2015 FOREST MANAGEMENT PLAN
CANFOR GRANDE PRAIRIE
FMA #9900037

LANDBASE ASSIGNMENT

Prepared for:

Canfor Forest Products Ltd.
Grande Prairie Division
9401 – 108 Street
Postal Bag 100
Grande Prairie AB Canada T8V 3A3

Prepared by:

Ecora Natural Resource Group Ltd.
#101 – 1584 7th Avenue
Prince George, BC
V2L 3P4

Original Submission: May 30, 2012
Submission Updated: July 31, 2014
AIP Received: September 11 2014
Final Submission: May 1, 2015
Submission Updated: November 30th, 2015

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Updated By:

Jay Greenfield, RPF-ALB (# 1879)
RPF-BC (#3776)
Senior Resource Analyst
Ecora Resource Group Ltd.

Approved By:

COLLEGE OF ALBERTA PROFESSIONAL FORESTERS
MELONIE L. ZAICHKOWSKY
RPF 882

Melonie Zaichkowsky, RPF (# 882)
Forestry Supervisor
Grande Prairie Division
Canadian Forest Products Ltd.

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1 INTRODUCTION

Canfor's Forest Management Plan (FMP) for the Grande Prairie Forest Management Agreement area (FMA) # 9900037 (Figure 1-1) requires a timber supply analysis (TSA) to guide forest management decisions. Canfor's FMP vision is to provide a forest management plan framework for crown lands under Canfor's tenure in Alberta that maintains the ecological integrity and biological diversity of forests and is socially acceptable and economically viable. The TSA will address multiple forest values, non-forest values and landscape features that reflect these ecosystem-based guiding principles.

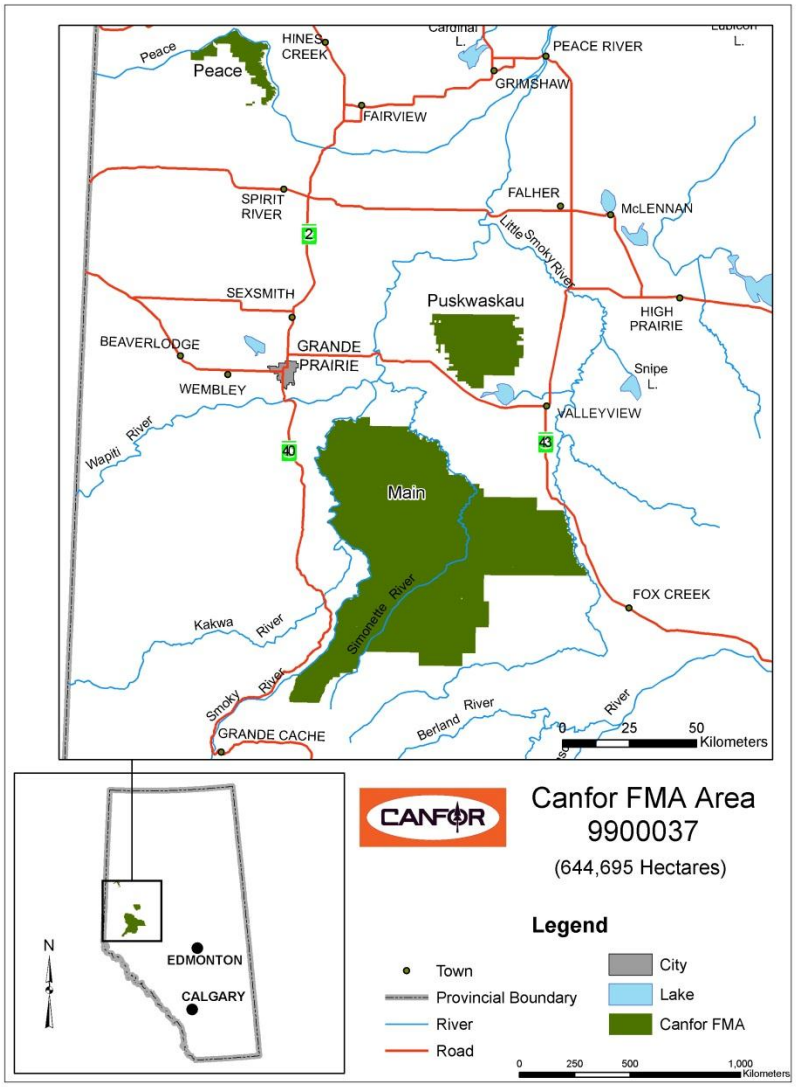

Figure 1-1 Grande Prairie FMA Area Location Map

For the Grande Prairie FMA area, the FMP was developed in accordance with the Alberta Forest Management Planning Standard (April 2006, Version 4.1) which provided a guide for determining the contributing landbase available for timber harvesting.

The Total Gross Landbase (TGLB) is defined as the total FMA area and includes all non-forested and forested land. The TGLB goes through a net down process to remove areas of constraint in which harvesting cannot occur for legal and operational purposes, which results in the Timber Harvesting Landbase (THLB). The THLB is defined as the forested area, which is used to determine the Annual Allowable Cut (AAC) and is sometimes referred to as the active/contributing landbase. The Non-Timber Harvesting Landbase (Non-THLB) includes all lands that do not contribute to the THLB such as: low productivity forested lands that are not suitable for harvesting; and non-forested lands such as clearings. Total Forested Landbase (TFLB) is forested land that includes the low productivity forested areas of the Non-THLB and the THLB.

Landbase assignment defines the landbase available for timber harvesting on the FMA area. This assignment is based on the forest management planning standard, operating ground rules, the most up-to-date landbase exclusions, and economic and technical considerations. The landbase assignment reflects the cooperation of three forest companies possessing timber rights within the FMA area: Canfor, Tolko Industries Ltd. (Tolko), and Norbord Inc., and consultation with Alberta Environment and Sustainable Resource Development (ESRD). Predictably, landbase assignment processes can be expected to change in future analyses as newer data and/or improved methods become available.

This document describes the methods, processes and data used to define the landbase contributing to timber supply within the FMA area.

The Grande Prairie FMA area covers 644,694 hectares, a reduction of 4,464 hectares from the 2003 FMP.

1.1 Summary of Changes since the May 2012 Version

The original version of the Landbase Assignment document was completed and submitted on May 30, 2012. Since this time there has been significant discussion around a number of modelling assumptions – primarily how caribou habitat requirements will be incorporated into the timber supply model. While the final caribou assumptions are still being developed by ESRD, there have been some additional changes to modelling assumptions since the time the

Landbase Assignment Document was initially submitted in May of 2012. Each of these changes are summarized below and are discussed in greater detail within the document

- The effective date of the analysis has been moved from May 1, 2010 to May 1, 2014. Harvesting disturbances to this date have been reflected and the inventory ages have been updated to 2014 (Section 2.1).
- In order to remove sliver polygons and reduce the fragmentation of the data set, seismic lines have been removed spatially from the data set. The area associated with seismic lines has been applied as a yield curve reduction based on the area occupied by seismic lines within each yield group (Section 5.2.15).
- As part of a provincially sponsored Mountain Pine Beetle (MPB) Rehabilitation Research Program, previously planned cutblocks in the Peace Block that are no longer considered to be economically viable due to the effect of MPB have been identified as potential rehabilitation opportunities under this program. These blocks have been removed from the (THLB) Timber Harvesting Landbase (Section 5.2.14).
- Consistent with updating the effective date of the analysis, landbase dispositions (DIDs) have been updated to May 1, 2014. The new DIDs layer has been spatially amalgamated with the existing clearings information from the AVI to produce a single clearings layer. The previous DIDs add-on step in the netdown has been modified to reference this new updated layer (Section 5.2.12).
- Table 3-8 has been updated to reflect vegetation management to enhance Caribou habitat within the Caribou habitat zones.

2 DATA LAYERS AND METHODS

The following data sources were compiled to define the landbase contributing to timber supply:

1) Updated administrative boundary;
2) Updated Alberta Vegetation Inventory (AVI) 2.1.1;
3) Timber Supply Units;
4) Natural sub-region boundaries;
5) Digital integrated dispositions;
6) Seismic lines;
7) Steep slopes;
8) Gravel pits;
9) Gravesites;
10) Trumpeter swan protected areas;
11) Grizzly bear boundaries;
12) Barred owl;
13) Wildlife licks;
14) Riparian management areas;
15) Updated caribou management zones;
16) Seed deployment areas for breeding zones B1 and G1;
17) Recreation leases;
18) Rehabilitation blocks,
19) Canfor silviculture records; and
20) Existing and planned cutblocks.

To assist the auditing of the landbase assignment process, the landbase data fields are referenced in italics in the form *[FIELD]*.

2.1 Effective Date

The effective date used for the timber supply analysis modelling in the Canfor Grande Prairie FMA area is May 1, 2014. All datasets used in this document were considered up-to-date and correct as of the effective date.

2.2 Landbase Inventory

AVI is the primary inventory dataset covering the Canfor Grande Prairie analysis area; it provides a continuous geo-spatial coverage over the three FMA area parcels: Peace; Puskwaskau; and Main.

The AVI for the Grande Prairie FMA area is current to May 1, 2010. The inventory updates were completed over a 2.5-year period (initiated in 2009 and completed in 2011); the final product was standardized to AVI version 2.1.1 specifications.

The Resource Information Management Branch of ESRD audited the inventory and advised Canfor that the inventory met the standards for an AVI as stated in the audit report of 08/09/2011 (Appendix A). All AVI related information was supplied by GreenLink Forestry Inc.

Canfor's AVI was interpreted from 1:30,000 color IR aerial photography acquired over three years from 2006 to 2008 (Figure 2-1). The southern portion of the main block was flown in the summer during leaf-on conditions. The remainder of the main block as well as the Puskwaskau and Peace block was flown in the spring during leaf-off conditions.

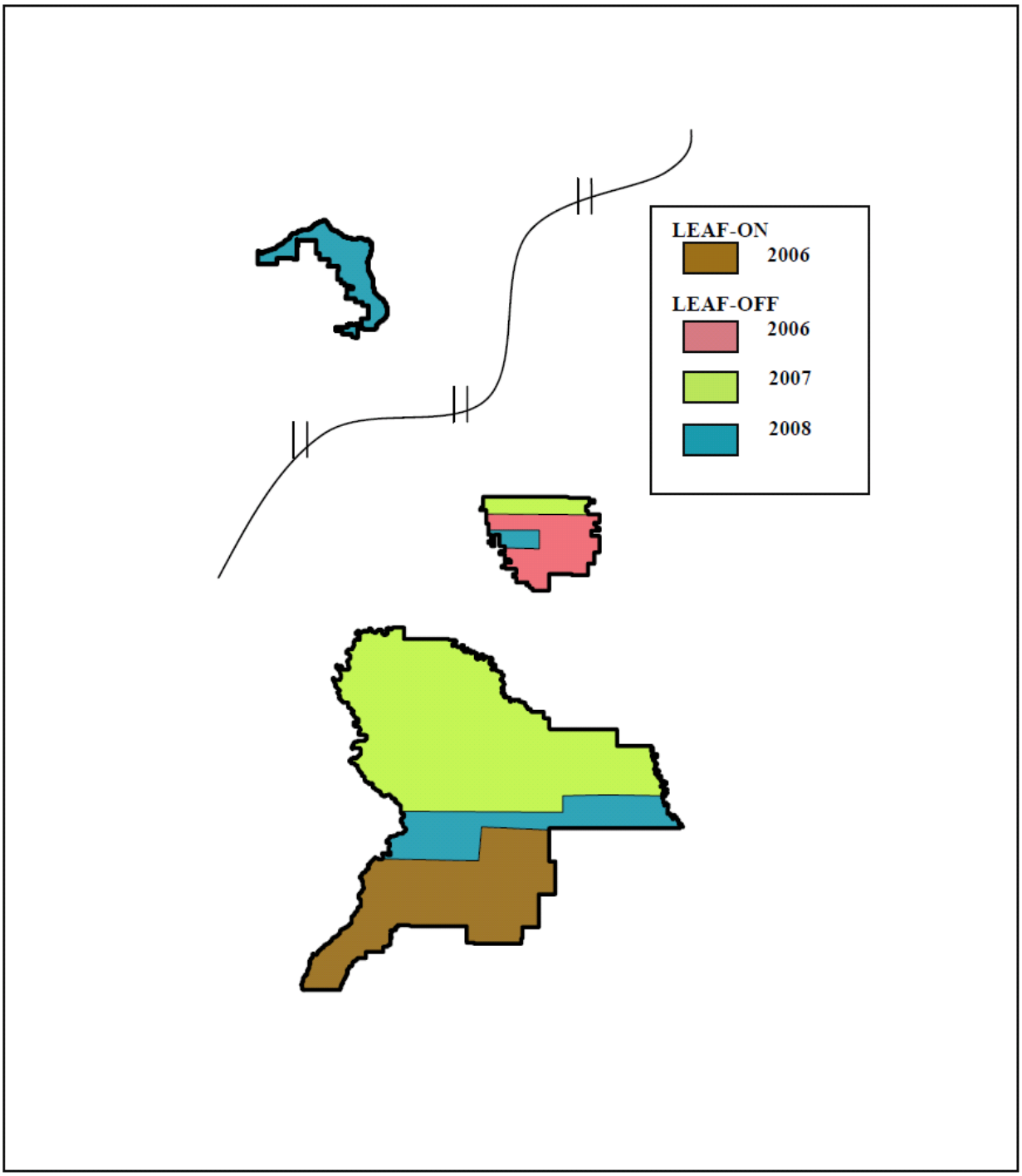

Figure 2-1 Aerial Photography Coverage by Year Flown

Several enhancements were made to the AVI outside the AVI specifications. These included.

