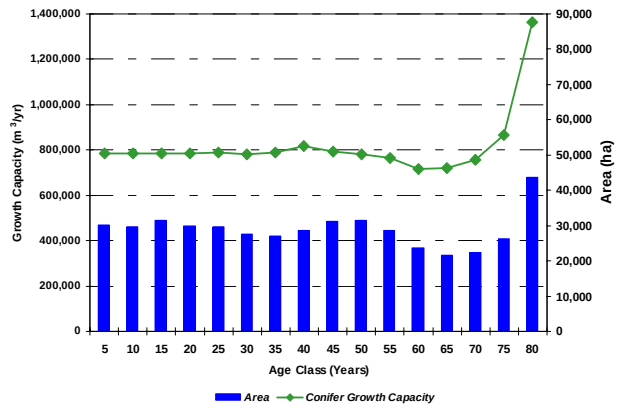
GROWING STOCK



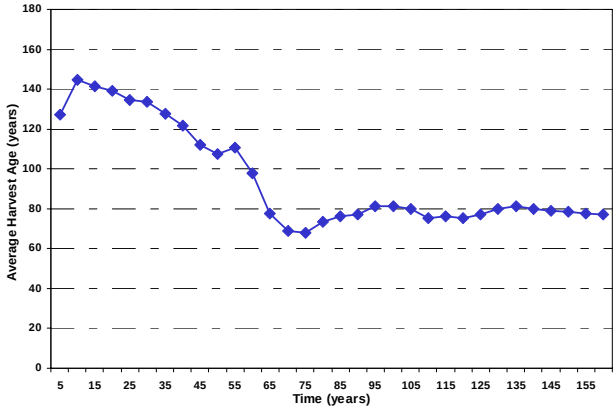
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-10: 20 Year Harvest Sequence – FMS No. 47

3.3.2.4 Forest Management Strategy – 48

Table 3-20: FMS Description / Harvest Simulation Control Parameters – FMS No. 48

FMS BACKGROUND INFORMATION	
General Information	In an effort to maintain the non-timber values provided by green islands within burned areas BRL has postponed the harvesting of all islands within the Virginia Hills fire boundary to allow for surrounding areas to green up around them.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

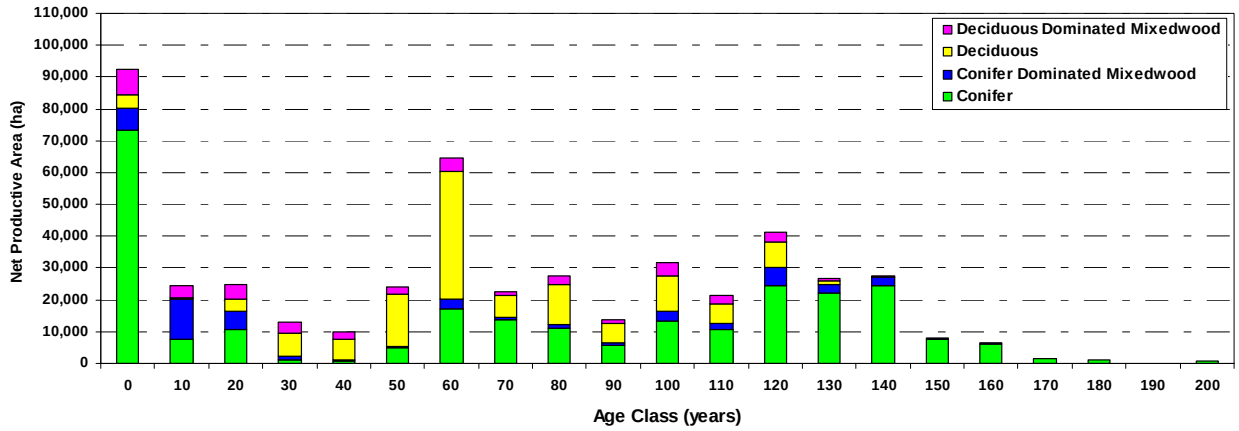
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Even flow conifer 2) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-13: Harvest Simulation Results – FMS No. 48

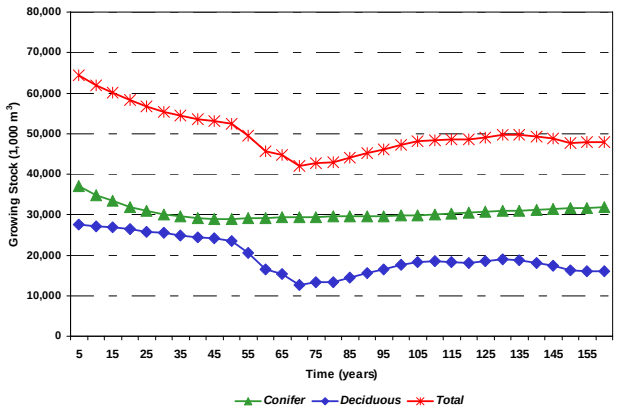
TIMBER SUPPLY SUMMARY

Conifer harvest level	795,750 m^3/yr	Deciduous Harvest Level	379,721 m^3/yr (20 year Average)

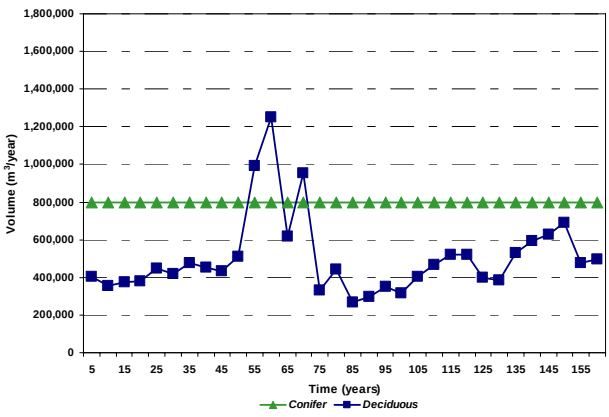
INITIAL AGE CLASS DISTRIBUTION



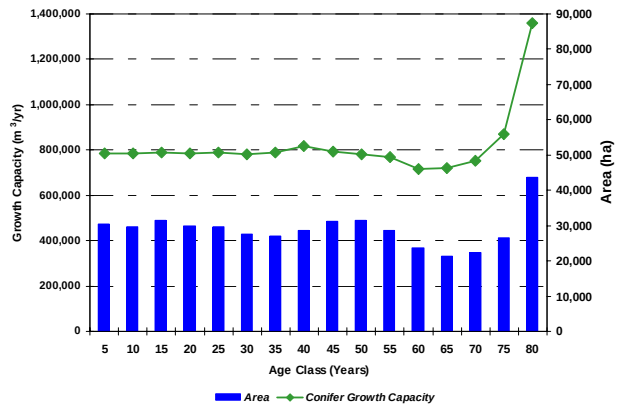
GROWING STOCK



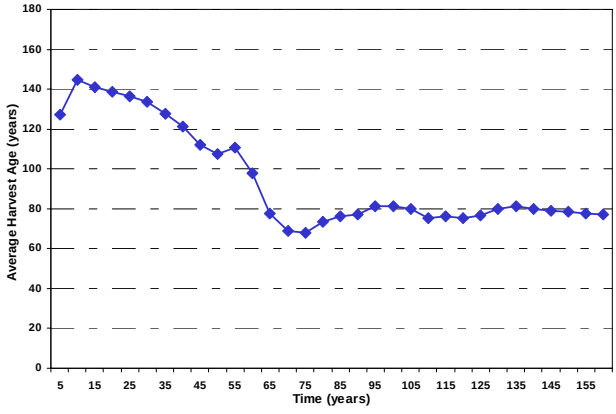
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-11: 20 Year Harvest Sequence – FMS No. 48

3.3.2.5 Forest Management Strategy – 53

Table 3-21: FMS Description / Harvest Simulation Control Parameters – FMS No. 53

FMS BACKGROUND INFORMATION	
General Information	BRL assessed the harvest sequence to provide further operational sequencing of stands, such as postponing stands from being harvested in the 1st 10 years and prioritizing other stands to be harvested in the first 10 years.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

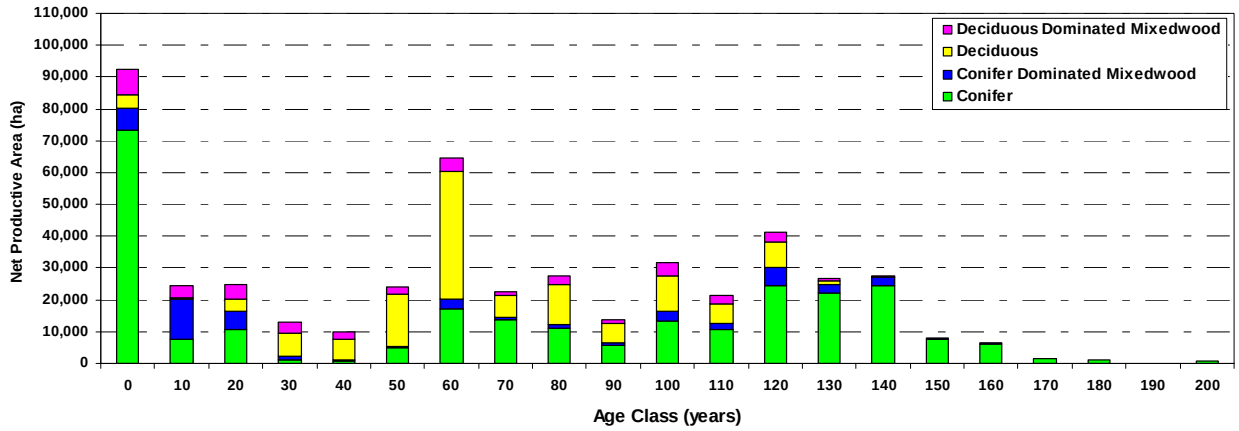
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Even flow conifer 2) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 3-14: Harvest Simulation Results – FMS No. 53

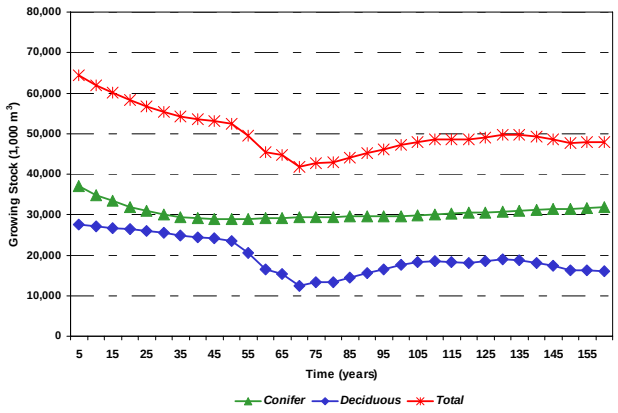
TIMBER SUPPLY SUMMARY

Conifer harvest level	795,750 m^3/yr	Deciduous Harvest Level	381,428 m^3/yr (20 year Average)

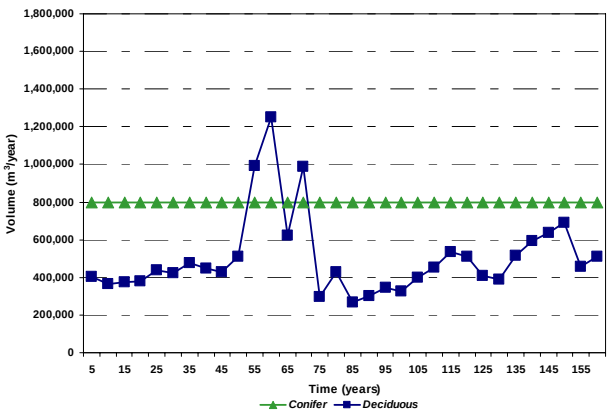
INITIAL AGE CLASS DISTRIBUTION



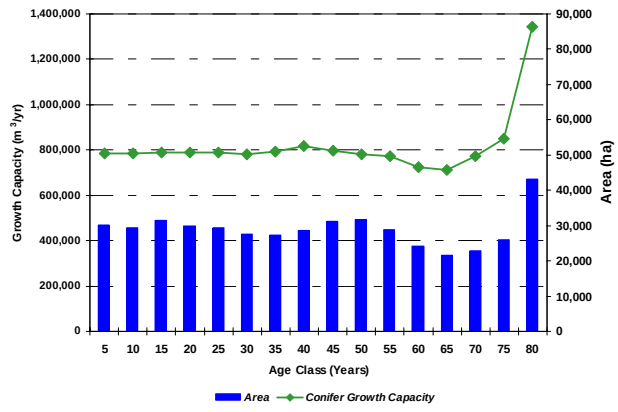
GROWING STOCK



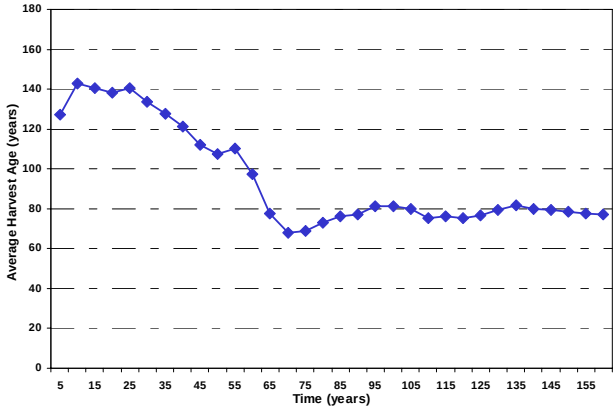
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-12: 20 Year Harvest Sequence – FMS No. 53

3.3.2.6 Forest Management Strategy – 54

Table 3-22: FMS Description / Harvest Simulation Control Parameters – FMS No. 54

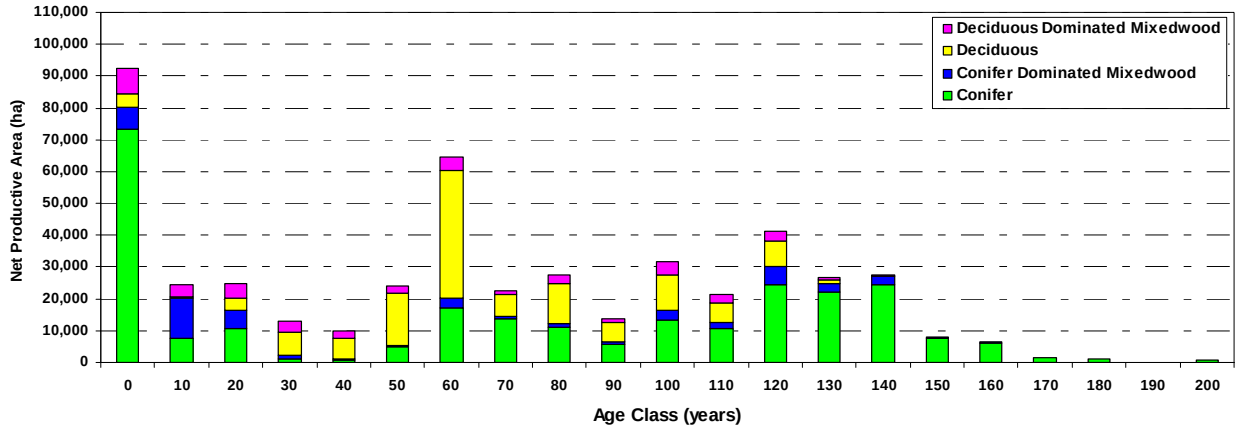
FMS BACKGROUND INFORMATION	
General Information	This forest management strategy incorporates the reconciliation volume of 47,000m^3/yr for the 1st 20 years.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

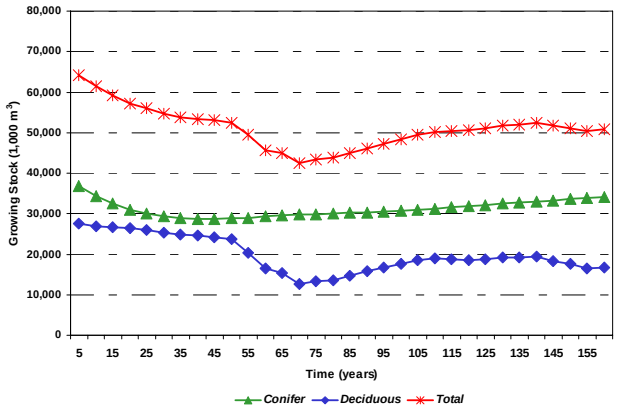
Figure 3-15: Harvest Simulation Results – FMS No. 54

TIMBER SUPPLY SUMMARY			
Conifer Harvest Level	842,750 (1st 20 yrs) → 775,250m^3/yr	Deciduous Harvest Level	382,881m^3/yr (20 yr Ave.)

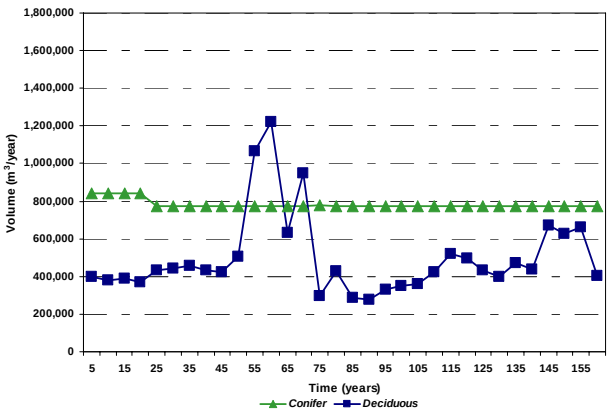
INITIAL AGE CLASS DISTRIBUTION



GROWING STOCK

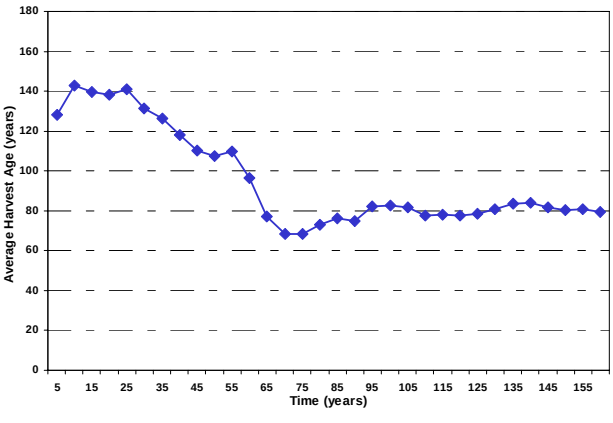


HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS

AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-13: 20 Year Harvest Sequence – FMS No. 54

3.3.2.7 Forest Management Strategy – 52

Table 3-23: FMS Description / Harvest Simulation Control Parameters – FMS No. 52

FMS BACKGROUND INFORMATION	
General Information	This forest management strategy is a two pass harvest system which applies adjacency (anthropogenic adjacency) for 1/3rd the planning horizon. The only purpose of this run is to make a comparison of a single pass vs. two pass harvest system. If this were the approach being used as the PFMS a higher level of sensitivity and alternative scenario analysis would need to be undertaken.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

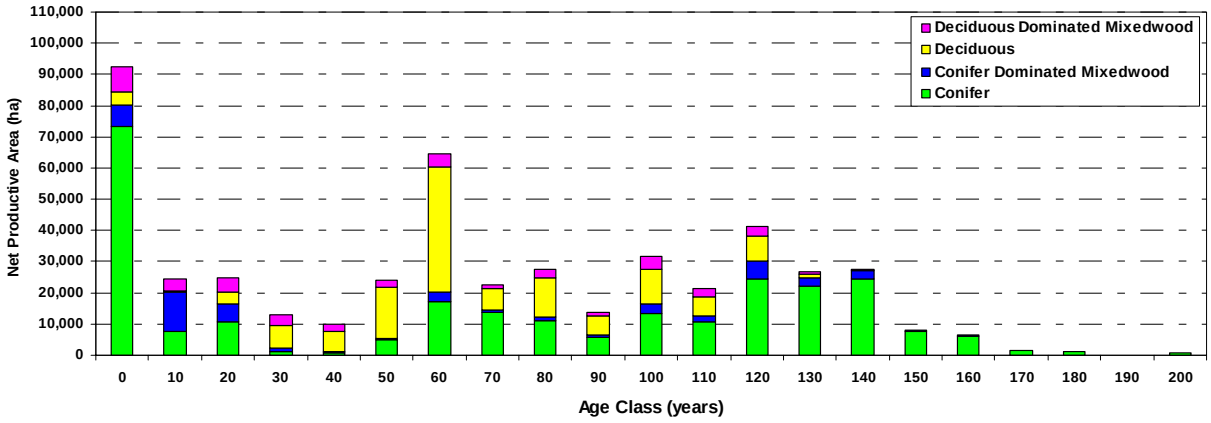
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Applied (55 years)
Adjacency - Green-up:	Applied (15 years conifer, 10 years deciduous)
Adjacency - Accumulate adjacent stands:	Applied (Maximum 200ha)

Figure 3-16: Harvest Simulation Results – FMS No. 52

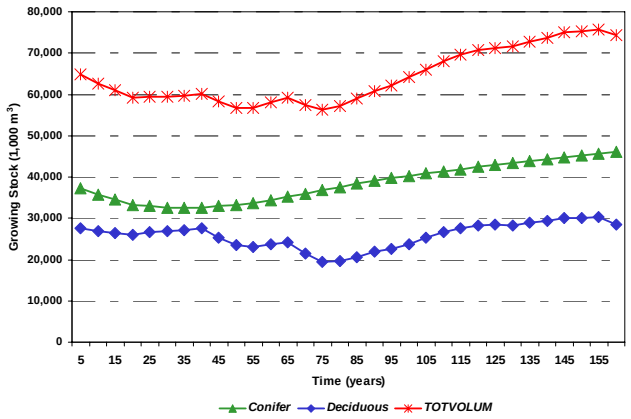
TIMBER SUPPLY SUMMARY

Conifer Harvest Level	717,000 (1st 20 yrs) → 649,750m^3/yr	Deciduous Harvest Level	395,653m^3/yr (20 yr Ave.)

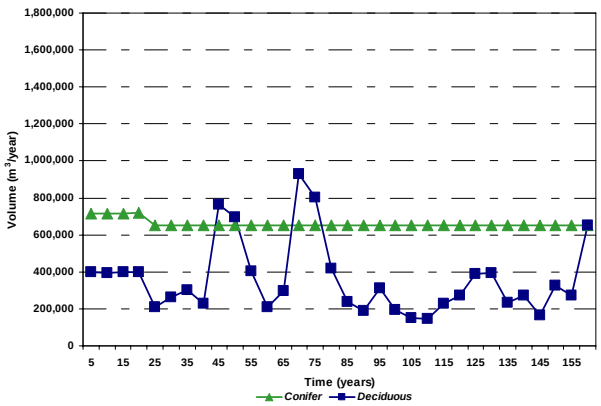
INITIAL AGE CLASS DISTRIBUTION



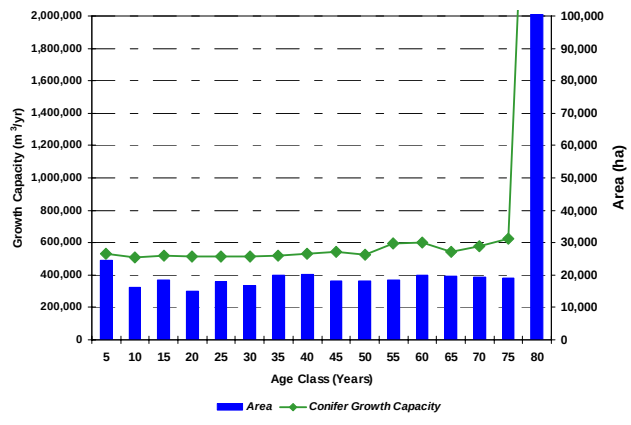
GROWING STOCK



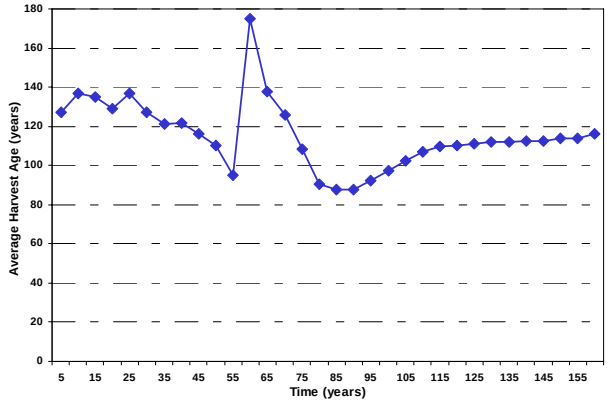
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 3-14: 20 Year Harvest Sequence – FMS No. 52

3.4 Single vs. Two Pass Comparative Analysis

Figure 3-17 provides a comparison between harvest patches currently on the landscape versus harvest patches generated by a single pass strategy (FMS 54) and an alternative two pass harvest system (FMS 52). These patches were produced for the first 20 years of the harvest sequence (1-10 years and 11-20 years) to show the percent area harvested and the frequency of patches by patch class (0-25 ha, 25.1-50 ha, 50.1-100 ha, 100.1-200 ha, 200.1-400 ha and 400 ha+). Table 3-24 provides a comparison between the amount of edge created in the single pass strategy (FMS 54) and an alternative two pass harvest system (FMS 52). Figure 3-18 provides a comparison between the seral stage patches generated by the single pass strategy (FMS 54) and an alternative two pass harvest system (FMS 52) in relation to the patches currently found on the landscape. Patches are defined as contiguous areas of forest within the same seral stage class not split by delineated linear features.

Figure 3-17: Single vs. Two Pass – Harvest Sequence Patch Size Analysis

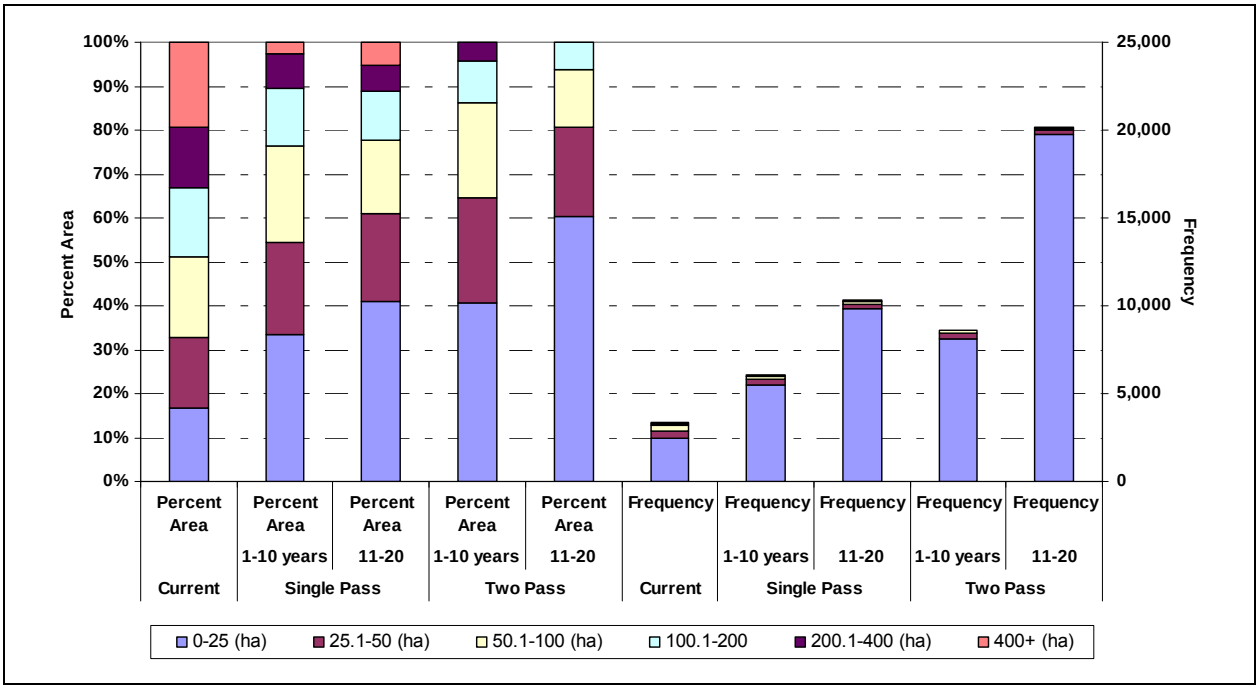
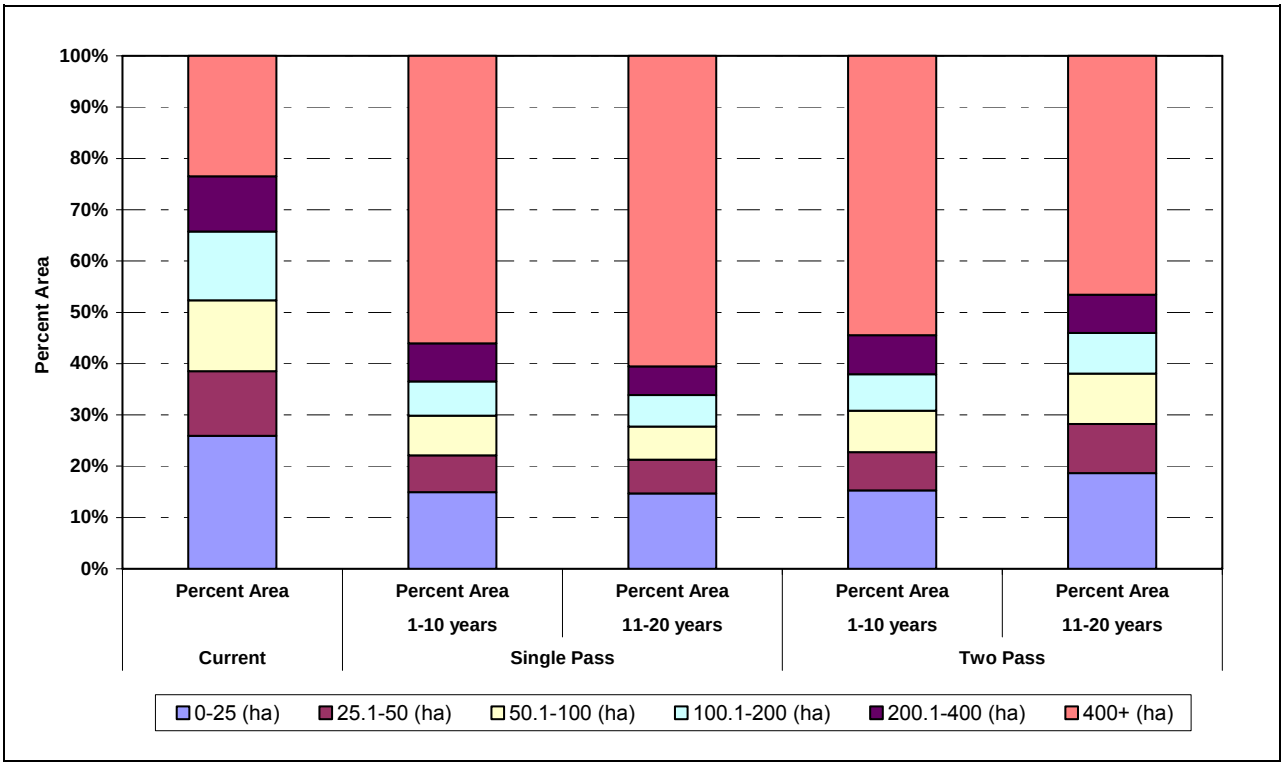
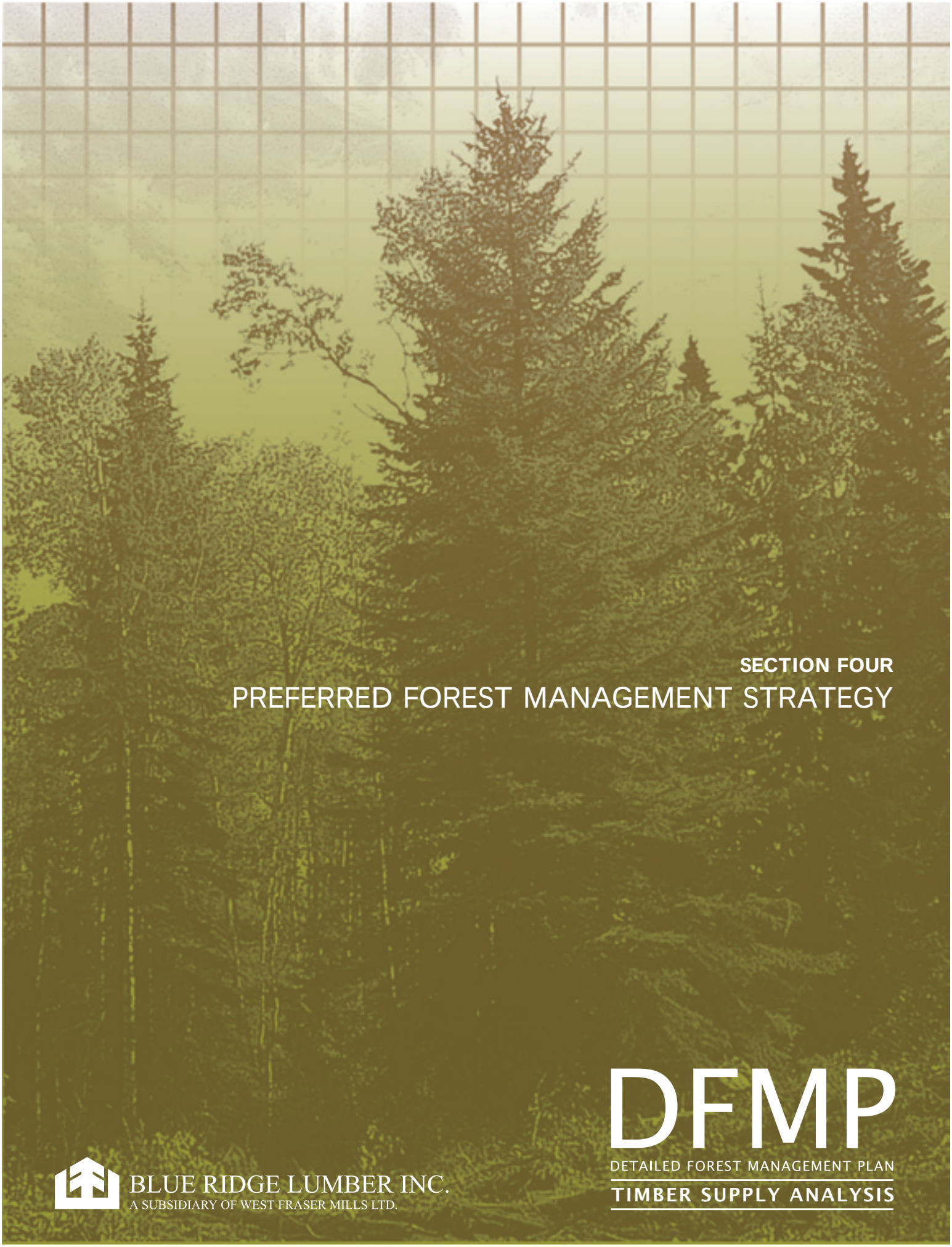


Table 3-24: Single vs. Two Pass - Edge Analysis

HARVEST PERIOD (YEARS)	SINGLE PASS			TWO PASS		
	AREA HARVESTED (ha)	EDGE (m)	METRES OF EDGE PER HECTARE HARVESTED (m/ha)	AREA HARVESTED (ha)	EDGE (m)	METRES OF EDGE PER HECTARE HARVESTED (m/ha)
1-10	52,262	8,226,973	157	47,107	7,946,600	169
11-20	50,256	10,304,080	205	45,557	11,199,730	246
Total	102,518	18,531,052	181	92,665	19,146,330	207

Figure 3-18: Single vs. Two Pass – Seral Stage Patch Analysis





SECTION FOUR

PREFERRED FOREST MANAGEMENT STRATEGY

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

4.0 Preferred Forest Management Strategy

The 2005 PFMS selected by BRL was developed around the goals and objectives as outlined in the DFMP Text document. The PFMS evolved throughout the DFMP team meetings held between BRL, quota holders and ASRD from 2002 to 2005. Several FMSs and sensitivity analyses were completed leading up to the selection of the 2005 PFMS. Figure 3-2 provides a detailed outline of the various analyses completed. This section will highlight the following items:

4.1 2004 PFMS Summary

4.2 2005 PFMS Development and Reporting

4.2.1 Preferred Forest Management Strategy

4.2.2 2005 PFMS Reporting Summaries

4.3 2005 PFMS AAC Harvest Levels and Associated Harvest Sequence

4.4 Operationalizing the 2005 PFMS Harvest Sequence

4.5 Digital Harvest Sequence Information

4.1 2004 PFMS Summary

The 2004 PFMS was submitted as part of the June 30, 2004 DFMP submission and is summarized in Table 4-1 and Figure 4-1.

4.1.1 Harvest Control Parameters

Table 4-1: 2004 PFMS Harvest Simulation Control Parameter Summary

2004 PFMS BACKGROUND INFORMATION	
General Information	In addition to incorporating the steps outlined in Figure 3-2 (2005 PFMS development process), the 2004 PFMS was modified to include the constraints outlined in section 4.1. FMS 53 is similar to the 2004 PFMS without the reconciliation volume included.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

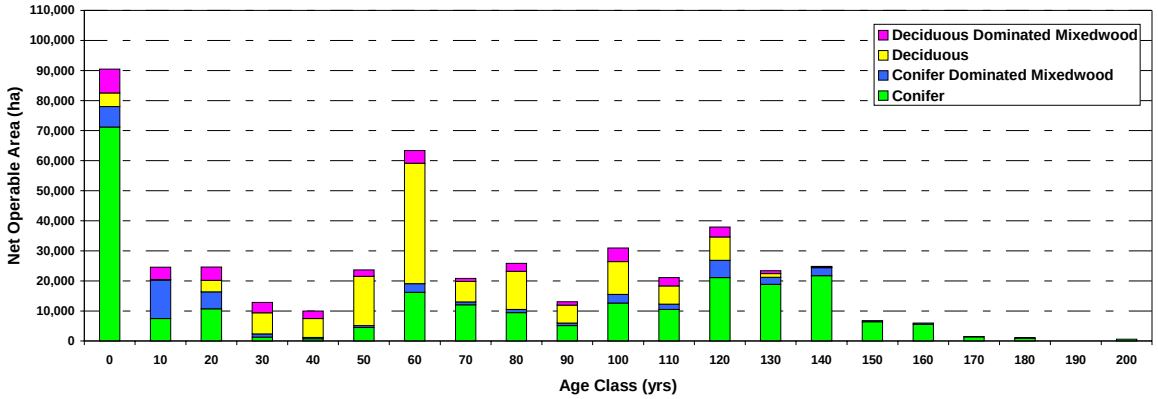
HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single
Sorting rules:	1) Oldest first 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% and deciduous 5.9%
Regeneration transition:	Fully stocked – transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

4.1.2 2004 PFMS Standard Harvest Simulation Results

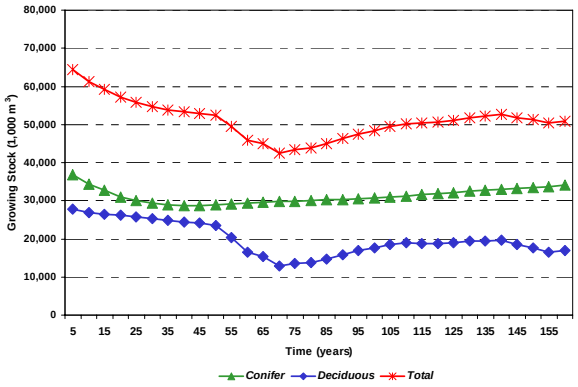
Figure 4-1: 2004 PFMS Standard Harvest Simulation Results

TIMBER SUPPLY SUMMARY			
Conifer Harvest Level	842,750 (1st 20 yrs) → 775,250m^3/yr	Deciduous Harvest Level	389,682m^3/yr (20 yr Ave.)