- Softcopy Inventory;
- Updated retrofit of original line-work;

- Use of LiDAR data for interpreting stand heights;
- Addition of a second understory call, referred to as the tertiary layer;
- Addition of an understory density class for both the second and tertiary layer; and
- Areal field understory survey of deciduous dominated stands in the leaf-on imagery areas.

The enhancements are part of a broader need for Canfor to have a more spatially accurate picture of the true coniferous understory occurring on the FMA.

2.2.1 Softcopy

The first Canfor AVI was done using the traditional hardcopy method of inventorying (approved by SRD July 15, 1997). The hardcopy method is based on traditional photometric techniques summarized as follows:

1. Conventional (film-and-print) aerial-survey at desired scale and emulsion;
2. Delineation and interpretation of AVI 2.1.1 attributes using stereo-glasses and directly onto stereo-pair air-photo prints;
3. Key punch attributes into excel or ascii environment;
4. Transfer delineation to orthophoto;
5. Digitize delineation from orthophoto using Microstation digitizing software;
6. Import digitized delineation into ESRI spatial environment for cleaning;
7. Join delineation to attributes; and
8. Final QC and delivery to client.

The softcopy method is based on conventional or digital photography in a computerized 3-D environment. The methods are summarized in Figure 2-2.

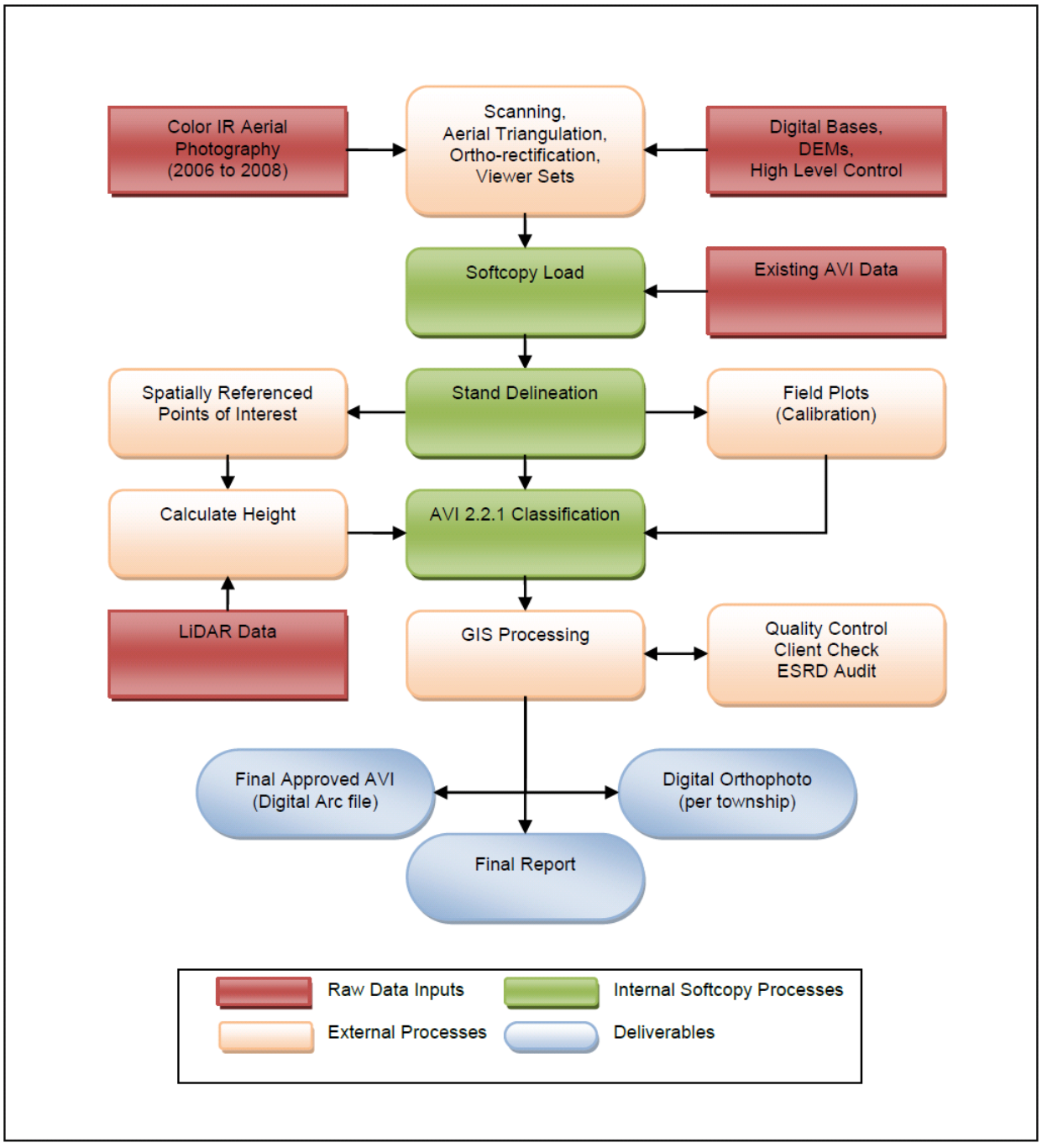

Figure 2-2 Softcopy Methods

2.2.2 Retrofit

The intention was to re-interpret polygons delineated for the previous AVI. However, much of the line work required updating to account for the differences in scale between the original AVI, which was done using the traditional hardcopy method and the new AVI done in the softcopy environment.

2.2.3 LiDAR

LiDAR was used and provided a very accurate and reliable tool to approximate stand-height. LiDAR data was processed and used in the following two ways:

- Digital Canopy Height Models (raster format); and
- Frequency distributions (tabular format).

2.2.4 Tertiary Layer

For operational purposes, interpreters were allowed to discern a second coniferous understory if it was clear that two distinct understory cohorts existed. The attributes collected for the second understory were exactly the same as those of the first understory except for non-forested attributes.

2.2.5 Understory Density Classes

Understory density classes were assigned to both the first (if coniferous tree species occurred) and the second coniferous understory. The classes were assigned as depicted in Table 2-1.

Table 2-1 Understory Density Class Assignment

Code	Stems/Ha Class
1	0
2	<100
3	101-250
4	251-500
5	501-750
6	751-1000
7	>1000

2.2.6 Understory Aerial Field Survey

In March, 2011, Canadian Forest Products Ltd. (Canfor) submitted a plan to ESRD to conduct an aerial field-based coniferous understory survey to further enhance and validate a recently

completed AVI. The plan was approved by ESRD on April 4th, 2011 and the results of the enhancement survey were approved in June, 2011[1].

In summary, stands having greater than or equal to 80% deciduous tree species component (Aw, Pb & Bw) in the overstory and having less than 250 stems/ha of coniferous tree species in the understory were surveyed. Overall, 1,122 polygons (40% of the total) were updated as a result of the field survey.

The greater amount of coniferous understory seen in the leaf-off compared to the leaf-on areas was confirmed by the field survey. Earlier concerns about inaccurately estimating the crown-closure of deciduous stands using leaf-off photography was also remedied by recent advances with LiDAR data and digital photogrammetric technologies.

2.3 Tools Used

Several software applications were used to store, process, analyze and retrieve the timber harvest landbase input files including: ArcGIS™ 10.0, Python 2.4.1, and PostgreSQL database programming software package. ArcGIS™ 10.1 was the geographic information system (GIS) software used to manage the landbase feature class and coverages.

2.4 GIS Processing and Resultant File Geodatabase

All data sets were converted to an ARC/INFO coverage format from the source data, which was provided as a geodatabase. Each coverage was either maintained or re-projected to UTM, Zone 11, NAD 83 Datum.

Attributes that were identified by Canfor, or were required for landbase assignments or timber supply analysis, were maintained from each input layer. Many attributes that were deemed unnecessary were removed to meet coverage file size restrictions. In cases where multiple coverages include fields of the same name, field names were altered.

2.5 Landbase Stratification

The THLB (forested-harvestable) and Non-THLB (forested-non-harvestable) was determined using the resultant landbase and consisted of the following process:

- Determine administrative designations;

[1] Results of Field Understory Enhancement Survey for Forest Management Agreement 9900037. Greenlnk Forestry Inc. June 2011.

- Prepare attribute data;
- Update the cutblock information;
- Collect stand structure variables;
- Identify subjective deletions;
- Assign land use dispositions;
- Determine reserve status and unique areas;
- Identify other necessary landbase stratification elements; and
- Determine non-forested and horizontal stand area adjustments.

2.5.1 Administrative Designations

Administrative designations within the Forest Management Agreement area (FMA) are legal and operational (timber supply unit) boundaries that include:

- Forest Management Agreement *[FMA_CODE]* – The FMA area boundary was based on the spatial layer provided by ESRD. Total FMA area was equal to sum of *[AREA]* where *[FMA_CODE]* was equal to 'C'. Netdown analysis was only performed in this area. Attributes for all other polygons remained empty or were assigned the value of zero; and
- Canfor Timber Supply Unit *[TS_UNIT]* – areas internally defined by Canfor to assist with operational activities and MPB outbreaks. Timber supply units may be used during the timber supply modelling process to control harvest location and access. The timber supply units have been further subdivided in to sub-units. There are 63 timber supply sub-units [TS_SUBUNIT] defined by contiguous operationally and economically important zones within the FMA area.

2.5.2 Preparation of Attribute Data

SCHEDULE_A was created following a series of GIS overlays of those layers that contribute exclusively to the definition of the THLB, specifically:

1) Additional Dispositions;
2) AVI;
3) FMA Boundary;
4) Government Deletions;
5) Gravel Pits;

6) Gravesites;
7) Parabolic Sand Dunes;
8) Recreation Leases;
9) Riparian - Boundary Rivers;
10) Riparian - Rivers and Lakes;
11) Riparian - Streams;
12) Seismic - FLMF;
13) Seismic - Outside FLMF;
14) Slope Classes;
15) Trumpeter Swans;
16) Rehabilitation Blocks; and
17) Wildlife Licks.

During the THLB assignment process the SCHEDULE_A database provided input for the THLB assignment program prepared in Python. Following the execution of the Python program the resulting THLB definition is dissolved and included in the SCHEDULE_B. The applicable data layers are described in Appendix B.

SCHEDULE_B was created following an overlay of SCHEDULE A and a series of layers that contribute exclusively to non-timber management objectives. The layers employed in the overlay are described as follows:

1) THLB Definition (derived from the SCHEDULE_A);
2) Caribou Management Zones;
3) Forest Management Units;
4) Genetic Breeding Region B1;
5) Genetic Breeding Region G1;
6) Grizzly Bear;
7) Natural Regions and Sub-regions;
8) Proposed Blocks;
9) Recreation Leases;
10) Seismic - FLMF;
11) Seismic - Outside FLMF;
12) Timber Supply Units; and
13) Watersheds.

SCHEDULE_B database was created following a dissolve of sliver polygons on SCHEDULE_B followed by an export of a file geodatabase attribute table. These layers are also described in Appendix B.

The list of fields, their types, and allowable codes for SCHEDULE_A and SCHEDULE_B are provided in Appendix C. The sliver removal process is described in Appendix D.

2.5.3 Broad Cover Group Assignment

Stand structure assignment is developed to assign all forested polygons to broad cover groups and yield strata in the FMA area. Broad cover group attributes were developed as a function of the AVI tree species and percentage of those tree species.

The deciduous and coniferous percent values in the primary story of management were used to assign broad cover groups (BCG). The assignment rules are presented in Table 2-2.

Table 2-2 Summary of Rules Used to Assign Broad Cover Group

Broad Cover Group	Percent Deciduous %	Percent Coniferous %
D	>= 80	<20
DC	50 - 79	21-50
CD	21 - 50	50-79
C	<20	>=80

All stands are assigned to the coniferous/deciduous (CD) or deciduous/coniferous (DC) cover group based on the coniferous or deciduous leading species group, respectively. If the leading species group in 50-50 stands is coniferous, stands are assigned a CD broad cover group; if the leading species group is deciduous, stands are assigned a DC broad cover group. Pure deciduous and coniferous broad cover groups are identified as D and C, respectively.

By default, the values in the story of primary management broad cover group *[STD_BCG]* field are set to NULL.

Values are assigned to broad cover group [*STD_BCG*] as follows:

1) If percentage of conifer is greater or equal to 80 then broad cover group is assigned the value ’C’;
2) If percentage of conifer is greater or equal to 50 then broad cover group is assigned the value ’CD’;

3) If percentage of conifer is greater than 20 then broad cover group is assigned the value ’DC’; or
4) If percentage of conifer less than or equal to 20 then broad cover group is assigned the value ‘D’.

3 CUTBLOCK ASSIGNMENT

3.1 Identifying Cutblocks

All cutblocks to May 1, 2010 are identified in the resultant database using the clearcut field [*MOD1*] and timber year [*TIMBER_YR*]. The polygon is considered to be a cutblock if *[TIMBER_YR]* is not empty and *[MOD1]* is "CC".

3.2 Linking Cutblock and Alberta Regeneration Information System (ARIS) Information

All cutblocks that were harvested prior to May 1, 2010 have been retained in the approved AVI. These cutblocks can be identified by the clearcut modifier [*MOD1*]. Cutblock attributes in the AVI include opening number [*OPENING_NU*], harvest block identification [*BLOCK_ID*], skid clearance date [*SC_DATE*] and timber year [*TIMBER_YR*].

Reconciliation of areas harvested after March 1, 1991 have been completed to ensure that ARIS records are consistent with the landbase information for each opening as described in the Alberta Forest Management Planning Standard, standard 3.11, Annex 1 and in the ARIS records validation procedures.

In addition to area reconciliation, Canfor, Norbord, and Tolko cutblock information was assembled in order to represent past, present and future harvesting activities.

Silviculture data was used to assign cutblock age, broad cover groups, and leading species of the regenerating stand for all blocks harvested post March 1, 1991.

Canfor's FMP 2012 regeneration strata are described in Table 3-3.

Table 3-3 Regeneration Strata

Broad Cover Group	Regenerated Yield Trajectory (leading + secondary species)	Transitions Toward Climax	Species Proportions	Code
D	Deciduous	No transition anticipated. Stand structure remains pure deciduous.	>80% deciduous species	D-Hw
DC	Hardwood/Spruce	No transition anticipated. Stand structure remains a deciduous leading mixedwood.	>50% deciduous species and >30% spruce leading coniferous species	DC-HwSx
CD	White Spruce/Hardwood	No transition anticipated. Stand structure remains a coniferous leading mixedwood.	>50% white spruce leading coniferous species and >30% deciduous species	CD-SwHw
CD	Pine/Hardwood	No transition anticipated. Stand structure remains a coniferous leading mixedwood.	>50% pine leading coniferous species and >30% deciduous species	CD-PlHw
C	White Spruce pure or leading	No transition anticipated. Stand structure remains pure coniferous.	>80% white spruce leading coniferous species	C-Sw
C	Pine pure or leading	No transition anticipated. Stand structure remains pure coniferous.	>80% pine leading coniferous species	C-Pl
C	Black Spruce pure or leading	No transition anticipated. Stand structure remains pure coniferous.	>80% black spruce leading coniferous species	C-Sb

The regenerating strata with pine and/or white spruce are further divided into base and genetic components for the purpose of yield curve assignment to account for enhanced yield due to tree improvement using genetic stock.

Stands harvested between May 1, 2010 and May 1, 2014 have had their age updated according to the skid clearance date [SC_DATE] where [AGE_2014] = [SC_DATE] - 2014. These stands have been regenerated according to the regeneration transition in Table 3-8

3.3 Cutblock Rules

All cutblocks are classified using a set of cutblock rules as shown in Figure 3-1.

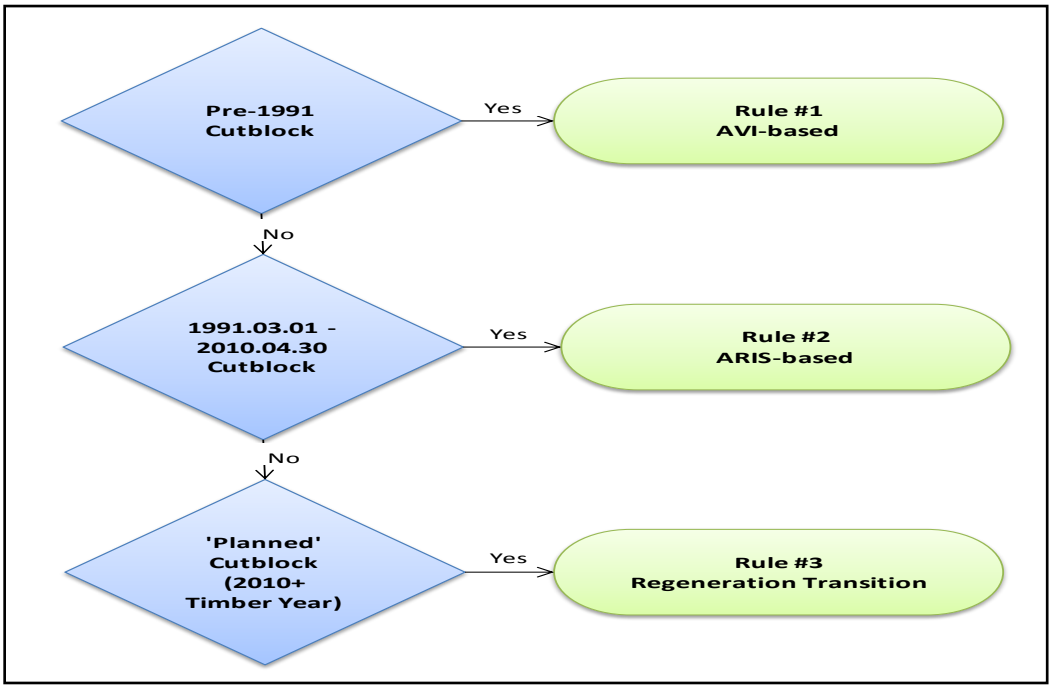

Figure 3-1 Cutblock Rules

The cutblocks are divided into 3 categories based on harvest date:

1. **Rule 1 (R1)**: AVI-based cutblocks harvested prior to March 1, 1991. These blocks are assigned to natural yield strata based on the photo-interpreted AVI attributes.
2. **Rule 2 (R2)**: ARIS-based cutblocks harvested between March 1, 1991 and May 1, 2010. The attributes of these cutblocks are derived based on ARIS records (most recent regeneration survey results and declarations).
3. **Rule 3 (R3)**: Regeneration transitions are based on planned/designed cutblocks that are going to be harvested after the THLB effective date. Cutblocks that have already been cut after the effective date will be hard-wired for harvest in the first period of the timber supply analysis. All planned and future cutblocks will regenerate according to Canfor's regeneration transition rules.

Each polygon in the regenerating landbase is assigned to a cutblock rule. The final area distribution by cutblock rule is summarized in Table 3-4.

Table 3-4 Cutblock Rule Area Summary within the Timber Harvesting Landbase[2]

Rule ID	Description	Strata Source	Area (ha)	Total (%)
R1	Pre-1991 cutblocks	AVI	35,200	35%
R2	Post-1991 based cutblocks	ARIS	51,927	51%
R3	Planned/Designed cutblocks	Regeneration Transition	14,263	14%
Total			101,390	100%

As depicted in Table 3-5, there were 11 cutblocks harvested after March 1, 1991 for which we were unable to obtain silviculture records. These include some older blocks along the FMA boundary that were harvested by other licencees outside the FMA and some deciduous blocks allocated by SRD where operators were exempted from reforestation obligations. Given that 90% of the total area (104 ha) was located in blocks harvested between 1991 and 1993, we used the pre-1991 cutblock rules and assigned stratum and origin based on the AVI information.

Table 3-5 Harvested Cutblocks Post 1 March 1991 with no Silviculture Information

Opening Number	Block ID	Skid Clearance Date	Management Unit	Area (ha)
6020643509	G34LTP1	1993	MAIN	4.4
6050590260	E63PG1	1993	MAIN	16.3
6050590330	E63PG3	1993	MAIN	11.9
6050590450	E63PG4	1993	MAIN	15.3
6050590560	E63PG5	1993	MAIN	8.9
UNKNOWN	G31UK01	2004	MAIN	4.0
5250713191A	5250713191A	1992	PUSK	13.5
5260722428A	5260722428A	1993	PUSK	5.7
5260722489A	5260722489A	1993	PUSK	5.0
5260723643A	5260723643A	1993	PUSK	6.1
UNKNOWN	P35UK02	2000	PUSK	13.3

The cutblock rules are used to determine the following regenerating stand attributes:

- Harvest Date [*HRV_DATE*];
- Stand Origin [*STD_ORIGIN*];
- Harvest Year [*HRV_YEAR*];

[2] All forested stands without cutblock information are natural stands and are assigned cutblock rule ‘R0’.

- Story of Primary Management [*STD_SOPM*];
- Stand Broad Cover Group [*STD_BCG*];
- Stand Crown Closure Class [*STD_CC*];
- Stand Timber Productivity Rating [*STD_TPR*];
- Stand Conifer Percent [*STD_PCTCON*];
- Stand Deciduous Percent [*STD_PCTCON*];
- Stand First Species [*STD_SP1*] and Percent [*STD_SP1P*];
- Stand Second Species [*STD_SP2*] and Percent *[STD_SP2P*];
- Stand Third Species [*STD_SP3*] and Percent [*STD_SP3P*];
- Stand Height [*STD_HT*];
- Percent of Genetic Stock [*STD_PCTGEN*]; and
- Stand Stratum [*STD_STRATUM*].

Regenerating stand age [*STD_AGE*] is calculated based on stand origin [*STD_ORIGIN*] using the following equation:

[STD_AGE] = 2010 - [STD_ORIGIN]

The following sections outline the specifics of the cutblock rule assignment procedures.

3.3.1 Cutblock Rule 1 (R1) – Pre-1991 Openings

Cutblock Rule 1 (R1) applies to openings harvested prior to March 1, 1991. These blocks are assigned to natural yield strata based on the photo-interpreted AVI attributes and the natural landbase stratification rules.

Attributes are assigned as per the following rules:

1. Harvest rule [*STD_RULE*] is assigned to ‘R1’.
2. Story of Primary Management [*STD_SOPM*] is based on the designated layer [*LAYER*] as per the combination rules described in Section 5.2. Stands assigned to [*STD_SOPM*] = 1 indicate AVI overstory is the story of primary management while stands assigned to [*STD_SOPM*] = 2 indicate AVI understory is the story of primary management. When AVI layers are combined [*STD_SOPM*] is assigned 9. Stands assigned to (NAT-6) with significant conifer understory in the tertiary layer are assigned [*STD_SOPM*] = 3 based

on the conifer understory report[3]. Cutblocks with two interpreted forested layers that are not combined ([*LAYER*] <> 9) are assigned based on the understory (*STD_SOPM*=2).