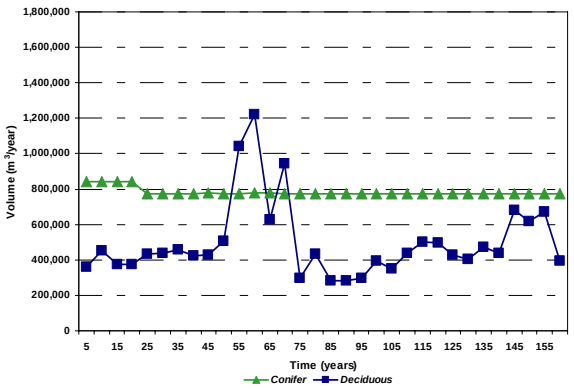
INITIAL AGE CLASS DISTRIBUTION



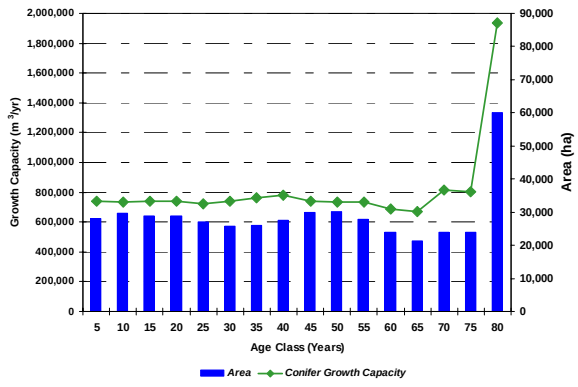
GROWING STOCK



HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION

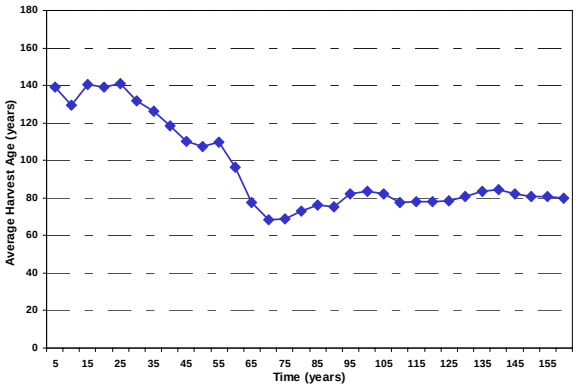


Table 4-2 provides a general summary of the 2004 PFMS AAC harvest levels. The associated 2004 PFMS 20 year harvest sequence map and 10 year harvest sequence map (by species group and VSA) are presented in Map 4-1 and Map 4-2 respectively.

Table 4-2: General Summary of the 2004 PFMS[7] AAC Estimates for the BRL FMA

VSA 1 Deciduous AAC Estimates (Average For Years 1-20)				
2004 PFMS Net Operable Area (ha)*	Estimated Aspen Volume 15/10 Utilization (m^3/yr)**	Estimated Poplar Volume 15/10 Utilization (m^3/yr)**	Estimated Birch Volume 15/10 Utilization (m^3/yr)**	Total Deciduous Volume 15/10 Utilization (m^3/yr)**
147,751	97,153	23,594	5,426	126,173

VSA 2 Deciduous AAC Estimates (Average For Years 1-20)			
2004 PFMS Net Operable Area (ha)*	Deciduous Volume From Mixedwood Stands 15/10 Utilization (m^3/yr)***	Deciduous Volume From Deciduous Stands 15/10 Utilization (m^3/yr)	Total Deciduous Volume 15/10 Utilization (m^3/yr)
315,733	118,231	145,278	263,509

FMA Wide Conifer AAC Estimate (For Years 1-20)	
2004 PFMS Net Operable Area (ha)*	FMA Conifer AAC Estimate 15/10 Utilization (m^3/yr)****
463,484	842,750

*2004 PFMS net operable area excludes the merchantability deletions identified in section 1.3.5.

** Aspen, Poplar and Birch volumes were determined by applying the conversion factors outlined in section 3.3.2 to the 2004 PFMS 20 year average VSA 1 deciduous harvest flow (Aspen = 77%; Poplar = 18.7%; Birch = 4.3%).

*** Mixedwood stands include deciduous overstorey stands that have a conifer understorey present.

**** The Conifer AAC presented incorporates a reconciliation volume of 47,000 m^3/yr for the first 20 years of the harvest sequence. The reconciliation volume was added to the base conifer AAC of 795,750 m^3/yr.

[7] *Please refer to the June 30, 2004 DFMP submission for the specific parameters that were incorporated in the 2004 PFMS. Figure 3-1 in section three provides an overview of the analysis leading up to the 2005 PFMS. In the next DFMP VSA 1 and 2 deciduous AAC estimates may be impacted by the inclusion of the proposed new conifer inventory – refer to section 5 for details.*

Map 4-1: 2004 PFMS 20 Year Harvest Sequence

Map 4-2: 2004 PFMS 10 Year Harvest Sequence by Species Group and VSA

4.2 2005 PFMS Development and Reporting

The 2004 PFMS served as a basis for the development of the 2005 PFMS. The approval conditions that required incorporation into the 2005 PFMS are outlined in Appendix 1 of the DFMP Text document. One of the primary approval conditions was to produce a 20 year tactical and operationalized SHS. This section summarizes the results of the 2005 PFMS analysis.

4.2.1 2005 PFMS Development

In addition to incorporating all of the steps outlined in Figure 3-2 (2005 PFMS development process) the 2005 PFMS was adjusted to incorporate:

1. The 20 year tactical and operationalized harvest sequence;
2. Additional and revised reconciliation volumes (Table 4-4);
3. An operational constraint whereby most sliver polygons < 1ha in size were excluded from the harvest sequence in the first 20-years;
4. A watershed threshold constraint for the first 20 years of the harvest sequence. This constraint restricts harvest levels in specific watersheds to ensure that no more than 50% of a watershed (this constraint was not applied to watersheds that have been significantly impacted by fire) was below pre-defined species specific age thresholds. The age threshold is the age at which the leaf area index of a disturbed stand recovers to pre-harvest conditions (D-10 years, DC-15 years, CD-40 years, C-Pine-25 years, C-White Spruce-40 years, C-Black Spruce-40 years), age threshold values were based on analysis completed in the Slave Lake Pulp May 15, 2002 DFMP. Reporting on this analysis is provided in Section 4.2.2.9. Map 4-3 through Map 4-5 display the current watershed threshold status and the status after 10 and 20 years of harvesting.

4.2.2 2005 PFMS Reporting Summaries

The 2005 PFMS was selected on its ability to achieve specific goals and objectives on the BRL FMA area. In order to determine the effectiveness of attaining these goals and objectives, detailed analysis on the 2005 PFMS was carried out. This section presents the results of this analysis, the tables and figures presented are as follows:

4.2.2.1 **Harvest Simulation Control Parameter Summary** – Table 4-3 and Table 4-4

4.2.2.2 **Standard Harvest Simulation Output** (includes harvest flow summary, total growing stock summary, post harvest forest conditions summary and average harvest age by 5 year period summary) – Figure 4-2

4.2.2.3 **Primary and Secondary Species Volume Flows** by 5-year Period by Species Group and VSA – Figure 4-3

4.2.2.4 **Harvest Volumes by Leading Species** for the First 40 years – Figure 4-4 and Figure 4-5

4.2.2.5 **Harvested Stand Ages** by 10-year Period by Yield Strata – Figure 4-6

4.2.2.6 **Harvested Stand Age by Yield Strata** by harvest period – Table 4-5 through Table 4-15

4.2.2.7 **Operable Growing Stock** Summary by Primary and Secondary Species – Figure 4-7

4.2.2.8 **Trend in Piece Size** – Figure 4-8

4.2.2.9 **Watershed Threshold Constraint Summary** – Table 4-16, Map 4-3, Map 4-4 and Map 4-5

4.2.2.10 **Current and Future Seral Group Distribution** for Gross and Net Landbase for Years 0, 10, 50 and 100 – Table 4-17 through Table 4-22, Map 4-6 and Map 4-7.

4.2.2.11 **Seral Patch Size Distribution** for Years 0, 10, 50 and 70 - Table 4-23, Table 4-24 and Map 4-8

4.2.2.12 **Harvest Patch Size Distribution** for Years 10 and 20 – Table 4-25

4.2.2.13 **Current and Future Amount and Distribution of Grizzly Bear Habitat** at years 0, 10, 50 and 100 – Figure 4-9 and Map 4-9

4.2.2.14 **Amount and Distribution of Interior Older Forest** at Years 0, 10, 50 and 100 – Figure 4-10 through Figure 4-12 and Map 4-10

4.2.2.15 **Additional Watershed Reporting** – Table 4-26, Figure 4-13 through Figure 4-18 and Map 4-11through Map 4-13

4.2.2.16 **Road Corridor Development Plan** – Map 4-14

4.2.2.17 **Road Analysis** – Table 4-27, Table 4-28 and Map 4-15

4.2.2.1 Harvest Control Parameters

Table 4-3: 2005 PFMS Harvest Simulation Control Parameter Summary

2005 PFMS BACKGROUND INFORMATION	
General Information	In addition to incorporating the steps outlined in Figure 3-2 (2005 PFMS development process), the 2005 PFMS was modified to include the constraints outlined in section 4.2.1.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single
Sorting rules:	1) Oldest first 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% and deciduous 5.9%
Regeneration transition:	Fully stocked – transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Table 4-4 summarizes the volume targets by operator that were used in the development of the SHS for the 2005 PFMS. These targets reflect the volumes that have already been harvested (2001-2005) as well as identify the volumes to be harvested in years 2006-2020 of the DFMP.

Table 4-4: Spatial Harvest Sequence Targets

Period	Year	Month	CONIFER (m^3)					DECIDUOUS (m^3)							
			BRL W14 FMA7500020	BRL W14 FMA7500020 (CF 731,503)	MTU W14	Mostowich W14 CTQ W020022	Mostowich W14 CTQ W020022 (CF 91,272)	BRL VSA 2 FMA7500020	MTU VSA 2	ANC VSA 1 DTA W020001 & W020002	Conditional MWFP VSA 1	MWFP VSA 2 DTA W910002	MWFP VSA 2 DTA W910001	MWFP VSA 2 DTA W910001 (CF 310,773)	Unallocated VSA 1 & 2
			Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Deciduous MXD; C; D(C) in VSA 2	Deciduous MXD; C; D(C) in VSA 2	All stands aspen volume only in VSA 1	All stands balsam poplar volume only	Pure Deciduous stands in VSA 2	Pure Deciduous stands in VSA 2	Pure Deciduous stands in VSA 2	Deciduous unallocated birch & aspen in VSA 1, unallocated pure D in VSA 2
-1	2000	Jan-Apr	647,823	-	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		May-Aug	647,823	-	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		Sept-Dec	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
START OF TSA															
1	2001	Jan-Apr	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		May-Aug	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		Sept-Dec	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
2	2002	Jan-Apr	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		May-Aug	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		Sept-Dec	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
3	2003	Jan-Apr	647,823	36,575	3,255	68,430	-	166,929	839	81,625	-	-	74,600	-	-
		May-Aug	647,823	36,575	3,255	68,430	11,409	97,279	489	81,625	-	70,000	74,600	-	-
		Sept-Dec	647,823	36,575	3,255	68,430	11,409	97,279	489	81,625	-	70,000	74,600	-	-
4	2004	Jan-Apr	647,823	36,575	3,255	68,430	11,409	97,279	489	81,625	-	70,000	74,600	-	-
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
5	2005	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
1-5	***Total***		***3,365,548***	***182,875***	***16,912***	***342,150***	***30,424***	***682,847***	***3,432***	***408,125***	***39,323***	***186,667***	***373,000***	***-***	***36,053***
6	2006	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
7	2007	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
8	2008	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
9	2009	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
10	2010	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		May-Aug	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
6-10	***Total***		***3,618,415***	***182,875***	***18,185***	***342,150***	***57,045***	***588,200***	***2,955***	***408,125***	***117,970***	***350,000***	***373,000***	***20,718***	***108,160***
1-10	**Total**		**6,983,963**	**365,750**	**35,097**	**684,300**	**87,469**	**1,271,047**	**6,387**	**816,250**	**157,293**	**536,667**	**746,000**	**20,718**	**144,213**
11	2011	Jan-Apr	723,683	36,575	3,637	68,430	11,409	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
12	2012	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
13	2013	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
14	2014	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
15	2015	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
11-15	***Total***		***3,618,415***	***182,875***	***18,185***	***342,150***	***3,803***	***588,200***	***2,955***	***408,125***	***117,970***	***350,000***	***373,000***	***155,385***	***108,160***
16	2016	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
17	2017	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,077	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
18	2018	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
19	2019	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
		Sept-Dec	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
20	2020	Jan-Apr	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	31,078	21,632
		May-Aug	723,683	36,575	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	-	21,632
		Sept-Dec	723,683	-	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	-	21,632
16-20	***Total***		***3,618,415***	***170,683***	***18,185***	***342,150***	***-***	***588,200***	***2,955***	***408,125***	***117,970***	***350,000***	***373,000***	***134,670***	***108,160***
11-20	**Total**		**7,236,830**	**353,558**	**36,370**	**684,300**	**3,803**	**1,176,400**	**5,910**	**816,250**	**235,940**	**700,000**	**746,000**	**290,055**	**216,320**
21-160			703,183	-	3,637	68,430	-	117,640	591	81,625	23,594	70,000	74,600	-	21,632

* These values are to be used as inputs into the final TSA. The deciduous volumes are averages and as such will vary slighty from the targeted values.

** Totals are displayed as Annual Harvest Levels during a four month period.

*** 2004 harvest levels do not reflect leap year as in Cut Control Period (Quadrant) Totals in the January 28, 2005 letter.

**** Change in color shade identifies shift in Cut Control Period (Quadrant).

***** All values are at a 15/10 utilization.

****** MTU volumes are 0.5% of the BRL portion of the AAC.

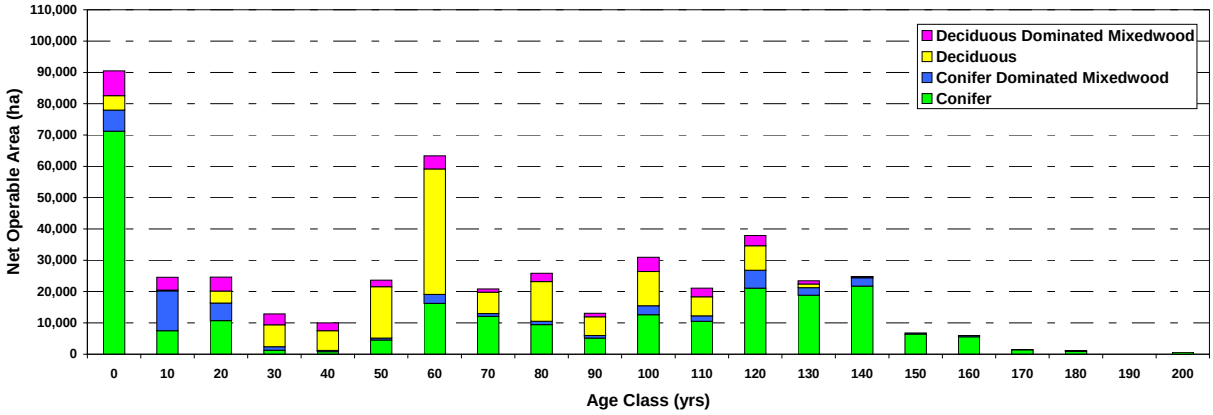
4.2.2.2 2005 PFMS Standard Harvest Simulation Results

Figure 4-2: 2005 PFMS Standard Harvest Simulation Results

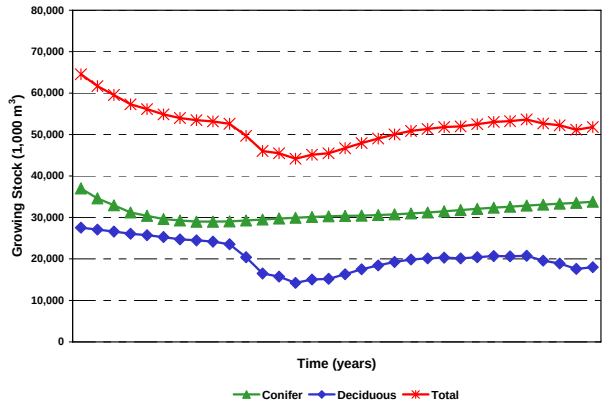
TIMBER SUPPLY SUMMARY

Conifer Harvest Level	See Table 4-29	Deciduous Harvest Level	See Table 4-29

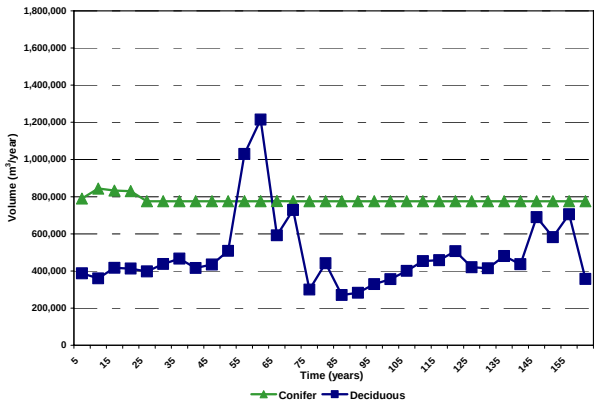
INITIAL AGE CLASS DISTRIBUTION



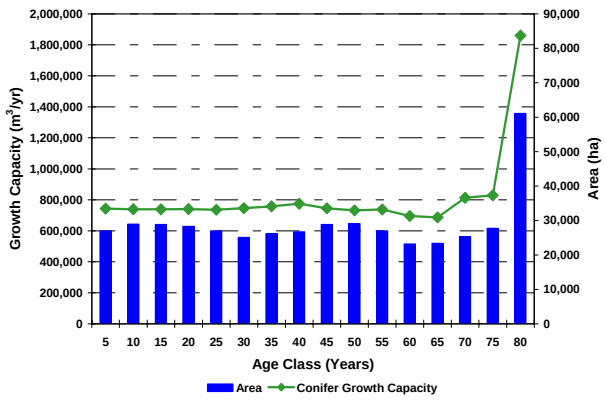
GROWING STOCK



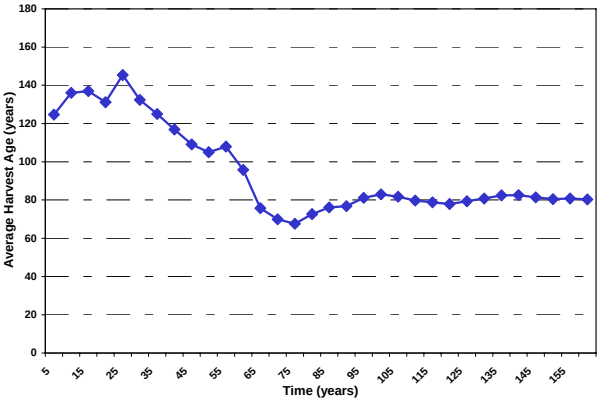
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



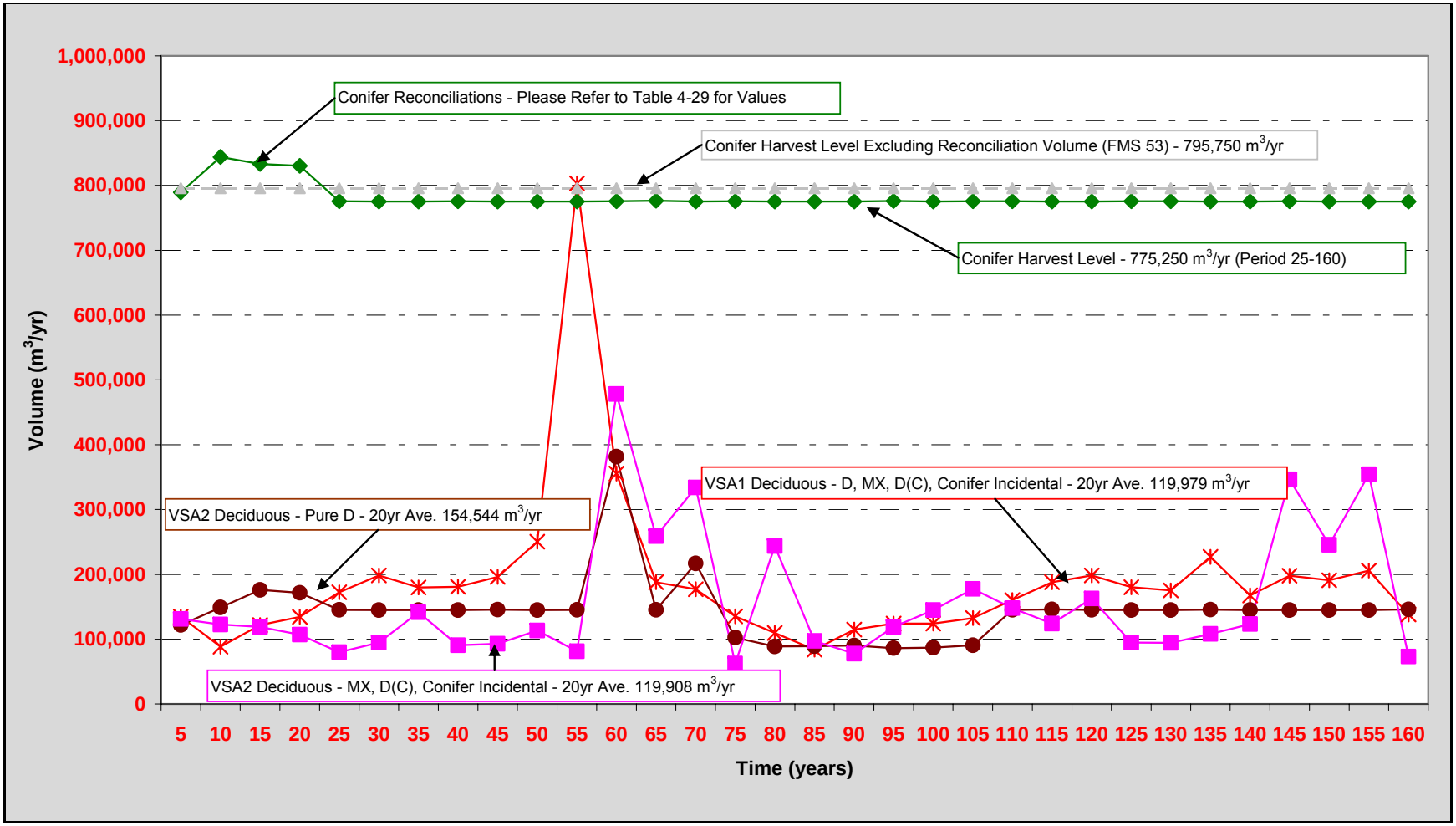
AVERAGE HARVEST AGE BY 5 YEAR ITERATION



4.2.2.3 Primary and Secondary Species Volume Flows

Figure 4-3 provides a summary of the primary and secondary volume flows by 5 year period for the 2005 PFMS. The secondary deciduous species flows have been broken out by VSA. The conifer harvest level excluding reconciliation (FMS 53) is provided for comparison purposes.

Figure 4-3: Primary and Secondary Species Volume Flows



4.2.2.4 Harvest Volumes by Leading Species

Figure 4-4 and Figure 4-5 summarize the 2005 PFMS conifer volume/area harvested by leading species (as defined in Section 1.3.6) for the first 40 years.

Figure 4-4: Percentage of Total Harvested Conifer Volume by Leading Species for First 40 years

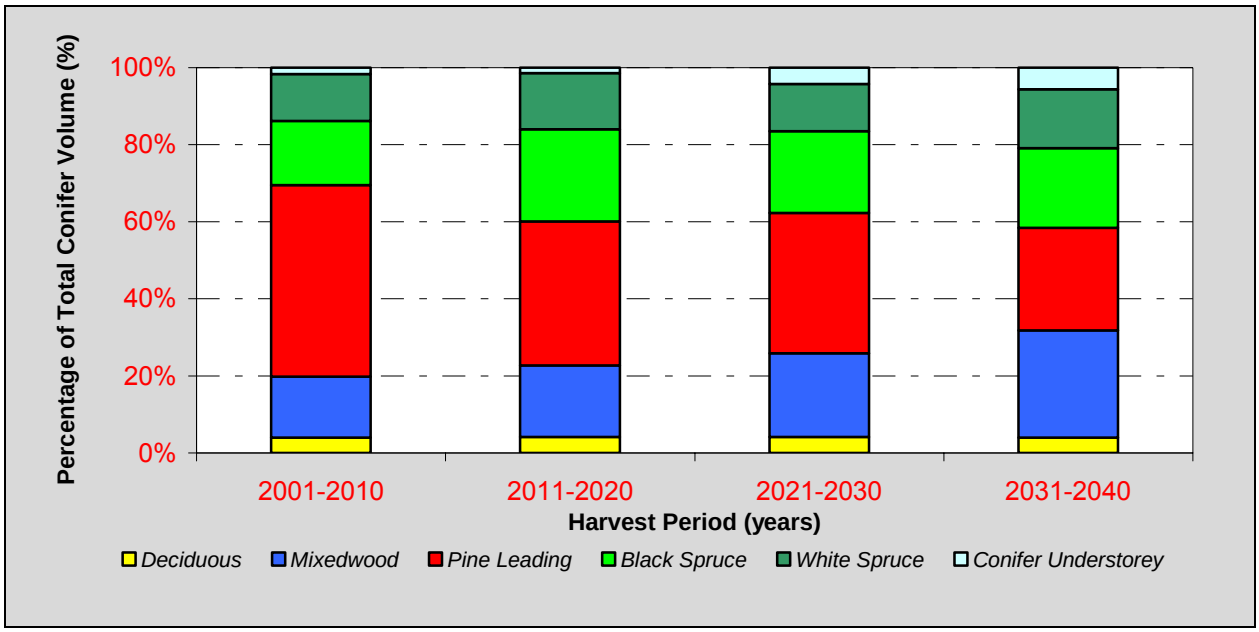
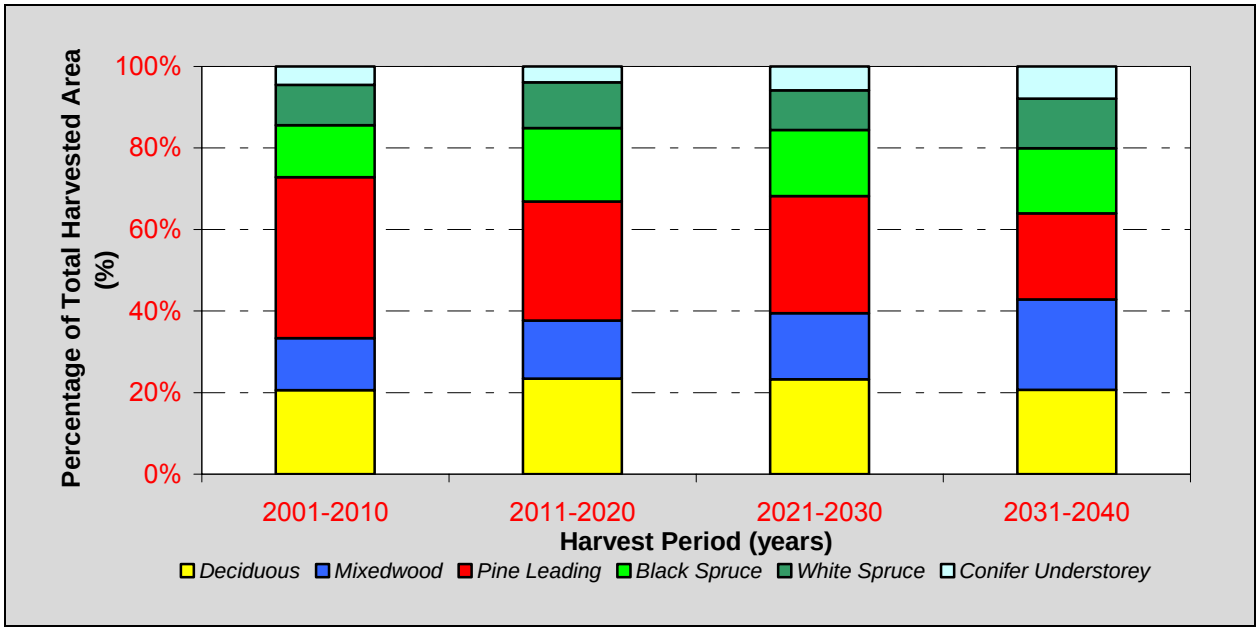


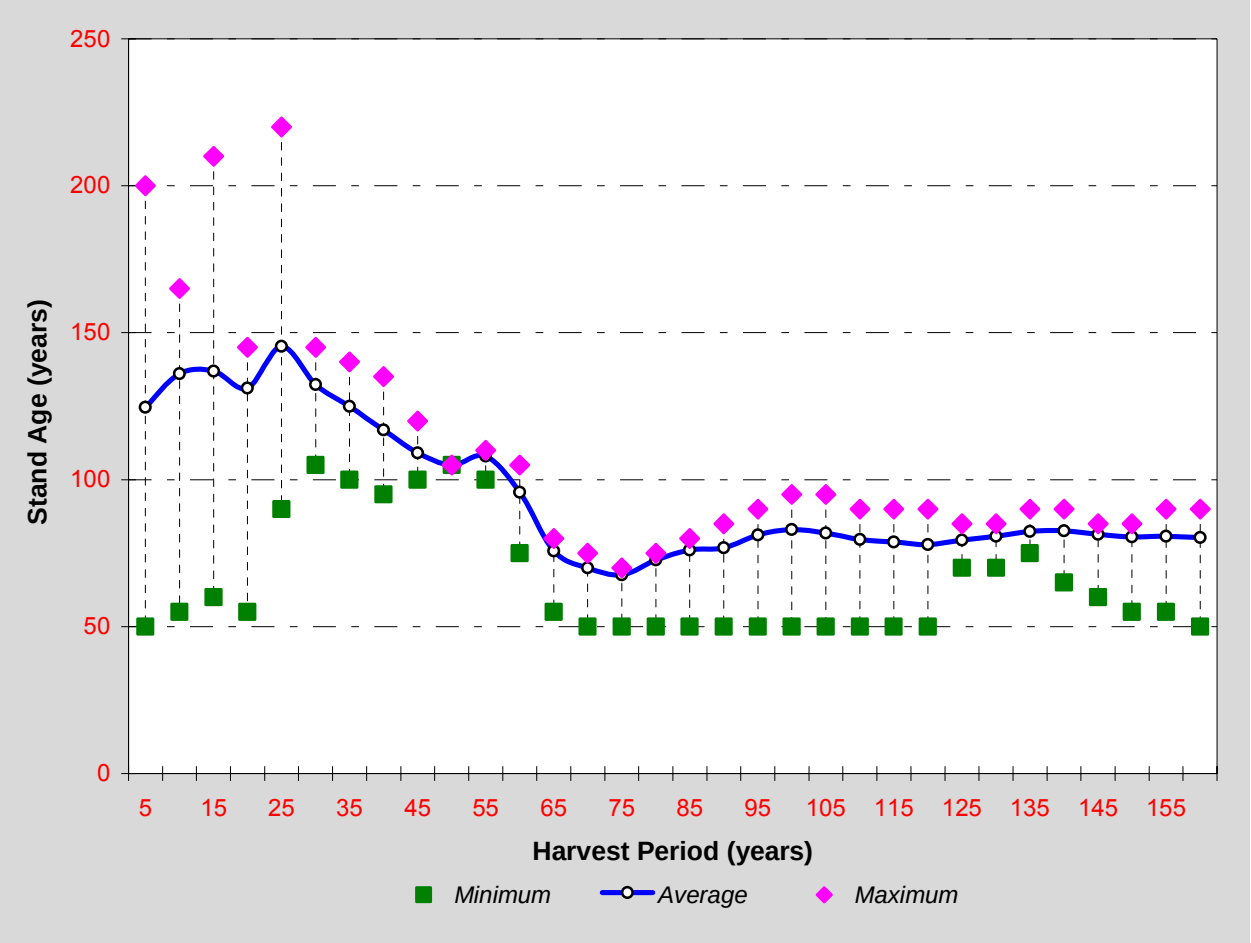
Figure 4-5: Percentage of Total Harvested Area by Leading Species for First 40 years



4.2.2.5 Harvested Stand Ages

Figure 4-6 provides a detailed overview of the 2005 PFMS harvested stand ages by 10 year period. Both conifer and deciduous harvest stand ages are included, minimum, maximum and average values are provided. Note that planned blocks are being forced through and as a result a wide range of ages are being harvested in the early periods.

Figure 4-6: Age of Harvested Stands



4.2.2.6 Harvested Stand Age by Yield Strata

The tables that follow provide a summary of the area harvested by yield strata by age class by harvest period for the 2005 PFMS. The table formats are in accordance with the format requested in the yield curve approval letter dated April 16, 2002.

Table 4-5: Age of Harvested Stands Summary by Area (ha) – Stratum: AB-C-G - #1

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	0	0	7	1	81	26	116	46	7	0	3	0	19	0	0
10	0	0	0	0	0	5	13	16	59	69	24	38	0	0	0	0
15	0	0	0	1	6	5	9	0	25	126	97	15	33	0	0	0
20	0	0	0	3	18	10	0	20	25	440	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	856	109	70	0	1	0	0
30	0	0	0	0	0	0	0	0	227	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	525	0	0	0	0	0	0	0
40	0	0	0	0	0	0	433	349	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	391	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	1,834	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0
60	0	0	0	1	27	194	0	0	0	0	0	0	0	0	0	0
65	0	0	0	108	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	1,148	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-6: Age of Harvested Stands Summary by Area (ha) – Stratum: AB-C-M - #2

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	0	24	22	16	195	129	373	243	470	136	203	39	41	2	8
10	0	0	0	0	0	0	70	174	219	1,076	310	600	0	0	0	0
15	0	0	0	28	18	3	86	68	77	504	2,291	163	36	16	19	31
20	0	0	0	27	20	18	12	14	110	1,618	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	341	455	72	342	94	10
30	0	0	0	0	0	0	0	0	0	4,270	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	547	1,368	0	0	0	0	0	0
40	0	0	0	0	0	0	0	941	2,537	0	0	0	0	0	0	0
45	0	0	0	0	0	0	3,840	1,504	0	0	0	0	0	0	0	0
50	0	0	0	0	0	2,331	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	3,036	0	0	0	0	0	0	0	0	0
60	0	0	0	96	190	388	0	0	0	0	0	0	0	0	0	0
65	0	0	0	465	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	173	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	495	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	5,209	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	2,469	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-7: Age of Harvested Stands Summary by Area (ha) – Stratum: AB-C-F - #3

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	0	0	1	0	47	15	168	54	629	362	136	235	358	5	366
10	0	0	0	0	0	0	47	28	44	499	494	296	0	0	0	0
15	0	0	0	0	6	0	6	0	45	258	1,665	21	11	7	25	0
20	0	0	0	5	6	4	0	0	42	488	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	70	441	517	341	125	82
30	0	0	0	0	0	0	0	0	0	2,045	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	59	301	0	0	0	0	0	0
40	0	0	0	0	0	0	0	220	430	0	0	0	0	0	0	0
45	0	0	0	0	0	0	1,407	794	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	1,073	0	0	0	0	0	0	0	0	0
60	0	0	0	111	28	992	0	0	0	0	0	0	0	0	0	0
65	0	0	0	960	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	138	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	6,782	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-8: Age of Harvested Stands Summary by Area (ha) – Stratum: AB-MX-A - #4

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	4	26	25	3	134	125	250	76	93	29	2	0	1	0	0
10	0	0	0	0	0	19	82	118	151	253	121	18	0	0	0	0
15	0	0	0	10	12	0	68	6	15	148	646	32	0	0	2	0
20	0	0	0	11	1	54	16	68	80	464	0	0	0	0	0	0
25	0	0	0	0	0	6	0	0	0	0	125	88	26	97	0	6
30	0	0	0	0	0	0	0	0	0	1,913	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	2,347	819	0	0	0	0	0	0
40	0	0	0	0	0	0	0	812	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	916	1,591	0	0	0	0	0	0	0	0
50	0	0	0	0	0	2,694	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	1,224	354	723	0	0	0	0	0	0	0	0	0	0
65	0	0	0	2,439	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	885	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	1,294	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

There exists stands harvested below minimum harvest age (70yrs) as a result of incorporating approved harvest plans.