3. Stand origin [*STD_ORIGIN*] is based on the origin of the story of primary management (*STD_SOPM*). Deciduous stands with significant conifer understory (NAT-6) were assigned based on the conifer understory report[3].
4. Stand crown closure class [*STD_CC*] is based on the density call of the STD_SOPM [*DENSITY*] as per layer combination rules described in Section 5.2. Deciduous stands with significant conifer understory (NAT-6) were assigned based on the STD_SOPM defined above.
5. Stand TPR [*STD_TPR*] is based on the TPR of the *STD_SOPM* [*CTPR*] as per layer combination rules described in Section 5.2. Deciduous stands with significant conifer understory (NAT-6) were assigned based on the [*STD_SOPM*] defined above.
6. Stand species composition variables [*STD_SP1-STD_SP3* and *STD_SP1P-STD_SP3P*) as well as conifer and deciduous percent (*STD_PCTCON, STD_PCTDEC*) are based on the STD_SOPM (*CSP1-CSP3,CSP1_PER-CSP3_PER, SOFTPCT, HARDPCT*) as per layer combination rules described in Section 5.2.
7. Stand height [STD_HT] are based on the *STD_SOPM* [*CHEIGHT*] as per layer combination rules described in Section 5.2. Deciduous stands with significant conifer understory (NAT-6) were assigned based on the [*STD_SOPM*] defined above.
8. Stand broad cover group [*STD_BCG*] is based on the broad cover group of the *STD_SOPM* [*CBCG*] as described in Section 5.7. Deciduous stands with significant conifer understory (NAT-6) were assigned with a value 'Du'.
9. Stand yield stratum [*STD_STRATUM*] is based on the assigned natural yield group [*YG*] (NAT-1 to NAT-17) as per the process described in Sections 5.8 and 5.9.
10. Percent of genetic stock [*STD_PCTGEN*] was assigned to 0%.

Multi-story stands with 2 forested layers were treated based on the height and age difference of the 2 layers. In case of a residual overstory (LAYER=1), the understory layer was designated as the STD_SOPM and the understory species composition and origin were used to assign the stand age and stratum. If the 2 forested layers were combined (LAYER=9) based on the rules for natural stands then the combined species composition was used to define the stratum and

[3] Results of Field Understory Enhancement Survey for Forest Management Agreement 9900037. Greenlnk Forestry Inc. June 2011.

stand origin was based on the origin of the understory. The area summary is presented in Table 3-6.

Table 3-6 Area Summary of pre-1991 Cutblocks

Natural Strata	Main	Puskwaskau	Peace	Total (ha)
NAT-1	29		17	46
NAT-2	80		51	131
NAT-3	6,183	37	1,623	7,843
NAT-4	14	4	32	49
NAT-5	965		3	968
NAT-6	3,706	33	1,835	5,575
NAT-7	50		8	57
NAT-8	2,961		1	2,962
NAT-9	4,345		129	4,474
NAT-10	1,198			1,198
NAT-11	2,461	23	3	2,487
NAT-12	9			9
NAT-13	0			0
NAT-14	98			98
NAT-15	1,203		208	1,410
NAT-16	1,472		103	1,574
NAT-17	5,796	6	514	6,315
Total	**30,570**	**102**	**4,527**	**35,200**

3.3.2 Cutblock Rule 2 (R2) – Post-1991 Openings

Cutblock Rule 2 applies to cutblocks harvested between March 1, 1991 and May 1, 2010. These blocks are assigned to regenerated strata based on ARIS records (most recent regeneration survey results and declarations).

All of these cutblocks have been linked with ARIS. The reconciliation process was completed in March 2014 for all blocks harvested after March 1, 1991 as described in the Alberta Forest

Management Planning Standard and in the ARIS records validation procedures to ensure that all areas and yield stratum assignments are consistent with the information contained in ARIS[4].

Attributes are assigned as per the following general rules:

1) Harvest rule [*STD_RULE*] is assigned to 'R2'.
2) Stand [*STD_SOPM*] is assigned to 1 (overstory).
3) Stand broad cover group [*STD_BCG*] is assigned based on the ARIS designation/declaration as per protocols described in the ARIS records validation procedures document. Assignments are as follows:

STD_BCG='C' where the ARIS designation is ['CS','DS','HS' or 'SS']
STD_BCG='D' where the ARIS designation is ['HH']
STD_BCG='CD' where the ARIS designation is ['CC','DC','HC' or 'SC']
STD_BCG='DC' where the ARIS designation is ['CD','DD' or 'HD']

Canfor also introduced the new designation codes for the RSA surveys as follows:

STD_BCG='D' where	CFPL0301 - Deciduous - Hwd
STD_BCG='DC' where	CFPL0302 - Hwd/Sx
STD_BCG='CD' where	CFPL0303 - Sw/Hwd or
	CFPL0304 - Px/Hwd
STD_BCG='C' where	CFPL0305 - Sw or
	CFPL0306 - Px or
	CFPL0307 - Sb

- Stand crown closure class [*STD_CC*] is assigned to fully-stocked 'C' density.
- Stand TPR *[STD_TPR*] is assigned to 'G'.
- Stand yield stratum [*STD_STRATUM*] is based on ARIS designation/declaration defining [*STD_BCG*] and a detailed analysis of linked planting and silviculture treatment records.
- Percent of genetic stock [*STD_PCTGEN*] is based on the percentage of stems planted with genetic stock (HASOC seedlot) for each cutblock.

There were 2,590 cutblocks of 52,478 hectares that were linked with ARIS information, detailed planting records and silviculture history. ARIS designations were used to derive the broad cover

[4] Canfor has been working towards the completion ARIS validation and is approximately 85% complete. Expected completion date is March 1, 2014.

type following standard protocols. Planting records were used to define species composition for openings with no survey information.

There were 115 hectares in cutblocks with NSR condition resultant from a performance survey with a total stocking <= 50%. These areas will be removed from the THLB as per protocols described in the 'ARIS records validation procedures' document.

Openings with total stocking greater than 50% but less than 80% were assigned to a regenerating yield stratum based upon the component D and C stocking as reported in ARIS, and will be assigned to a yield assumption scaled proportionately to the total reported stocking for each individual block as per protocols described in the ARIS records validation procedures' document.

In all instances the landbase designation defined the broad cover group (C/CD/DC/D) and the leading conifer species identified the regenerating stratum as presented in Table 3-7.

Table 3-7 Area Summary of post-1991 Cutblocks by Regeneration Stratum

Regen Stratum	Main	Puskwaskau	Peace	Total (ha)
C-Pl	18,296	222	38	18,555
C-Sb	1,341		72	1,414
C-Sw	15,501	532	1,783	17,816
CD-PlHw	1,091	105	6	1,202
CD-SwHw	4,968	148	2,168	7,285
DC-HwSx	934	93	494	1,521
D-Hw	2,428	20	1,686	4,135
Total	**44,560**	**1,120**	**6,247**	**51,927**
Number of Blocks	2,191	350	49	2,590

** based on Performance Survey result with <=50% stocking; to be removed from the productive landbase as per ARIS records validation procedures*

3.3.3 Cutblock Rule 3 (R3) – Harvesting After May 1st, 2010

All stands harvested after May 1, 2010, all currently planned harvest blocks, and all future harvesting in the model follow the R3 cutblock rule.

Cutblocks harvested between May 1, 2010 and May 1, 2014 have their age updated based on the skid clearance date ([AGE_2014] = 2014 - [SC_DATE]). Cutblocks harvested after the effective date will be hard-wired for harvest in the first period in the timber supply analysis. All planned and future cutblocks will regenerate according to Canfor's regeneration transition rules.

Canfor Grande Prairie, Norbord, and Tolko operations have identified a number of future planned and designed blocks. Cutblock Rule 3 captures these planned blocks along with existing cutblocks that were harvested after the 2010 AVI update. This includes blocks harvested between May 1, 2010 and May 1, 2014.

Planned cutblocks for Norbord, Tolko, and Canfor were amalgamated into a single blocks file by Canfor. All planned harvests were assigned [LOG_YEAR] attribute of 2015 or greater. These stands will be transitioned to the appropriate R3 yield group within the model according to Table 3-8. These blocks are scheduled in the model according to the [LOG_YEAR] attribute.

3.4 Regeneration Transition

Canfor's regeneration transition described the transition of natural stand yield groups (1-17) to the regenerated strata (Table 3-8). This table has been updated to reflect vegetation management to enhance Caribou habitat within the Caribou habitat zones.

Table 3-8 Regeneration Transition

Natural Yield Group		Regenerated Stratum		Caribou Management Area	
Code	Description	Base	Genetic	Base	Genetic
1	AW+(S)-AB	D-Hw1-B		D-Hw1-B	
2	AW+(S)-CD	D-Hw2-B		D-Hw2-B	
3	AW/SW/PBSW/BWSW	DC-HwSx-B	DC-HwSx-G	C-Sw-B	C-Sw-G
4	BW/BWAW+(S)	D-Hw4-B		D-Hw4-B	
5	FB+OTH	C-Sw-B	C-Sw-G	C-Sw-B	C-Sw-G
6	H+(S)/S	CD-SwHw-B/ DC-HwSx-B	CD-SwHw-G/ DC-HwSx-G	C-Sw-B	C-Sw-G
7	PB+(S)	D-Hw7-B		D-Hw7-B	
8	PL/PLFB+(H)	C-Pl-B	C-Pl-G	C-Pl-B	C-Pl-G
9	PLAW/AWPL	CD-PlHw-B		C-Pl-B	C-Pl-G
10	PLSB+OTH	C-Pl-B	C-Pl-G	C-Pl-B	C-Pl-G
11	PLSW/SWPL+(H)	C-Pl-B	C-Pl-G/C-Sw-G	C-Pl-B	C-Pl-G/C-Sw-G
12	SBLT(G)	C-Sb-B		C-Sb-B	
13	SBLT/LTSB(M/F/U)	removed from landbase			
14	SBPL/SBSW/SBFB	C-Sb-B	C-Pl-G/C-Sw-G	C-Sb-B	C-Pl-G/C-Sw-G
15	SW/SWFB+(H)-AB	C-Sw-B	C-Sw-G	C-Sw-B	C-Sw-G
16	SW/SWFB+(H)-CD	C-Sw-B	C-Sw-G	C-Sw-B	C-Sw-G
17	SWAW/SWAWPL	CD-SwHw-B	CD-SwHw-G	C-Sw-B	C-Sw-G

The pine and white spruce leading strata are further divided into base (B) and genetic (G) for the purpose of yield curve assignment to account for enhanced yield due to tree improvement using genetic stock.

Table 3-9 on the other hand, depicts the natural yield groups that are transitioned to the regenerated stratum.

Table 3-9 Natural Yield Group by Regeneration Stratum

Regenerated Stratum	Natural Yield Group Code (STD_STRATUM)
C-Pl-B	8,10,11
C-Pl-G	8,9,10,11,14
C-Sb-B	12,14
C-Sw-B	5,15,16
C-Sw-G	5,11,14,15,16
CD-PlHw-B	9
CD-SwHw-B	6,17
CD-SwHw-G	6,17
D-Hw1-B	1
D-Hw2-B	2
D-Hw4-B	4
D-Hw7-B	7
DC-HwSx-B	3, 6
DC-HwSx-G	3, 6

4 YIELD CLASS ATTRIBUTES

This section details how the yield curves and their attributes were assigned to the forested polygons.

4.1 General Process

The stratification process is done by assigning yield strata to all forested polygons in the Defined Forest Area (DFA), including the THLB and Non-THLB areas. The general process is shown in Figure 4-1.

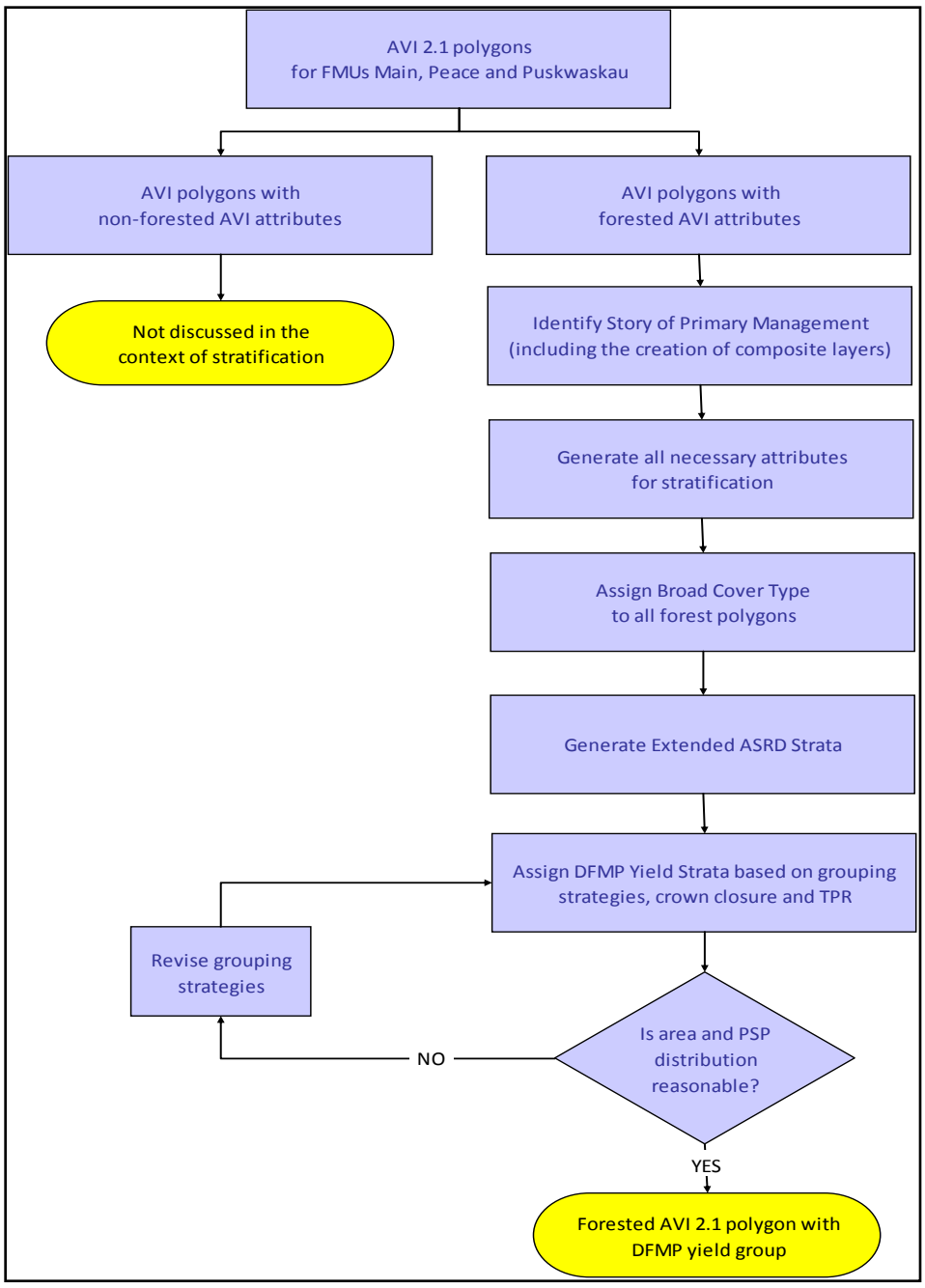

Figure 4-1 General Process for Landbase Stratification

4.2 Selecting the Defining Layer

In order to classify forested AVI polygons, a defining layer (layer used for stratification) was identified. The defining layer for a forested polygon could be the overstory layer, the understory layer, or a combination of the two layers (called a composite layer). The intent of selecting a defining layer based on attributes of one or more chosen layers was to best represent the forest being managed and provide a better linkage to yield projections.

The defining layer was selected based on AVI polygon attributes. The AVI attributes used to determine the defining layer include stand structure type (single story, horizontal or multi-story), structure value (for horizontal stands, the proportion of area in AVI layer 1 vs. AVI layer 2), height, crown closure class (density), and presence of significant conifer understory. A decision key used to assign the defining layer is presented in Figure 4-2.

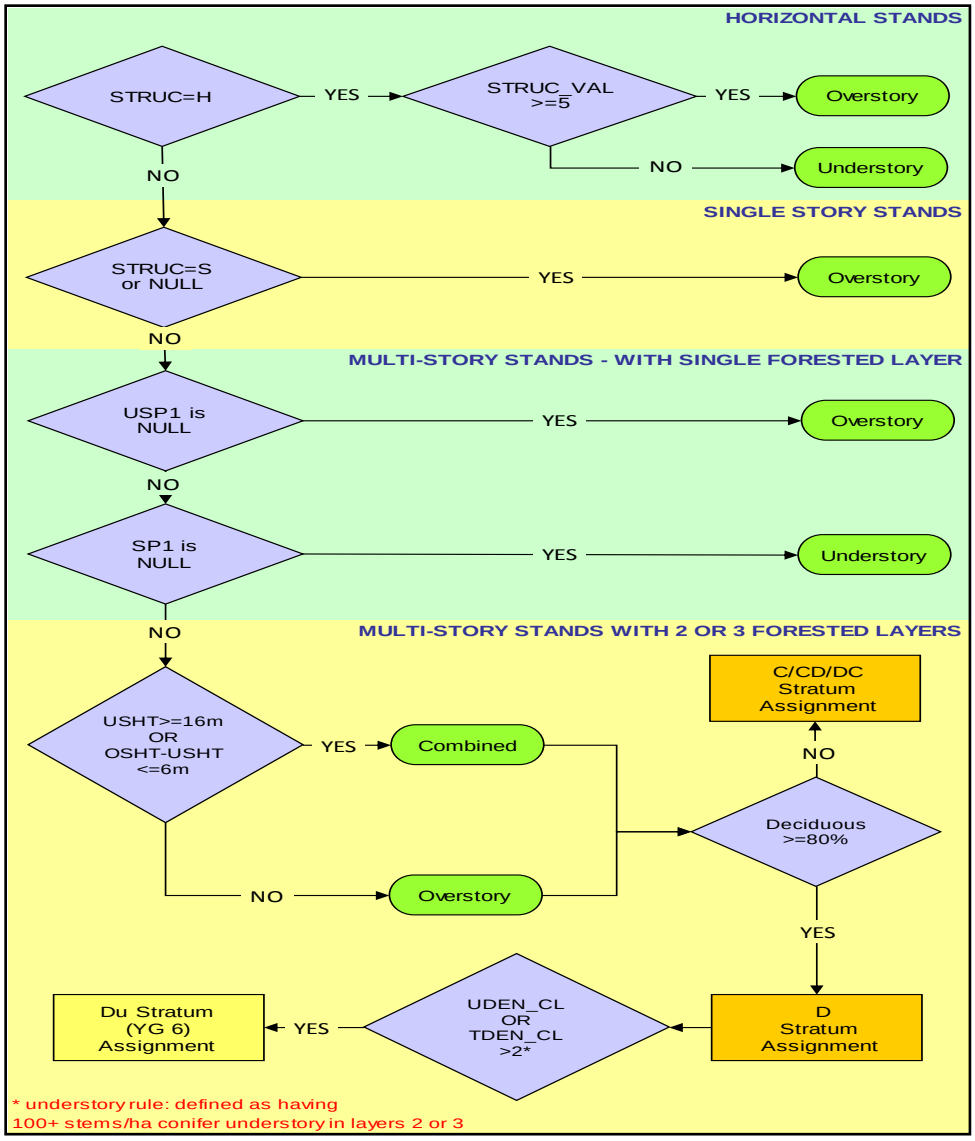

Figure 4-2 Defining Layer Assignment

4.3 Creating Composite Layers

Most FMP landbase stratifications in Alberta at the time simply used the overstory layer; Canfor used the concept of Story of Primary Management (STD_SOPM) – as defining layer (i.e. identify which AVI layer to be used for stratification).

Canfor also pioneered the concept of combining AVI layers into a composite layer under certain conditions. This composite layer was then used as the STD_SOPM for stratification purposes.

Stratum assignment will still primarily be based on the overstory AVI attributes, with the following two exceptions:

Non-forested overstory with forested understory (use understory AVI attributes); and

Multi-story stands where the understory height ≥ 16 m or where the overstory height – understory height difference ≤ 6 m (use composite AVI attributes).

Composite AVI attributes had to be created for polygons with a composite defining layer. Composite layers were created by combining AVI overstory and understory attributes based on weighting by the mid-point of the crown closure class (Table 4-10).

Table 4-10 Composite Layer Weights

Crown Closure Class	Range (%)	Midpoint (%)
A	6-30	18
B	31-50	40
C	51-70	60
D	71-100	85

Composite crown closure class was defined based on the overstory and understory crown closure class as per the following rules (Table 4-11):

1) If the overstory and understory crown closure classes were different, the denser of the two was selected; and
2) If the overstory and understory crown closure classes were the same, the next denser crown closure class was assigned (e.g., B/B to C).

Table 4-11 Composite Crown Closure Class Definition

Overstory Crown Closure Class	Understory Crown Closure Class			
	A	B	C	D
A	B	B	C	D
B	B	C	C	D
C	C	C	D	D
D	D	D	D	D

Composite height was developed based on the mid-point weights presented in Table 4-10. The overstory and understory heights were weighted by their respective crown closure class:

$$HT_{composite} = \frac{(HT_{overstory} * CCmid_{overstory}) + (HT_{understory} * CCmid_{understory})}{(CCmid_{overstory} + CCmid_{understory})}$$

Composite species composition was also based on the mid-point crown closure class weights. For example, for lodgepole pine the calculation was done as follows:

$$PL\%_{composite} = \frac{(PL\%_{overstory} * CCmid_{overstory}) + (PL\%_{understory} * CCmid_{understory})}{(CCmid_{overstory} + CCmid_{understory})}$$

The species were then sorted in order of descending percent from species 1 to 5. In case of a species percent tie, the species present in the overstory took priority. The original species order took precedence where both species were present in the same layer.

Stand origin was based on the older layer when a composite layer was used. Stand Timber Productivity Rating (TPR) is originally assigned to each layer based on the height and age of the leading species. TPR reflects the site potential to grow timber; therefore the most productive TPR was assigned to the composite layer.

Stands assigned to [*STD_SOPM*] = 1 indicate AVI overstory is the story of primary management while stands assigned to [*STD_SOPM*] = 2 indicate AVI understory is the story of primary management. Stands assigned to (NAT-6) with significant conifer understory in the tertiary layer are assigned [*STD_SOPM*] = 3. When AVI layers are combined [*STD_SOPM*] is assigned 9.

4.4 Sample Composite Layer

Attributes for multi-storied stands as defined in Figure 4-2 were calculated from a combination of attributes in layer 1 and layer 2.

Table 4-12 illustrates the calculations based on list of AVI attributes.

Table 4-12 Sample Calculation for Composite Layer

Layer	Description	AVI Attributes (density, height, species comp, origin, TPR)
Original AVI Attributes		
Layer 1	Overstory	$C24PL_7AW_2SW_1$ 1890-G
Layer 2	Understory	$B19SW_6AW_2BW_2$ 1920-M
Composite Layer Attributes		
Layer 9	Composite	$C22PL_{4.2}SW_{3.0}AW_{2.0}BW_{0.8}$ 1890-G

4.5 Assigning the ESRD Extended Strata to the Defining Layer

This section describes the process by which the attributes from the defining layer were used to assign the ESRD extended strata (Table 4-13). In order to assign ESRD extended strata, a series of steps were taken. First, AVI species were grouped into species groups, and broad cover group was assigned. Based on this information the ESRD extended strata were assigned using a series of decision rules.

Table 4-13 ESRD Extended Strata

ESRD Strata	Description
D1	Pure aspen
D2	Aspen leading with poplar
D3	Aspen leading without poplar
D4	Poplar leading
D5	Birch leading
DC1	Aspen/white spruce
DC2	Aspen/pine
DC3	Aspen/black spruce
DC4	Aspen/fir
DC5	Poplar/white spruce
DC6	Poplar/pine
DC7	Poplar/black spruce
DC8	Poplar/fir
DC9	Birch/white spruce
DC10	Birch/pine
DC11	Birch/black spruce
DC12	Birch/fir

Source:

Alberta Forest Management Planning Standard version 4.1 - April 2006

Interpretive Bulletin: Yield Projection Guidelines for Alberta page 110.

All decision rules are documented on pages 111-112.