Table 4-9: Age of Harvested Stands Summary by Area (ha) – Stratum: AB-D-A - #5

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	2	20	48	74	34	110	78	66	103	1	0	0	0	0	0	0
10	0	0	0	0	50	244	26	186	0	0	0	0	0	0	0	0
15	0	0	0	12	198	0	95	410	201	74	15	0	0	0	0	0
20	0	0	7	190	556	328	805	10	51	0	0	0	0	0	0	0
25	0	0	0	0	0	0	294	73	500	298	32	3	0	0	0	62
30	0	0	0	0	0	87	244	1,299	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	409	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	730	891	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	6,467	0	0	0	0	0	0	0	0	0
60	0	0	0	424	731	1,556	0	0	0	0	0	0	0	0	0	0
65	0	18	119	420	0	0	0	0	0	0	0	0	0	0	0	0
70	0	472	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-10: Age of Harvested Stands Summary by Area (ha) – Stratum: CD-C-G - #6

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
5	0	4	47	2	53	152	492	240	427	199	44	16	4	11	0	0
10	0	0	0	0	0	25	396	212	631	135	33	44	0	0	0	0
15	0	0	3	2	5	3	9	15	72	1,745	440	40	50	0	0	0
20	0	0	0	3	4	0	5	24	111	2,898	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	1,920	154	58	17	6	0	7
30	0	0	0	0	0	0	0	0	2,668	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	1,587	0	0	0	0	0	0	0
40	0	0	0	0	0	0	1,339	1,080	0	0	0	0	0	0	0	0
45	0	0	0	0	0	614	1,921	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	2,988	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	445	0	0	0	0	0	0	0	0	0	0
60	0	0	242	54	119	0	0	0	0	0	0	0	0	0	0	0
65	0	0	1,632	115	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	698	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	6,762	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	1,410	1,659	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	2,501	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	3,126	0	337	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	290	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	104	530	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	3,199	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	2,894	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	4,087	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	2,550	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	1,601	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	4,822	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	1,117	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	1,855	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	737	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	6,762	0	0	0	0	0	0	0	0	0	0	0	0

* There exists stands harvested below minimum harvest age (70yrs) as a result of incorporating approved harvest plans.

Table 4-11: Age of Harvested Stands Summary by Area (ha) – Stratum: CD-C-M - #7

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	0	23	12	18	592	616	737	1,001	2,054	592	537	103	96	0	0
10	0	0	0	0	0	247	308	636	729	4,404	1,017	1,116	0	0	0	0
15	0	0	0	0	19	50	0	91	681	2,218	1,990	203	148	4	27	2
20	0	0	0	0	41	19	139	4	4,520	3,104	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	2,244	523	1,053	244	298	20	19
30	0	0	0	0	0	0	0	0	3,436	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	4,303	0	0	0	0	0	0	0
40	0	0	0	0	0	0	3,295	1,395	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	3,192	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	2,895	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	1,231	0	0	0	0	0	0	0	0	0	0
60	0	0	0	168	333	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	4,924	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	4,626	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	12,747	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	2,538	17,428	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	7,723	6,354	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	1,036	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	12,141	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	7,785	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	1,600	3,861	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	6,467	4,115	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	6,218	1,238	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	8,168	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	6,665	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	400	1,870	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	4,267	4,827	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	1,176	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	4,871	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	1,294	517	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	3,504	0	0	0	0	0	0	0	0	0	0	0

Table 4-12: Age of Harvested Stands Summary by Area (ha) – Stratum: CD-C-F - #8

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	0	1	2	40	74	23	112	81	535	309	416	394	284	0	141
10	0	0	0	0	0	18	5	80	82	648	696	372	0	0	0	0
15	0	0	0	1	17	8	0	0	12	274	1,961	102	3	18	0	2
20	0	0	0	1	12	0	12	0	1	186	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	743	161	495	973	509	354	24
30	0	0	0	0	0	0	0	0	56	407	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	950	39	0	0	0	0	0	0
40	0	0	0	0	0	0	768	913	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	1,135	1,085	0	0	0	0	0	0	0	0
50	0	0	0	0	0	1,441	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	1,218	0	0	0	0	0	0	0	0	0	0
60	0	0	0	838	93	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	3,944	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	298	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	12,805	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	1,343	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	30	46	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	89	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	170	0	4,742	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	3,280	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	588	4,353	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	4,834	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	2,508	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	1,350	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	2,331	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	4,421	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	1,441	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	4,353	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	533	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	4,371	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	356	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	8,454	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-13: Age of Harvested Stands Summary by Area (ha) – Stratum: CD-MX-A - #9

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	0	8	54	114	185	548	389	752	204	211	77	24	0	0	0	4
10	0	0	0	0	0	161	201	759	243	745	92	50	0	0	0	0
15	0	0	2	7	79	34	4	380	501	679	616	8	0	0	0	0
20	0	0	0	14	163	12	129	145	1,926	970	0	0	0	0	0	0
25	0	0	0	0	6	0	0	0	0	2,703	265	158	9	215	26	0
30	0	0	0	0	0	0	0	0	2,319	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	3,921	0	0	0	0	0	0	0
40	0	0	0	0	0	0	1,738	906	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	926	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	4,345	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	2,045	0	0	0	0	0	0	0	0	0	0
60	0	0	0	3,416	2,597	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	7,588	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	15,864	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	3,467	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	10,588	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	747	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	1,125	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	1,001	0	3,254	0	0	0	0	0	0	0	0	0	0	0
100	0	0	2,483	0	2,759	0	0	0	0	0	0	0	0	0	0	0
105	0	0	1,778	1,144	3,016	0	0	0	0	0	0	0	0	0	0	0
110	0	0	1,917	2,921	2,077	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	4,237	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	562	7,104	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	6,201	3,492	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	5,857	3,639	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	1,511	11,146	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	35	6,722	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	187	17,296	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	70	11,729	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	85	18,104	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	293	0	0	0	0	0	0	0	0	0	0	0	0	0

There exists stands harvested below minimum harvest age (70yrs) as a result of incorporating approved harvest plans.

Table 4-14: Age of Harvested Stands Summary by Area (ha) – Stratum: CD-D-A - #10

HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	11	129	436	516	350	952	750	813	638	26	0	0	0	0	0	0
10	2	0	0	172	355	1,638	1,087	1,335	15	8	0	0	0	0	0	0
15	0	17	27	296	249	204	902	1,642	1,747	137	157	0	0	0	0	0
20	1	35	87	210	818	1,126	770	26	562	0	0	0	0	0	0	0
25	0	0	0	0	0	0	623	2,278	1,264	470	34	0	0	0	0	0
30	0	0	0	0	0	1,820	779	1,291	0	0	0	0	0	0	0	0
35	0	0	0	0	0	1,101	3,265	0	0	0	0	0	0	0	0	0
40	0	0	0	0	1,980	1,423	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	6,907	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	6,392	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	2,202	233	0	0	0	0	0	0	0	0	0
60	0	0	0	802	1,801	7,671	0	0	0	0	0	0	0	0	0	0
65	531	5,249	154	1,704	0	0	0	0	0	0	0	0	0	0	0	0
70	2,986	7,174	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	2,190	3,201	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	1,734	2,657	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	1,291	2,608	61	0	0	0	0	0	0	0	0	0	0	0	0	0
90	1,386	753	1,822	0	0	0	0	0	0	0	0	0	0	0	0	0
95	3,441	0	2,403	0	0	0	0	0	0	0	0	0	0	0	0	0
100	2,941	0	2,396	0	0	0	0	0	0	0	0	0	0	0	0	0
105	3,540	0	2,430	0	0	0	0	0	0	0	0	0	0	0	0	0
110	3,226	0	3,906	0	0	0	0	0	0	0	0	0	0	0	0	0
115	4,750	0	3,939	0	0	0	0	0	0	0	0	0	0	0	0	0
120	4,353	0	3,946	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	3,958	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	3,976	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	3,873	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	1,006	1,696	2,956	0	0	0	0	0	0	0	0	0	0	0	0
145	0	2,379	1,436	3,456	0	0	0	0	0	0	0	0	0	0	0	0
150	2,077	2,032	0	3,697	0	0	0	0	0	0	0	0	0	0	0	0
155	2,860	1,364	0	3,627	0	0	0	0	0	0	0	0	0	0	0	0
160	4,228	82	0	3,666	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-15: Age of Harvested Stands Summary by Area (ha) – Stratum: D(C) - #12 through 18

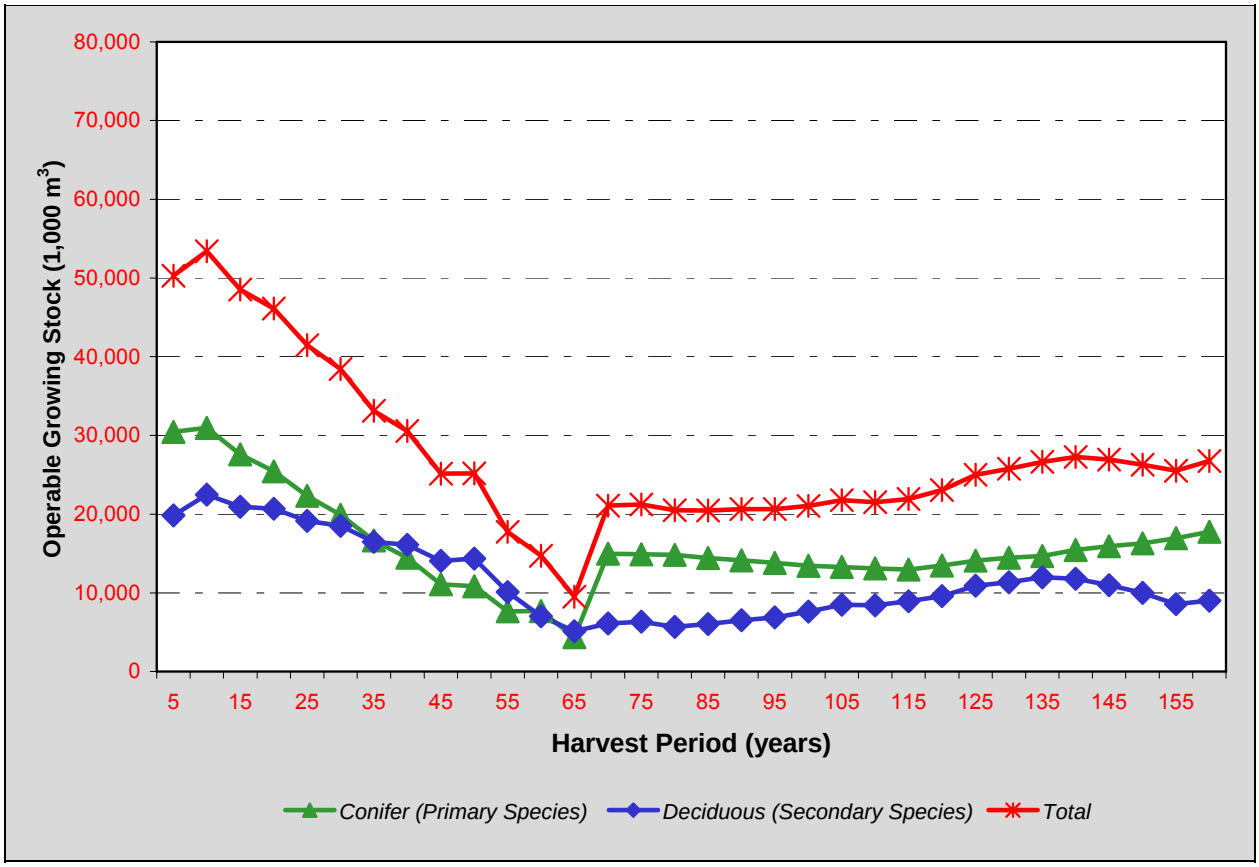
HARVEST PERIOD (years)	AGE OF HARVESTED STANDS (years)															
	50 (ha)	60 (ha)	70 (ha)	80 (ha)	90 (ha)	100 (ha)	110 (ha)	120 (ha)	130 (ha)	140 (ha)	150 (ha)	160 (ha)	170 (ha)	180 (ha)	190 (ha)	200 (ha)
5	15	179	230	329	76	345	190	112	10	58	0	0	0	0	2	0
10	0	1	0	11	20	39	51	540	38	0	0	0	0	0	0	0
15	0	0	61	93	24	0	55	23	609	125	11	0	0	0	0	0
20	0	3	66	32	35	154	6	0	685	0	0	0	0	0	0	0
25	0	0	0	0	0	0	864	31	4	0	30	5	6	0	3	55
30	0	0	0	0	0	1,364	406	0	0	129	0	0	0	0	0	0
35	0	0	0	0	0	51	1,727	0	0	18	0	0	0	0	0	0
40	0	0	0	0	0	1,917	0	22	19	0	0	0	0	0	0	0
45	0	0	0	0	0	0	51	158	0	0	0	0	0	0	0	0
50	0	0	0	0	0	562	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	16,970	0	0	0	0	0	0	0	0	0
60	0	0	0	5,742	3,745	4,881	0	0	0	0	0	0	0	0	0	0
65	0	0	0	1,737	0	0	0	0	0	0	0	0	0	0	0	0
70	0	1,338	17	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	688	745	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	124	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* There exists stands harvested below minimum harvest age (50yrs yield curve 12, 13 & 18; 70yrs yield curve 14, 15, 16 & 17) as a result of incorporating approved harvest plans.

4.2.2.7 Operable Growing Stock Summary

Figure 4-7 provides a summary of the operable growing stock over the entire 2005 PFMS planning horizon. Given the initial age class distribution on the BRL FMA, total operable growing stock levels at the end of the planning horizon are nearly equivalent to the average growing stock levels over the entire planning horizon.

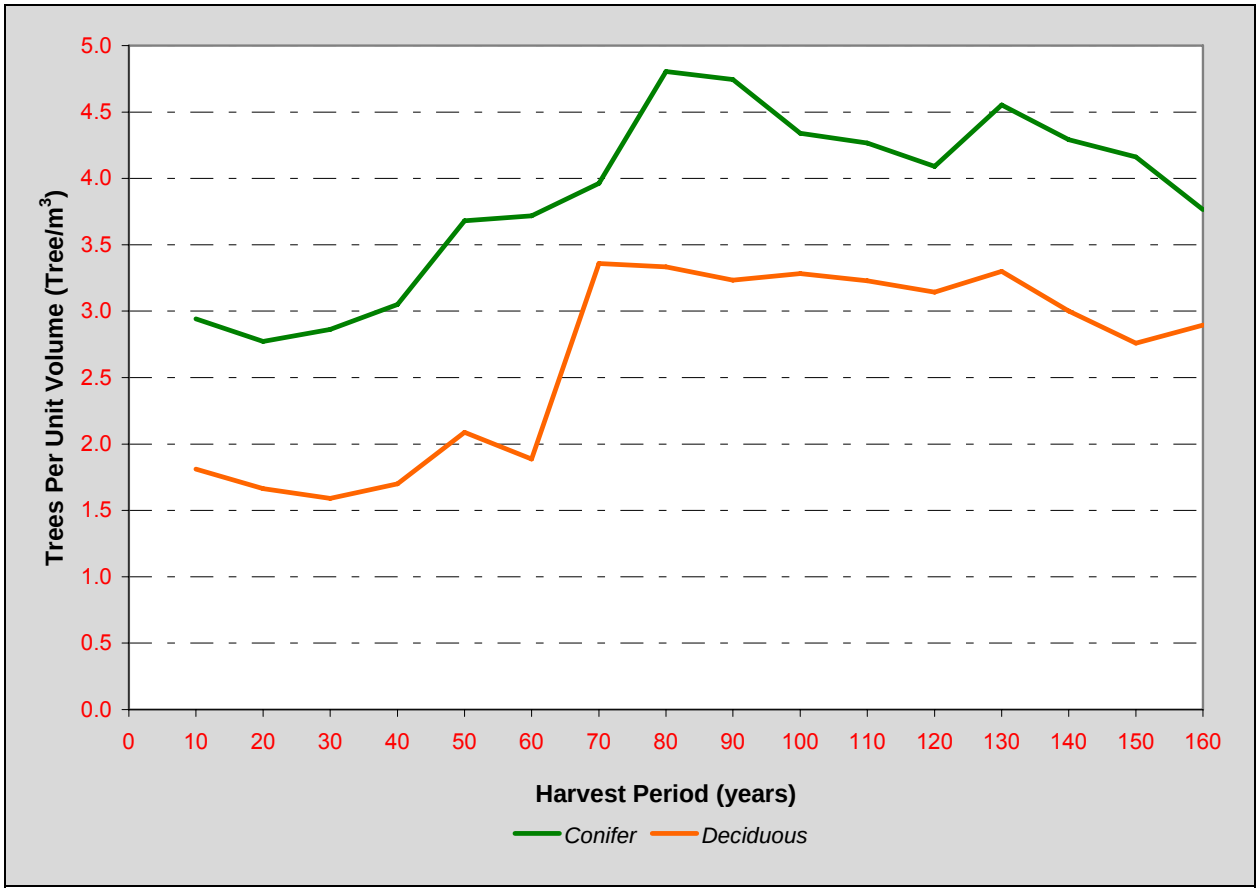
Figure 4-7: Operable Growing Stock Summary by Primary and Secondary Species



4.2.2.8 Trends in Piece Size

The 2005 PFMS piece size trends are presented in Figure 4-8 for both conifer and deciduous species. Piece size summaries were determined using a projected height for each time period that was calculated using projected stand age of the period and the Provincial site index equation given in the Alberta Vegetation Inventory Standards Manual Version 2.2 (ASRD 1997). This projected height was then used to assign a sampling stratum for each stand in each period. Stratum volume and density tables were matched to the sampling strata to determine an average piece size in each time period. Note that because heights were projected into the future in order to determine sampling strata, piece size calculations beyond 20 years may not be very reliable.

Figure 4-8: Piece Size Trend over Time



4.2.2.9 Watershed Threshold Constraint Summary

The 2005 PFMS was constrained so that no more then 50% of the gross forested area of any watershed would be below threshold age[8] limits within the first 20 years of the 2005 PFMS. A threshold summary by watershed is provided in Table 4-3 (the current landbase as well as years 10 and 20 of the 2005 PFMS are summarized); Map 4-3 through Map 4-5 provides a spatial depiction of the watershed threshold summaries.

Table 4-16: Analysis of Gross Forested Area Below Threshold Age by Watershed – 2005 PFMS

WATERSHED #	GROSS FORESTED AREA (ha)	% OF GROSS FORESTED AREA BURNED	CURRENT % BELOW THRESHOLD AGE	YEAR 10 % BELOW THRESHOLD AGE	YEAR 20 % BELOW THRESHOLD AGE
1	10,944	0%	1%	3%	3%
2	44,625	0%	1%	1%	2%
3	24,715	0%	5%	6%	11%
4	12,699	0%	20%	20%	28%
5	6,745	0%	7%	12%	18%
6	23,550	0%	10%	18%	35%
7	9,349	0%	2%	29%	33%
8	17,993	0%	13%	20%	28%
9	20,079	0%	1%	6%	16%
10	17,365	17%	18%	22%	21%
11	21,402	59%	61%	56%	46%
12	18,283	10%	13%	14%	18%
13	16,154	0%	7%	12%	20%
14	5,523	0%	8%	12%	11%
15	6,795	0%	5%	11%	23%
16	12,004	0%	8%	15%	16%
17	29,714	69%	73%	71%	68%
18	17,378	84%	87%	86%	83%
19	25,766	57%	66%	62%	60%
20	27,394	69%	75%	74%	72%
21	23,632	11%	37%	41%	42%
22	18,871	0%	0%	1%	16%
23	16,516	0%	25%	33%	47%
24	17,244	3%	13%	23%	21%
25	17,265	0%	16%	25%	22%
26	24,216	0%	16%	34%	36%
27	19,960	0%	26%	44%	42%
28	14,158	0%	1%	2%	20%
29	7,823	0%	0%	18%	16%
30	15,410	0%	4%	16%	19%
31	13,671	0%	15%	33%	28%
32	16,675	0%	9%	20%	19%
33	15,402	0%	11%	30%	31%
34	5,865	0%	17%	31%	43%
35	4,385	0%	0%	28%	20%

[8] *Age Threshold; The age that leaf area index (LAI) recovers to pre-harvest conditions.D-10years, DC-15years, CD-40years, C-Pine-25years, C-White Spruce-40years, C-Black Spruce-40years*

Map 4-3: Watershed Threshold – Current

Map 4-4: Watershed Threshold – 2005 PFMS Year 10

Map 4-5: Watershed Threshold – 2005 PFMS Year 20

4.2.2.10 Current and Future Seral Group Distribution

The 2005 PFMS seral group summary is presented in Table 4-17 to Table 4-22. The forest class patches were developed by dissolving boundaries based on five seral groupings identified by age classes, 1-40, 41-80, 81-120, 121-160, 161-200 and 201 and over. The patch sizes for these groups were determined to summarize the 2005 PFMS for the current forest, 10 years, 50 years and 100 years into the future on the gross forested landbase for the entire FMA. The spatial illustrations of the seral group summaries for each future forest are provided in Map 4-6 and Map 4-7.

Table 4-17: 2005 PFMS Seral Group Area Summary (Gross Landbase) – FMA[9]

COVER GROUP	AGECLASS	TIME PERIOD				
		CURRENT FOREST AREA (ha)	FUTURE FOREST YEAR 10 AREA (ha)	FUTURE FOREST YEAR 50 AREA (ha)	FUTURE FOREST YEAR 100 AREA (ha)	PLANNING HORIZON MINIMUM AREA (ha)
Non-forested	NA	62,822	62,822	62,822	62,822	62,822
Deciduous	1-40	19,443	27,018	55,918	54,763	19,443
	41-80	70,263	66,793	27,018	73,987	19,383
	81-120	34,568	30,295	49,266	1,631	0
	121-160	9,676	9,845	1,302	737	0
	161-200	122	121	567	1,950	37
	201+	0	0	1	1,003	0
Sub-Total		134,072	134,072	134,072	134,072	
Conifer Pine Leading	1-40	66,832	85,370	57,242	88,698	51,337
	41-80	25,233	18,781	85,370	51,337	15,263
	81-120	19,424	19,385	9,737	11,365	178
	121-160	37,730	28,350	661	345	0
	161-200	5,415	2,696	1,308	1,027	178
	201+	29	81	346	1,891	24
Sub-Total		154,663	154,663	154,663	154,663	
Conifer Black Spruce Leading	1-40	32,711	38,940	31,593	29,860	16,008
	41-80	32,630	15,669	38,940	23,406	992
	81-120	50,538	62,143	13,550	18,140	25
	121-160	54,240	49,116	49,897	1,590	0
	161-200	7,514	11,221	34,145	47,562	177
	201+	104	647	9,611	57,178	104
Sub-Total		177,736	177,736	177,736	177,736	
Conifer White Spruce Leading	1-40	7,542	12,398	18,652	14,353	6,959
	41-80	3,245	2,007	12,398	13,776	526
	81-120	8,847	7,648	1,063	3,787	20
	121-160	14,602	12,902	1,041	78	0
	161-200	1,434	716	2,143	833	59
	201+	0	0	372	2,843	0
Sub-Total		35,670	35,670	35,670	35,670	
Mixedwood Pine Leading	1-40	17,878	18,879	13,779	19,264	11,136
	41-80	6,798	7,951	18,879	15,364	6,798
	81-120	6,642	5,096	4,228	1,938	38
	121-160	5,927	5,328	153	70	0
	161-200	55	46	259	331	38
	201+	0	0	2	333	0
Sub-Total		37,299	37,299	37,299	37,299	
Mixedwood Excluding Pine Leading	1-40	28,506	29,304	22,499	30,621	18,127
	41-80	8,949	10,206	29,304	23,163	8,949
	81-120	11,928	9,618	6,887	4,334	74
	121-160	10,339	10,604	779	225	0
	161-200	402	394	639	828	74
	201+	4	3	20	958	2
Sub-Total		60,129	60,129	60,129	60,129	
Total		662,392	662,392	662,392	662,392	

[9] *The current forest management strategy for the maintenance of seral stage is comprised of structure retention (see DFMP Text Report), green island retention in the Virginia Hills fire and the exclusion of 20,171 ha of area from the TSA. BRL will evaluate the success of these strategies for the next DFMP, along with establishing and developing the science for estimating a natural range of variability for the upcoming 2015 DFMP.*

Table 4-18: 2005 PFMS Seral Group Area Summary (Gross Landbase) – VSA 1[10]

COVER GROUP	AGECLASS	TIME PERIOD				
		CURRENT FOREST AREA (ha)	FUTURE FOREST YEAR 10 AREA (ha)	FUTURE FOREST YEAR 50 AREA (ha)	FUTURE FOREST YEAR 100 AREA (ha)	PLANNING HORIZON MINIMUM AREA (ha)
Non-forested	NA	23,780	23,780	23,780	23,780	23,780
Deciduous	1-40	2,377	5,747	23,926	24,448	2,377
	41-80	43,054	38,925	5,747	33,571	2,317
	81-120	10,945	12,599	29,644	463	0
	121-160	3,628	2,736	666	121	0
	161-200	122	121	144	1,199	4
	201+	0	0	1	324	0
Sub-Total		60,127	60,127	60,127	60,127	
Conifer Pine Leading	1-40	5,608	8,755	18,840	14,739	5,608
	41-80	8,411	6,129	8,755	16,285	1,640
	81-120	9,387	6,700	3,677	33	25
	121-160	7,828	9,964	206	81	0
	161-200	447	133	194	203	25
	201+	0	0	10	340	0
Sub-Total		31,681	31,681	31,681	31,681	
Conifer Black Spruce Leading	1-40	5,385	7,100	15,698	9,340	5,385
	41-80	17,484	6,128	7,100	10,645	188
	81-120	23,055	31,608	5,391	3,155	2
	121-160	21,441	19,731	25,350	310	0
	161-200	2,928	5,311	11,553	25,419	87
	201+	92	506	5,292	21,514	92
Sub-Total		70,383	70,383	70,383	70,383	
Conifer White Spruce Leading	1-40	1,862	3,877	8,534	6,632	1,862
	41-80	1,482	647	3,877	5,664	104
	81-120	4,158	3,857	203	227	3
	121-160	6,088	5,427	583	9	0
	161-200	489	272	722	574	3
	201+	0	0	161	972	0
Sub-Total		14,079	14,079	14,079	14,079	
Mixedwood Pine Leading	1-40	6,644	6,186	3,416	6,678	1,666
	41-80	2,271	2,967	6,186	4,442	1,901
	81-120	1,524	823	1,581	22	6
	121-160	765	1,227	27	15	0
	161-200	23	23	16	44	6
	201+	0	0	0	24	0
Sub-Total		11,226	11,226	11,226	11,226	
Mixedwood Excluding Pine Leading	1-40	5,201	5,051	8,000	6,477	3,890
	41-80	4,296	4,361	5,051	8,369	2,734
	81-120	3,411	3,392	2,087	48	2
	121-160	2,431	2,487	332	26	0
	161-200	318	364	181	456	2
	201+	0	3	7	281	0
Sub-Total		15,658	15,658	15,658	15,658	
Total		226,935	226,935	226,935	226,935	

[10] *The current forest management strategy for the maintenance of seral stage is comprised of structure retention (see DFMP Text Report), green island retention in the Virginia Hills fire and the exclusion of 20,171 ha of area from the TSA. BRL will evaluate the success of these strategies for the next DFMP, along with establishing and developing the science for estimating a natural range of variability for the upcoming 2015 DFMP.*

Table 4-19: 2005 PFMS Seral Group Area Summary (Gross Landbase) – VSA 2[11]

COVER GROUP	AGECLASS	TIME PERIOD				
		CURRENT FOREST AREA (ha)	FUTURE FOREST YEAR 10 AREA (ha)	FUTURE FOREST YEAR 50 AREA (ha)	FUTURE FOREST YEAR 100 AREA (ha)	PLANNING HORIZON MINIMUM AREA (ha)
Non-forested	NA	39,042	39,042	39,042	39,042	39,042
Deciduous	1-40	17,066	21,272	31,993	30,315	17,066
	41-80	27,209	27,868	21,272	40,416	16,494
	81-120	23,622	17,696	19,622	1,168	0
	121-160	6,048	7,109	636	616	0
	161-200	0	0	423	750	0
	201+	0	0	0	679	0
Sub-Total		73,945	73,945	73,945	73,945	
Conifer Pine Leading	1-40	61,225	76,616	38,402	73,959	35,052
	41-80	16,821	12,651	76,616	35,052	12,651
	81-120	10,037	12,685	6,060	11,331	153
	121-160	29,902	18,386	455	263	0
	161-200	4,968	2,563	1,114	824	153
	201+	29	81	336	1,552	24
Sub-Total		122,982	122,982	122,982	122,982	
Conifer Black Spruce Leading	1-40	27,326	31,840	15,895	20,520	8,615
	41-80	15,146	9,541	31,840	12,761	804
	81-120	27,483	30,535	8,160	14,985	18
	121-160	32,799	29,385	24,546	1,280	0
	161-200	4,586	5,910	22,592	22,143	91
	201+	12	141	4,320	35,663	12
Sub-Total		107,353	107,353	107,353	107,353	
Conifer White Spruce Leading	1-40	5,680	8,521	10,118	7,721	3,520
	41-80	1,763	1,360	8,521	8,112	422
	81-120	4,689	3,791	860	3,560	0
	121-160	8,514	7,475	458	69	0
	161-200	945	444	1,422	259	55
	201+	0	0	211	1,871	0
Sub-Total		21,591	21,591	21,591	21,591	
Mixedwood Pine Leading	1-40	11,235	12,692	10,363	12,586	9,236
	41-80	4,526	4,983	12,692	10,921	4,526
	81-120	5,118	4,274	2,647	1,916	32
	121-160	5,162	4,101	126	55	0
	161-200	32	23	243	287	23
	201+	0	0	2	308	0
Sub-Total		26,073	26,073	26,073	26,073	
Mixedwood Excluding Pine Leading	1-40	23,305	24,253	14,499	24,144	13,910
	41-80	4,654	5,845	24,253	14,794	4,654
	81-120	8,517	6,226	4,800	4,286	72
	121-160	7,908	8,117	447	199	0
	161-200	84	31	459	372	31
	201+	4	0	13	677	0
Sub-Total		44,471	44,471	44,471	44,471	
Total		435,457	435,457	435,457	435,457	

[11] *The current forest management strategy for the maintenance of seral stage is comprised of structure retention (see DFMP Text Report), green island retention in the Virginia Hills fire and the exclusion of 20,171 ha of area from the TSA. BRL will evaluate the success of these strategies for the next DFMP, along with establishing and developing the science for estimating a natural range of variability for the upcoming 2015 DFMP.*

Table 4-20: 2005 PFMS Seral Group Area Summary (Net Landbase) – FMA[12]

COVER GROUP	AGECLASS	TIME PERIOD				
		CURRENT FOREST AREA (ha)	FUTURE FOREST YEAR 10 AREA (ha)	FUTURE FOREST YEAR 50 AREA (ha)	FUTURE FOREST YEAR 100 AREA (ha)	PLANNING HORIZON MINIMUM AREA (ha)
Deciduous	1-40	19,250	26,960	55,918	54,763	19,250
	41-80	68,461	65,019	26,960	73,987	19,190
	81-120	33,220	28,994	47,492	1,605	0
	121-160	9,318	9,278	0	8	0
	161-200	121	120	0	7	0
	201+	0	0	0	0	0
Sub-Total		130,370	130,370	130,370	130,370	
Conifer Pine Leading	1-40	65,638	84,223	57,242	88,698	51,337
	41-80	24,234	17,953	84,223	51,337	14,922
	81-120	18,843	18,724	8,908	10,328	4
	121-160	36,331	27,063	0	4	0
	161-200	5,336	2,367	20	5	0
	201+	12	64	0	20	0
Sub-Total		150,393	150,393	150,393	150,393	
Conifer Black Spruce Leading	1-40	20,669	26,915	31,593	29,860	16,008
	41-80	9,517	4,543	26,915	23,406	912
	81-120	14,436	16,978	2,425	6,142	25
	121-160	29,863	24,653	4,732	411	0
	161-200	2,720	4,094	9,682	4,949	97
	201+	12	35	1,871	12,449	12
Sub-Total		77,218	77,218	77,218	77,218	
Conifer White Spruce Leading	1-40	6,585	11,441	18,652	14,353	6,585
	41-80	2,829	1,810	11,441	13,776	467
	81-120	7,929	6,606	866	2,830	0
	121-160	12,494	10,758	0	0	0
	161-200	1,122	344	0	0	0
	201+	0	0	0	0	0
Sub-Total		30,959	30,959	30,959	30,959	
Mixedwood Pine Leading	1-40	17,752	18,756	13,779	19,264	11,136
	41-80	6,560	7,722	18,756	15,364	6,560
	81-120	6,501	4,979	3,999	1,836	0
	121-160	5,766	5,134	35	0	0
	161-200	55	44	65	72	0
	201+	0	0	0	98	0
Sub-Total		36,634	36,634	36,634	36,634	
Mixedwood Excluding Pine Leading	1-40	28,379	29,201	22,499	30,621	18,127
	41-80	8,289	9,656	29,201	23,163	8,289
	81-120	11,160	8,863	6,337	4,231	0
	121-160	9,862	9,983	25	0	0
	161-200	387	376	18	34	0
	201+	4	1	0	31	0
Sub-Total		58,081	58,081	58,081	58,081	
Total		483,655	483,655	483,655	483,655	

[12] *The current forest management strategy for the maintenance of seral stage is comprised of structure retention (see DFMP Text Report), green island retention in the Virginia Hills fire and the exclusion of 20,171 ha of area from the TSA. BRL will evaluate the success of these strategies for the next DFMP, along with establishing and developing the science for estimating a natural range of variability for the upcoming 2015 DFMP.*

Table 4-21: 2005 PFMS Seral Group Area Summary (Net Landbase) – VSA 1[13]

COVER GROUP	AGECLASS	TIME PERIOD				
		CURRENT FOREST AREA (ha)	FUTURE FOREST YEAR 10 AREA (ha)	FUTURE FOREST YEAR 50 AREA (ha)	FUTURE FOREST YEAR 100 AREA (ha)	PLANNING HORIZON MINIMUM AREA (ha)
Deciduous	1-40	2,373	5,743	23,926	24,448	2,373
	41-80	42,142	38,106	5,743	33,571	2,313
	81-120	10,346	11,933	28,825	459	0
	121-160	3,511	2,592	0	8	0
	161-200	121	120	0	7	0
	201+	0	0	0	0	0
Sub-Total		58,493	58,493	58,493	58,493	
Conifer Pine Leading	1-40	5,552	8,722	18,840	14,739	5,552
	41-80	8,158	5,915	8,722	16,285	1,559
	81-120	9,165	6,494	3,462	0	0
	121-160	7,711	9,770	0	0	0
	161-200	437	123	0	0	0
	201+	0	0	0	0	0
Sub-Total		31,024	31,024	31,024	31,024	
Conifer Black Spruce Leading	1-40	3,240	4,972	15,698	9,340	3,240
	41-80	4,177	1,721	4,972	10,645	155
	81-120	9,430	9,835	984	1,027	2
	121-160	14,905	13,937	3,577	62	0
	161-200	566	1,833	5,759	3,460	54
	201+	12	33	1,340	7,795	12
Sub-Total		32,330	32,330	32,330	32,330	
Conifer White Spruce Leading	1-40	1,635	3,650	8,534	6,632	1,635
	41-80	1,221	557	3,650	5,664	97
	81-120	3,737	3,274	112	0	0
	121-160	5,354	4,705	0	0	0
	161-200	350	111	0	0	0
	201+	0	0	0	0	0
Sub-Total		12,296	12,296	12,296	12,296	
Mixedwood Pine Leading	1-40	6,622	6,165	3,416	6,678	1,666
	41-80	2,227	2,927	6,165	4,442	1,901
	81-120	1,499	798	1,540	0	0
	121-160	753	1,211	2	0	0
	161-200	23	23	0	2	0
	201+	0	0	0	0	0
Sub-Total		11,123	11,123	11,123	11,123	
Mixedwood Excluding Pine Leading	1-40	5,155	5,004	8,000	6,477	3,890
	41-80	3,987	4,123	5,004	8,369	2,708
	81-120	3,132	3,078	1,849	1	0
	121-160	2,294	2,320	18	0	0
	161-200	316	359	13	10	0
	201+	0	1	0	26	0
Sub-Total		14,884	14,884	14,884	14,884	
Total		160,151	160,151	160,151	160,151	

[13] *The current forest management strategy for the maintenance of seral stage is comprised of structure retention (see DFMP Text Report), green island retention in the Virginia Hills fire and the exclusion of 20,171 ha of area from the TSA. BRL will evaluate the success of these strategies for the next DFMP, along with establishing and developing the science for estimating a natural range of variability for the upcoming 2015 DFMP.*

Table 4-22: 2005 PFMS Seral Group Area Summary (Net Landbase) – VSA 2[14]

COVER GROUP	AGECLASS	TIME PERIOD				
		CURRENT FOREST AREA (ha)	FUTURE FOREST YEAR 10 AREA (ha)	FUTURE FOREST YEAR 50 AREA (ha)	FUTURE FOREST YEAR 100 AREA (ha)	PLANNING HORIZON MINIMUM AREA (ha)
Deciduous	1-40	16,877	21,217	31,993	30,315	16,877
	41-80	26,319	26,913	21,217	40,416	16,160
	81-120	22,874	17,061	18,667	1,146	0
	121-160	5,807	6,686	0	0	0
	161-200	0	0	0	0	0
	201+	0	0	0	0	0
Sub-Total		71,877	71,877	71,877	71,877	
Conifer Pine Leading	1-40	60,085	75,501	38,402	73,959	35,052
	41-80	16,076	12,037	75,501	35,052	12,037
	81-120	9,677	12,230	5,446	10,328	4
	121-160	28,620	17,293	0	4	0
	161-200	4,898	2,244	20	5	0
	201+	12	64	0	20	0
Sub-Total		119,369	119,369	119,369	119,369	
Conifer Black Spruce Leading	1-40	17,429	21,943	15,895	20,520	8,615
	41-80	5,340	2,823	21,943	12,761	756
	81-120	5,006	7,143	1,442	5,115	18
	121-160	14,958	10,716	1,155	348	0
	161-200	2,154	2,261	3,923	1,489	43
	201+	0	2	531	4,655	0
Sub-Total		44,888	44,888	44,888	44,888	
Conifer White Spruce Leading	1-40	4,950	7,791	10,118	7,721	3,520
	41-80	1,608	1,253	7,791	8,112	367
	81-120	4,193	3,333	754	2,830	0
	121-160	7,140	6,053	0	0	0
	161-200	773	233	0	0	0
	201+	0	0	0	0	0
Sub-Total		18,663	18,663	18,663	18,663	
Mixedwood Pine Leading	1-40	11,131	12,592	10,363	12,586	9,236
	41-80	4,333	4,795	12,592	10,921	4,333
	81-120	5,002	4,181	2,458	1,836	0
	121-160	5,013	3,923	33	0	0
	161-200	32	21	65	70	0
	201+	0	0	0	98	0
Sub-Total		25,511	25,511	25,511	25,511	
Mixedwood Excluding Pine Leading	1-40	23,224	24,197	14,499	24,144	13,910
	41-80	4,302	5,533	24,197	14,794	4,302
	81-120	8,028	5,785	4,488	4,230	0
	121-160	7,567	7,663	7	0	0
	161-200	71	18	5	24	0
	201+	4	0	0	5	0
Sub-Total		43,196	43,196	43,196	43,196	
Total		323,504	323,504	323,504	323,504	

[14] *The current forest management strategy for the maintenance of seral stage is comprised of structure retention (see DFMP Text Report), green island retention in the Virginia Hills fire and the exclusion of 20,171 ha of area from the TSA. BRL will evaluate the success of these strategies for the next DFMP, along with establishing and developing the science for estimating a natural range of variability for the upcoming 2015 DFMP.*

Map 4-6: 2005 PFMS Seral Stage Analysis – Gross Landbase

Map 4-7: 2005 PFMS Seral Stage Analysis – Net Landbase

4.2.2.11 Seral Patch Size Distribution

The contiguous seral[15] patch size analysis is presented in Table 4-23 and Table 4-24. Based on the 2005 PFMS harvest sequence, seral patches were developed by dissolving boundaries of polygons that were of the same seral stage within a designated time period not split by a linear feature greater than 8 m wide (does not include seismic lines).