ESRD Strata	Description
CD1	White spruce/aspen
CD2	White spruce/poplar
CD3	White spruce/birch
CD4	Pine/aspen
CD5	Pine/poplar
CD6	Pine/birch
CD7	Black spruce/aspen
CD8	Black spruce/poplar
CD9	Black spruce/birch
CD10	Fir/aspen
CD11	Fir/poplar
CD12	Fir/birch
C1	Pure white spruce
C2	White spruce leading with pine
C3	White spruce leading without pine
C4	Pure pine
C5	Pine leading with white spruce
C6	Pine leading with black spruce
C7	Pine leading with fir
C8	Pine leading without spruce and fir
C9	Pure black spruce
C10	Black spruce leading with pine
C11	Black spruce leading without pine
C12	Larch leading
C13	Pure Douglas-fir
C14	Douglas-fir leading
C15	Pure balsam fir
C16	Balsam fir leading with pine
C17	Balsam fir leading without pine

Using the ESRD extended strata as building blocks for the Canfor FMP yield groups provides a number of key advantages:

- The ESRD extended strata has well documented decision rules for the AVI 2.1 landbase and can be mapped to the Canfor yield groups;
- It provides Canfor with the option of lumping or splitting of the yield groups based on area and plot representation in the net landbase;

- It provides Canfor with the flexibility to link the natural stand strata to regeneration strategies and the regeneration transition; and
- All stratification rules can be done on the STD_SOPM (including the composite layer).

4.6 Species Group Definition

For the purposes of amalgamating similar species, individual AVI species codes were combined into species groups within major species types (deciduous and coniferous) (Table 4-14).

Table 4-14 AVI Species Grouping

Major Species Type	Species Group Code	AVI Species Codes
Deciduous	AW	Aw
	BW	Bw
	PB	Pb
Coniferous	FB	Fa, Fb
	LT	Lt
	PL	Pl
	SB	Sb
	SW	Sw

4.7 Broad Cover Type

Percent deciduous and percent coniferous were obtained by summing the percent composition within species types of the defining layer. Broad cover type was assigned using the rules outlined in Table 4-15.

Table 4-15 Broad Cover Type Definition

Broad Cover Type (C_CODE)	Percent Deciduous	Percent Coniferous	Description
D	≥80	<20	Deciduous
DC	50-79	21-50	Deciduous leading mixedwood
CD	21-50	50-79	Coniferous leading mixedwood
C	<20	≥80	Coniferous

Note: a 50-50 split is assigned to DC if the leading species is deciduous else it is CD

4.8 ESRD Extended Strata

Extended strata are defined in the Alberta Forest Management Planning Standard (ESRD 2006). The strata assignment rules followed the methods published in the Yield Curve Documentation of Millar Western's FMP 2007-2016.

In order to assign the ESRD extended strata, an intermediary step was required. Using the defining layer, this step identified leading deciduous species (DRULE) and the leading coniferous species or combination of coniferous species (CRULE) in the AVI layer as a function of broad cover group and species composition and species order. The first listed deciduous species was deemed the leading deciduous species (e.g. AW_ORD = 1 would indicate that AW is the first deciduous species in the stand label). The assignment of leading coniferous species was more complex, and was based on relative percent (PCT) composition by species (*e.g.* SW_PCT is the proportion of SW in the stand label and HARDPCT is the sum of the proportions of hardwood types in the stand label). PCT for each species was calculated from the AVI. The leading conifer species in the stand label is represented by LEAD_CON. If the combined layer was used (LAYER=9) then the percent was based on the weighted species percentage of the two layers. The rules for assignment are presented in Table 4-15 and Table 4-16.

Table 4-16 Deciduous Species Rules

DRULE	Description	Criteria
AW_LEAD	Aspen leading deciduous	HARDPCT > 0 and AW_ORD < BW_ORD and AW_ORD < PB_ORD
BW_LEAD	Birch leading deciduous	HARDPCT > 0 and BW_ORD < AW_ORD and BW_ORD < PB_ORD
PB_LEAD	Poplar leading deciduous	HARDPCT > 0 and PB_ORD < AW_ORD and PB_ORD < BW_ORD
NO_D	No deciduous present	HARDPCT = 0

Table 4-17 Coniferous Species Rules

CRULE	Description	Criteria
FBFD_LEAD_MW	True fir or Douglas-fir leading conifer in mixedwood	C_CODE = ('DC', 'CD') and (((FB_PCT + FD_PCT) > PL_PCT and (FB_PCT + FD_PCT) > (SB_PCT + LT_PCT) and (FB_PCT + FD_PCT) > SW_PCT) or (LEAD_CON = ('FB','FD') and (FB_PCT + FD_PCT) >= PL_PCT and (FB_PCT + FD_PCT) >= (SB_PCT + LT_PCT) and (FB_PCT + FD_PCT) >= SW_PCT))
PL_LEAD_MW	Pine leading conifer in mixedwood	C_CODE = ('DC', 'CD') and ((PL_PCT > (FB_PCT + FD_PCT) and PL_PCT > (SB_PCT + LT_PCT) and PL_PCT > SW_PCT) or (LEAD_CON = 'PL' and PL_PCT >= (FB_PCT + FD_PCT) and PL_PCT >= (SB_PCT + LT_PCT) and PL_PCT >= SW_PCT))
SBLT_LEAD_MW	Black spruce or larch leading conifer in mixedwood	C_CODE = ('DC', 'CD') and (((SB_PCT + LT_PCT) > (FB_PCT + FD_PCT) and (SB_PCT + LT_PCT) > PL_PCT and (SB_PCT + LT_PCT) > SW_PCT) or (LEAD_CON = ('SB', 'LT') and (SB_PCT + LT_PCT) >= (FB_PCT + FD_PCT) and (SB_PCT + LT_PCT) >= PL_PCT and (SB_PCT + LT_PCT) >= SW_PCT))
SW_LEAD_MW	White spruce leading conifer in mixedwood	C_CODE = ('DC', 'CD') and ((SW_PCT > (FB_PCT +FD_PCT) and SW_PCT > PL_PCT and SW_PCT > (SB_PCT + LT_PCT)) or (LEAD_CON = 'SW' and SW_PCT >= (FB_PCT +FD_PCT) and SW_PCT >= PL_PCT and SW_PCT >= (SB_PCT + LT_PCT)))
FB_LEAD	True fir leading conifer in pure stand	C_CODE = ('C', 'D') and ((FB_PCT > FD_PCT and FB_PCT > LT_PCT and FB_PCT > PL_PCT and FB_PCT > SB_PCT and FB_PCT > SW_PCT) or (LEAD_CON = 'FB' and FB_PCT >= FD_PCT and FB_PCT >= LT_PCT and FB_PCT >= PL_PCT and FB_PCT >= SB_PCT and FB_PCT >= SW_PCT))
FD_LEAD	Douglas-fir leading conifer in pure stand	C_CODE = ('C', 'D') and ((FD_PCT > FB_PCT and FD_PCT > LT_PCT and FD_PCT > PL_PCT and FD_PCT > SB_PCT and FD_PCT > SW_PCT) or (LEAD_CON = 'FD' and FD_PCT >= FB_PCT and FD_PCT >= LT_PCT and FD_PCT >= PL_PCT and FD_PCT >= SB_PCT and FD_PCT >= SW_PCT))

CRULE	Description	Criteria
LT_LEAD	Larch leading conifer in pure stand	C_CODE = ('C', 'D') and ((LT_PCT > FB_PCT and LT_PCT > FD_PCT and LT_PCT > PL_PCT and LT_PCT > SB_PCT and LT_PCT > SW_PCT) or (LEAD_CON = 'LT' and LT_PCT >= FB_PCT and LT_PCT >= FD_PCT and LT_PCT >= PL_PCT and LT_PCT >= SB_PCT and LT_PCT >= SW_PCT))
PL_LEAD	Pine leading conifer in pure stand	C_CODE = ('C', 'D') and ((PL_PCT > FB_PCT and PL_PCT > FD_PCT and PL_PCT > LT_PCT and PL_PCT > SB_PCT and PL_PCT > SW_PCT) or (LEAD_CON = 'PL' and PL_PCT >= FB_PCT and PL_PCT >= FD_PCT and PL_PCT >= LT_PCT and PL_PCT >= SB_PCT and PL_PCT >= SW_PCT))
SB_LEAD	Black spruce leading conifer in pure stand	C_CODE = ('C', 'D') and ((SB_PCT > FB_PCT and SB_PCT > FD_PCT and SB_PCT > LT_PCT and SB_PCT > PL_PCT and SB_PCT > SW_PCT) or (LEAD_CON = 'SB' and SB_PCT >= FB_PCT and SB_PCT >= FD_PCT and SB_PCT >= LT_PCT and SB_PCT >= PL_PCT and SB_PCT >= SW_PCT))
SW_LEAD	White spruce leading conifer in pure stand	C_CODE = ('C', 'D') and ((SW_PCT > FB_PCT and SW_PCT > FD_PCT and SW_PCT > LT_PCT and SW_PCT > PL_PCT and SW_PCT > SB_PCT) or (LEAD_CON = 'SW' and SW_PCT >= FB_PCT and SW_PCT >= FD_PCT and SW_PCT >= LT_PCT and SW_PCT >= PL_PCT and SW_PCT >= SB_PCT))
NO_C	No coniferous present	SOFTPCT = 0

Based on CRULE, DRULE, broad cover type (C_CODE), species composition and species order; forested stands were then assigned to an ESRD extended stratum (Table 4-18) [5].

[5] The coding logic published for the ESRD extended strata in the Millar Western Forest Products Ltd. 2007-2016 Detailed Forest Management Plan was modified to better account for pure species polygons.

Table 4-18 ESRD Extended Strata Assignment

ESRD Strata	Description	Criteria
D1	Pure aspen	C_CODE = 'D' and AW_PCT >= 8
D2	Aspen leading with poplar	C_CODE = 'D' and DRULE = 'AW_LEAD' and AW_PCT < 8 and PB_PCT > 1
D3	Aspen leading without poplar	C_CODE = 'D' and DRULE = 'AW_LEAD' and AW_PCT < 8 and PB_PCT <= 1
D4	Poplar leading	C_CODE = 'D' and DRULE = 'PB_LEAD'
D5	Birch leading	C_CODE = 'D' and DRULE = 'BW_LEAD'
DC1	Aspen/white spruce	C_CODE = 'DC' and DRULE = 'AW_LEAD' and CRULE = 'SW_LEAD_MW'
DC2	Aspen/pine	C_CODE = 'DC' and DRULE = 'AW_LEAD' and CRULE = 'PL_LEAD_MW'
DC3	Aspen/black spruce	C_CODE = 'DC' and DRULE = 'AW_LEAD' and CRULE = 'SBLT_LEAD_MW'
DC4	Aspen/fir	C_CODE = 'DC' and DRULE = 'AW_LEAD' and CRULE = 'FBFD_LEAD_MW'
DC5	Poplar/white spruce	C_CODE = 'DC' and DRULE = 'PB_LEAD' and CRULE = 'SW_LEAD_MW'
DC6	Poplar/pine	C_CODE = 'DC' and DRULE = 'PB_LEAD' and CRULE = 'PL_LEAD_MW'
DC7	Poplar/black spruce	C_CODE = 'DC' and DRULE = 'PB_LEAD' and CRULE = 'SBLT_LEAD_MW'
DC8	Poplar/fir	C_CODE = 'DC' and DRULE = 'PB_LEAD' and CRULE = 'FBFD_LEAD_MW'
DC9	Birch/white spruce	C_CODE = 'DC' and DRULE = 'BW_LEAD' and CRULE = 'SW_LEAD_MW'
DC10	Birch/pine	C_CODE = 'DC' and DRULE = 'BW_LEAD' and CRULE = 'PL_LEAD_MW'
DC11	Birch/black spruce	C_CODE = 'DC' and DRULE = 'BW_LEAD' and CRULE = 'SBLT_LEAD_MW'
DC12	Birch/fir	C_CODE = 'DC' and DRULE = 'BW_LEAD' and CRULE = 'FBFD_LEAD_MW'
CD1	White spruce/aspen	C_CODE = 'CD' and CRULE = 'SW_LEAD_MW' and DRULE = 'AW_LEAD'
CD2	White spruce/poplar	C_CODE = 'CD' and CRULE = 'SW_LEAD_MW' and DRULE = 'PB_LEAD'
CD3	White spruce/birch	C_CODE = 'CD' and CRULE = 'SW_LEAD_MW' and DRULE = 'BW_LEAD'
CD4	Pine/aspen	C_CODE = 'CD' and CRULE = 'PL_LEAD_MW' and DRULE = 'AW_LEAD'
CD5	Pine/poplar	C_CODE = 'CD' and CRULE = 'PL_LEAD_MW' and DRULE = 'PB_LEAD'
CD6	Pine/birch	C_CODE = 'CD' and CRULE = 'PL_LEAD_MW' and DRULE = 'BW_LEAD'
CD7	Black spruce/aspen	C_CODE = 'CD' and CRULE = 'SBLT_LEAD_MW' and DRULE = 'AW_LEAD'

ESRD Strata	Description	Criteria
CD8	Black spruce/poplar	C_CODE = 'CD' and CRULE = 'SBLT_LEAD_MW' and DRULE = 'PB_LEAD'
CD9	Black spruce/birch	C_CODE = 'CD' and CRULE = 'SBLT_LEAD_MW' and DRULE = 'BW_LEAD'
CD10	Fir/aspen	C_CODE = 'CD' and CRULE = 'FBFD_LEAD_MW' and DRULE = 'AW_LEAD'
CD11	Fir/poplar	C_CODE = 'CD' and CRULE = 'FBFD_LEAD_MW' and DRULE = 'PB_LEAD'
CD12	Fir/birch	C_CODE = 'CD' and CRULE = 'FBFD_LEAD_MW' and DRULE = 'BW_LEAD'
C1	Pure white spruce	C_CODE = 'C' and SW_PCT >= 8
C2	White spruce leading with pine	C_CODE = 'C' and CRULE = 'SW_LEAD' and SW_PCT < 8 and PL_PCT > 1
C3	White spruce leading without pine	C_CODE = 'C' and CRULE = 'SW_LEAD' and SW_PCT < 8 and PL_PCT <= 1
C4	Pure pine	C_CODE = 'C' and PL_PCT >= 8
C5	Pine leading with white spruce	C_CODE = 'C' and CRULE = 'PL_LEAD' and PL_PCT < 8 and SW_PCT > 1 and SW_ORD < FB_ORD and SW_ORD < SB_ORD
C6	Pine leading with black spruce	C_CODE = 'C' and CRULE = 'PL_LEAD' and PL_PCT < 8 and SB_PCT > 1 and SB_ORD < FB_ORD and SB_ORD < SW_ORD
C7	Pine leading with fir	C_CODE = 'C' and CRULE = 'PL_LEAD' and PL_PCT < 8 and FB_PCT > 1 and FB_ORD < SB_ORD and FB_ORD < SW_ORD
C8	Pine leading without spruce and fir	C_CODE = 'C' and CRULE = 'PL_LEAD' and PL_PCT < 8 and FB_PCT <= 1 and SB_PCT <=1 and SW_PCT <= 1
C9	Pure black spruce	C_CODE = 'C' and SB_PCT >= 8
C10	Black spruce leading with pine	C_CODE = 'C' and CRULE = 'SB_LEAD' and SB_PCT <8 and PL_PCT > 1
C11	Black spruce leading without pine	C_CODE = 'C' and CRULE = 'SB_LEAD' and SB_PCT <8 and PL_PCT <= 1
C12	Larch leading	C_CODE = 'C' and CRULE = 'LT_LEAD'
C13	Pure Douglas-fir	C_CODE = 'C' and FD_PCT >= 8
C14	Douglas-fir leading	C_CODE = 'C' and CRULE = 'FD_LEAD' and FD_PCT < 8
C15	Pure balsam fir	C_CODE = 'C' and FB_PCT >= 8
C16	Balsam fir leading with pine	C_CODE = 'C' and CRULE = 'FB_LEAD' and FB_PCT < 8 and PL_PCT > 1
C17	Balsam fir leading without pine	C_CODE = 'C' and CRULE = 'FB_LEAD' and FB_PCT < 8 and PL_PCT <= 1
XX0	Non-forested	C_CODE = NULL

4.9 Assigning the FMP Yield Group

Canfor has adopted the ESRD Extended Strata as building blocks for the FMP yield groups. This will provide a more structured, clearly documented approach that meets Management Planning Standard requirements. Canfor maintains the 17 yield groups established in 2003 as the basis for yield curve development. Preliminary mapping of the FMP yield groups is presented in Table 4-19.

Table 4-19 ESRD Extended Strata to Canfor FMP 2003 Yield Groups

Yield Group	Description	ESRD Extended Strata	Notes
1	AW+(S)-AB	D1, D2, D3 where SOPM density is AB	
2	AW+(S)-CD	D1, D2, D3 where SOPM density is CD	
3	AW/SW/PBSW/BWSW	DC1, DC3, DC4, DC5, DC7, DC8, DC9, DC11, DC12	included all DC where lead conifer is not pine
4	BW/BWAW+(S)	D5	
5	FB+OTH	C15, C16, C17	
6	H+(S)/S	Du	conifer understory >100 SPH
7	PB+(S)	D4	
8	PL/PLFB+(H)	C4, C7	
9	PLAW/AWPL	CD4, CD5, CD6, DC2, DC6, DC10	CD and DC mixed together
10	PLSB+OTH	C6, C8	included Pine leading without spruce and fir
11	PLSW/SWPL+(H)	C5, C2	
12	SBLT(G)	C9 where TPR is G	only good sites
13	SBLT/LTSB(M/F/U)	C9 (TPR M/F/U), and all C12	will be netted out
14	SBPL/SBSW/SBFB	C10, C11	
15	SW/SWFB+(H)-AB	C1, C3 where SOPM density is AB	included SwSb
16	SW/SWFB+(H)-CD	C1, C3 where SOPM density is CD	included SwSb
17	SWAW/SWAWPL	CD1, CD2, CD3, CD7, CD8, CD9, CD10, CD11, CD12	included all CD where lead conifer is not pine

4.10 Landbase to Which Yield Groups were Assigned

Based on the proposed stratification scheme, area summaries for the latest AVI (June 17, 2011) gross forested landbase were prepared. Any stands that were non-forest or where MOD1='CC' were excluded from the stratum assignments. No additional netdown due to buffers, subjective deletions etc. were considered at this time.

5 DELETION HIERARCHY

Many landbase polygons could potentially be assigned to several netdown types. Therefore, a deletion hierarchy is ranked from “harder” to “softer” deletions. The “harder” deletions identified areas that can confidently be removed from the THLB because of productivity or land use. This method helped to determine how much forested land is removed by the landbase assignment process.

Landbase class is used to identify non-forested, (Non-THLB) non-harvestable and harvestable polygons (THLB). For non-forested polygons landbase class is assigned the value ‘X’, in non-harvestable polygons is assigned the value ‘C’; and in harvestable polygons is assigned the value ‘H’.

The netdown description *[NDNAME]* is the over-riding field for determining deletions. Once a netdown description has been assigned to a polygon, it cannot be assigned another deletion type. Following is the chronological order of netdowns applied across the Canfor FMA area:

1) Natural Non-vegetated (Section 5.1.1);
2) Anthropogenic non-vegetated (Section 5.1.2);
3) Anthropogenic vegetated (Section 5.1.3);
4) Non-forest vegetated (Section 5.1.4);
5) Clearings (Section 5.1.5);
6) Steep Slopes (Section 5.2.1);
7) Gravesites (Section 5.2.2);
8) DRS Deletions (Section 5.2.3);
9) Parabolic Sand Dunes (Section 5.2.4);
10) Trumpeter Swan Buffers (Section 5.2.5);
11) Riparian Buffers (Section 5.2.6);
12) Subjective Deletions (Section 5.2.7);
13) Deciduous - A Overstory over No Understory (Section 5.2.8);
14) Gravel Pits (Section 5.2.9);
15) Wildlife Licks (Section 5.2.10);
16) Recreation Leases (Section 5.2.11);
17) Additional Clearings / DIDs (Section 5.2.12);
18) NSR (Section 5.2.13);
19) Rehabilitation Areas (Section 5.2.14); and

20) Isolated Landbase (Section 5.2.15).

Table 5-20 provides a summary of Canfor Grande Prairie's landbase netdown.

Table 5-20 Summary of Grande Prairie FMA Area Netdown (hectares)

Classification Type	Total (ha)[6]	Netdown Values (NDNAME)	Landbase Class
Total Gross Landbase (TGLB)	***644,694***		
Reductions to Non-forest:			
Natural Non-vegetated	9,378	NatNonVeg	X
Anthropogenic non-vegetated	5,298	AnthNonVeg	X
Anthropogenic vegetated	8,253	AnthVeg	X
Non-forest vegetated	19,472	NonForVeg	X
Clearings	7	Clearings	X
Total Non-forest Reductions:	**42,409**		
Total Forested Landbase (TFLB):	***602,285***		
Reductions to Forested Landbase:			
Steep Slopes	11,759	SteepSlope	C
Gravesites	6	Grave	C
DRS	1,122	DRSDeletion	C
Parabolic Sand Dunes RPE	5,565	ParabolicSandDunes	C
Trumpeter Swan Buffers	3,164	Swan	C
Riparian Buffers	23,498	RiversBnd, RiversLakes, Streams	C
YG 13 Subjective Deletions	55,109	LowProd1	C
YG/TPR Subjective Deletions	2,777	LowProd2, LowProd3	C
Deciduous - A Overstory over No Understory	13,551	AoverNothing	C
Gravel Pits	389	GravelPits	C
Wildlife Licks	329	WildlifeLicks	C
Recreation Leases	190	RecLeases	C
Additional Clearings / DIDs	2,430	ClearingsDIDs	C
Not Satisfactorily Restocked	115	NSR	C
Rehabilitation Blocks	441	MPBRehab	C
Isolated Landbase	1,264	THLB_ISLAND	C
Total Forested Landbase Reductions:	**121,709**		
Timber Harvesting Landbase (THLB):	***480,576***	***THLB***	***H***

The following sections detail each landbase removal. Data sources are provided in Appendix B. As discussed earlier, the netdown process is applied to the SCHEDULE_A resultant which is then dissolved and added to the SCHEDULE_B resultant. As such not all the fields listed below exist in the SCHEDULE_B. The [NDNAME] field in the SCHEDULE_A layer was renamed to [ND] when it was incorporated into the SCHEDULE_B layer.

[6] This table can be replicated in the SCHEDULE_B resultant by summarizing [AREA] / 10,000 and the [ND] field.

5.1 Total Forested Landbase Derivation

The total forest landbase (TFLB) for the FMA area is defined based on the total gross landbase area (TGLB) of the FMA area (644,694 ha) minus the areas that are considered not forested (non-contributing to timber and non-timber management objectives). These include the following:

- Natural non-vegetated;
- Anthropogenic non-vegetated;
- Anthropogenic vegetated;
- Non-forest vegetated; and
- Clearings.

These areas account for a removal of 42,409 hectares from the FMA area. The remaining landbase (602,285 ha) is referred to as the TFLB. These areas contribute to both timber and non-timber management objectives. The following sections document the removal criteria.