[15] *Seral stages/age class categories are consistent with the July 31, 2001 BRL Landscape Assessment.*

Table 4-23: Seral Patch Size Distribution – Current and 10 Years

Seral Stage	Patch Size (ha)	Current Forest							Future Forest 10 Years						
		FMA Max (ha)	FMA Mean (ha)	FMA Min (ha)	FMA Count	FMA Gross Area (ha)	VSA 1 Gross Area (ha)	VSA 2 Gross Area (ha)	FMA Max (ha)	FMA Mean (ha)	FMA Min (ha)	FMA Count	FMA Gross Area (ha)	VSA 1 Gross Area (ha)	VSA 2 Gross Area (ha)
1 to 40	0-25	25	5	0	4,551	20,876	3,586	17,290	25	5	0	4,503	24,452	5,920	18,532
	25.1-50	50	35	25	490	16,931	3,461	13,469	50	34	25	546	18,827	5,009	13,818
	50.1-100	100	70	50	277	19,261	3,893	15,368	100	68	50	309	21,144	5,316	15,828
	100.1-200	199	136	100	127	17,227	3,762	13,466	200	135	100	176	23,735	5,511	18,224
	200.1-400	398	275	202	59	16,251	2,591	13,660	400	274	202	81	22,202	4,338	17,864
	>400	9,309	1,209	417	56	67,727	7,283	60,444	9,306	1,210	417	72	87,137	8,160	78,977
40 to 80	0-25	25	4	0	6,008	22,073	8,510	13,562	25	4	0	5,870	22,123	7,634	14,488
	25.1-50	50	35	25	310	10,976	4,864	6,111	50	35	25	302	10,632	4,209	6,423
	50.1-100	100	69	51	158	10,857	5,022	5,835	100	69	50	151	10,471	4,007	6,465
	100.1-200	200	142	100	93	13,225	7,121	6,104	199	144	100	77	11,114	6,255	4,859
	200.1-400	397	274	201	67	18,336	8,738	9,598	397	278	205	56	15,589	8,068	7,521
	>400	5,567	1,083	400	41	44,423	27,658	16,766	4,550	994	400	37	36,773	23,176	13,597
80 to 120	0-25	25	3	0	7,908	27,463	9,643	17,820	25	3	0	9,309	28,475	11,084	17,391
	25.1-50	49	34	25	376	12,887	3,753	9,134	50	35	25	388	13,484	4,898	8,586
	50.1-100	100	69	50	187	12,855	4,561	8,293	99	69	50	178	12,314	4,957	7,357
	100.1-200	200	136	100	97	13,196	4,803	8,393	200	136	100	85	11,567	5,077	6,490
	200.1-400	395	305	202	36	10,962	3,522	7,440	395	290	202	34	9,874	3,805	6,069
	>400	1,843	736	400	20	14,725	11,026	3,699	1,439	674	403	14	9,430	5,590	3,840
120 to 160	0-25	25	3	0	9,292	29,036	8,880	20,155	25	2	0	12,127	26,844	8,380	18,465
	25.1-50	50	35	25	434	15,085	4,345	10,740	50	35	25	373	13,152	4,234	8,918
	50.1-100	100	69	50	237	16,440	5,905	10,534	100	70	50	209	14,683	4,355	10,328
	100.1-200	195	134	100	89	11,945	3,955	7,990	197	134	100	75	10,046	3,962	6,084
	200.1-400	399	268	200	41	10,975	2,591	8,384	394	278	202	22	6,109	2,586	3,523
	>400	1,929	806	430	25	20,154	8,851	11,303	1,913	764	403	21	16,035	11,019	5,017
160 to 200	0-25	25	3	0	1,129	3,605	763	2,842	25	2	0	2,338	4,215	1,587	2,628
	25.1-50	49	33	25	58	1,938	128	1,810	49	34	25	39	1,323	319	1,004
	50.1-100	98	68	50	19	1,284	179	1,105	97	68	50	14	950	324	626
	100.1-200	192	130	104	11	1,426	397	1,028	183	122	102	7	856	339	517
	200.1-400	346	298	220	5	1,489	346	1,143	0	0	0	0	0	0	0
	>400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+200	0-25	12	4	0	7	28	12	17	23	2	0	41	100	34	66
	25.1-50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50.1-100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100.1-200	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	200.1-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	>400	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-24: Seral Patch Size Distribution – 50 Years and End of First Rotation (70 Years)

Seral Stage	Patch Size (ha)	Future Forest 50 Years							Future Forest 70 Years						
		FMA Max (ha)	FMA Mean (ha)	FMA Min (ha)	FMA Count	FMA Gross Area (ha)	VSA 1 Gross Area (ha)	VSA 2 Gross Area (ha)	FMA Max (ha)	FMA Mean (ha)	FMA Min (ha)	FMA Count	FMA Gross Area (ha)	VSA 1 Gross Area (ha)	VSA 2 Gross Area (ha)
1 to 40	0-25	25	2	0	18,802	35,927	13,391	22,536	25	3	0	9,757	33,582	10,800	22,782
	25.1-50	50	35	25	585	20,336	7,060	13,276	50	35	25	603	21,341	7,142	14,199
	50.1-100	100	70	50	398	27,846	11,786	16,061	100	70	50	376	26,405	9,605	16,801
	100.1-200	196	139	100	196	27,169	9,086	18,083	200	138	100	186	25,683	8,147	17,536
	200.1-400	393	287	201	103	29,549	12,417	17,132	397	275	201	125	34,347	11,817	22,530
	>400	2,464	853	407	69	58,855	24,674	34,181	9,314	1,034	400	96	99,259	46,270	52,989
40 to 80	0-25	25	5	0	4,503	24,452	5,920	18,532	25	3	0	11,394	34,112	10,810	23,302
	25.1-50	50	34	25	546	18,827	5,009	13,818	50	35	25	566	19,692	5,731	13,961
	50.1-100	100	68	50	309	21,144	5,316	15,828	100	69	50	352	24,258	5,998	18,260
	100.1-200	200	135	100	176	23,735	5,511	18,224	199	134	100	155	20,746	4,345	16,401
	200.1-400	400	274	202	81	22,202	4,338	17,864	400	283	202	75	21,203	5,872	15,331
	>400	9,306	1,210	417	72	87,137	8,160	78,977	10,375	1,179	404	89	104,900	22,243	82,657
80 to 120	0-25	25	4	0	4,935	19,236	7,076	12,160	17	5	0	7	37	28	9
	25.1-50	50	35	25	228	7,992	3,457	4,535	37	32	26	2	64	26	37
	50.1-100	100	69	50	131	9,061	4,663	4,398	0	0	0	0	0	0	0
	100.1-200	195	148	101	57	8,416	4,904	3,512	0	0	0	0	0	0	0
	200.1-400	389	283	204	34	9,615	6,578	3,037	0	0	0	0	0	0	0
	>400	3,136	924	408	17	15,707	10,094	5,613	0	0	0	0	0	0	0
120 to 160	0-25	24	5	0	672	3,049	2,407	642	24	5	0	583	2,812	1,978	834
	25.1-50	45	33	26	32	1,049	624	425	47	35	26	29	1,003	483	520
	50.1-100	97	69	53	10	694	567	127	80	62	51	12	742	499	243
	100.1-200	0	0	0	0	0	0	0	157	133	109	2	266	0	266
	200.1-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	>400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160 to 200	0-25	24	5	0	1,098	5,504	3,207	2,297	24	5	0	693	3,218	2,370	848
	25.1-50	50	35	25	51	1,781	1,181	600	49	34	25	27	907	639	269
	50.1-100	99	64	51	25	1,598	825	773	96	67	55	14	932	463	468
	100.1-200	150	129	107	7	903	560	343	116	114	111	2	228	228	0
	200.1-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	>400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+200	0-25	24	4	0	294	1,276	917	359	24	5	0	989	4,802	2,742	2,059
	25.1-50	48	34	28	12	407	234	172	50	35	26	51	1,778	1,203	575
	50.1-100	78	63	54	3	189	189	0	89	63	51	14	888	403	485
	100.1-200	0	0	0	0	0	0	0	143	113	101	4	452	309	143
	200.1-400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	>400	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Map 4-8: 2005 PFMS Seral Patch Size Analysis – Current, 10, 50 and 70

4.2.2.12 Harvest Patch Size Distribution

The contiguous harvest area patch size analysis is presented in Table 4-25. Based on the 2005 PFMS harvest sequence, harvest patches were developed by dissolving boundaries of polygons that were sequenced adjacent to another harvested polygon within a designated time period. These harvest patches were then classified into six patch size classes (0 – 25 ha, 25.1 – 50 ha, 50.1 – 100 ha, 100.1 – 200 ha, 200.1 – 400 ha, >400 ha) and three time periods (1 – 10 Years, 11 – 20 Years, 1 – 20 Years).

Table 4-25: FMA – Contiguous Harvest Area Patch Size Analysis

PATCH SIZE (HA)	1 - 10 YEARS					11 – 20 YEARS					1 – 20 YEARS				
	MAX. (ha)	MEAN (ha)	MIN. (ha)	COUNT	SUM (ha)	MAX. (ha)	MEAN (ha)	MIN. (ha)	COUNT	SUM (ha)	MAX. (ha)	MEAN (ha)	MIN. (ha)	COUNT	SUM (ha)
0 – 25	25	8	<1	1,691	13,787	25	7	<1	2,557	17,746	25	8	<1	3,203	24,067
25.1 – 50	50	35	25	323	11,161	50	35	25	275	9,629	50	35	25	453	15,708
50.1 – 100	98	68	50	161	10,882	99	68	50	139	9,493	100	69	50	267	18,322
100.1 – 200	183	131	102	52	6,819	198	132	100	59	7,781	200	139	100	114	15,844
200.1 – 400	398	288	208	18	5,190	382	275	203	16	4,399	377	278	203	34	9,440
> 400	654	504	409	4	2,018	684	521	433	4	2,082	1,958	734	410	24	17,606

*10 patches less than 1 ha occur.

4.2.2.13 Current and Future Amount and Distribution of Grizzly Bear Habitat

The following criteria were used to define Grizzly Bear habitat (provided by ASRD):

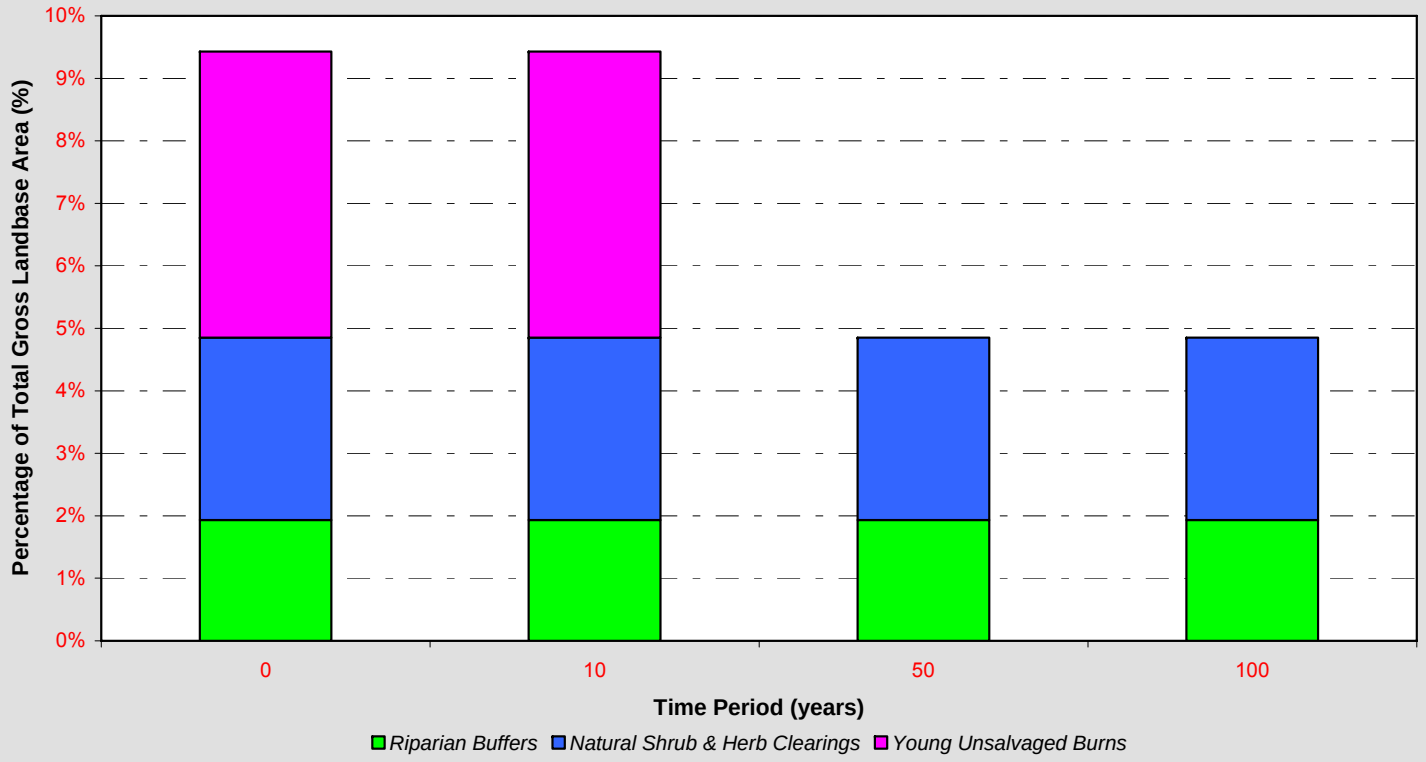
- Riparian Buffers (e.g. 30m, 60m, 100m), or
- Young Unsalvaged Burns (<20 years old), or
- Natural shrub and herb clearings (excluding all anthropogenic disturbances).

To be considered Grizzly Bear habitat, the three above areas must not be within 500m of an all-weather road.

Figure 4-9 summarizes the Grizzly Bear habitat at year 0, 10, 50 and 100 of the 2005 PFMS. The decline in Grizzly Bear habitat can be entirely attributed to the Virginia Hills burn aging beyond 20 years. According to the second criteria, as soon as the burn surpasses 20 years of age it can no longer be considered Grizzly habitat. The amount of habitat in the form of riparian buffers and natural shrub and herb clearings remains the same throughout the planning horizon. It should also be noted that no future fires are considered in this analysis. Map 4-9 provides a spatial representation of the habitat across the BRL FMA.

Figure 4-9: Grizzly Bear Habitat Summary

	CURRENT FOREST GROSS AREA (ha)			PFMS – YEAR 10 GROSS AREA (ha)			PFMS – YEAR 50 GROSS AREA (ha)			PFMS – YEAR 100 GROSS AREA (ha)		
	RIPARIAN BUFFERS	YOUNG UNSALVAGED BURNS	NATURAL SHRUB & HERB CLEARINGS	RIPARIAN BUFFERS	YOUNG UNSALVAGED BURNS	NATURAL SHRUB & HERB CLEARINGS	RIPARIAN BUFFERS	YOUNG UNSALVAGED BURNS	NATURAL SHRUB & HERB CLEARINGS	RIPARIAN BUFFERS	YOUNG UNSALVAGED BURNS	NATURAL SHRUB & HERB CLEARINGS
Before Buffering Roads	18,434	43,048	28,489	18,434	43,048	28,489	18,434	0	28,489	18,434	0	28,489
Habitat lost to 500m Road Buffer	-5,639	-12,716	-9,145	-5,639	-12,716	-9,145	-5,639	0	-9,145	-5,639	0	-9,145
Habitat Remaining	12,795	30,332	19,344	12,795	30,332	19,344	12,795	0	19,344	12,795	0	19,344



* The minimum grizzly bear habitat maintained in the planning horizon is 12,795 ha of riparian buffers and 19,344 ha of natural shrub and herb clearings.

Map 4-9: 2005 PFMS Grizzly Bear Habitat Distribution – Current, 10, 50 and 100

4.2.2.14 Distribution of Interior Older Forest

Interior older forest is defined as being older than a specified age class and greater than 100 hectares in size with no part of the area less than the following distance from a forest edge[16]:

- 60 meters from a linear disruption in forest cover greater than 8 meters in width (seismic lines are not considered);
- 60 meters from the line along which forest seral stage changes to non-forested or less than 40 years old;
- 30 meters from the line along which forest seral stage changes to greater than 40 years old but less than mature;
- 0 meters from the line along which forest seral stage changes to mature.

The age classes included in the definition of interior older forest as follows:

- Deciduous – 100 years or older;
- Mixedwood – 100 years or older;
- Pine Leading – 100 years or older;
- White Spruce Leading – 120 years or older;
- Black Spruce Leading – 140 years or older.

The mature class is defined as stands 40 years less than the definition of old forest:

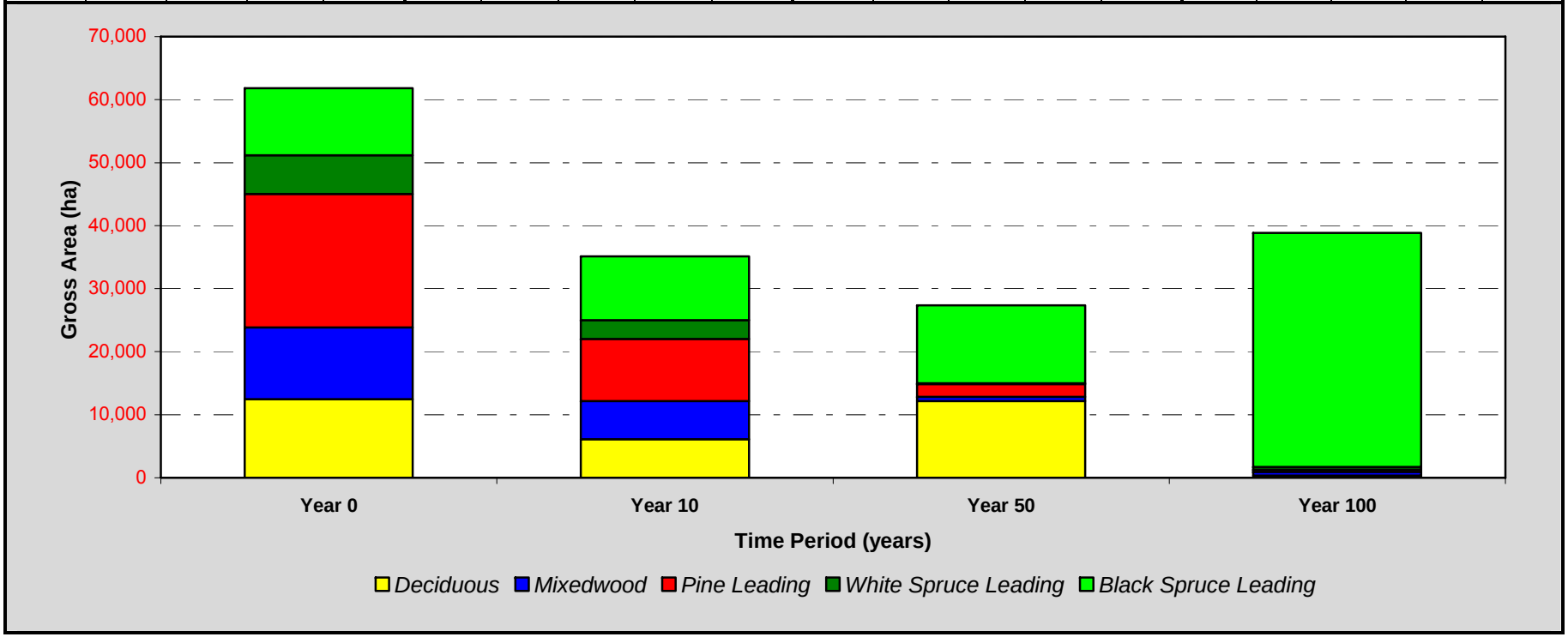
- Deciduous – 60 to 100 years;
- Mixedwood – 60 to 100 years;
- Pine Leading – 60 to 100 years;
- White Spruce Leading – 80 to 120 years;
- Black Spruce Leading – 100 to 140 years.

Figure 4-10 through Figure 4-12 summarizes the area (ha) of Interior Older Forest on the landbase at years 0, 10, 50, and 100 for the 2005 PFMS. Map 4-10 illustrates the distribution of interior older forest across the entire FMA without seismic lines being considered as hard edges. It should be noted that these summaries are based on the effective of the net landbase information (no new landuse activity is incorporated).

[16] *ASRD provided the criteria for identifying interior older forest (November 13, 2003 TSA protocol and Alberta Forest Management Planning Standard Version 3 – June 2005).*

Figure 4-10 Interior Older Forest Summary – FMA

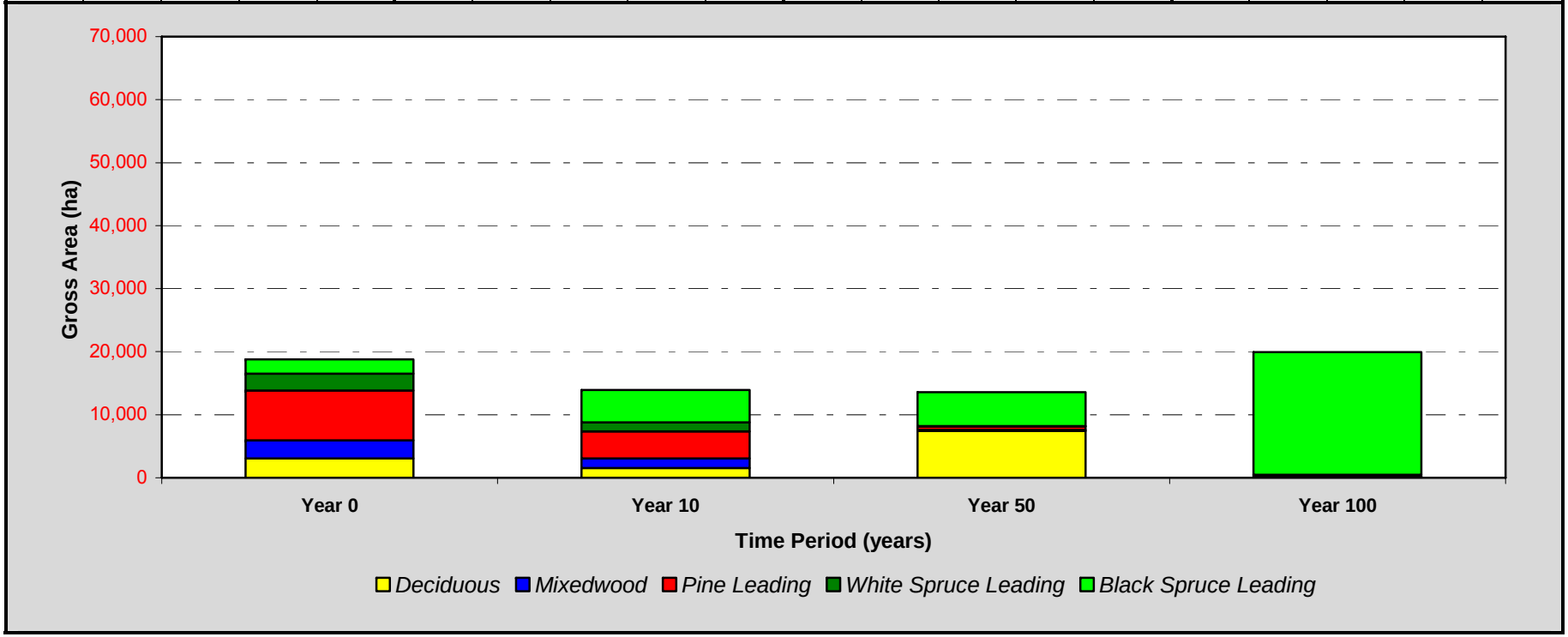
Current Forest – Year 0 Gross Area (ha)					Future Forest – Year 10 Gross Area (ha)					Future Forest – Year 50 Gross Area (ha)					Future Forest – Year 100 Gross Area (ha)				
D	MX	PL	SW	SB	D	MX	PL	SW	SB	D	MX	PL	SW	SB	D	MX	PL	SW	SB
12,448	11,393	21,189	6,153	10,621	6,118	6,025	9,884	2,987	10,124	12,157	679	2,003	135	12,380	345	573	378	419	37,140



* The minimum old interior forest maintained in the planning horizon is 153 ha deciduous, 236 ha mixedwood, 83 ha pine, 135 ha white spruce, and 7,588 ha black spruce.

Figure 4-11 Interior Older Forest Summary – VSA 1

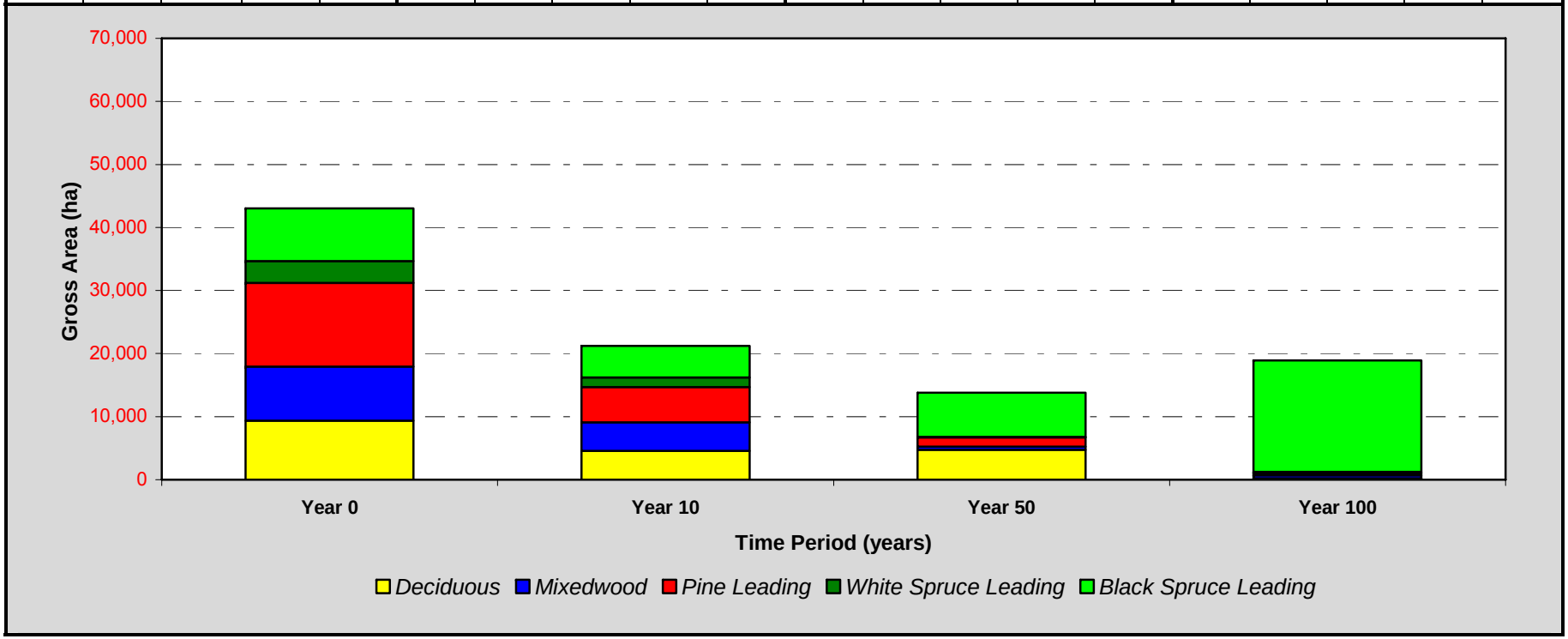
Current Forest – Year 0 Gross Area (ha)					Future Forest – Year 10 Gross Area (ha)					Future Forest – Year 50 Gross Area (ha)					Future Forest – Year 100 Gross Area (ha)				
D	MX	PL	SW	SB	D	MX	PL	SW	SB	D	MX	PL	SW	SB	D	MX	PL	SW	SB
3,080	2,840	7,923	2,672	2,269	1,544	1,515	4,276	1,438	5,137	7,439	164	529	70	5,354	111	130	31	187	19,483



* The minimum old interior forest maintained in the planning horizon is 67 ha deciduous, 58 ha mixedwood, 3 ha pine, 70 ha white spruce, and 2,269 ha black spruce.

Figure 4-12 Interior Older Forest Summary – VSA 2

Current Forest – Year 0 Gross Area (ha)					Future Forest – Year 10 Gross Area (ha)					Future Forest – Year 50 Gross Area (ha)					Future Forest – Year 100 Gross Area (ha)				
D	MX	PL	SW	SB	D	MX	PL	SW	SB	D	MX	PL	SW	SB	D	MX	PL	SW	SB
9,368	8,553	13,266	3,480	8,353	4,575	4,510	5,607	1,549	4,987	4,718	515	1,475	65	7,026	234	443	347	232	17,658



* The minimum old interior forest maintained in the planning horizon is 86 ha deciduous, 178 ha mixedwood, 80 ha pine, 65 ha white spruce, and 4,440 ha black spruce.

Map 4-10: 2005 PFMS Interior Older Forest Analysis – Current, 10, 50 and 100

4.2.2.15 Additional Watershed Reporting

Watersheds were assessed to determine what the predicted effect the 2005 PFMS harvest sequence would have on each watershed.

This analysis uses the Cumulative Watershed Disturbance and Hydrologic Recovery Simulator (ECA-Alberta), and the 2005 PFMS harvest sequence as input into the model, to perform a watershed analysis for 35 watersheds on the FMA. ECA stands for "equivalent clearcut area" which describes the "effective" area that a recovering historic disturbance currently represents in terms of its ecological effects. The main application of the model is to evaluate the effect of past disturbance on streamflow in a watershed, and to project the cumulative effect of both past and proposed future forest harvesting and/or natural disturbances on streamflow.

To accomplish this, the model requires an aggregated data set of past and future areas disturbed by species and timber productivity rating. Using this information, along with regional long term average precipitation, streamflow data and provincial average growth/yield data (to predict rate of hydrologic recovery), the model will calculate the equivalent clearcut area and resulting predicted change in annual streamflow.

The results of the watershed analysis showing percent of total watershed area disturbed, percent equivalent clearcut area, and predicted percent change in long term average annual yield over time are presented in Table 4-26 and Figure 4-13 through Figure 4-18. For maps showing the percent equivalent clearcut area by watershed at current, 10 and 20 years in the future, refer to Map 4-3 through Map 4-13. Much of the material in this section is referenced from the ECA-Alberta Model.

NOTE:

- Long term streamflow and precipitation data was gathered from measuring stations within 20 km of the FMA boundary. An average of 149.69 mm/yr for streamflow and 522.16 mm/yr for precipitation was determined for the FMA and used as input in the model;
- Most streamflow gauging stations are shut down during certain times of the year and therefore, the gaps in data must be estimated to determine a year round average;
- Model accuracy depends primarily on accurate hydrologic recovery information of forest stands after disturbance, as well as representative regional streamflow and precipitation data;
- Hydrologic recovery of mixedwood stands is not simulated by this model;
- Model calculations reflect provincial averages for unmanaged (primarily fire origin) stands;
- Deviation of regional forest growth from provincial averages may produce unreliable results for some regions;
- This analysis only represents the incremental cumulative effect of harvesting;
- The objective of this model is not to produce a detailed, highly accurate simulation of streamflow, but rather a projection of streamflow changes over time assuming average climatic conditions in the region;
- ECA-Alberta describes how disturbance will affect streamflow based on long-term climatic conditions and may not represent actual changes in any given year.

Table 4-26: Cumulative Watershed Disturbance and Hydrological Recovery Analysis Summary

WATERSHED	CUMULATIVE DISTURBANCE AREA (%)			EQUIVALENT CLEARCUT AREA (%)			YIELD INCREASE ABOVE LONG TERM AVERAGE (%)		
	CURRENT	YEAR 10	YEAR 20	CURRENT	YEAR 10	YEAR 20	CURRENT	YEAR 10	YEAR 20
1	4	6	8	0	1	2	0	1	1
2	3	3	4	1	1	1	0	0	1
3	8	11	17	2	2	5	0	1	3
4	20	25	42	4	4	15	1	2	9
5	9	15	24	4	5	10	2	2	6
6	13	22	37	6	8	16	3	4	10
7	1	18	37	1	10	14	1	6	6
8	11	24	37	6	11	15	3	6	9
9	1	5	14	1	4	9	0	2	6
10	28	32	32	17	13	8	11	7	3
11	51	52	52	44	27	17	32	14	6
12	11	15	21	9	7	9	6	4	5
13	7	11	20	5	6	10	3	3	5
14	11	14	15	5	5	3	2	2	1
15	9	15	30	2	6	14	1	4	7
16	8	13	18	5	7	6	2	4	2
17	60	61	61	54	26	14	37	12	5
18	72	72	72	63	27	14	43	12	6
19	58	58	61	49	23	14	33	10	6
20	67	68	70	54	25	14	37	11	6
21	38	48	58	20	15	12	11	6	5
22	1	2	15	0	1	7	0	0	4
23	26	34	53	15	13	14	7	5	5
24	35	45	50	6	11	9	3	6	4
25	14	27	33	3	11	8	1	7	3
26	24	42	53	9	17	16	6	10	8
27	28	46	59	12	18	14	5	8	6
28	1	2	19	0	1	10	0	1	6
29	5	20	34	0	9	12	0	5	7
30	4	16	30	3	7	14	2	4	9
31	19	37	46	9	16	15	5	9	7
32	25	37	43	2	10	8	1	5	4
33	19	41	50	1	16	9	0	9	4
34	17	30	44	10	16	13	6	7	6
35	2	22	32	0	12	9	0	7	4

*Watersheds significantly impacted by fire are highlighted in red.

Figure 4-13: Cumulative Watershed Disturbance and Hydrological Recovery Analysis: Watersheds #1 - #6

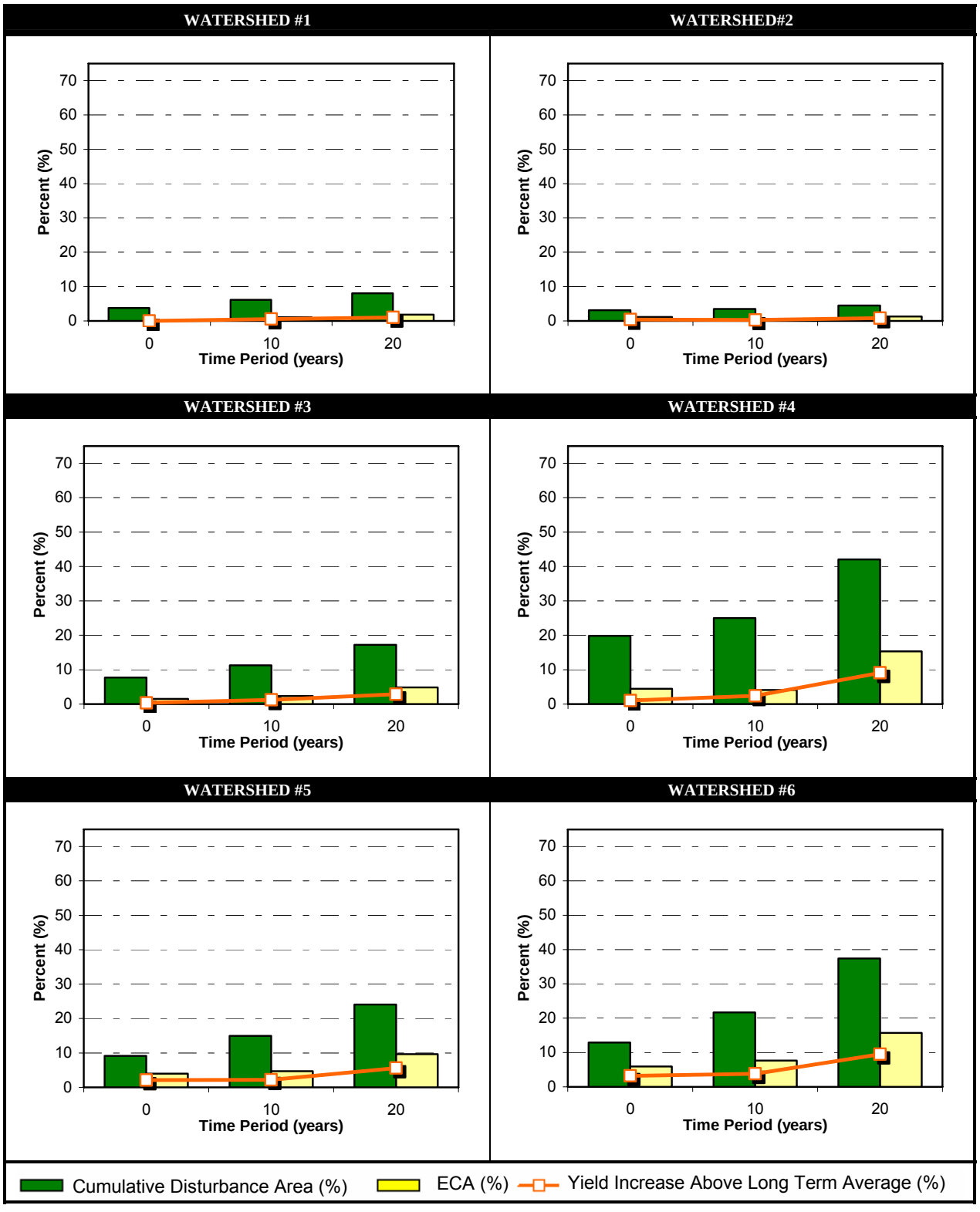


Figure 4-14: Cumulative Watershed Disturbance and Hydrological Recovery Analysis: Watersheds #7 - #12

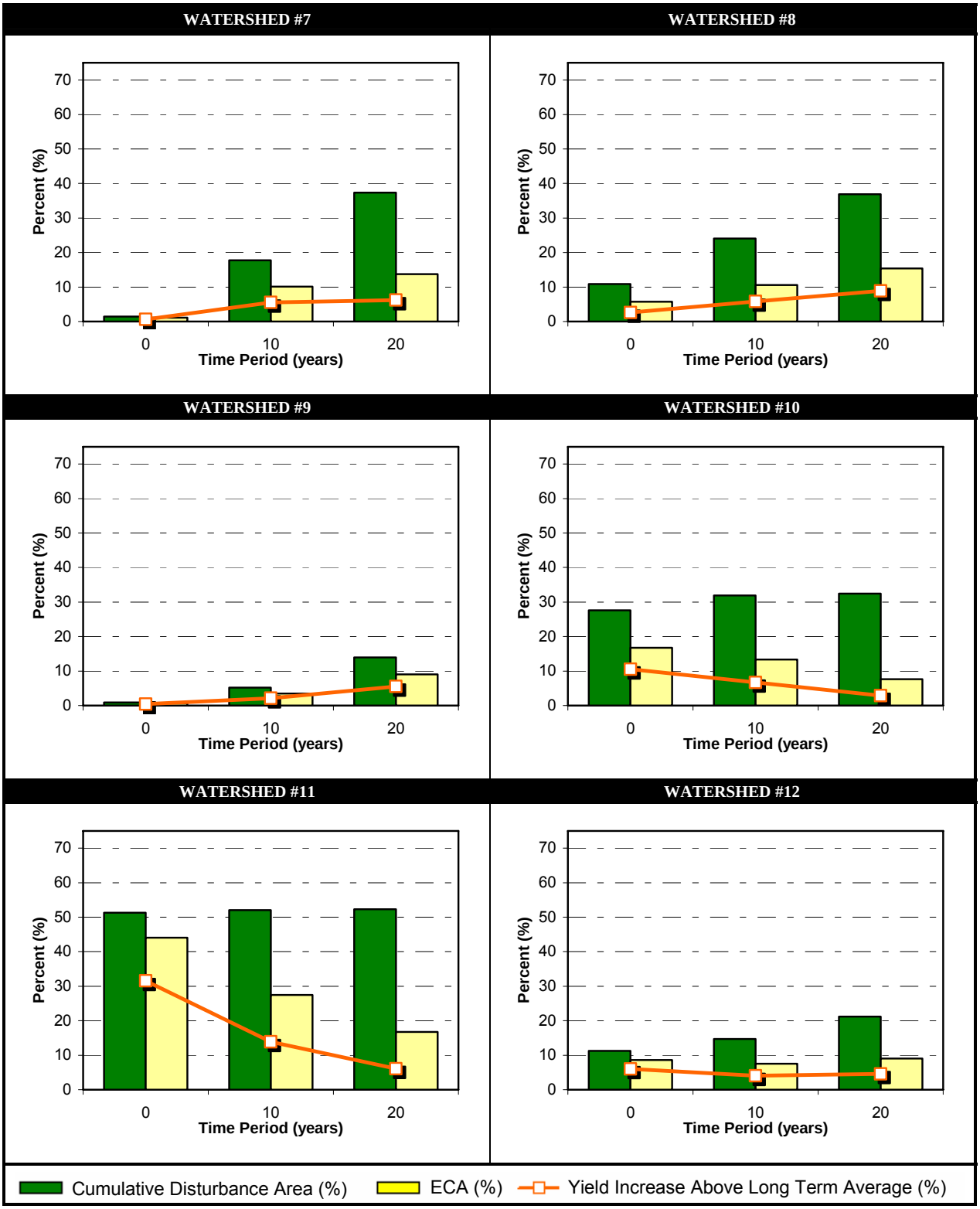


Figure 4-15: Cumulative Watershed Disturbance and Hydrological Recovery Analysis: Watersheds #13 - #18

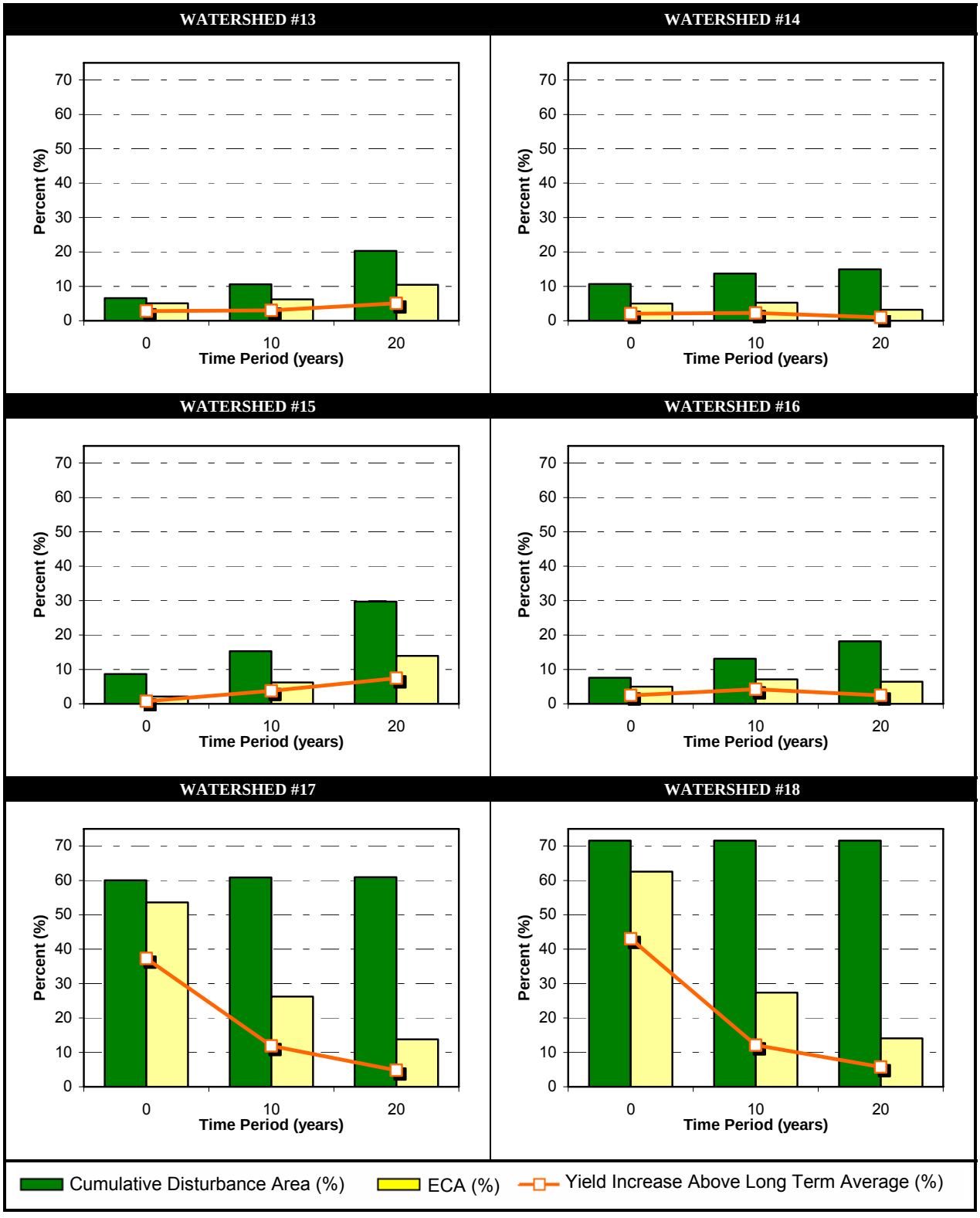


Figure 4-16: Cumulative Watershed Disturbance and Hydrological Recovery Analysis: Watersheds #19 - #24

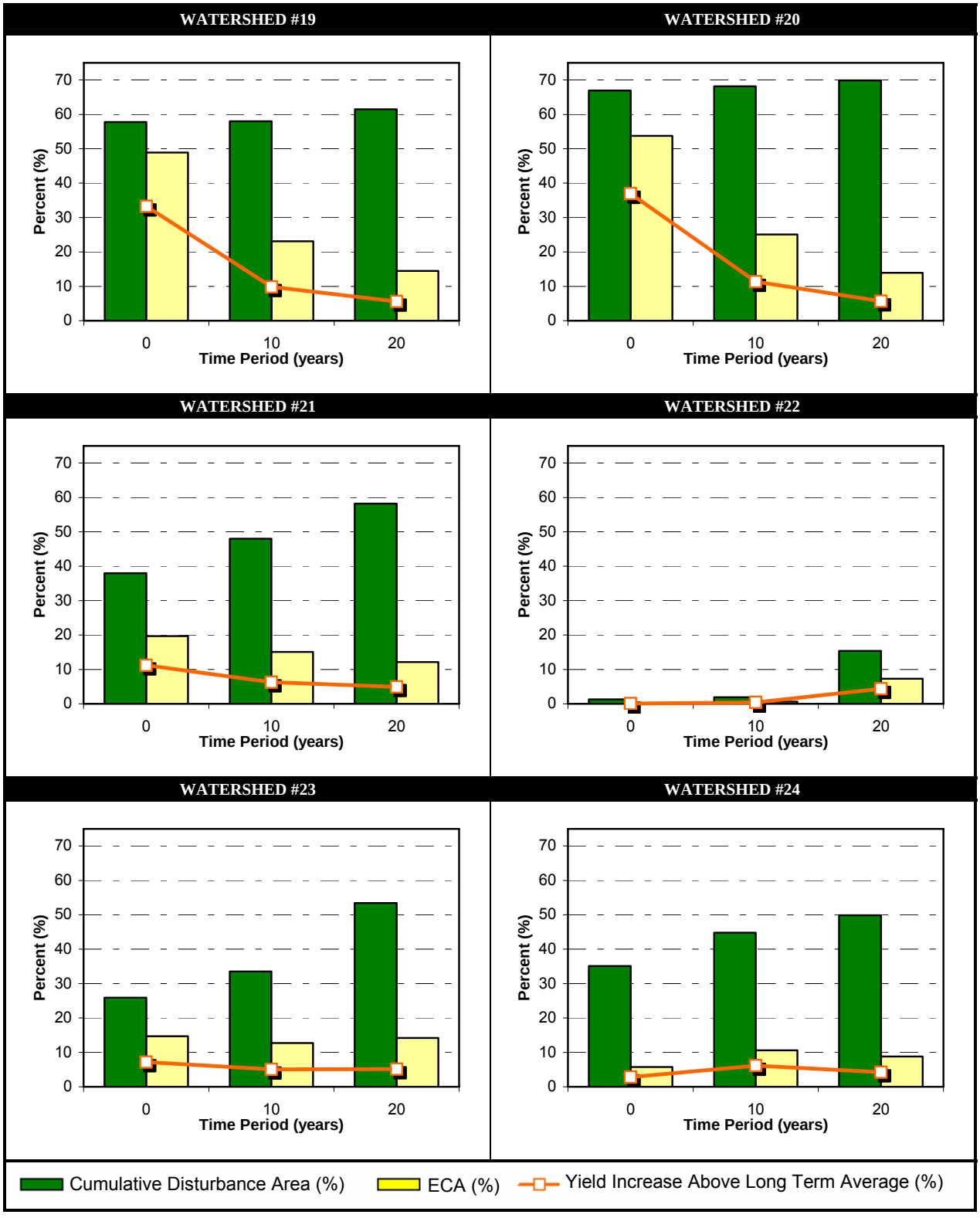


Figure 4-17: Cumulative Watershed Disturbance and Hydrological Recovery Analysis: Watersheds #25 - #30

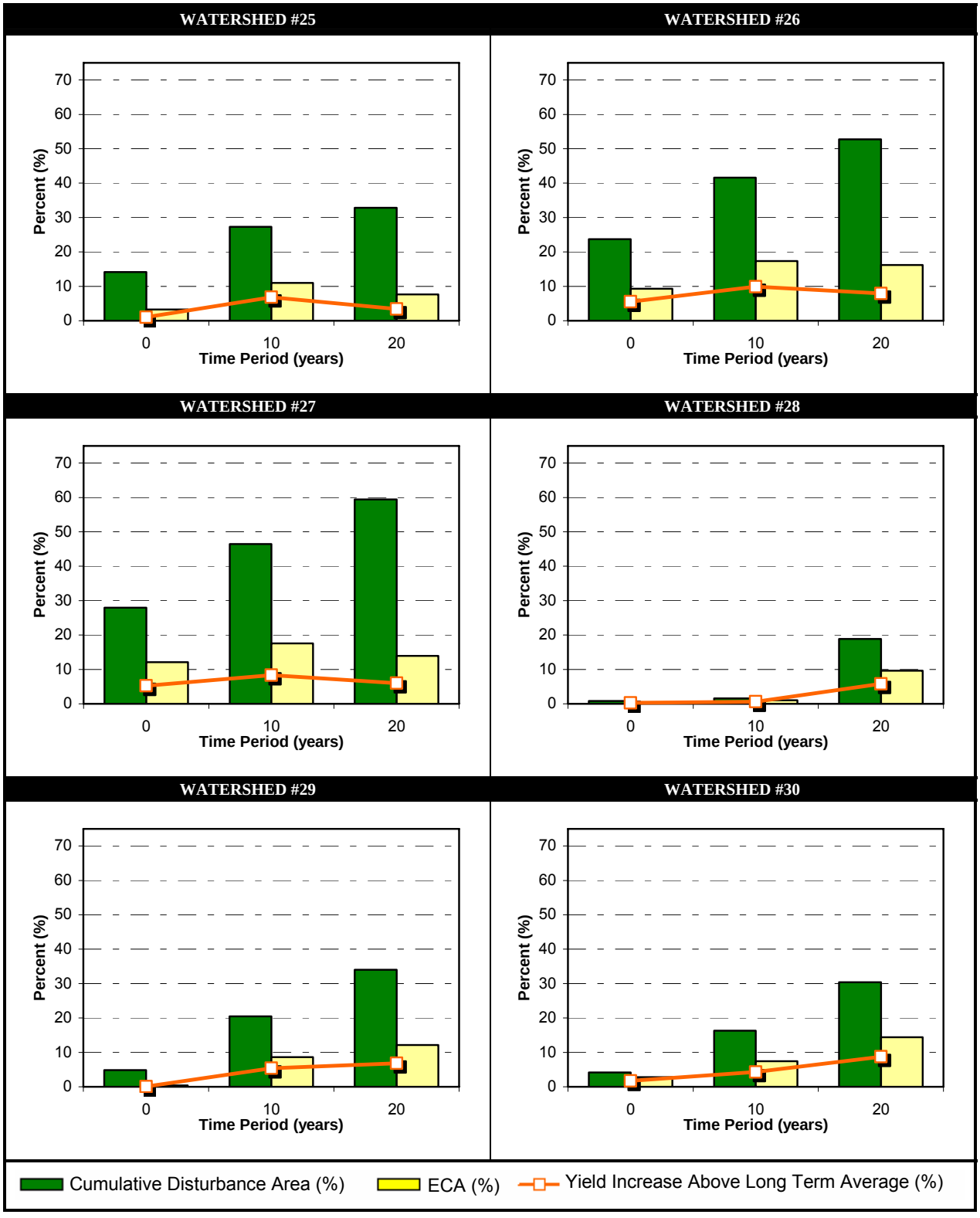
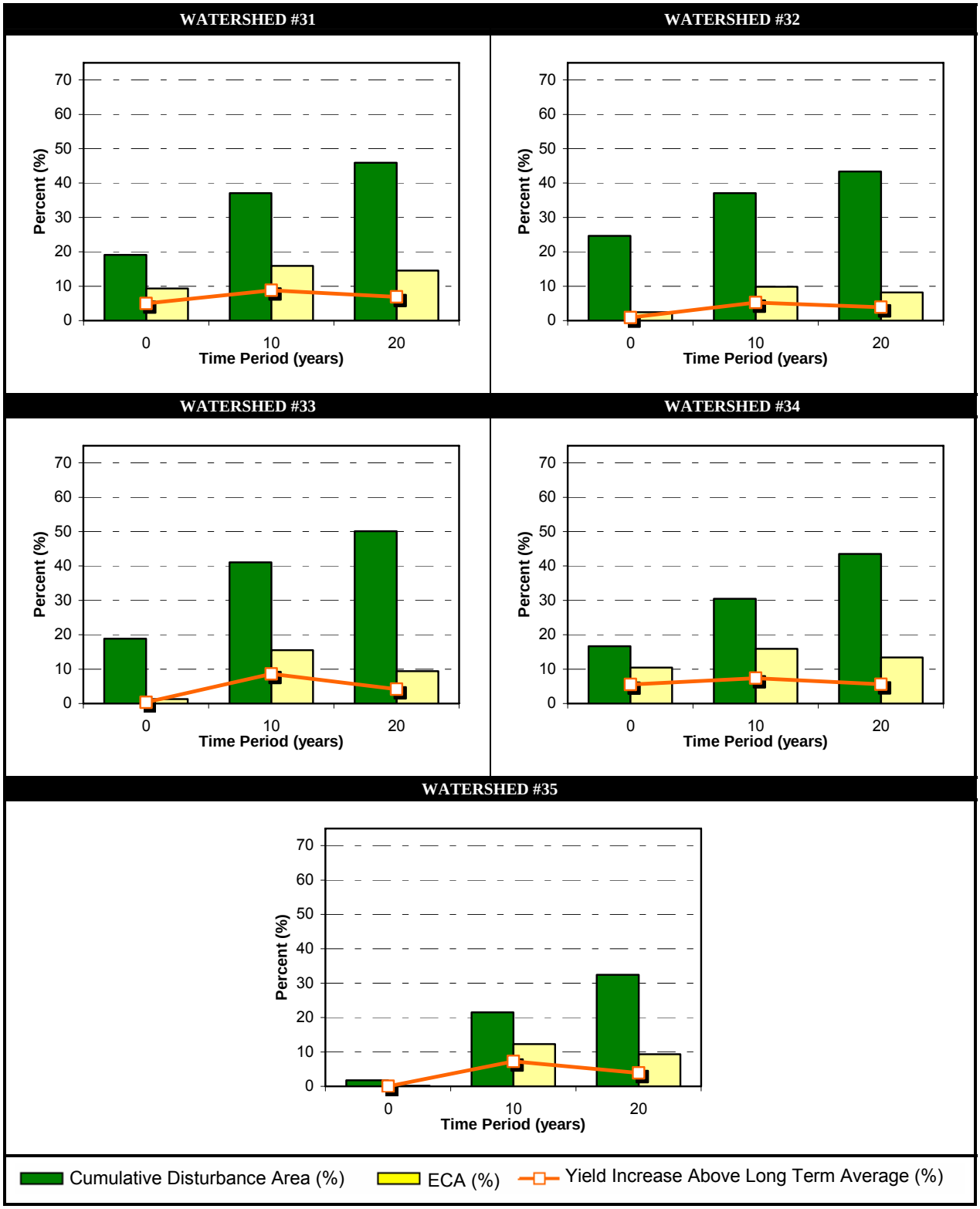


Figure 4-18: Cumulative Watershed Disturbance and Hydrological Recovery Analysis: Watersheds #31 - #35



Map 4-11: Cumulative Watershed Disturbance and Hydrological Recovery Analysis – Current

Map 4-12: Cumulative Watershed Disturbance and Hydrological Recovery Analysis – 2005 PFMS Year 10

Map 4-13: Cumulative Watershed Disturbance and Hydrological Recovery Analysis – 2005 PFMS Year 20

4.2.2.16 Road Corridor Development Plan

A road corridor development plan was created to demonstrate the major access routes that will be used to access compartments (Map 4-14). This plan was submitted to the Forest Area Manager, Woodlands Area on December 7, 2005, as discussed in the December 2, 2005 meeting. Planned access is summarized below.

Planned seasonal access TWP 61 - RGE 10 - MER 5. It is intended that this seasonal corridor utilize the existing road and watercourse crossing on Christmas Creek.

Planned all weather access (new section) in TWP 61 - RGE 09 - MER 5 and TWP 62 - RGE 09 - MER 5. This corridor will need to adhere to the Trumpeter Swan guidelines in road development and further discussion will be required with Fish & Wildlife Division.

Planned upgrade to all weather access in section TWP 62 - RGE 09 - MER 5 and TWP 62 - RGE 10 - MER 5. The east west corridor is an existing road that is intended to be upgraded by BRL. This existing BRL LOC road is in very close proximity to a Trumpeter Swan lake. Therefore further discussion will be warranted with Fish & Wildlife Division regarding the use of this corridor as continued seasonal use, or as an all season access corridor. A portion of this road may require relocation to meet the trumpeter swan road distance restrictions if this road is to be used as an all season access corridor.

Planned seasonal access (new section) in TWP 62 - RGE 12 - MER 5. This road corridor is required in the short term to harvest hail damage timber and in the longer term to harvest future cutblocks within unit 280. This planned corridor uses mainly existing roads with the addition of two small sections of road required to join them. The corridor will help minimize sharp corners, adverse hills and avoid large trucks from meeting on the narrow as oil and gas roads that were not designed to conduct a safe log haul.

Planned upgrade to seasonal access in TWP 63 - RGE 10 - MER 5. This corridor is an existing road that requires upgrading to seasonal access or dry weather access.

Planned seasonal access in TWP 65 - RGE 08 - MER 5 and TWP 65 - RGE 09 - MER 5. This corridor is the old access to Swan Hills and a portion of the corridor is the Golden Snowmobile Triangle ATV trail. The corridor is planned as winter seasonal access for one or two years to access cutblocks and then the road will be deactivated and returned for its original use as part of the ATV trail.

Planned seasonal access in section TWP 65 - RGE 09 - MER 5. This is an existing road that is shown in the current annual operating plan. BRL intends to join the spur roads in the cutblocks with a small section of seasonal road. The road will be deactivated when harvesting and silviculture operations are completed.

Planned seasonal access (new section) TWP in 65 - RGE 10 - MER 5. This corridor requires additional work to locate a suitable watercourse crossing as far north of the Freeman River as possible and to minimize line of sight. Further discussion will be required with Fish & Wildlife Division.

Planned seasonal access in TWP 66 - RGE 08 - MER 5. A portion of this corridor is currently covered by BRL LOC. It is currently planned to use the existing seismic lines. The

existing deactivated watercourse crossing may be adjusted to a better crossing location. The road corridor does not extend into the new Class C wildlife zone.

Planned upgrade to seasonal access in section TWP 66 - RGE 12 - MER 5. This road currently goes through old cutblocks and these spur roads are planned to be upgraded for winter seasonal access or dry weather access.

Planned seasonal access (new section) in TWP 61 - RGE 17 - MER 5. It is currently planned to maintain this route as seasonal access. The purpose of this road is to improve road safety with other users and shorten the haul distance to the mills.

Planned seasonal access (new section) in TWP 61 - RGE 19 - MER 5. This route has been used in the past under AOP authority using mainly seismic lines. It is currently planned to use this route under frozen or dry conditions.

Planned seasonal access (new section) in TWP 62 - RGE 18 - MER 5 and TWP 63 - RGE 18 - MER 5. A watercourse crossing and section of seasonal access road is required to join the existing roads to improve road safety with other users and for more economic log hauling. A portable bridge is planned for the watercourse crossing. The actual crossing location has not been finalized as this is just a corridor proposal at this time. Because this proposed watercourse crossing is in a Zone C classified wildlife area this route will be seasonal and the access restricted. This access corridor was shown in the 2005-2006 BRL GDP and presented in the 2005 annual open house meetings with no concerns expressed to date. This road corridor will require further discussions with Fish & Wildlife Division once a specific route is proposed.

Map 4-14: Road Corridor Development Plan

4.2.2.17 Road Analysis

The current amount of all weather roads is summarized in Table 4-27 and illustrated in Map 4-15. BRL temporary roads are summarized in Table 4-28.

Table 4-27: All Weather Roads Summary

OPERATING AREA	BRL ROAD DENSITY (km/km^2)	OTHERS ROAD DENSITY (km/km^2)	TOTAL ROAD DENSITY (km/km^2)
VSA 1 Average	0.003	0.424	0.426
VSA 2 Average	0.064	0.330	0.394
FMA Area Average	0.043	0.362	0.405

Table 4-28: Temporary Roads

OPERATING AREA	BRL ROAD LENGTH (km)	OTHERS ROAD LENGTH (km)	TOTAL ROAD LENGTH (km)
VSA 1	13.2	178.8	191.9
VSA 2	119.2	419.1	538.3
Total	132.3	597.9	730.2

Map 4-15: All Weather Roads

4.3 2005 PFMS AAC Harvest Levels and Associated Harvest Sequence

Table 4-29 identifies the sequenced harvest levels for the 2005 PFMS in comparison to the targets (refer to Table 4-4 for targets).

Figure 4-19 provides a general AAC harvest level comparison between the 2004 and 2005 PFMS.

The associated 2005 PFMS 20 year harvest sequence map and 20 year harvest sequence by operator are presented in Map 4-16 and Map 4-20.

- All blocks harvested from January 1, 2001 to August 31, 2005 and all blocks scheduled for harvest prior to April 30, 2006 are identified with a hatch in the SHS maps.
- The duration of the 2005 PFMS is from January 1, 2001 to December 31, 2020.
- The next DFMP will be due in 2015, and as such the 2005 PFMS will need to be implemented for 15 years.
    - 5 years has already been harvested in most cases (2001-2005);
    - 10 years operationalized harvest sequence (2006-2015);
    - 5 years semi-operationalized harvest sequence (2016-2020).

Table 4-29: Summary of the Results and Targets for the 2005 PFMS[17]

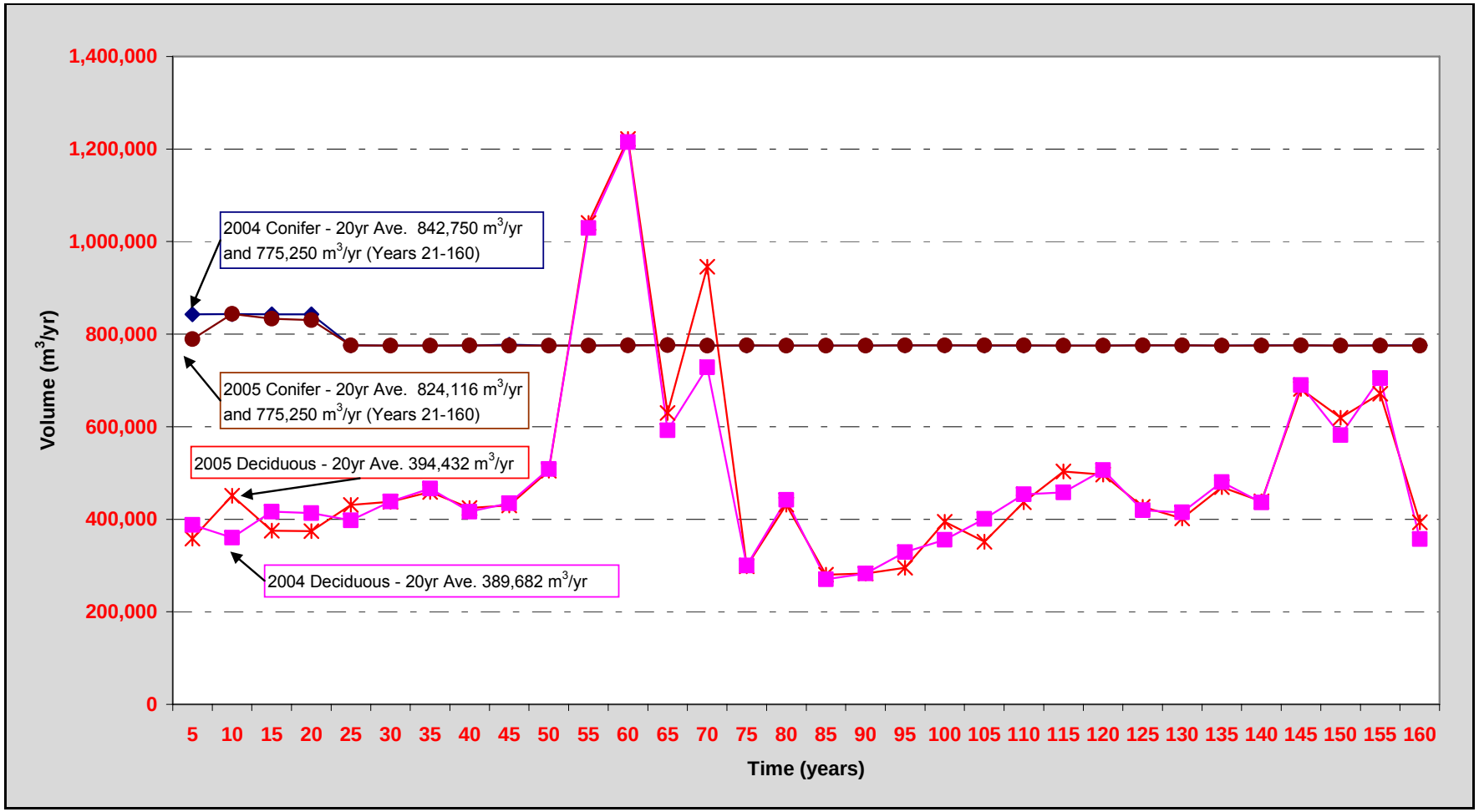
Years		Conifer Volume (m^3)					Deciduous Volume (m^3)							
		BRL W14 FMA7500020	BRL W14 FMA7500020 (Reconciliation 731,503)	MTU W14	Mostowich W14 CTQ W020022	Mostowich W14 CTQ W020022 (Reconciliation 91,272)	BRL VSA 2 FMA7500020	MTU VSA 2	ANC VSA 1 DTA W020001 & W020002	Conditional MWFP VSA 1	MWFP VSA 2 DTA W910002	MWFP VSA 2 DTA W910001	MWFP VSA 2 DTA W910001 (Reconciliation 310,773)	Unallocated VSA 1 & 2
		Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Conifer from C; MXD; D(C) and incidental C	Deciduous MXD; C; D(C) in VSA 2	Deciduous MXD; C; D(C) in VSA 2	All stands aspen volume only in VSA 1	All stands balsam poplar volume only	Pure Deciduous stands in VSA 2	Pure Deciduous stands in VSA 2	Pure Deciduous stands in VSA 2	Deciduous unallocated birch & aspen in VSA 1, unallocated pure D in VSA 2
2001-2010	Sequenced	6,993,000	365,750	35,097	684,300	87,469	1,261,770	6,387	816,250	208,997	586,417	746,000	20,718	44,327
	Target	6,983,963	365,750	35,097	684,300	87,469	1,271,047	6,387	816,250	157,293	536,667	746,000	20,718	144,213
	Diff.	9,037	0	0	0	0	(9,277)	0	0	51,704	49,751	0	0	(99,886)
2011-2020	Sequenced	7,238,631	353,558	36,370	684,300	3,803	1,124,099	5,910	816,250	239,725	701,696	746,000	290,055	225,978
	Target	7,236,830	353,558	36,370	684,300	3,803	1,176,400	5,910	816,250	235,940	700,000	746,000	290,055	216,320
	Diff.	1,801	0	0	0	0	(52,301)	0	0	3,785	1,696	0	0	9,658
AVG 2021-2160	Sequenced	7,034,098	0	36,370	684,300	0	1,623,432	5,910	816,250	371,103	679,489	746,000	0	797,155
	Target	7,031,830	0	36,370	684,300	0	1,176,400	5,910	816,250	235,940	700,000	746,000	0	216,320
	Diff.	2,268	0	0	0	0	447,032	0	0	135,163	(20,511)	0	0	580,835

* Aspen, Poplar and Birch volumes were determined by applying the conversion factors outlined in section 2.3.2 to the 2004 PFMS 20 year average VSA 1 deciduous harvest flow (Aspen = 77%; Poplar = 18.7%; Birch = 4.3%).

** The numbers presented in this table are 10 year totals.

[17] *Please refer to section 4.2.1 regarding the specific parameters that were incorporated in the 2005 PFMS. Figure 3-2 in section three provides an overview of the analysis leading up to the 2005 PFMS. In the next DFMP VSA 1 and 2 deciduous AAC estimates may be impacted by the inclusion of the proposed new conifer inventory – refer to section 5 for details.*

Figure 4-19: PFMS Comparison – 2004 and 2005



* Please refer to Table 4-4 for target values for the 2005 PFMS.

Map 4-16: 2005 PFMS 20 Year Harvest Sequence

4.4 Operationalizing the 2005 PFMS Harvest Sequence

The SHS was operationalized in co-operation with all tenure holders. Some degree of varaiance from the SHS will occur through the life of this plan. Through this process, all operators have attempted to minimize the potential variance from the 2005 PFMS SHS through the operationalization exercise, but have identified the presence of small areas identified for harvest in years 2001-2010 that are planned for 2011-2020 and vice versa. These variances are minimal and are not enough to warrant a readjustment of the sequence.

During the operationalizing process, volume swap agreements were made as follows:

VSA 1:

Table 4-30 summarizes the volume swap agreements that have been made in VSA 1. In some instances, a deciduous operator may be assigned as the operator of a conifer stand if they are already conducting harvesting activities in close proximity (and vice versa). The variable "OPERATOR" in the landbase identifies the operator that will be harvesting a particular stand. There remains a small amount of area classed as (OPERATOR = 'UNASSIGNED'). This area is the result of the deciduous FMA allocation being less than the sustainable FMA harvest level. This area may be assigned to an operator in the future, depending on predicted versus actual stand yields.

VSA 2:

Since 2002, MWFP and BRL have been conducting volume swaps at an operational level. In VSA 2, operator must remain flexible for operational reasons. Table 4-31 and Table 4-32 summarize the volumes identified for harvest. MWFP has the rights to the pure D (does not include D(C)) and BRL has the rights to the C, CD, DC and D(C).

A comparison of the operationalized stand allocation and target AAC is made in Table 4-33.

Table 4-30: Summary of Operationalized Volume Allocation by Compartment in VSA 1

	2001 – 2010 Year Period											
	BLUE RIDGE LUMBER LTD.			MOSTOWICH LUMBER LTD.			ANC TIMBER LTD.			TOTAL (ALL COMPANIES)		
COMPARTMENT	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	TOTAL CONIFER VOLUME (m^3)	TOTAL DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)
FC620	0	0	0	188,605	15,433	204,037	0	0	0	**188,605**	**15,433**	**204,037**
FC630	56,778	4,331	61,109	0	0	0	0	0	0	**56,778**	**4,331**	**61,109**
FC650	1,546	230	1,776	158,316	37,701	196,017	0	0	0	**159,862**	**37,931**	**197,793**
FC660	0	0	0	0	0	0	152,630	238,664	391,294	**152,630**	**238,664**	**391,294**
FC670	612	403	1,016	146,959	51,972	198,931	8,415	55,335	63,750	**155,986**	**107,711**	**263,697**
FC680	108,947	18,690	127,637	181,505	34,796	216,301	25,820	145,186	171,006	**316,272**	**198,672**	**514,944**
FC690	716,692	113,478	830,170	0	0	0	65,704	216,859	282,562	**782,395**	**330,336**	**1,112,732**
VH260	2,304	301	2,606	0	0	0	0	0	0	**2,304**	**301**	**2,606**
VH270	0	0	0	12,135	1,858	13,993	0	0	0	**12,135**	**1,858**	**13,993**
VH290	593	741	1,335	100,304	34,080	134,384	13,397	72,413	85,810	**114,294**	**107,234**	**221,528**
TOTAL	**887,473**	**138,174**	**1,025,647**	**787,824**	**175,840**	**963,664**	**265,965**	**728,457**	**994,422**	**1,941,262**	**1,042,472**	**2,983,734**
	2011 – 2020 Year Period											
	BLUE RIDGE LUMBER LTD.			MOSTOWICH LUMBER LTD.			ANC TIMBER LTD.			TOTAL (ALL COMPANIES)		
COMPARTMENT	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	TOTAL CONIFER VOLUME (m^3)	TOTAL DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)
FC620	0	0	0	35,715	3,725	39,439	0	0	0	**35,715**	**3,725**	**39,439**
FC630	61,377	5,007	66,384	0	0	0	0	0	0	**61,377**	**5,007**	**66,384**
FC650	0	0	0	70,700	6,371	77,070	0	0	0	**70,700**	**6,371**	**77,070**
FC660	429,001	56,209	485,210	0	0	0	71,533	146,077	217,610	**500,533**	**202,286**	**702,820**
FC670	0	0	0	0	0	0	78,454	144,598	223,052	**78,454**	**144,598**	**223,052**
FC680	0	0	0	303,766	37,175	340,941	28,461	96,003	124,463	**332,227**	**133,177**	**465,404**
FC690	1,198,193	187,210	1,385,403	230,272	52,940	283,212	63,012	64,412	127,424	**1,491,477**	**304,562**	**1,796,039**
VH260	689,380	74,532	763,912	0	0	0	33,773	186,563	220,336	**723,153**	**261,095**	**984,248**
VH270	513	48	561	0	0	0	0	0	0	**513**	**48**	**561**
VH290	291,025	65,945	356,970	0	0	0	5,201	16,240	21,441	**296,226**	**82,185**	**378,411**
TOTAL	**2,669,488**	**388,952**	**3,058,440**	**640,453**	**100,210**	**740,662**	**280,434**	**653,893**	**934,326**	**3,590,374**	**1,143,054**	**4,733,428**

* The deciduous volume includes the aspen, balsam poplar and birch volumes.

Table 4-31: Summary of Operationalized Volume Allocation by Compartment in VSA 2 – 2001 to 2010

	2001 - 2010 YEAR PERIOD								
	BLUE RIDGE LUMBER LTD.			MILLAR WESTERN FOREST PRODUCTS LTD.			TOTAL (ALL COMPANIES)		
COMPARTMENT	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	TOTAL CONIFER VOLUME (m^3)	TOTAL DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)
FC650	551	1,066	1,617	0	0	0	**551**	**1,066**	**1,617**
JC100	29,125	11,267	40,392	0	0	0	**29,125**	**11,267**	**40,392**
JC110	419,728	58,907	478,635	7,934	41,259	49,193	**427,662**	**100,165**	**527,828**
JC120	580,011	85,543	665,554	24,280	146,386	170,666	**604,291**	**231,929**	**836,220**
JC130	525,296	143,856	669,152	36,966	221,519	258,485	**562,261**	**365,375**	**927,637**
JC140	90,762	18,263	109,025	326	2,741	3,068	**91,089**	**21,004**	**112,092**
JC150	203,555	37,703	241,258	11,747	78,292	90,039	**215,302**	**115,995**	**331,297**
JC160	156,528	117,124	273,652	80,421	511,367	591,788	**236,949**	**628,491**	**865,440**
JC170	56,889	23,405	80,295	0	0	0	**56,889**	**23,405**	**80,295**
JC180	432,936	51,826	484,762	144	913	1,057	**433,080**	**52,739**	**485,819**
JC190	264,047	104,101	368,148	12,256	74,486	86,741	**276,303**	**178,586**	**454,889**
SH310	942,501	60,937	1,003,438	2,016	12,693	14,709	**944,517**	**73,630**	**1,018,147**
SH320	387,561	16,053	403,614	0	0	0	**387,561**	**16,053**	**403,614**
SH330	1,523	48	1,571	0	0	0	**1,523**	**48**	**1,571**
SH340	218,167	45,519	263,687	47	344	390	**218,214**	**45,863**	**264,077**
SH350	146,674	31,489	178,163	194	1,118	1,312	**146,867**	**32,607**	**179,475**
SH360	782,692	221,396	1,004,089	33,979	213,955	247,934	**816,671**	**435,351**	**1,252,023**
SH370	103,990	45,200	149,190	1,199	7,265	8,464	**105,189**	**52,465**	**157,654**
VH210	29,578	3,152	32,730	110	661	771	**29,688**	**3,813**	**33,501**
VH220	924	75	999	0	0	0	**924**	**75**	**999**
VH250	3,308	6,016	9,324	0	0	0	**3,308**	**6,016**	**9,324**
VH260	100,840	26,543	127,383	196	1,458	1,654	**101,036**	**28,001**	**129,037**
VH270	375,721	92,191	467,912	1,685	11,282	12,967	**377,406**	**103,473**	**480,879**
VH280	84,092	24,272	108,363	3,759	23,409	27,168	**87,851**	**47,680**	**135,531**
VH290	58,266	42,205	100,471	633	3,988	4,621	**58,899**	**46,193**	**105,092**
TOTAL	**5,995,265**	**1,268,157**	**7,263,422**	**217,890**	**1,353,135**	**1,571,026**	**6,213,156**	**2,621,292**	**8,834,448**

* The deciduous volume includes the aspen, balsam poplar and birch volumes.

Table 4-32: Summary of Operationalized Volume Allocation by Compartment in VSA 2 – 2011 to 2020

	2011 - 2020 YEAR PERIOD								
	BLUE RIDGE LUMBER LTD.			MILLAR WESTERN FOREST PRODUCTS LTD.			TOTAL (ALL COMPANIES)		
COMPARTMENT	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	CONIFER VOLUME (m^3)	DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)	TOTAL CONIFER VOLUME (m^3)	TOTAL DECIDUOUS VOLUME (m^3)	TOTAL VOLUME (m^3)
FC650	15,108	3,978	19,086	0	0	0	**15,108**	**3,978**	**19,086**
JC100	184,389	54,404	238,794	60,760	462,122	522,882	**245,149**	**516,526**	**761,675**
JC110	43,422	8,857	52,278	105	589	694	**43,527**	**9,445**	**52,972**
JC120	45,433	13,766	59,199	8,294	47,618	55,912	**53,727**	**61,384**	**115,111**
JC130	388,872	67,562	456,434	4,369	26,489	30,858	**393,242**	**94,051**	**487,293**
JC140	221,827	47,708	269,534	38,134	256,513	294,647	**259,961**	**304,220**	**564,181**
JC150	405,027	71,377	476,404	3,098	20,248	23,346	**408,125**	**91,625**	**499,750**
JC160	606,451	321,225	927,675	6,531	40,657	47,188	**612,982**	**361,882**	**974,864**
JC170	208,208	59,153	267,361	73,931	504,329	578,260	**282,140**	**563,482**	**845,621**
JC180	272,396	24,165	296,561	171	888	1,059	**272,567**	**25,053**	**297,620**
JC190	125,301	43,444	168,745	3,649	23,553	27,203	**128,950**	**66,998**	**195,948**
SH310	78,812	3,359	82,172	1,264	8,900	10,164	**80,076**	**12,260**	**92,336**
SH320	229,356	8,687	238,042	0	0	0	**229,356**	**8,687**	**238,042**
SH340	7,633	1,739	9,372	143	966	1,109	**7,775**	**2,705**	**10,481**
SH350	191,527	45,838	237,365	18,597	129,992	148,589	**210,124**	**175,830**	**385,954**
SH360	253,033	45,969	299,003	13,420	85,193	98,614	**266,454**	**131,162**	**397,616**
SH370	87,471	30,562	118,032	3,866	25,667	29,534	**91,337**	**56,229**	**147,566**
VH210	89,826	9,802	99,628	671	4,434	5,105	**90,497**	**14,235**	**104,732**
VH220	16,604	1,549	18,153	0	0	0	**16,604**	**1,549**	**18,153**
VH250	27,543	9,521	37,063	1,610	11,068	12,678	**29,153**	**20,589**	**49,742**
VH260	104,132	20,092	124,223	4,853	33,677	38,530	**108,984**	**53,769**	**162,753**
VH270	413,592	141,404	554,996	3,776	25,001	28,777	**417,368**	**166,405**	**583,773**
VH280	286,783	58,653	345,436	3,639	24,198	27,837	**290,423**	**82,851**	**373,273**
VH290	131,206	37,196	168,402	836	5,648	6,484	**132,042**	**42,844**	**174,886**
TOTAL	**4,433,950**	**1,130,009**	**5,563,959**	**251,718**	**1,737,751**	**1,989,469**	**4,685,668**	**2,867,760**	**7,553,428**

* The deciduous volume includes the aspen, balsam poplar and birch volumes.

Table 4-33: Summary of Operationalized Volume Allocation by Company

PERIOD	COMPANY		OPERATIONALIZED VOLUME (m^3)	TARGET VOLUME (m^3)	TARGET VOLUME ALLOCATED (m^3)	TARGET VOLUME ALLOCATED (%)
2001 - 2010 YEAR PERIOD	BLUE RIDGE LUMBER LTD.*	CONIFER VOLUME (m^3)	6,882,738	7,349,713	-466,975	-
		DECIDUOUS VOLUME (m^3)	1,406,331	1,271,047	135,285	-
		TOTAL VOLUME (m^3)	*8,289,070*	*8,620,760*	*-331,690*	96.2%
	MILLAR WESTERN FOREST PRODUCTS LTD.	CONIFER VOLUME (m^3)	217,890	0	217,890	-
		DECIDUOUS VOLUME (m^3)	1,353,135	1,303,385	49,751	-
		TOTAL VOLUME (m^3)	*1,571,026*	*1,303,385*	*267,641*	120.5%
	MOSTOWICH LUMBER LTD.	CONIFER VOLUME (m^3)	787,824	771,769	16,055	-
		DECIDUOUS VOLUME (m^3)	175,840	0	175,840	-
		TOTAL VOLUME (m^3)	*963,664*	*771,769*	*191,895*	124.9%
	ANC TIMBER LTD.	CONIFER VOLUME (m^3)	265,965	0	265,965	-
		DECIDUOUS VOLUME (m^3)	728,457	1,060,065**	-331,608	-
		TOTAL VOLUME (m^3)	*994,422*	*1,060,065***	*-65,643*	93.8%
	ALL COMPANIES	CONIFER VOLUME (m^3)	**8,154,417**	**8,121,482**	**32,935**	**100.4%**
		DECIDUOUS VOLUME (m^3)	**3,663,764**	**3,634,496**	**29,268**	**100.8%**
		TOTAL VOLUME (m^3)	***11,818,182***	***11,755,979***	***62,203***	**100.5%**
2011 - 2020 YEAR PERIOD	BLUE RIDGE LUMBER LTD.*	CONIFER VOLUME (m^3)	7,103,438	7,590,388	-486,951	-
		DECIDUOUS VOLUME (m^3)	1,518,961	1,176,400	342,561	-
		TOTAL VOLUME (m^3)	*8,622,398*	*8,766,788*	*-144,390*	98.4%
	MILLAR WESTERN FOREST PRODUCTS LTD.	CONIFER VOLUME (m^3)	251,718	0	251,718	-
		DECIDUOUS VOLUME (m^3)	1,737,751	1,736,055	1,696	-
		TOTAL VOLUME (m^3)	*1,989,469*	*1,736,055*	*253,414*	114.6%
	MOSTOWICH LUMBER LTD.	CONIFER VOLUME (m^3)	640,453	684,300	-43,847	-
		DECIDUOUS VOLUME (m^3)	100,210	0	100,210	-
		TOTAL VOLUME (m^3)	*740,662*	*684,300*	*56,362*	108.2%
	ANC TIMBER LTD.	CONIFER VOLUME (m^3)	280,434	0	280,434	-
		DECIDUOUS VOLUME (m^3)	653,893	1,060,065**	-406,172	-
		TOTAL VOLUME (m^3)	*934,326*	*1,060,065***	*-125,739*	88.1%
	ALL COMPANIES	CONIFER VOLUME (m^3)	**8,276,042**	**8,274,688**	**1,354**	**100.0%**
		DECIDUOUS VOLUME (m^3)	**4,010,814**	**3,972,520**	**38,294**	**101.0%**
		TOTAL VOLUME (m^3)	***12,286,856***	***12,247,208***	***39,648***	**100.3%**

* The BRL sequenced and target volumes do not include MTU stands.

** The target volume is weighted to reflect the incidental balsam poplar and birch that is required (18.7% and 4.3% respectively) to achieve 816,250 m^3 of aspen.

Map 4-17: 2005 PFMS 20 Year Harvest Sequence Operated by Blue Ridge Lumber Inc.

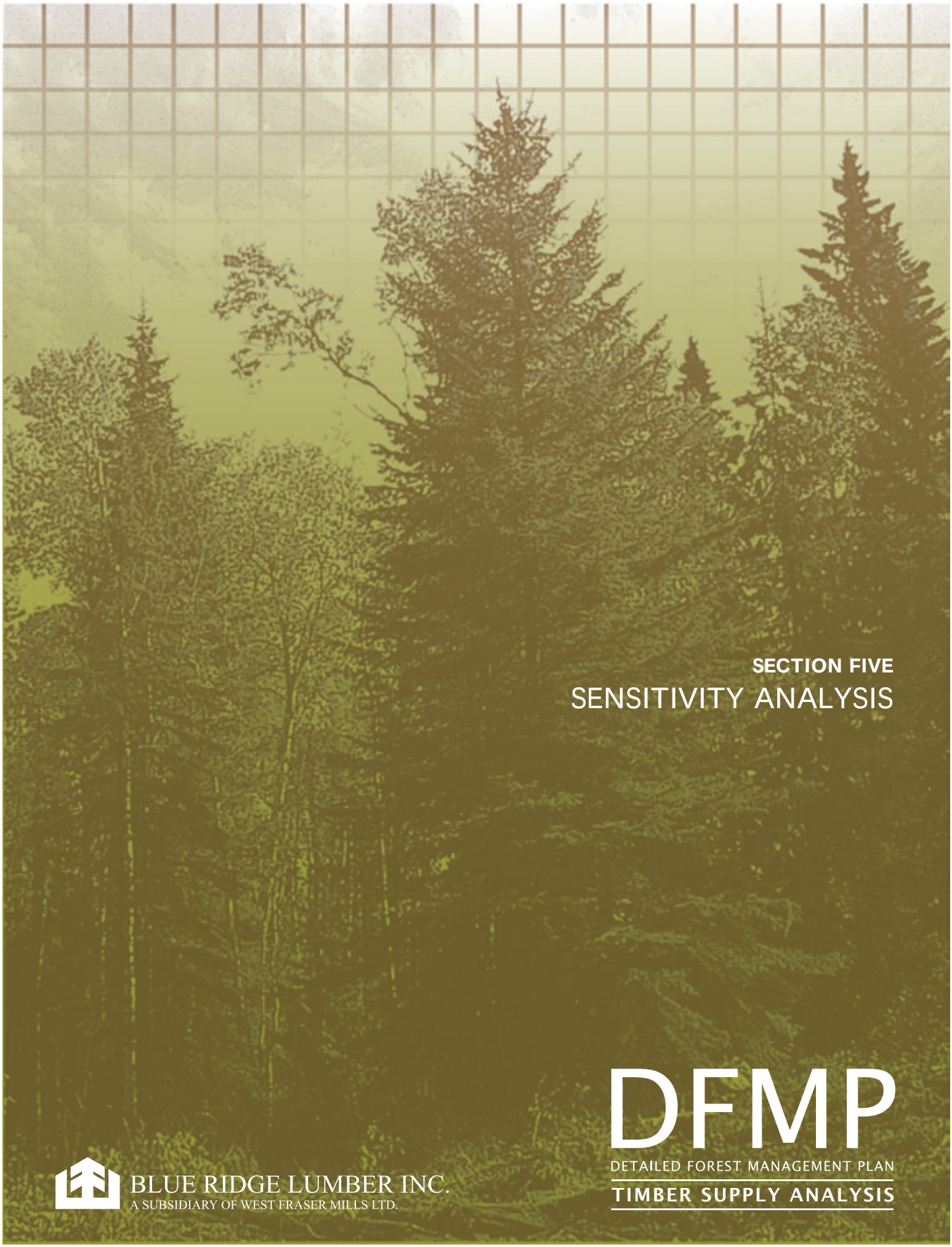
Map 4-18: 2005 PFMS 20 Year Harvest Sequence Operated by Mostowich Lumber Ltd.

Map 4-19: 2005 PFMS 20 Year Harvest Sequence Operated by ANC Timber Ltd.

Map 4-20: 2005 PFMS 20 Year Harvest Sequence Operated by Millar Western Forest Products Ltd.

4.5 Digital Harvest Sequence Information

The enclosed DVD contains the harvest sequence database. The database structure and description can be found in Appendix D.



SECTION FIVE

SENSITIVITY ANALYSIS

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

5.0 Sensitivity Analysis

Additional FMSs were completed to provide an indication of what affect certain constraints would have on the 2004 PFMS AAC harvest level. The constraints included applying a regeneration lag, extending the planning horizon to 200 years and adjusting the harvest level to LRSYA after one rotation. The tables below provide the details of the results for each strategy. Section 5.4 follows the FMS sensitivity analysis results. This section outlines some of the upcoming inventory work that will be included in future TSA.

5.1 Forest Management Strategy – 57

Table 5-1: fms description / Harvest Simulation Control Parameters – FMS No. 57

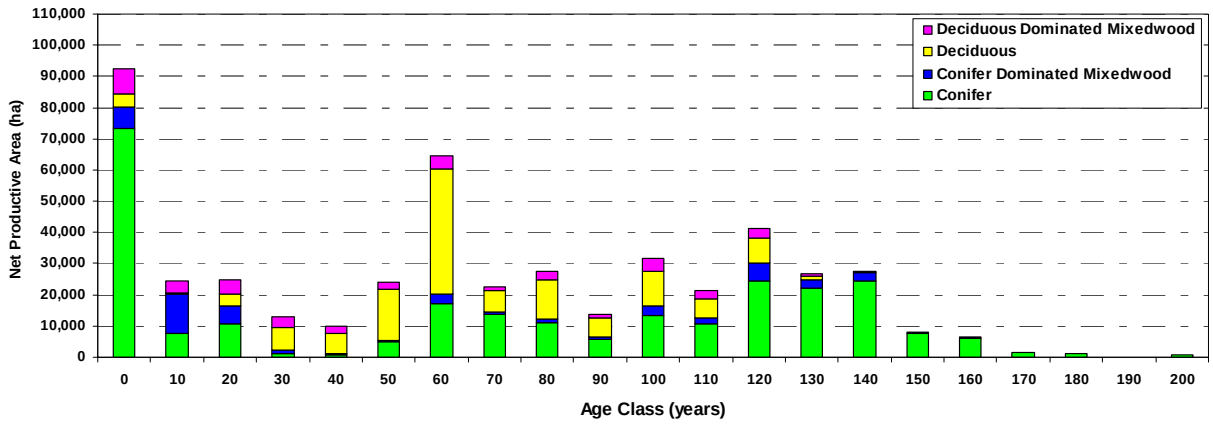
FMS BACKGROUND INFORMATION	
General Information	A regeneration lag of 5 years for conifer and 2 years for deciduous was applied to the 2004 PFMS. The results show a decrease of 1,750m^3/yr of conifer volume after the 1st 20 years of harvest.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in section 3. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age adjustment is applied. (see Section 2.2.2 page 35 for details)
HARVEST SIMULATION CONTROL PARAMETERS	
Control Paramer	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Applied (conifer 5yrs, deciduous 2yrs)
Introduce harvest plans:	Not applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

Figure 5-1: Harvest Simulation Results – FMS No. 57

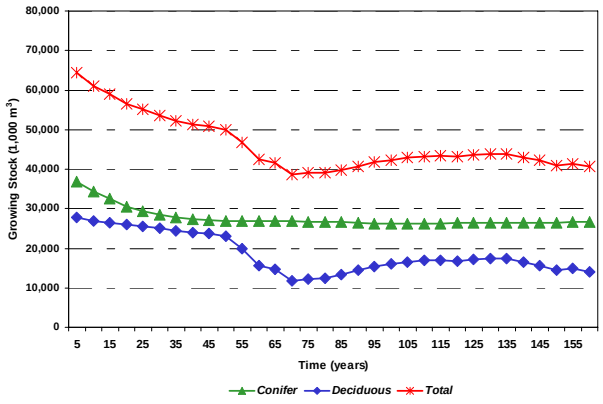
TIMBER SUPPLY SUMMARY

Conifer Harvest Level	842,750 (1st 20 yrs) → 773,500m^3/yr	Deciduous Harvest Level	389,682m^3/yr (20 yr Ave.)

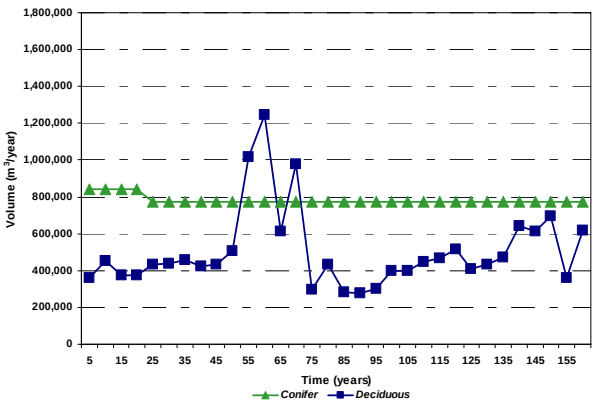
INITIAL AGE CLASS DISTRIBUTION



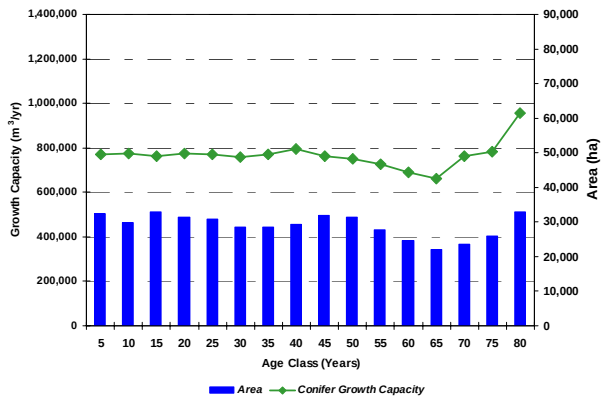
GROWING STOCK



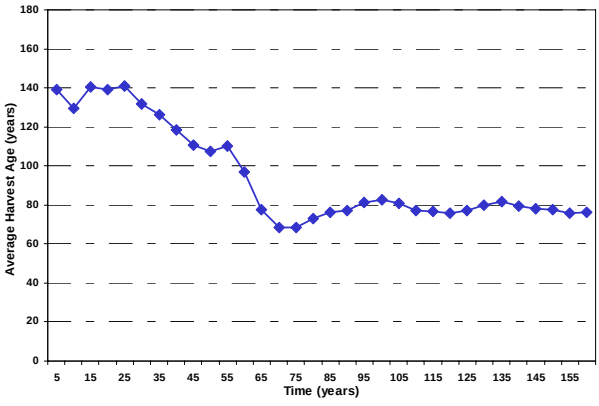
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



MAP 5-1: 20 Year Harvest Sequence – FMS No. 57

5.2 Forest Management Strategy – 56

Table 5-2: fms description / Harvest Simulation Control Parameters – FMS No. 56

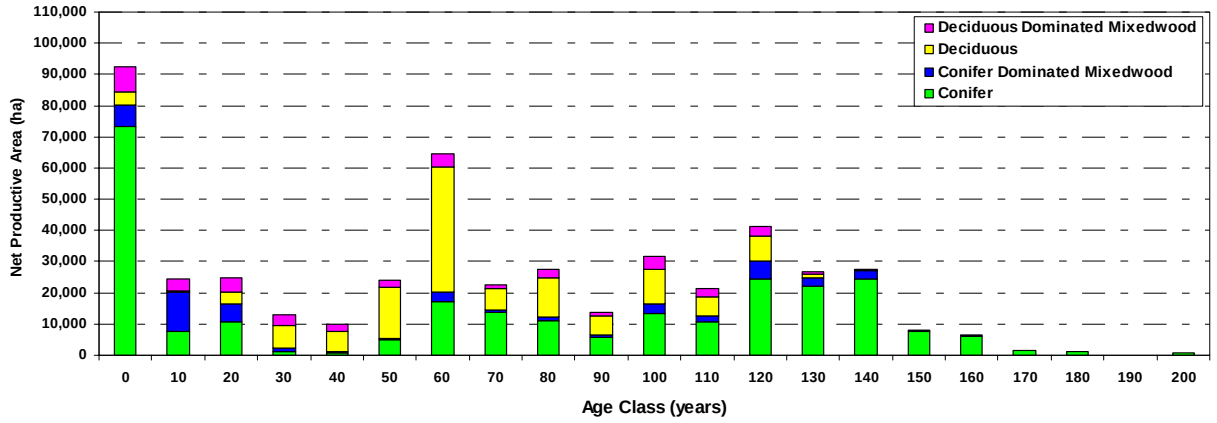
FMS BACKGROUND INFORMATION	
General Information	For this sensitivity strategy a 200 year planning horizon was applied to provide an indication of what the impact to the 2004 PFMS AAC would be by extending the planning horizon from 160 years to 200 years. This constraint did non have an impact on the 2004 PFMS AAC levels.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in Section 2. Yield curve transition strategy 2 is used. (see Section 3.2.2 page 66 for details) Conifer understorey age calibration is applied. (see Section 2.2.2 page 35 for details)

HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	200 years
Target average harvest age at the end of the planning horizon:	100 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Not applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

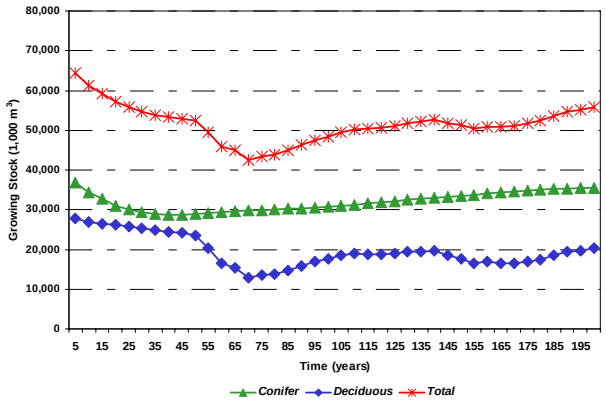
Figure 5-2: Harvest Simulation Results – FMS No. 56

TIMBER SUPPLY SUMMARY			
Conifer Harvest Level	842,750 (1st 20 yrs) → 775,250m^3/yr	Deciduous Harvest Level	389,682m^3/yr (20 yr Ave.)

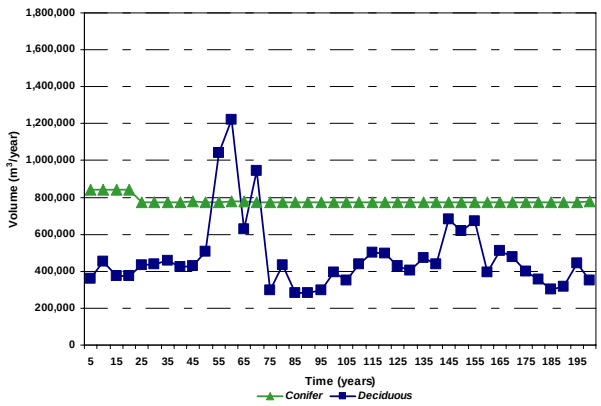
INITIAL AGE CLASS DISTRIBUTION



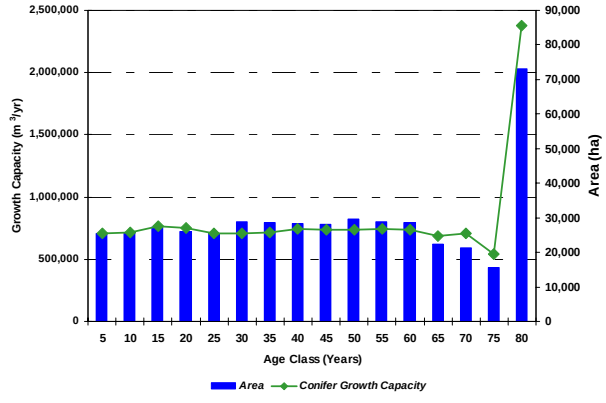
GROWING STOCK



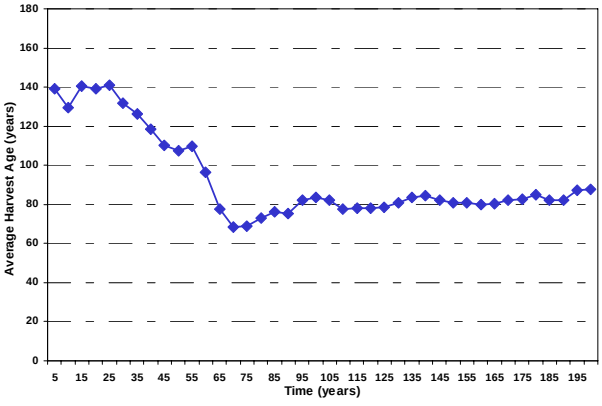
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



MAP 5-2: 20 Year Harvest Sequence – FMS No. 56

5.3 Forest Management Strategy – 58

Table 5-3: fms description / Harvest Simulation Control Parameters – FMS No. 58

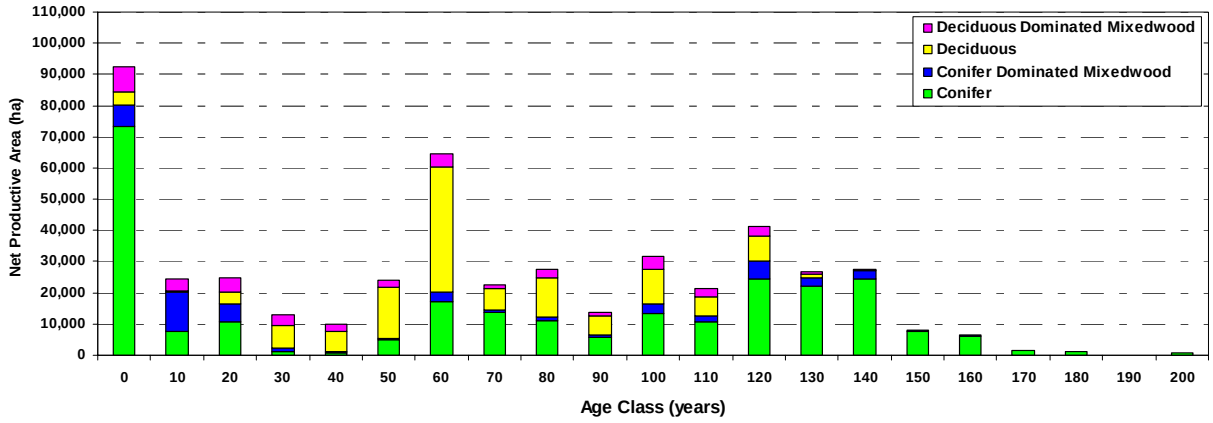
FMS BACKGROUND INFORMATION	
General Information	This strategy runs the 2004 PFMS harvest level for the 1st rotation (80 years) and then up to the "fully stocked" LRSYA for the remainder of the planning horizon. This constraint did not have an impact on the 2004 PFMS AAC levels.
Net Landbase Summary	Using the March 20, 2002 technically approved net landbase (with marginally merch areas removed). Total net area = 483,655 ha 82.3% conifer 17.7% deciduous.
Yield Curve	Using the yield curves as defined in section 2. Yield curve transition strategy 2 is used. (see section 3.2.2 page 66 for details) Conifer understorey age adjustment is applied. (see section 2.2.2 page 35 for details)

HARVEST SIMULATION CONTROL PARAMETERS	
Control Parameter	**Parameter Setting**
Harvest unit:	FMA – W14 (VSA 1 + VSA 2)
Planning horizon:	160 years
Target average harvest age at the end of the planning horizon:	80 $\pm$ 5
Minimum harvest age:	Conifer 70 yrs; Deciduous 50 yrs
Landbase:	Single landbase
Sorting rules:	1) Oldest First 2) Modulate deciduous flow 3) Maximize conifer harvest
Harvest flow constraint:	1) Incorporating reconciliation volume 2) Even flow conifer 3) Maintain deciduous commitments by VSA for the 1st 20 years 4) Step up to LSRYA after 80 years
Yield curves:	TSA Net yield curves
Cull Deductions:	Conifer 4.2% & deciduous 5.9%
Regeneration transition:	Fully stocked – Transition strategy 2
Regeneration lag:	Not applied
Introduce harvest plans:	Not applied
Spatial stand adjacency:	Not applied
Adjacency - Green-up:	Not applied
Adjacency - Accumulate adjacent stands:	Not applied

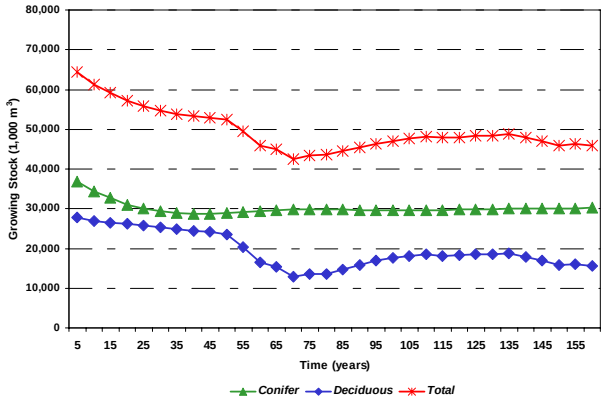
Figure 5-3: Harvest Simulation Results – FMS No. 58

TIMBER SUPPLY SUMMARY			
Conifer Harvest Level	842,750 (1st 20 yrs) → 775,250m³/yr (21-80 yrs) → 817,426m³/yr (81-160 yrs)	Deciduous Harvest Level	389,682m³/yr (20 yr Ave.)

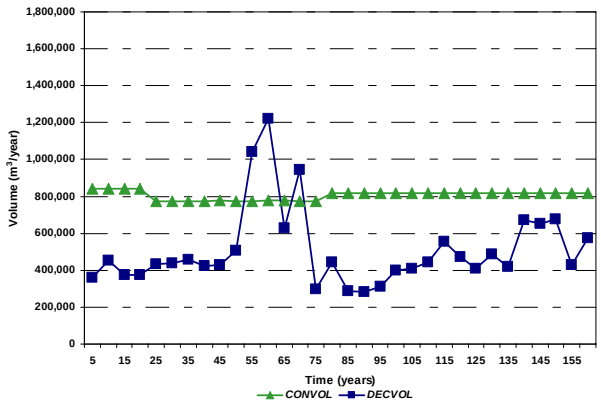
INITIAL AGE CLASS DISTRIBUTION



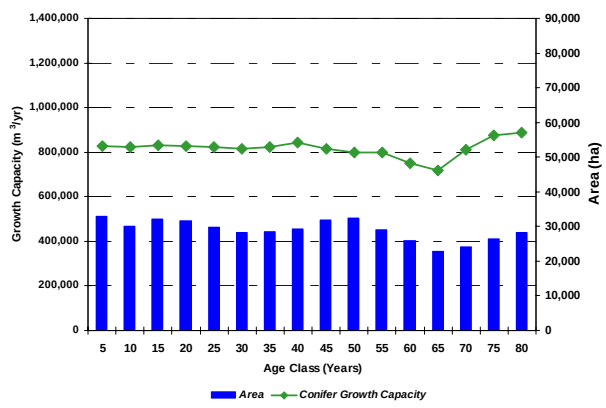
GROWING STOCK



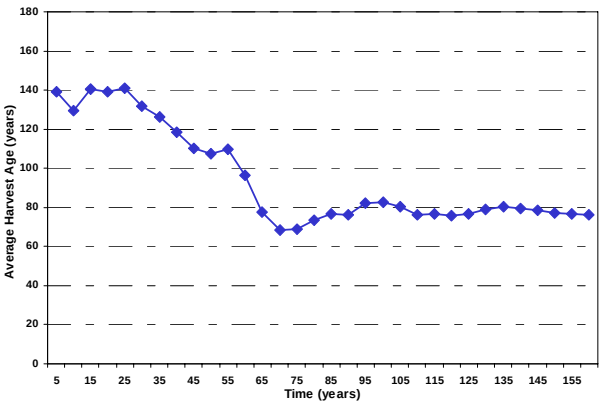
HARVEST FLOW SUMMARY



POST HARVEST FOREST CONDITIONS



AVERAGE HARVEST AGE BY 5 YEAR ITERATION



Map 5-3: 20 Year Harvest Sequence – FMS No. 58

5.4 Looking Ahead to the Next Forest Inventory and TSA (Projection)

BRL is planning to complete new inventory work across the FMA that may impact the TSA in the next DFMP. The planned new inventories include:

- New AVI 2.1 inventory across the entire FMA;
- New Detailed Conifer Inventory across the remainder of the FMA (only for areas that were not inventoried in the 2004 detailed conifer inventory).

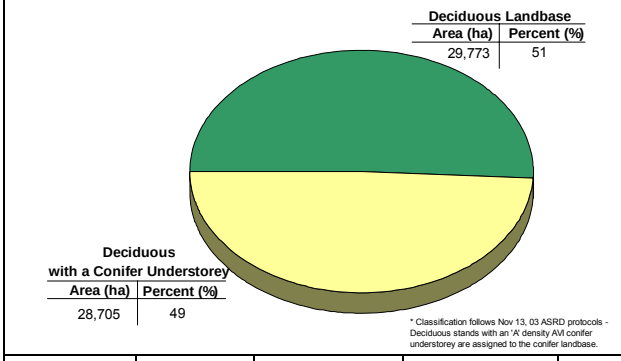
As a result of including this new information, subsequent TSA may be impacted. Figure 5-4 Conifer Inventory Projection outlines some of the adjustments to the deciduous landbase that may occur when the new conifer inventory information is incorporated (Please note: these projections are based solely on the percentages identified in the 2004 detailed conifer inventory (Figure 1-3); actual percentages may vary when the new conifer inventory is completed).

The results of the 2004 detailed conifer inventory indicate that of the total deciduous landbase within the study area, 37% had a significant amount of conifer in the understorey. This percentage was then used to predict the amount of conifer understorey/change in deciduous LRSYA that would potentially occur if additional conifer inventory was undertaken for the remainder of the FMA.

Figure 5-4: Deciduous LRSYA Projection Based on the Inclusion of a FMA-Wide Conifer Inventory

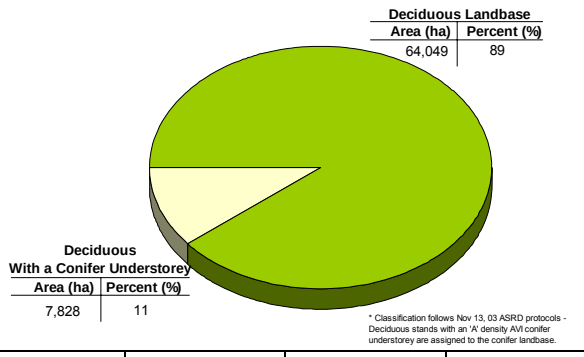
EXCLUDING 2004 DETAILED CONIFER INVENTORY

VSA 1



Deciduous LRSYA (m^3/yr)	YC Strata	Net Area(ha)	MAI @ 80yrs	LRSYA
	AB-D-A	8,502	2.10	17,822
	CD-D-A	21,271	2.44	51,990
Total		29,773		69,812

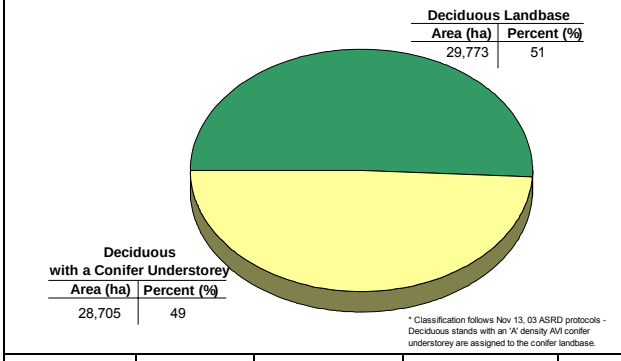
VSA 2



YC Strata	Net Area(ha)	MAI @ 80yrs	LRSYA
AB-D-A	12,006	2.10	25,213
CD-D-A	52,043	2.44	126,985
	64,049		152,198

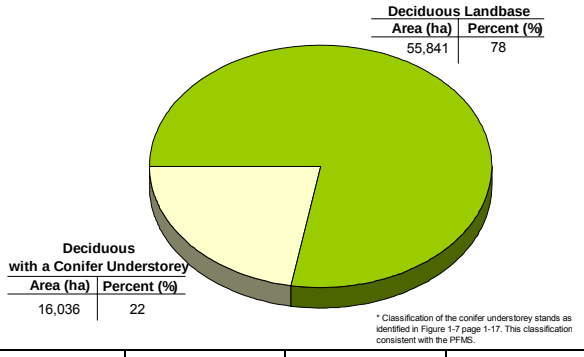
INCLUDING 2004 DETAILED CONIFER INVENTORY

VSA 1



Deciduous LRSYA (m^3/yr)	YC Strata	Net Area(ha)	MAI @ 80yrs	LRSYA
	AB-D-A	8,502	2.10	17,822
	CD-D-A	21,271	2.44	51,990
Total		29,773		69,812

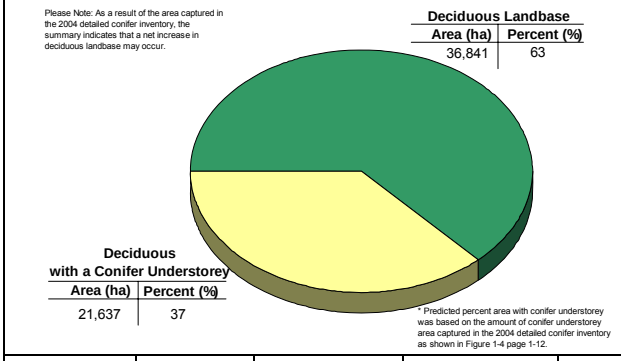
VSA 2



YC Strata	Net Area(ha)	MAI @ 80yrs	LRSYA
AB-D-A	10,623	2.10	22,269
CD-D-A	45,218	2.44	110,521
	55,841		132,790

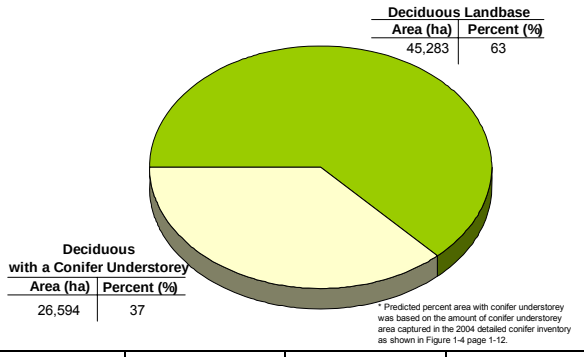
LANDBASE REASSIGNMENT PROXY FOR UPCOMING CONIFER INVENTORY

VSA 1



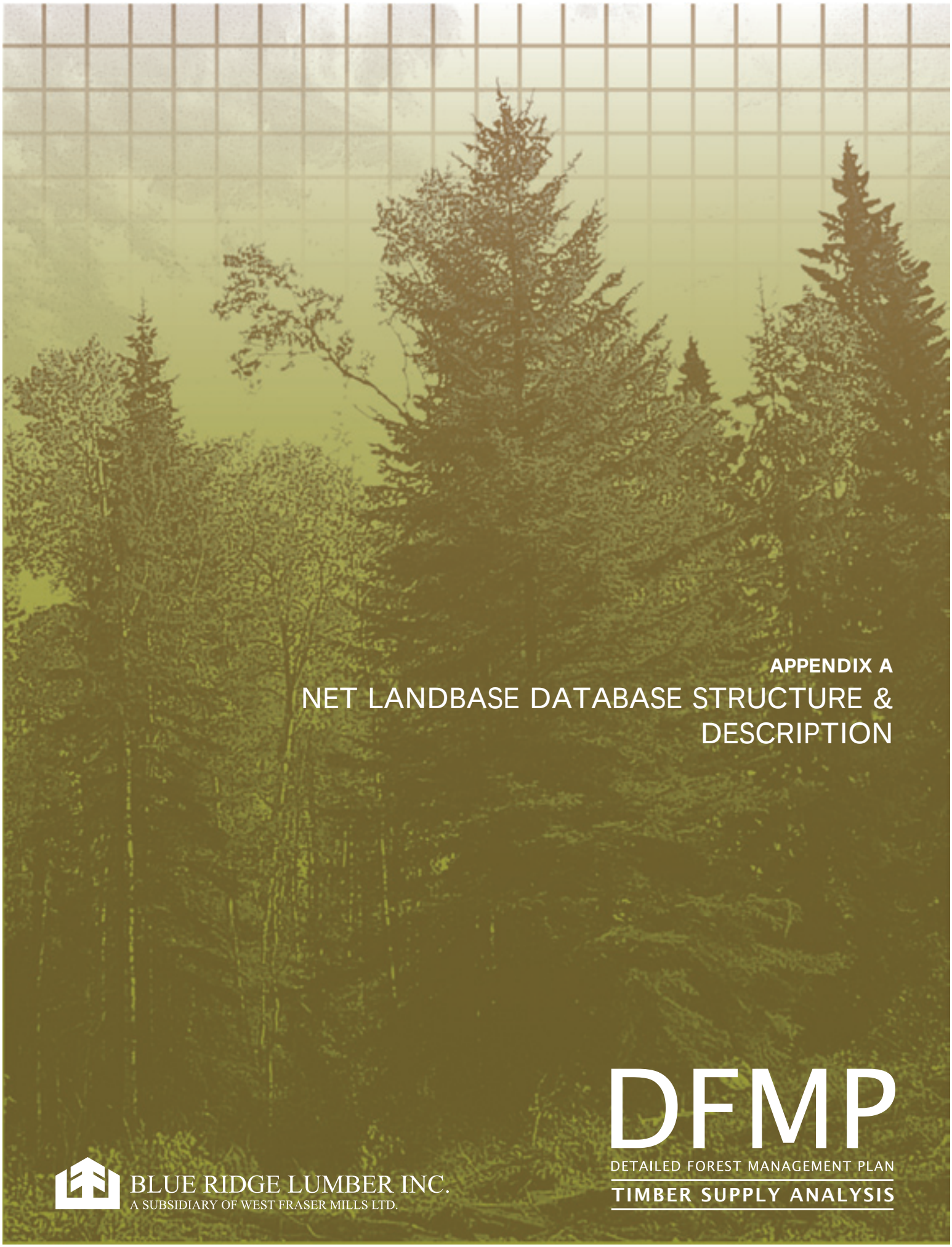
Deciduous LRSYA (m^3/yr)	YC Strata	Net Area(ha)	MAI @ 80yrs	LRSYA
	AB-D-A	7,000	2.10	14,700
	CD-D-A	29,841	2.44	72,812
Total		36,841		87,512

VSA 2



YC Strata	Net Area(ha)	MAI @ 80yrs	LRSYA
AB-D-A	8,604	2.10	18,068
CD-D-A	36,679	2.44	89,497
	45,283		107,565

NOTE: The areas in this summary reflect net operable area as areas in Figure 1-4 represent gross area.
Minor differences in LRSYA may occur due to rounding.



APPENDIX A

NET LANDBASE DATABASE STRUCTURE & DESCRIPTION

DFMP

DETAILED FOREST MANAGEMENT PLAN

TIMBER SUPPLY ANALYSIS

BLUE RIDGE LUMBER INC.

A SUBSIDIARY OF WEST FRASER MILLS LTD.

Appendix A Net Landbase Database Structure & Description

Number of data records: 519,072 (80 Townships)

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
1.	AREAHA	Numeric	14	6	Area in hectares
2.	GL130905	Numeric	18	4	2005 GIS unique identifier
3.	GIS40304	Numeric	18	4	2004 GIS unique identifier
4.	FMA	Character	3		Forest Management Area identifier: ♦ BRL – Blue Ridge Lumber Inc.
5.	FMA_NAME	Character	50		Forest Management Unit name
6.	FMA_DISP	Character	10		Forest Management Unit disposition number
7.	FMU	Character	5		FMU identifier: ♦ W2; ♦ W3; ♦ W4.
8.	VSA	Character	4		Volume Sampling Area Identifier ♦ VSA 1 (formerly FMU W2); ♦ VSA 2 (formerly FMU W3 and W4).
9.	UNIT	Numeric	11	0	Blue Ridge Lumber unit identifier
10.	OP_UNIT	Character	5		Blue Ridge Lumber operational unit identifier
11.	DIST_COD	Character	2		Provincial district code identifier: ♦ FC – Fox Creek; ♦ JC – Judy Creek; ♦ SH – Swan Hills; ♦ VH – Virginia Hills.
12.	DIST_N	Character	15		Provincial district identifier: ♦ Fox Creek; ♦ Judy Creek; ♦ Swan Hills; ♦ Virginia Hills.
13.	INO	Character	3		Inoperable area identifier
14.	BUF_LAK	Character	3		100 meter lake buffer identifier
15.	BUF_RIV	Character	3		60 meter river buffer identifier
16.	BUF60M	Character	3		60 meter large permanent stream buffer identifier
17.	BUF30M	Character	3		30 meter stream buffer identifier
18.	ACT_TYPE	Character	3		LFD disposition type
19.	ACT_ID	Character	7		LFD disposition
20.	FIRE_56	Character	12		Identifies areas affected by 1956 fires
21.	FIRE_59	Character	12		Identifies areas affected by 1959 fires
22.	FIRE_62	Character	12		Identifies areas affected by 1962 fires
23.	FIRE_72	Character	12		Identifies areas affected by 1972 fires
24.	FIRE_74	Character	12		Identifies areas affected by 1974 fires
25.	FIRE_83	Character	12		Identifies areas affected by 1983 fires
26.	FIRE_VH	Character	10		Virginia Hills burn: BRL interpretation burn codes (not used in landbase analysis)
27.	SLOPE	Character	3		Inoperable slopes

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
28.	DISTUPD1	Character	3		Overlapping anthropogenic updates identified as follows: ♦ AIG – Gravel or borrow pit; ♦ AIH – Permanent right-of-way; ♦ AII – Industrial sites; ♦ AIU – Unknown; ♦ CIP – Pipeline; ♦ CIU – Unknown clearing; ♦ CIW – Geophysical activity (wellsite); ♦ CL – Clearing.
29.	DISTUPD2	Character	3		Overlapping anthropogenic updates identified as follows: ♦ AIG – Gravel or borrow pit; ♦ AIH – Permanent right-of-way; ♦ AII – Industrial sites; ♦ AIU – Unknown; ♦ CIP – Pipeline; ♦ CIU – Unknown clearing; ♦ CIW – Geophysical activity (wellsite); ♦ CL – Clearing.
30.	NS_	Numeric	20	5	Natural subregion identified as follows: ♦ 1 – Central Mixedwood; ♦ 2 – Dry Mixedwood; ♦ 10 – Upper Foothills; ♦ 11 – Lower Foothills.
31.	NSN	Character	25		Natural subregion name: ♦ Central Mixedwood; ♦ Dry Mixedwood; ♦ Upper Foothills; ♦ Lower Foothills.
32.	R_CROWN	Character	2		Revised crown closure (override by Blue Ridge Lumber)
33.	R_SPGP	Character	2		Revised species group (override by Blue Ridge Lumber)
34.	R_TPR	Character	1		Revised timber productivity rating (override by Blue Ridge Lumber)
35.	R_YC	Character	2		Revised yield curve (override by Blue Ridge Lumber)
36.	R_ORIGIN	Numeric	20	0	Revised stand origin (override by Blue Ridge Lumber)
37.	ADDCUTS	Numeric	20	0	Identifies cutblock of unknown origin
38.	BRLHARV	Numeric	20	0	Blue Ridge Lumber cutblock identifier
39.	BRLPROP	Numeric	20	0	Blue Ridge Lumber proposed cutblock identifier
40.	MOSTHARV	Numeric	20	0	Mostowich cutblock identifier
41.	MOSTPROP	Numeric	20	0	Mostowich proposed cutblock identifier
42.	OP_YEAR	Numeric	20	0	Identifies operating year for both Blue Ridge Lumber and Mostowich
43.	STATUS	Character	20		Identifies cutblock status for both Blue Ridge Lumber and Mostowich
44.	MER	Numeric	6	0	Meridian
45.	RGE	Numeric	6	0	Range
46.	TWP	Numeric	6	0	Township
47.	PID	Numeric	6	0	Polygon identifier (stand number)
48.	ID_FORES	Numeric	20	0	Unique AVI identifier (MER/RGE/TWP/PID)

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
AVI Primary Layer ATTRIBUTES					
49.	MOIST	Numeric	11	0	Moisture regime identified as follows: ♦ 0 – Very xeric ♦ 1 – Xeric ♦ 2 – Subzeric ♦ 3 – Submesic ♦ 4 – Mesic ♦ 5 – Subhygric ♦ 6 – Hygric; ♦ 7 – Subhygric; ♦ 8 – Hydric.
50.	CROWN	Character	1		Crown closure identified as follows: ♦ 0 – 6 – 10% crown closure; ♦ 1 – 11 – 20% crown closure; ♦ 2 – 21 – 30% crown closure; ♦ 3 – 31 – 40% crown closure. ♦ 4 – 41 – 50% crown closure; ♦ 5 – 51 – 60% crown closure; ♦ 6 – 61 – 70% crown closure; ♦ 7 – 71 – 80% crown closure; ♦ 8 – 81 – 90% crown closure; ♦ 9 – 91 – 100% crown closure.
51.	HEIGHT	Numeric	13	1	Stand height (m)
52.	SP1	Character	2		Species 1 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
53.	PER1	Numeric	11	0	Species 1 percent
54.	SP2	Character	2		Species 2 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
55.	PER2	Numeric	11	0	Species 2 percent

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
56.	SP3	Character	2		Species 3 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
57.	PER3	Numeric	11	0	Species 3 percent
58.	SP4	Character	2		Species 4 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
59.	PER4	Numeric	11	0	Species 4 percent
60.	SP5	Character	2		Species 5 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
61.	PER5	Numeric	11	0	Species 5 percent

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
62.	SP6	Character	2		Species 6 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
63.	PER6	Numeric	11	0	Species 6 percent
64.	NONFOR	Character	3		Non forested area identified as follows: ♦ AIF – Farmstead; ♦ AIG – Gravel or borrow pit; ♦ AIH – Permanent right-of-way; ♦ AII – Industrial sites; ♦ ASC – City; ♦ ASR – Ribbon development; ♦ CIP – Pipeline; ♦ CIW - Geophysical activity (wellsite); ♦ CP – Perennial Forage Crop; ♦ HF - Herbaceous Forbs ♦ HG – Herbaceous ♦ NMC – Cutbank; ♦ NMS – Sand; ♦ NMF – Flooded; ♦ NWL – Lake; ♦ NWR – River.
65.	STR	Character	1		Stand structure identified as follows: ♦ C – Complex; ♦ H – Horizontal; ♦ M – Multi-layer canopy ♦ S – Single storey.
66.	STRVAL	Numeric	11	0	Stand structure value
67.	CANOPY	Numeric	11	0	Canopy pattern modifier
68.	ORIGIN	Numeric	11	0	Stand origin
69.	TPR	Character	1		Timber Productivity Rating identified as follows: ♦ G – Good; ♦ M – Medium; ♦ F – Fair; ♦ U – Unproductive.
70.	TPR_I	Character	1		Interpreted timber productivity rating

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
71.	MOD1	Character	2		Stand modifier 1 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
72.	EXT1	Numeric	11	0	Extent of stand modifier 1
73.	YEAR1	Numeric	11	0	Year of stand modifier 1
74.	MOD2	Character	2		Stand modifier 2 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
75.	EXT2	Numeric	11	0	Extent of stand modifier 2
76.	YEAR2	Numeric	11	0	Year of stand modifier 2

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
77.	MOD3	Character	2		Stand modifier 3 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
78.	EXT3	Numeric	11	0	Extent of stand modifier 3
79.	YEAR3	Numeric	11	0	Year of stand modifier 3
80.	MOD4	Character	2		Stand modifier 4 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
81.	EXT4	Numeric	11	0	Extent of stand modifier 4
82.	YEAR4	Numeric	11	0	Year of stand modifier 4

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
83.	MOD5	Character	2		Stand modifier 5 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
84.	EXT5	Numeric	11	0	Extent of stand modifier 5
85.	YEAR5	Numeric	11	0	Year of stand modifier 5
86.	MOD6	Character	2		Stand modifier 6 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
87.	EXT6	Numeric	11	0	Extent of stand modifier 6
88.	YEAR6	Numeric	11	0	Year of stand modifier 6
89.	DAT_SC1	Character	1		Data source 1 identified as follows: ♦ A – Air call; ♦ F – Field plot; ♦ N – Client.
90.	DAT_YR1	Numeric	11	0	Year of data source 1
91.	DAT_SC2	Character	1		Data source 1 identified as follows: ♦ A – Air call; ♦ F – Field plot; ♦ N – Client.
92.	DAT_YR2	Numeric	11	0	Year of data source 2

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
AVI Secondary Layer ATTRIBUTES					
93.	SMOIST	Numeric	11	0	Moisture regime identified as follows: ♦ 0 – Very xeric ♦ 1 – Xeric ♦ 2 – Subzeric ♦ 3 – Submesic ♦ 4 – Mesic ♦ 5 – Subhygric ♦ 6 – Hygric; ♦ 7 – Subhygric; ♦ 8 – Hydric.
94.	SCROWN	Character	1		Crown closure identified as follows: ♦ 0 – 6 – 10% crown closure; ♦ 1 – 11 – 20% crown closure; ♦ 2 – 21 – 30% crown closure; ♦ 3 – 31 – 40% crown closure. ♦ 4 – 41 – 50% crown closure; ♦ 5 – 51 – 60% crown closure; ♦ 6 – 61 – 70% crown closure; ♦ 7 – 71 – 80% crown closure; ♦ 8 – 81 – 90% crown closure; ♦ 9 – 91 – 100% crown closure.
95.	SHEIGHT	Numeric	13	1	Stand height (m)
96.	SSP1	Character	2		Species 1 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
97.	SPER1	Numeric	11	0	Species 1 percent
98.	SSP2	Character	2		Species 2 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
99.	SPER2	Numeric	11	0	Species 2 percent

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
100.	SSP3	Character	2		Species 3 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
101.	SPER3	Numeric	11	0	Species 3 percent
102.	SSP4	Character	2		Species 4 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
103.	SPER4	Numeric	11	0	Species 4 percent
104.	SSP5	Character	2		Species 5 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
105.	SPER5	Numeric	11	0	Species 5 percent

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
106.	SSP6	Character	2		Species 6 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
107.	SPER6	Numeric	11	0	Species 6 percent
108.	SNONFOR	Character	3		Non forested area identified as follows: ♦ AIF – Farmstead; ♦ AIG – Gravel or borrow pit; ♦ AIH – Permanent right-of-way; ♦ AII – Industrial sites; ♦ ASC – City; ♦ ASR – Ribbon development; ♦ CIP – Pipeline; ♦ CIW - Geophysical activity (wellsite); ♦ CP – Perennial Forage Crop; ♦ HF - Herbaceous Forbs ♦ HG – Herbaceous ♦ NMC – Cutbank; ♦ NMS – Sand; ♦ NMF – Flooded; ♦ NWL – Lake; ♦ NWR – River.
109.	SSTR	Character	1		Stand structure identified as follows: ♦ C – Complex; ♦ H – Horizontal; ♦ M – Multi-layer canopy ♦ S – Single storey.
110.	SSTRVAL	Numeric	11	0	Stand structure value
111.	SCANOPY	Numeric	11	0	Canopy pattern modifier
112.	SORIGIN	Numeric	11	0	Stand origin
113.	STPR	Character	1		Timber Productivity Rating identified as follows: ♦ G – Good; ♦ M – Medium; ♦ F – Fair; ♦ U – Unproductive.
114.	STPR_I	Character	1		Interpreted timber productivity rating

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
115.	SMOD1	Character	2		Stand modifier 1 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
116.	SEXT1	Numeric	11	0	Extent of stand modifier 1
117.	SYEAR1	Numeric	11	0	Year of stand modifier 1
118.	SMOD2	Character	2		Stand modifier 2 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
119.	SEXT2	Numeric	11	0	Extent of stand modifier 2
120.	SYEAR2	Numeric	11	0	Year of stand modifier 2

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
121.	SMOD3	Character	2		Stand modifier 3 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
122.	SEXT3	Numeric	11	0	Extent of stand modifier 3
123.	SYEAR3	Numeric	11	0	Year of stand modifier 3
124.	SMOD4	Character	2		Stand modifier 4 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
125.	SEXT4	Numeric	11	0	Extent of stand modifier 4
126.	SYEAR4	Numeric	11	0	Year of stand modifier 4

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
127.	SMOD5	Character	2		Stand modifier 5 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
128.	SEXT5	Numeric	11	0	Extent of stand modifier 5
129.	SYEAR5	Numeric	11	0	Year of stand modifier 5
130.	SMOD6	Character	2		Stand modifier 6 identified as follows: ♦ AS – Airstrip; ♦ BT – Broken top; ♦ BU – Burn; ♦ CC – Clearcut; ♦ CL – Clearing; ♦ CW – Abandoned wellsite; ♦ DT – Discolored / dead top; ♦ FL – Flooded; ♦ FT – Fire tower; ♦ PL – Pipeline; ♦ IK – Insect kill; ♦ MT – Microwave tower; ♦ PI – Pipeline; ♦ SC – Scarification; ♦ SI – Site improved; ♦ SN – Snags; ♦ ST – Scattered timber; ♦ TH – Thinned; ♦ TL – Transmission line.
131.	SEXT6	Numeric	11	0	Extent of stand modifier 6
132.	SYEAR6	Numeric	11	0	Year of stand modifier 6
133.	SDAT_SC1	Character	1		Data source 1 identified as follows: ♦ A – Air call; ♦ F – Field plot; ♦ N – Client.
134.	SDAT_YR1	Numeric	11	0	Year of data source 1
135.	SDAT_SC2	Character	1		Data source 1 identified as follows: ♦ A – Air call; ♦ F – Field plot; ♦ N – Client.
136.	SDAT_YR2	Numeric	11	0	Year of data source 2
Understorey Study Area ATTIRBUTES					
137.	STUDY	Numeric	20	2	Understorey study area identifier

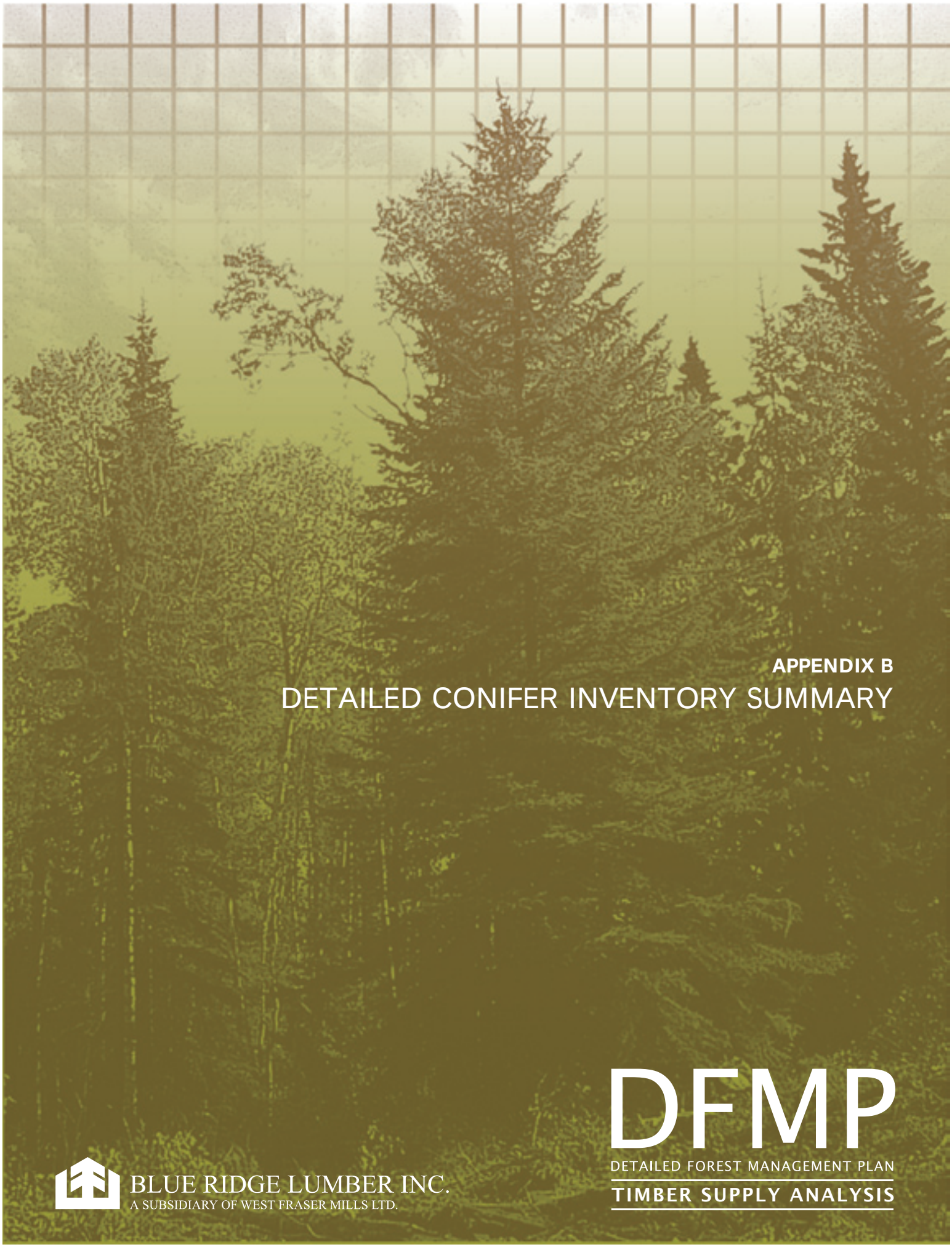
FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
138.	U_PID	Numeric	11	0	Polygon identifier (stand number)
139.	U_CROWN	Character	1		Crown closure
140.	U_PLUS_M	Character	1		Plus or minus identifier
141.	U_HEIGHT	Numeric	11	0	Stand height (m)
142.	U_SP1	Character	2		Species 1 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
143.	U_PER1	Numeric	11	0	Species 1 percent
144.	U_SP2	Character	2		Species 2 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
145.	U_PER2	Numeric	11	0	Species 2 percent
146.	U_SP3	Character	2		Species 3 identified as follows: ♦ AW – Trembling Aspen; ♦ PB – Balsam Poplar; ♦ FA – Alpine Fir; ♦ FB – Balsam Fir; ♦ BW – White Birch; ♦ LT – Larch; ♦ P – Pine; ♦ PJ – Jack Pine; ♦ PL – Lodgepole Pine; ♦ SB – Black Spruce; ♦ SC – Closed Shrub; ♦ SO – Open Shrub; ♦ SW – White Spruce.
147.	U_PER3	Numeric	11	0	Species 3 percent
148.	U_STEMS_	Numeric	11	0	Stems/ha
149.	ID_UNDER	Numeric	20	0	Unique AVI identifier (MER/RGE/TWP/PID)
Calculated Fields					
150.	HFLAG	Numeric	2	0	Horizontal component identifier ♦ Use overstorey component (HFLAG = 1); ♦ Use understorey component (HFLAG = 2).

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
151.	SPGP	Character	2		AVI Overstorey species group assignment ♦ Derived from AVI overstorey only.
152.	SSPGP	Character	2		AVI Understorey species group assignment ♦ Derived from AVI understorey only.
153.	CUTBLOCK	Numeric	8	0	Identifies cutblocks, as follows: ♦ Cutover update (CUTBLOCK = 1); ♦ AVI cutblock (CUTBLOCK = 2); ♦ AVI cutblock (CUTBLOCK = 3); ♦ Cutover update (CUTBLOCK = 4).
154.	PROPBLOC	Numeric	20	0	Identifies proposed cutblocks
155.	US_FLAG	Numeric	20	0	Classifies conifer understorey areas: ♦ Conifer or mixedwood areas; Deciduous areas with no conifer or mixedwood understorey (US_FLAG = 0); ♦ Deciduous areas outside the conifer understorey study area, that are not cutblocks, with conifer or mixedwood AVI understorey species group (US_FLAG = 1); ♦ Deciduous areas inside the conifer understorey study area, with conifer/mixedwood AVI understorey as described in section 1.3.8 of this document (US_FLAG = 1); ♦ Deciduous areas inside the conifer understorey study area, with an interpreted conifer understorey (US_FLAG = 2).
156.	USORIGIN	Numeric	11	0	Revised stand understorey origin
157.	AGE	Numeric	4	0	Stand age (years)
158.	SAGE	Numeric	4	0	Understorey stand age (years)
159.	AGECLASS	Numeric	11	0	10-year age class
160.	CUTSPGP	Character	2		Identifies cutblock species group
161.	YCCRWN	Character	2		Yield curve crown class
162.	YCSPGP	Character	2		Identifies the yield curve species group
163.	YC_TPR	Character	2		Identifies the yield curve timber productivity rating
164.	YC_STRAT	Character	9		Yield curve stratum
165.	YCNUM	Numeric	6	0	Yield curve number developed from volume sampling and assigned as follows: ♦ AB-C-G (YCNUM = 1); ♦ AB-C-M (YCNUM = 2); ♦ AB-C-F (YCNUM = 3); ♦ AB-MX-A (YCNUM = 4); ♦ AB-D-A (YCNUM = 5); ♦ CD-C-G (YCNUM = 6); ♦ CD-C-M (YCNUM = 7); ♦ CD-C-F (YCNUM = 8); ♦ CD-MX-A (YCNUM = 9); ♦ CD-D-A (YCNUM = 10); ♦ D(C) (YCNUM = 12); ♦ D(C) (YCNUM = 13); ♦ D(C) (YCNUM = 14); ♦ D(C) (YCNUM = 15); ♦ D(C) (YCNUM = 16); ♦ D(C) (YCNUM = 17).

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
Net Landbase Determination Field					
166.	NETDOWN	Numeric	8	2	Temporary landbase category identifier: ♦ Naturally non-forested (NETDOWN = 1); ♦ Anthropogenic non-forested (NETDOWN = 2); ♦ Excluded dispositions (NETDOWN = 3); ♦ Extreme slopes (NETDOWN = 4); ♦ Inoperable areas (NETDOWN = 5); ♦ Lake buffers – 100m (NETDOWN = 6); ♦ River and large permanent stream buffer – 60m (NETDOWN = 7); ♦ Stream buffer – 30m (NETDOWN = 8); ♦ Merchantability deletions (NETDOWN = 9); ♦ Net Merchantable landbase (NETDOWN = 0).
167.	REMARK_2	Character	16		Cutblock revision identifier
168.	DELFLAG	Numeric	8	2	Block deletion identifier
169.	PLANBLC2	Numeric	8	2	Updated proposed cutblock identifier
170.	BOG_FLAG	Character	3		Marginally merchantable stands identifier
171.	SHED	Numeric	3	0	Watershed identifier
172.	BASIN	Character	2		Basin identifier: ♦ A1 – Athabasca; ♦ A2 – Ahtabasca/Freeman; ♦ P – Peace River
173.	MARMERCH	Numeric	14	6	Marginally merchantable stands not included in the TSA
174.	PRIORITY	Numeric	6	0	Operationalized sequence identifier: ♦ 1 – 1-10 Harvest Period; ♦ 2 – 11-20 Harvest Period.
175.	OPERATOR	Character	6		Identifies operator selected to harvest the polygon (may differ from timber rights, as these are operational arrangements): ♦ ANC – ANC Timber Ltd.; ♦ BRL – Blue Ridge Lumber Inc.; ♦ MOS – Mostowich Lumber Ltd.; ♦ MWFP – Millar Western Forest Products Ltd.; ♦ UNA – Unassigned stands.
DETAILED CONIFER INVENTORY ATTRIBUTES					
176.	US_AREA	Character	3		Detailed conifer inventory area identifier
177.	UNDERKEY	Numeric	10	0	Unique detailed conifer inventory GIS link
178.	O_CDENSI	Character	1		Conifer density class identified as follows: ♦ N – No Understorey; ♦ S – Sparse: 1-100 trees/ha; ♦ L – Low: 101-250 trees/ha; ♦ M – Moderate: 251-400 trees/ha; ♦ P – Plentiful: 401-601 trees/ha; ♦ H – High: 601-1000 trees/ha; ♦ T – Thick: 1000+ trees/ha.

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
179.	O_SPATTE	Character	2		Stem dispersal identified as follows: ♦ P0 – Single stems distributed throughout polygon; ♦ P1 – Single patch of stems lees than minimum polygon size; ♦ P2 – Few patches of stems less than the minimum polygon size, generally small in size and sporadically spaced; ♦ P3 – Several patches of stems less than the minimum polygon size, generally small in size and sporadically spaced; ♦ P4 – Several patches of stems less than minimum polygon size with extensive occurrences and close proximity to each other, generally large in size; ♦ P5 – Continuous canopy with openings common; ♦ P6 – Continuous canopy with few openings.
180.	O_CANOPY	Character	3		Canopy
181.	O_AVG_HT	Numeric	2	0	Average height (m)
182.	O_HT_RAN	Character	5		Height Range (m)
183.	O_SP1	Character	2		Species 1 identified as follows: ♦ Fb – Balsam Fir; ♦ Lt – Larch; ♦ Pl – Lodgepole Pine; ♦ Sb – Black Spruce; ♦ Sw – White Spruce.
184.	O_PER1	Numeric	2	0	Species 1 percent
185.	O_SP2	Character	2		Species 2 identified as follows: ♦ Fb – Balsam Fir; ♦ Lt – Larch; ♦ Pl – Lodgepole Pine; ♦ Sb – Black Spruce; ♦ Sw – White Spruce.
186.	O_PER2	Numeric	2	0	Species 2 percent
187.	O_SP3	Character	2		Species 3 identified as follows: ♦ Fb – Balsam Fir; ♦ Lt – Larch; ♦ Pl – Lodgepole Pine; ♦ Sb – Black Spruce; ♦ Sw – White Spruce.
188.	O_PER3	Numeric	2	0	Species 3 percent
189.	O_FCHECK	Character	1		Field check Verifier Identified as follows: ♦ F – Field checked.
190.	O_YCHECK	Character	4		Year of Field Check
191.	U_CDENSI	Character	1		Conifer density class identified as follows: ♦ N – No Understorey; ♦ S – Sparse: 1-100 trees/ha; ♦ L – Low: 101-250 trees/ha; ♦ M – Moderate: 251-400 trees/ha; ♦ P – Plentiful: 401-601 trees/ha; ♦ H – High: 601-1000 trees/ha; ♦ T – Thick: 1000+ trees/ha.

FIELD NO.	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
192.	U_SPATTE	Character	2		Stem dispersal identified as follows: ♦ P0 – Single stems distributed throughout polygon; ♦ P1 – Single patch of stems lees than minimum polygon size; ♦ P2 – Few patches of stems less than the minimum polygon size, generally small in size and sporadically spaced; ♦ P3 – Several patches of stems less than the minimum polygon size, generally small in size and sporadically spaced; ♦ P4 – Several patches of stems less than minimum polygon size with extensive occurrences and close proximity to each other, generally large in size; ♦ P5 – Continuous canopy with openings common; ♦ P6 – Continuous canopy with few openings.
193.	U_CANOPY	Character	3		Canopy
194.	U_AVG_HT	Numeric	2	0	Average height (m)
195.	U_HT_RAN	Character	5		Height range (m)
196.	US_SP1	Character	2		Species 1 identified as follows: ♦ Fb – Balsam Fir; ♦ Lt – Larch; ♦ Pl – Lodgepole Pine; ♦ Sb – Black Spruce; ♦ Sw – White Spruce.
197.	US_PER1	Numeric	2	0	Species 1 percent
198.	US_SP2	Character	2		Species 2 identified as follows: ♦ Fb – Balsam Fir; ♦ Lt – Larch; ♦ Pl – Lodgepole Pine; ♦ Sb – Black Spruce; ♦ Sw – White Spruce.
199.	US_PER2	Numeric	2	0	Species 2 percent
200.	US_SP3	Character	2		Species 3 identified as follows: ♦ Fb – Balsam Fir; ♦ Lt – Larch; ♦ Pl – Lodgepole Pine; ♦ Sb – Black Spruce; ♦ Sw – White Spruce.
201.	US_PER3	Numeric	2	0	Species 3 percent
202.	OSTEMAVE	Numeric	4	0	Primary conifer layer stems/ha class average
203.	USTEMAVE	Numeric	4	0	Secondary conifer layer stems/ha class average
204.	UNDERAVE	Numeric	8	2	Combined average conifer layer stems/ha class average
205.	OPVAL	Numeric	8	2	Primary conifer layer dispersal code
206.	UPVAL	Numeric	8	2	Secondary conifer layer dispersal code
207.	TOTPVAL	Numeric	8	2	Combined conifer layer dispersal code
208.	NEWHGT	Numeric	8	2	Conifer understorey effective height
209.	OS_USAGE	Numeric	8	2	Conifer understorey age



APPENDIX B

DETAILED CONIFER INVENTORY SUMMARY

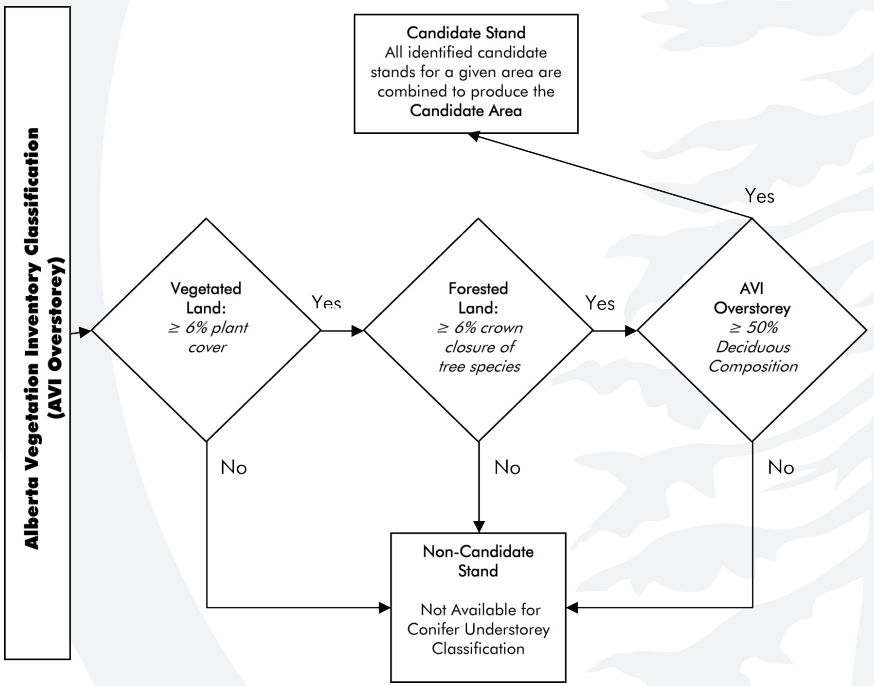
BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

DFMP
DETAILED FOREST MANAGEMENT PLAN
TIMBER SUPPLY ANALYSIS

2.0 Candidate Area Stratification

Understanding that conifer understoreys seldom follow polygon overstorey boundaries, conifer polygons are delineated within a candidate area disregarding the original AVI stand type boundaries. The Candidate Area is comprised of AVI polygons that have ≥ 50% deciduous component in their overstorey crown closure (as defined by the existing approved AVI V2.1 for the area). Figure 3. outlines the classification process in greater detail.

Figure 3. Conifer Candidate Stand Selection Scheme

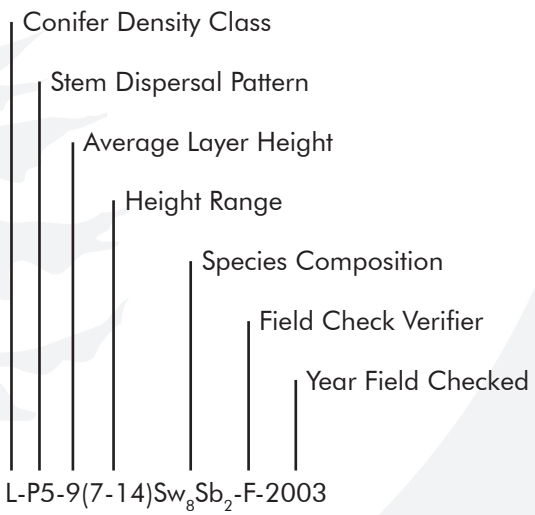


2.1 Stratification Parameters and Labelling

Each polygon is assigned a label that defines the following characteristics:

- Layers
- Conifer Density Class
- Stem Dispersal/Canopy Pattern
- Average Layer Height
- Height Range (*included in complex understoreys only*)
- Species Composition
- Field Check Verifier
- Year Checked

Figure 4. Example of Basic Conifer Label



2.1.1 Layers

An identified conifer polygon can have a maximum of 2 distinct layers; a 3-meter height difference must exist between each layer. In a multilayered conifer polygon the primary layer and secondary layers are defined based on their average height; the layer that has a larger average height is the primary layer.

Figure 5. Example of Multilayered Conifer Label

L-P5-14Sw_8Sb_2-F-2003	Overstorey Layer
S-P5-10Sw_8Sb_2-F-2003	Understorey Layer

2.1.2 Conifer Density Class

Each conifer layer is assigned a stem density class. If no conifer exists in a polygon it is labelled "N".

Field Reference data will service to calibrate the interpreter. Refer to 3.0 Field Reference Data Collection.

Table 3. Conifer Density Class Codes

Conifer Density Class (trees/ha)	Description	Code
No Understorey	No Understorey	N
1-100	Sparse	S
101-250	Low	L
251-400	Moderate	M
401-600	Plentiful	P
601-1000	High	H
1000+	Thick	T

2.1.3 Stem Dispersal/Canopy Pattern

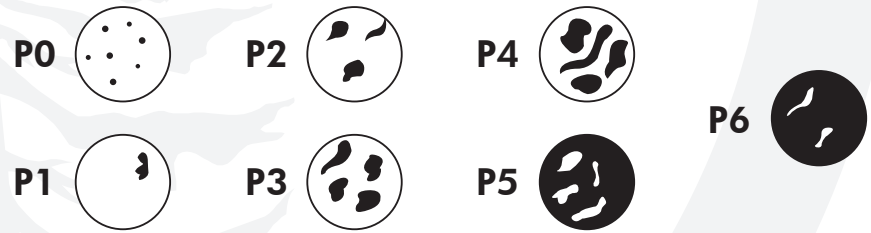
Each layer is assigned a stem dispersal code, however, a large portion of the pattern differences should be captured in the delineation process.

Table 4. Stem Dispersal/Canopy Pattern Codes

Stem dispersal/canopy pattern	Code
Single stems distributed throughout polygon.	P0
Single patch of stems less than the minimum polygon size.	P1
Few patches of stems less than the minimum polygon size, generally small in size and sporadically spaced.	P2
Several patches of stems less than the minimum polygon size, generally large in size and distant from one another.	P3
Several patches of stems less than the minimum polygon size with extensive occurances and close proximity to one another, generally large in size.	P4
Continous canopy with opernings common.	P5
Continous canopy with few openings.	P6

Patches and openings can occur in a variety of shapes circular, irregular or linear.
Minimum polygon size = 1 ha

Figure 6. Stem Dispersal/Canopy Pattern Examples



2.1.4 Average Layer Height

Average layer height is recorded to the nearest meter based on the codominant and dominant trees of the leading species in a layer.

Field Reference data will service to calibrate the interpreter. Refer to 3.0 Field Reference Data Collection.

2.1.5 Height Range

Height Range is the range of tree heights within a polygon, it is only documented for polygons classified as complex. The upper and lower range limits are recorded to the nearest meter (Lower – Upper limit).

Complex structured polygons are those where layers form a pattern, which cannot be effectively described by only one or two distinct layers. These polygons often contain a wide spectrum of tree heights that are intermixed throughout. If a polygon is classified as complex a height range must be included in the understorey label; it is the sole indicator within a label that a polygon is complex.

2.1.6 Species Composition

Conifer species are listed in descending order of occurrence to a maximum of 3 species. The percentage crown closure of each species is indicated in 10% classes with a subscript, e.g., Sw_7Sb_3 = 70-79% Sw and 30-39% Sb. The subscripts must total to 10 (100%). Table 2 Identifies appropriate species that can be included in a conifer label.

Table 2. Tree Species Codes

Tree Species		Code
White spruce	*Picea glauca*	Sw
Engelmann Spruce	*Picea engelmannii*	Sw (Se)
Black spruce	*Picea mariana*	Sb
Lodgepole pine	*Pinus contorta*	P (Pl)
Jack pine	*Pinus banksiana*	P (Pj)
White-bark pine	*Pinus abicaulis*	P (Pa)
Limber pine	*Pinus flexilis*	P (Pf)
Balsam fir	*Abies balsamea*	Fb
Douglas fir	*Pseudotsuga menziesii*	Fd
Alpine larch	*Larix lyallii*	Lt (La)
Tamarack	*Larix laricina*	Lt
Western Larch	*Larix occidentalis*	Lt (Lw)
Alpine fir	*Abies lasiocarpa*	Fb (fa)

2.1.7 Field Check Verifier

When a polygon's classification references field data, a "F" is placed in the polygon label. Refer to figure 4.

2.1.8 Year Checked

When a polygon's classification references field data, the year the field data was collected is indicated at the end of the polygon label. Refer to figure 4.

2.1.9 Minimum Polygon Size

Polygons are delineated to a minimum polygon size of 1 ha.

2.2 Conifer Inventory Classification Examples

- EXAMPLE 1: Single Layer Conifer Inventory Polygon
- EXAMPLE 2: Multi Layer Conifer Inventory Polygon
- EXAMPLE 3: Complex Layer Conifer Inventory Polygon

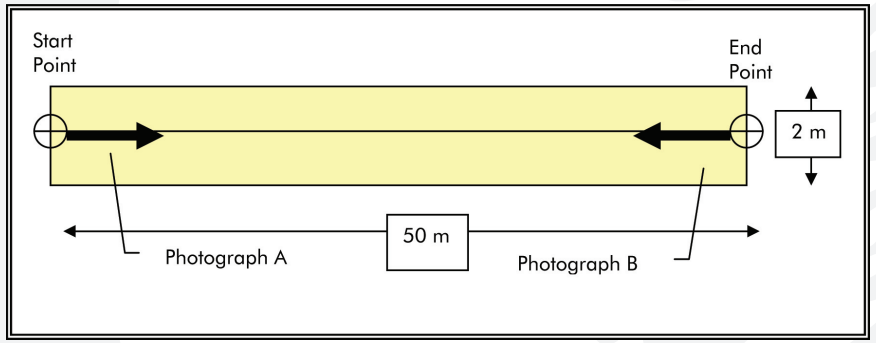
3.0 REFERENCE FIELD DATA COLLECTION

3.1 Transect plot specifications

Photo interpreters subjectively identify the location and orientation of transects so it will better aid them in estimating stem density and origin of conifer understorey layers. Plots are subjectively located in close proximity to road access to increase efficiency.

- Transect plots are 50 meters long by 2 meters wide.

Figure 18. Transect plot



The following information is collected for each transect:

Administrative Information:

- Legal Location
- Date
- Cruiser Initials
- GPS Point Labels – Start Points and End Points are recorded in the Field.
- Azimuth of transect

Tree Measurements:

- Conifer Density by Species and DBH class

All living conifer species greater than 0.3 m in height with greater than half their stem at the point of germination located in the transect plot are dot tallied in their respective diameter (DBH) class. Trees less than 1.3 m and greater than 0.3 m in height are also dot tallied.

- Deciduous Density by Species and DBH Class

All living deciduous species greater than 0.3 m in height with greater than half their stem at the point of germination located in the transect plot are dot tallied in their respective diameter (DBH) class. Trees less than 1.3 m and greater than 0.3 m in height are also dot tallied.

- Sample Trees

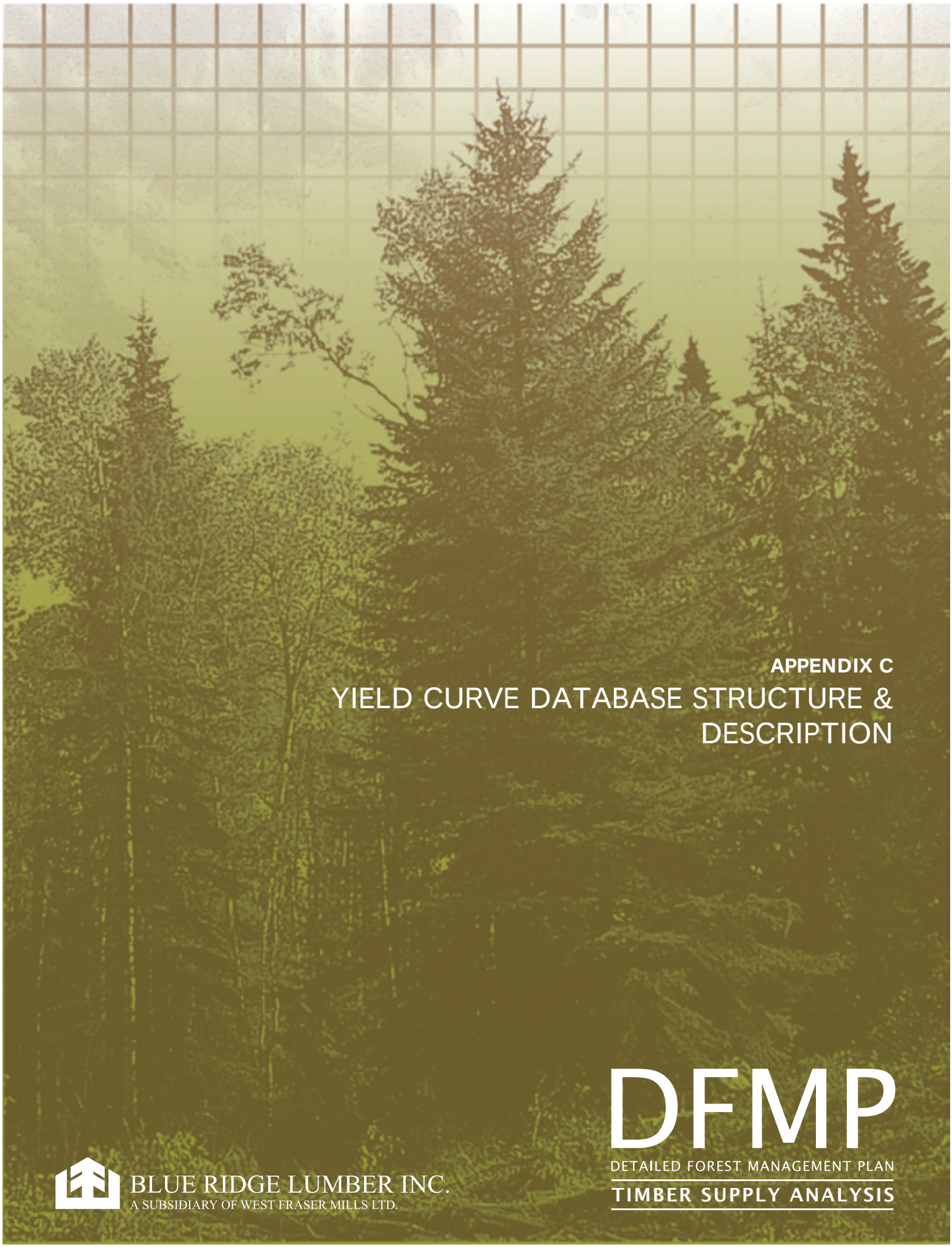
Sample trees represent the average conifer in each height class. They do not need to be located in the transect plot but must be within 50 meters of the transect centre line. If no trees occur within a given height class, an additional tree is to be collected from an adjoining height class. This ensures 5 sample trees are surveyed at each transect plot.

The following is recorded for each sample tree:

- Species – Conifer species only
- Height – To the nearest 0.1 m
- Diameter (DBH) - To the nearest 0.1 cm
- Age at Stump height (0.3 m)

3.1.1 Ground Based Photographs

Photographs are taken at the start point (Photograph A) and end point (Photograph B) of the transect facing the centre (Refer to Figure 15.).



APPENDIX C

YIELD CURVE DATABASE STRUCTURE & DESCRIPTION

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

DFMP
DETAILED FOREST MANAGEMENT PLAN
TIMBER SUPPLY ANALYSIS

Appendix C Yield Curve Database Structure & Description

The following data sets have been prepared and are included on the enclosed DVD:

- Uncompiled plot data (raw_data.dbf) – see Table C-1 for the data structure document;
- Individual tree compilation (tree_data.dbf) – see Table C-2 for the data structure document;
- Plot compilation (ycdata_all.dbf) – see Table C-3 for the data structure document;
- Plot AVI data (ycdata_avi.dbf) – see Table C-4 for the data structure document;
- Predicted 15/10 utilization yields by strata and age class (yc_all.dbf) – see Table C-5 for the data structure document;

Table C-1: Uncompiled Tree Data Structure and Description

Structure for database: raw_data.dbf
Number of data records: 47,033

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
1	NR	Numeric	2	0	Natural sub-region
2	STRATUM	Character	5		Volume sampling stratum
3	TWP	Numeric	3	0	Township
4	RGE	Numeric	2	0	Range
5	MER	Numeric	1	0	Meridian
6	STAND	Numeric	4	0	Forest stand number
7	PLOTNUM	Numeric	4	0	Plot number
8	PTYPE	Numeric	1	0	Plot type ♦ 1 – Variable radius plot ♦ 2 – Fixed area plot
9	PAREA	Numeric	8	3	Plot area (ha) or BAF
10	TREENUM	Numeric	4	0	Tree number
11	SPECIES	Character	2		Tree species
12	DBH	Numeric	6	1	Diameter (cm) at breast height (1.3-m)
13	HGT	Numeric	6	1	Total tree height (m)
14	STUMP	Numeric	5	1	Measured stump diameter (cm – at 0.3-m)
15	LEAN	Numeric	2	0	Lean degrees
16	DBH_AGE	Numeric	3	0	Measured tree age (yrs) at DBH (1.3-m)
17	CSC	Character	1		Cull suspect class
18	D_CODE	Character	2		Damage code
19	O_HGT	Numeric	6	1	Original measured tree height (m)
20	FMU	Character	5		Forest Management Unit
21	AGE	Numeric	3	0	Measured tree age (yrs)
22	CROWN	Character	1		Identified tree crown

Table C-2: Individual Tree Compilation Data Structure and Description

Structure for database: tree_data.dbf
Number of data records: 47,033

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
1	NR	Numeric	2	0	Natural sub-region
2	STRATUM	Character	5		Volume sampling stratum
3	TWP	Numeric	3	0	Township
4	RGE	Numeric	2	0	Range
5	MER	Numeric	1	0	Meridian
6	STAND	Numeric	4	0	Forest stand number
7	PLOTNUM	Numeric	4	0	Plot number
8	PTYPE	Numeric	1	0	Plot type ♦ 1 – Variable radius plot ♦ 2 – Fixed area plot
9	PAREA	Numeric	8	3	Plot area (ha) or BAF
10	TREENUM	Numeric	4	0	Tree number
11	SPECIES	Character	2		Tree species
12	DBH	Numeric	6	1	Diameter (cm) at breast height (1.3-m)
13	HGT	Numeric	6	1	Total tree height (m)
14	STUMP	Numeric	5	1	Measured stump diameter (cm – at 0.3-m)
15	LEAN	Numeric	2	0	Lean degrees
16	DBH_AGE	Numeric	3	0	Measured tree age (yrs) at DBH (1.3-m)
17	CSC	Character	1		Cull suspect class
18	D_CODE	Character	2		Damage code
19	O_HGT	Numeric	6	1	Measured tree height (m)
20	STUMP_C	Numeric	5	1	Calculated stump diameter (cm) ♦ Defaults to measured stump where available
21	HEIGHT_C	Numeric	5	1	Calculated tree height (cm) ♦ Defaults to measured height where available
22	MHGT137	Numeric	5	1	Merchantable tree height (m) ♦ 13/7 Utilization Standard
23	GMV137	Numeric	8	6	Gross merchantable tree volume (m^3) ♦ 13/7 Utilization Standard
24	MHGT1510	Numeric	5	1	Merchantable tree height (m) ♦ 15/10 Utilization Standard
25	GMV1510	Numeric	8	6	Gross merchantable tree volume (m^3) ♦ 15/10 Utilization Standard
26	MHGT1511	Numeric	5	1	Merchantable tree height (m) ♦ 15/11 Utilization Standard
27	GMV1511	Numeric	8	6	Gross merchantable tree volume (m^3) ♦ 15/11 Utilization Standard
28	FMU	Character	5		Forest Management Unit
29	AGE	Numeric	3	0	Measured tree age (yrs)
30	CROWN	Character	1		Identified tree crown

Table C-3: Plot Compilation Data Structure and Description

Structure for database: ycdata_all.dbf
Number of data records: 2,620

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
1	NR	Numeric	2	0	Natural sub-region
2	STRATUM	Character	5		Volume sampling stratum
3	TWP	Numeric	3	0	Township
4	RGE	Numeric	2	0	Range
5	MER	Numeric	2	0	Meridian
6	STAND	Numeric	5	0	Forest stand number
7	PLOTNUM	Numeric	11	0	Plot number
8	PTYPE	Numeric	2	0	Plot type ♦ 1 – Variable radius plot ♦ 2 – Fixed area plot
9	PAREA	Numeric	5	3	Plot area (ha) or BAF
10	AGECLASS	Numeric	4	0	10-year age class based on understorey age for yield curve 11 and overstorey age for all other yield classes. This age class is used for fitting
11	AGECLAS1	Numeric	4	0	10-year age class based on overstorey age only. This age class is used for fitting: ♦ 1 – Conifer and deciduous yield curves for all yield classes ♦ 2 – Deciduous yield curve only for yield curve 11
12	Y_STRAT	Character	9		Yield curve strata
13	YCNUM	Numeric	3	0	Yield curve number
14	YCNUM1	Numeric	3	0	Yield curve number identifying plots used to fit yield curves 12 and 13
15	CUTBLOCK	Numeric	2	0	Identifies plots falling in cutblocks
16	NONMERCH	Numeric	2	0	Identifies plots falling in unmerchantable areas
17	CTRE137	Numeric	12	6	Conifer trees/ha ♦ 13/7 Utilization Standard
18	CVOL137	Numeric	12	6	Conifer volume (m^3/ha) ♦ 13/7 Utilization Standard
19	DTRE137	Numeric	12	6	Deciduous trees/ha ♦ 13/7 Utilization Standard
20	DVOL137	Numeric	12	6	Deciduous volume (m^3/ha) ♦ 13/7 Utilization Standard
21	ATRE137	Numeric	12	6	Aspen trees/ha ♦ 13/7 Utilization Standard
22	AVOL137	Numeric	12	6	Aspen volume (m^3/ha) ♦ 13/7 Utilization Standard
23	PTRE137	Numeric	12	6	Poplar trees/ha ♦ 13/7 Utilization Standard
24	PVOL137	Numeric	12	6	Poplar volume (m^3/ha) ♦ 13/7 Utilization Standard
25	BTRE137	Numeric	12	6	Birch trees/ha ♦ 13/7 Utilization Standard
26	BVOL137	Numeric	12	6	Birch volume (m^3/ha) ♦ 13/7 Utilization Standard
27	CTRE1510	Numeric	12	6	Conifer trees/ha ♦ 15/10 Utilization Standard
28	CVOL1510	Numeric	12	6	Conifer volume (m^3/ha) ♦ 15/10 Utilization Standard

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
29	DTRE1510	Numeric	12	6	Deciduous trees/ha ♦ 15/10 Utilization Standard
30	DVOL1510	Numeric	12	6	Deciduous volume (m^3/ha) ♦ 15/10 Utilization Standard
31	ATRE1510	Numeric	12	6	Aspen trees/ha ♦ 15/10 Utilization Standard
32	AVOL1510	Numeric	12	6	Aspen volume (m^3/ha) ♦ 15/10 Utilization Standard
33	PTRE1510	Numeric	12	6	Poplar trees/ha ♦ 15/10 Utilization Standard
34	PVOL1510	Numeric	12	6	Poplar volume (m^3/ha) ♦ 15/10 Utilization Standard
35	BTRE1510	Numeric	12	6	Birch trees/ha ♦ 15/10 Utilization Standard
36	BVOL1510	Numeric	12	6	Birch volume (m^3/ha) ♦ 15/10 Utilization Standard
37	CTRE1511	Numeric	12	6	Conifer trees/ha ♦ 15/11 Utilization Standard
38	CVOL1511	Numeric	12	6	Conifer volume (m^3/ha) ♦ 15/11 Utilization Standard
39	DTRE1511	Numeric	12	6	Deciduous trees/ha ♦ 15/11 Utilization Standard
40	DVOL1511	Numeric	12	6	Deciduous volume (m^3/ha) ♦ 15/11 Utilization Standard
41	ATRE1511	Numeric	12	6	Aspen trees/ha ♦ 15/11 Utilization Standard
42	AVOL1511	Numeric	12	6	Aspen volume (m^3/ha) ♦ 15/11 Utilization Standard
43	PTRE1511	Numeric	12	6	Poplar trees/ha ♦ 15/11 Utilization Standard
44	PVOL1511	Numeric	12	6	Poplar volume (m^3/ha) ♦ 15/11 Utilization Standard
45	BTRE1511	Numeric	12	6	Birch trees/ha ♦ 15/11 Utilization Standard
46	BVOL1511	Numeric	12	6	Birch volume (m^3/ha) ♦ 15/11 Utilization Standard

Table C-4: Plot AVI Data Structure and Description

Structure for database: YCDATA_AVI.dbf
Number of data records: 2,620

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
1	STRATUM	Character	5		Volume sampling stratum
2	NR	Numeric	2	0	Natural sub-region
3	TWP	Numeric	3	0	Township
4	RGE	Numeric	2	0	Range
5	MER	Numeric	2	0	Meridian
6	STAND	Numeric	5	0	AVI Stand Number
7	PLOTNUM	Numeric	4	0	Plot number (link to plot data)
AVI Overstorey Attributes					
8	MOIST	Character	1		Moisture regime
9	CROWN	Character	1		Crown closure
10	HEIGHT	Numeric	4	1	Stand height (m)
11	SP1	Character	2		Species 1
12	PER1	Numeric	2	0	Species 1 percent
13	SP2	Character	2		Species 2
14	PER2	Numeric	2	0	Species 2 percent
15	SP3	Character	2		Species 3
16	PER3	Numeric	2	0	Species 3 percent
17	SP4	Character	2		Species 4
18	PER4	Numeric	2	0	Species 4 percent
19	SP5	Character	2		Species 5
20	PER5	Numeric	2	0	Species 5 percent
21	SP6	Character	2		Species 6
22	PER6	Numeric	2	0	Species 6 percent
23	NONFOR	Character	3		Non-forest vegetated land
24	STR	Character	1		Stand structure
25	STRVAL	Numeric	2	0	Stand structure value
26	ORIGIN	Numeric	4	0	Stand origin
27	TPR	Character	1		Timber productivity rating
28	TPR_I	Character	1		Interpreted timber productivity rating
29	MOD1	Character	2		Stand modifier 1
30	EXT1	Numeric	2	0	Extent of stand modifier 1
31	YEAR1	Numeric	4	0	Year of stand modifier 1
32	MOD2	Character	2		Stand modifier 2
33	EXT2	Numeric	2	0	Extent of stand modifier 2
34	YEAR2	Numeric	4	0	Year of stand modifier 2
35	MOD3	Character	2		Stand modifier 3
36	EXT3	Numeric	2	0	Extent of stand modifier 3
37	YEAR3	Numeric	4	0	Year of stand modifier 3
38	MOD4	Character	2		Stand modifier 4
39	EXT4	Numeric	2	0	Extent of stand modifier 4
40	YEAR4	Numeric	4	0	Year of stand modifier 4
41	MOD5	Character	2		Stand modifier 5
42	EXT5	Numeric	2	0	Extent of stand modifier 5
43	YEAR5	Numeric	4	0	Year of stand modifier 5
44	MOD6	Character	2		Stand modifier 6
45	EXT6	Numeric	2	0	Extent of stand modifier 6
46	YEAR6	Numeric	4	0	Year of stand modifier 6
47	DAT_SC1	Character	1		Data source 1
48	DAT_YR1	Numeric	4	0	Data source year 1

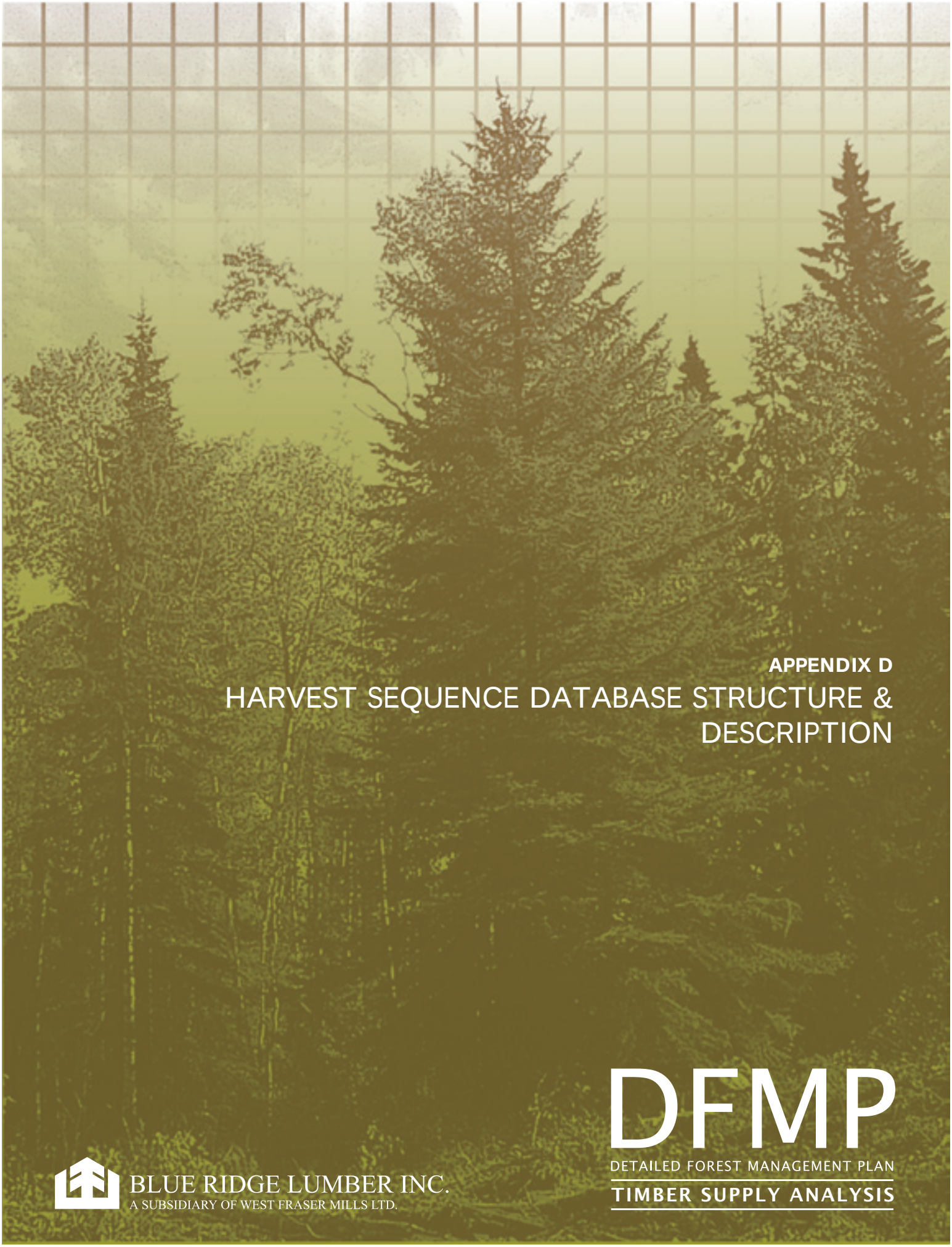
Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
49	DAT_SC2	Character	1		Data source 2
50	DAT_YR2	Numeric	4	0	Data source year 2
AVI Understorey Attributes					
51	SMOIST	Character	1		Moisture regime
52	SCROWN	Character	1		Crown closure
53	SHEIGHT	Numeric	4	1	Stand height (m)
54	SSP1	Character	2		Species 1
55	SPER1	Numeric	2	0	Species 1 percent
56	SSP2	Character	2		Species 2
57	SPER2	Numeric	2	0	Species 2 percent
58	SSP3	Character	2		Species 3
59	SPER3	Numeric	2	0	Species 3 percent
60	SSP4	Character	2		Species 4
61	SPER4	Numeric	2	0	Species 4 percent
62	SSP5	Character	2		Species 5
63	SPER5	Numeric	2	0	Species 5 percent
64	SSP6	Character	2		Species 6
65	SPER6	Numeric	2	0	Species 6 percent
66	SNONFOR	Character	3		Non-forest vegetated land
67	SSTR	Character	1		Stand structure
68	SSTRVAL	Numeric	2	0	Stand structure value
69	SORIGIN	Numeric	4	0	Stand origin
70	STPR	Character	1		Timber productivity rating
71	STPR_I	Character	1		Interpreted timber productivity rating
72	SMOD1	Character	2		Stand modifier 1
73	SEXT1	Numeric	2	0	Extent of stand modifier 1
74	SYEAR1	Numeric	4	0	Year of stand modifier 1
75	SMOD2	Character	2		Stand modifier 2
76	SEXT2	Numeric	2	0	Extent of stand modifier 2
77	SYEAR2	Numeric	4	0	Year of stand modifier 2
78	SMOD3	Character	2		Stand modifier 3
79	SEXT3	Numeric	2	0	Extent of stand modifier 3
80	SYEAR3	Numeric	4	0	Year of stand modifier 3
81	SMOD4	Character	2		Stand modifier 4
82	SEXT4	Numeric	2	0	Extent of stand modifier 4
83	SYEAR4	Numeric	4	0	Year of stand modifier 4
84	SMOD5	Character	2		Stand modifier 5
85	SEXT5	Numeric	2	0	Extent of stand modifier 5
86	SYEAR5	Numeric	4	0	Year of stand modifier 5
87	SMOD6	Character	2		Stand modifier 6
88	SEXT6	Numeric	2	0	Extent of stand modifier 6
89	SYEAR6	Numeric	4	0	Year of stand modifier 6
90	SDAT_SC1	Character	1		Data source 1
91	SDAT_YR1	Numeric	4	0	Data source year 1
92	SDAT_SC2	Character	1		Data source 2
93	SDAT_YR2	Numeric	4	0	Data source year 2
Calculated Fields					
94	SPGRP	Character	2		AVI Overstorey species group assignment ♦ Derived from AVI overstorey only
95	SSPGRP	Character	2		AVI Understorey species group assignment ♦ Derived from AVI understorey only

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
96	OS_FLAG	Numeric	8	0	Classifies overstorey deciduous stands ♦ 0 – Conifer or mixedwood areas ♦ 1 – Deciduous areas with a conifer or mixedwood understorey as determined from AVI ♦ 2 – Deciduous areas with a nonforested or deciduous understorey as determined from AVI
97	STUDY	Numeric	8	0	Identifies townships involved in conifer understorey inventory
98	CONUNDER	Numeric	8	0	Identifies plots determined to have fallen in conifer understorey areas identified from the conifer understorey inventory
99	CON_HT	Numeric	8	0	Conifer understorey inventory – height (m)
100	US_FLAG	Numeric	8	0	Classifies conifer understorey areas ♦ 0 – Conifer or mixedwood areas; Deciduous areas with no conifer or mixedwood understorey ♦ 1 – Deciduous areas with conifer or mixedwood understories (identified in AVI) ♦ 2 – Deciduous areas with an interpreted conifer understorey (conifer understorey program)
101	Y_STRAT	Character	9		Yield curve stratum
102	YCNUM	Numeric	8	0	Yield curve number
103	YCNUM1	Numeric	8	0	Yield curve number identifying yield curves 12 and 13 plots
104	R_SORIG	Numeric	8	0	Revised understorey origin
105	AGE	Numeric	8	0	Stand overstorey age (yrs)
106	SAGE	Numeric	8	0	Stand understorey age (yrs)
107	AGECLASS	Numeric	4	0	10-year age class based on understorey age for yield curve 11 and overstorey age for other yield classes
108	AGECLAS1	Numeric	4	0	10-year age class based on overstorey age only
109	CUTBLOCK	Numeric	2	0	Identifies plots falling in cutblocks
110	NONMERCH	Numeric	2	0	Identifies plots falling in non-merchantable areas
Other Fields					
111	INITIALS	Character	2		Interpreter initials
112	NFL	Character	2		Non-forested vegetated type
113	NFL_PER	Numeric	2	0	Non-forested vegetated percent closure
114	NAT_NON	Character	3		Naturally non-vegetated type
115	ANTH_VEG	Character	3		Anthropogenic vegetated type
116	ANTH_NON	Character	3		Anthropogenic non-vegetated type
117	DATA	Character	1		Data Source 1 identified as follows: ♦ A – Aircraft ♦ F – Field plot ♦ N - Client
118	DATA_YR	Numeric	4	0	Year of Data Source
119	SINITIAL	Character	2		Interpreter initials
120	SNFL	Character	2		Non-forested vegetated type
121	SNFL_PER	Numeric	2	0	Non-forested vegetated percent closure
122	SNAT_NON	Character	3		Naturally non-vegetated type
123	SANTH_VE	Character	3		Anthropogenic vegetated type
124	SANTH_NO	Character	3		Anthropogenic non-vegetated type
125	SDATA	Character	1		Data Source identified as follows: ♦ A – Aircraft ♦ F – Field plot ♦ N - Client
126	SDATA_YR	Numeric	4		Year of Data Source

Table C-5: Predicted Yield Curve Data Structure and Description

Structure for database: YC_ALL.DBF
Number of data records: 324

Field Number	Field Name	Field Type	Field Width	No. of Decimals	Field Description
1	Y_STRAT	Character	9		Yield curve stratum
2	YCNUM	Numeric	9	0	Yield curve number
3	AGECLASS	Numeric	9	0	10-year age class based on understorey age for yield curves 14 to 17 and overstorey age for the other yield classes. This age class is used to predict: conifer volume only for yield curves 14 to 17, Conifer and deciduous volumes for the other yield curves.
4	AGECLASS	Numeric	9	0	10-year age class based on overstorey age only. This age has been adjusted for predicting deciduous volumes for yield curves 14 to 17 as follows: ♦ yield curve 14 – no adjustment ♦ yield curve 15 – adjusted by 20 years ♦ yield curve 16 – adjusted by 50 years ♦ yield curve 17 – adjusted by 80 years
5	CONVOL	Numeric	9	2	Average observed conifer volume (m^3/ha)
6	DECVOL	Numeric	9	2	Average observed deciduous volume (m^3/ha)
7	AC	Numeric	9	4	'A' coefficient – conifer volumes
8	BC	Numeric	9	4	'B' coefficient – conifer volumes
9	CC	Numeric	9	4	'C' coefficient – conifer volumes
10	AD	Numeric	9	4	'A' coefficient – deciduous volumes
11	BD	Numeric	9	4	'B' coefficient – deciduous volumes
12	CD	Numeric	9	4	'C' coefficient – deciduous volumes
13	PCONVOL	Numeric	9	2	Predicted gross conifer volume (m^3/ha) ♦ 15/10 utilization standard
14	PDECVOL	Numeric	9	2	Predicted gross deciduous volume (m^3/ha) ♦ 15/10 utilization standard
15	CONMAI	Numeric	9	2	Gross conifer mean annual increment (m^3/ha/yr) ♦ 15/10 utilization standard
16	DECMAI	Numeric	9	2	Gross deciduous mean annual increment (m^3/ha/yr) ♦ 15/10 utilization standard



APPENDIX D

HARVEST SEQUENCE DATABASE STRUCTURE & DESCRIPTION

BLUE RIDGE LUMBER INC.
A SUBSIDIARY OF WEST FRASER MILLS LTD.

DFMP
DETAILED FOREST MANAGEMENT PLAN
TIMBER SUPPLY ANALYSIS

Appendix D Harvest Sequence Database Structure & Description

The following data has been prepared and are included on the enclosed DVD:

- PFMS Sequence (BRL_PFMS_Sequence.dbf) – see Table D-1 for the data structure document.

Table D-1: PFMS Harvest Sequence

Number of data records: 678,254

FIELD NUMBER	FIELD NAME	FIELD TYPE	FIELD WIDTH	NO. OF DECIMALS	FIELD DESCRIPTION
1	ITNCUT	Numeric	6	0	Identifies the timing of polygons scheduled for harvest (5 year periods)
2	GL130905	Numeric	18	4	Unique spatial link to coverage
3	ENTRY	Numeric	3	0	Identifies the entry number in a polygon