5.1.1 Natural Non-vegetated

All naturally non-vegetated stands without a yield group assigned are identified in the AVI and removed from the resultant landbase layer. These areas do not contribute to the timber supply analysis. They are identified and removed as follows:

> if *[NAT_NON]* in (‘NWB’,’NMC’,”NMR’,’NMS’,’NWF’,’NWL’,’NWR’) and *[STD_STRATU]* is not assigned
> then *[NDNAME]* is assigned the value
> **‘NatNonVeg’**

5.1.2 Anthropogenic Non-vegetated

All anthropogenic non-vegetated stands without a yield group assigned are identified in the AVI and removed from the resultant landbase layer. These areas do not contribute to the timber supply analysis. They are identified and removed as follows:

> if *[ANTH_NON]* in (‘AIE’,’AIG’,’AIH’,’AII”,”ASR’) and *[STD_STRATU]* is not assigned
> then *[NDNAME]* is assigned the value
> **‘AnthNonveg’**

5.1.3 Anthropogenic Vegetated

All anthropogenic vegetated stands without a yield group assigned are identified in the AVI and removed from the resultant landbase layer. These areas do not contribute to the timber supply analysis. They are identified and removed as follows:

if *[ANTH_VEG_AV]* in ('CA','CIP','CIW') and *[STD_STRATU]* is not assigned
then *[NDNAME]* is assigned the value
'**AnthVeg**'

5.1.4 Non-Forested Vegetated

All naturally non-vegetated stands without a yield group assigned are identified in the AVI and removed from the resultant landbase layer. These areas do not contribute to the timber supply analysis. They are identified and removed as follows:

if *[NFL]* in ('BR','HF','HG','SC','SO') and *[STD_STRATU]* is not assigned
then *[NDNAME]* is assigned the value
'NonForVeg'

5.1.5 Clearing

All naturally non-vegetated stands without a yield group assigned are identified in the AVI and removed from the resultant landbase layer. These areas do not contribute to the timber supply analysis. They are identified and removed as follows:

if *[MOD1]* is 'CL' and *[STD_STRATU]* is not assigned
then *[NDNAME]* is assigned the value
'**Clearings**'

5.2 Timber Harvest Landbase Derivation

The THLB for the FMA area is defined based on the total area of the TFLB (602,285 ha) minus the Non-THLB (areas that are considered non-contributing to timber supply but contributing to non-timber management objectives). These include the following:

- Steep slopes;
- Gravesites;
- DRS;
- Parabolic Sand Dunes;

- Trumpeter Swan Buffers;
- Riparian Buffers;
- Subjective Deletions;
- Deciduous - A Density Over Nothing;
- Gravel Pits;
- Wildlife Licks;
- Recreation Leases;
- Additional Clearings and DIDs,
- NSR;
- Rehabilitation Blocks; and
- Isolated Landbase.

These areas account for a removal of 121,709 ha from the TFLB. The remaining landbase (480,576 ha) is referred to as the THLB (Timber Harvesting Landbase). These areas contribute to timber management objectives. The following sections document the removal criteria.

5.2.1 Steep Slopes

Lands that are inoperable due to slope, their position, sensitivity or accessibility were excluded from the THLB. The slopes were calculated using LIDAR data and steep slopes delineated using PCI Geomatica. All areas with sustained slopes equal to or greater than 35 per cent were identified as inoperable. Areas constrained by these operability restrictions were given the reserve status code of inoperable.

Steep slope reductions were not applied when a cutblock was present because it is assumed that if a stand was previously harvested or had been selected for harvest, the stand was considered merchantable. These areas are identified and removed from the (TFLB) total forest landbase as follows:

> if *[SLOPE]* is greater than 0 and *[MOD1]* not equal ‘CC’
> then *[NDNAME]* is assigned the value
> ‘**SteepSlope**’

5.2.2 Gravesites

Gravesites are areas of cultural significance and are identified and removed as follows:

if *[GRAVESITE]* is 'Y'
then *[NDNAME]* is assigned the value
'**Grave**'

5.2.3 DRS

Land use dispositions are removed as follows:

if *[DRS_TYPE_DISP]* is 'DRS'
then *[NDNAME]* is assigned the value
'**DRSDeletion**'

5.2.4 Parabolic Sand Dunes RPE

Parabolic Sand Dunes in the FMA area were identified using land status *[PBS_TYPE]* and *[TS_UNIT]* = 'Economy North' and *[TS_SUBUNIT]* = 'EN-2'. This area is identified as not available for harvest in the timber supply sub-unit cover provided by Canfor. This area is deleted from the (TFLB) total forest landbase as follows:

if [PBS_TYPE] is 'ParabolicSandDunes'
then *[NDNAME]* is assigned the value
'ParabolicSandDunes'

5.2.5 Trumpeter Swan Buffers

Water bodies from the ESRD Provincial Trumpeter Swan Layer were provided and reconciled with Fish and Wildlife agencies. The reconciliation process provided the most current status of Trumpeter Swan habitat management.

All edits made to the ESRD Provincial Trumpeter Swan Layer were approved by Fish and Wildlife. The resulting habitat management water features for Trumpeter Swan were then buffered by 200 m.

All Trumpeter Swan areas with no harvest blocks post 1991 (*STD_RULE = R2*) are identified and removed from the THLB (the landbase contributing to timber supply) as follows:

if *[SWAN]* is 'Swan_Buff' and *[STD_RULE]* <> 'R2'
then *[NDNAME]* is assigned the value
'Swan'

5.2.6 Riparian Buffers

Riparian zones along watercourse are required to protect aquatic and terrestrial habitat. Riparian management areas are generated as buffer polygons around these features based on their classifications. The buffering process excluded areas from the THLB including riparian areas adjacent to oxbows, lakes, streams, and rivers.

Riparian buffers were completed using stream data acquired from AVI and ESRD Provincial Stream Layer. Rivers and lakes were derived from the AVI while streams were derived from the ESRD Provincial Stream Layer. To avoid overlap of riparian information from the AVI and ESRD Provincial Stream Layer the following riparian rules were employed:

1) If an ESRD Provincial Stream Layer riparian feature fell outside of the AVI riparian feature that segment of line did not form part of buffer process; and
2) If an ESRD Provincial Stream Layer riparian feature fell within an AVI riparian feature that segment of line did not form part of the buffer process.

Buffer widths for the ESRD Provincial Stream layer and AVI were determined by mapping the feature type to the current Operating Ground Rule (OGR) buffer definitions as described in Table 5-21.

Table 5-21 Riparian Buffer Widths

Classification	Field Name	ESRD Feature Type	Buffer Width
Large Permanent – Class A Rivers	*[STREAMS _BUFFER], [RIVERSLAKES _BUFFER]*	NWR	100m
Large Permanent – AVI Lakes (>4ha)	*[RIVERSLAKES _BUFFER]*	NWL	100m
Large Permanent - Rivers and Lakes	*[RIVERSLAKES_BUFFER], [STREAMS_BUFFER]*	RIV-MAJ-REP-SEC, RIV-MAJ-RIP-PRI, OXBOW-RECUR, OXBOW-PER, LAKE-REP-PRI, FLOW-ARB-MANUA, FLOW-ARB-DEM, NWR	60m
Small Permanent - Lakes (≤4ha), Swamps, Small Perennial Streams	*[STREAMS_BUFFER], [RIVERSLAKES _BUFFER]*	STR-PER, STR-RECUR, NWL, NMS	30m
Intermittent - Streams	*[STREAMS_BUFFER]*	STR-INDEF	10m
Ephemeral Streams	--	--	---

The resulting buffered features were merged to identify stands and/or portions of stands that were within the specified buffer zone. All riparian areas within the buffered zone and with no harvest blocks post 1991 (*STD_RULE = R2*) are removed from the TFLB as follows:

if *[INSIDE]* = 100 and *[STD_RULE]* <> 'R2'
then *[NDNAME]* is assigned the value
'RiversLakes'

if *[STREAMS_BUFFER]* is greater than 0 and *[STD_RULE]* <> 'R2'
then *[NDNAME]* is assigned the value
'Streams'

if *[BND60_BUFFER]* is greater than 0 and *[STD_RULE]* <> 'R2'
then *[NDNAME]* is assigned the value
'RiversBnd'

5.2.7 Subjective Deletions

Subjective deletions are used to identify potentially non-merchantable stands. Stands identified as subjective deletions, regardless of their age, may never be harvested; they are typically based on forest cover type characteristics, operational and economic considerations.

In the FMA area, black spruce and larch are indicative of stands that are non-merchantable and/or sites where successful regeneration may be difficult.

5.2.7.1. Yield Group 13 Deletion

Black spruce and larch stands are included in yield group 13 and have been removed from the total forest landbase as follows:

> if *[STD_STRATU]* is ‘NAT-13’ then *[NDNAME]* is assigned the value
> ‘**LowProd1**’

5.2.7.2. Timber Productive Rating Deletion

All other yield groups were removed based on timber productivity rating as these areas are considered uneconomical for harvest. There areas were removed from the TFLB as follows:

> if *[STD_STRATU]* in ('NAT-10', 'NAT-14') and *[STD_TPR]* in (’F’,’U’) and *[MOD1]* not equal to ‘Y’ or ‘P’
> then *[NDNAME]* is assigned the value
> ‘**LowProd2**’

> if *[STD_STRATU]* in ('NAT-3', 'NAT-5', 'NAT-6', 'NAT-8', 'NAT-9', 'NAT-11', 'NAT-15', 'NAT-16', 'NAT-17') and *[STD_TPR]* in ’U’ and *[MOD1]* not equal to ‘Y’ or ‘P’
> then *[NDNAME]* is assigned the value
> ‘**LowProd3**’

5.2.8 Deciduous - A Overstory over No Understory

‘A’ density pure deciduous stands with no significant conifer component (where *[DENSITY]* is ‘A’, *[STD_BCG]* is ‘D’ and *[UDENSITY]* is NULL) were considered for subjective deletion.

A-density deciduous overstory stand sequencing options were provided by Norbord. Figure 5-1 provides an overview of the decision process to determine whether a stand should be classified as a subjective deletion or retained in the THLB.

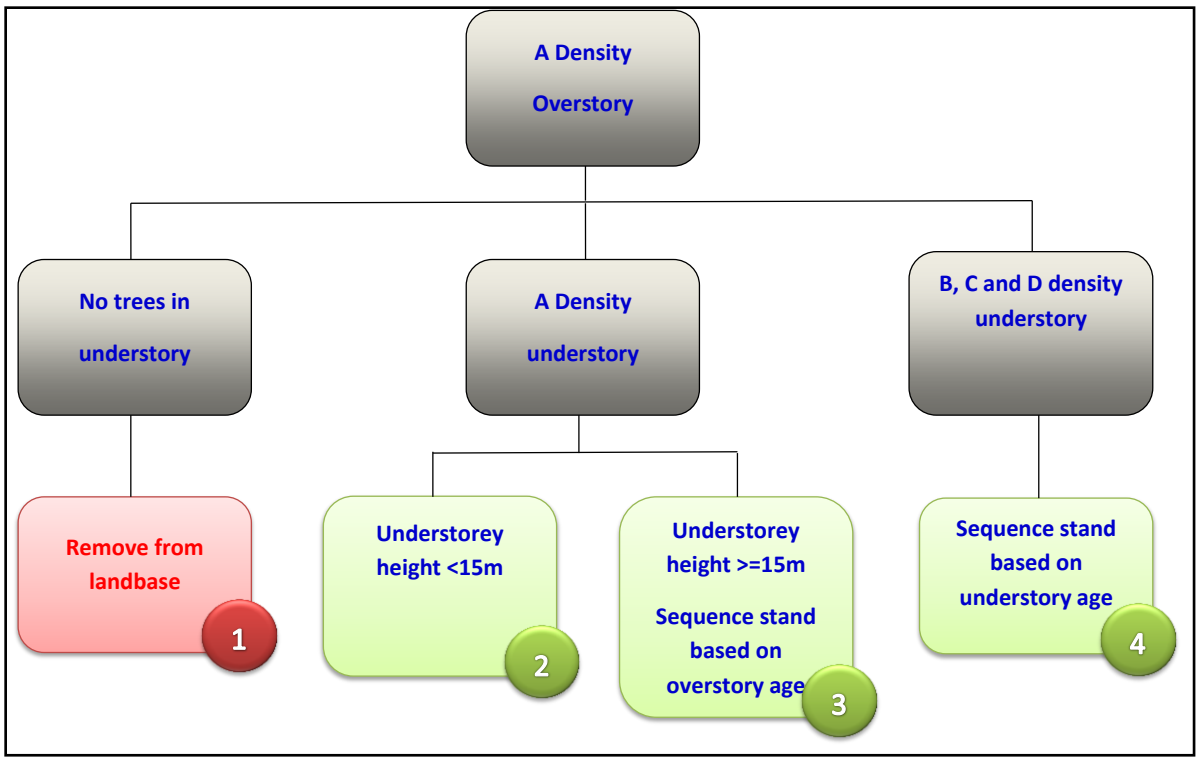

Figure 5-1 A-Density Deciduous Overstory Subjective Deletion

These areas are identified and removed from the TFLB as follows:

if *[DENSITY]* equal to 'A' and *[STD_STRATU]* in ('NAT-1', 'NAT-2', 'NAT-4', 'NAT-7') and *[UDENSITY]* is NULL
then *[NDNAME]* is assigned the value
'**AOverNothing**'

5.2.9 Gravel Pits

Gravel pits were identified and removed as follows:

if *[TYPE_DISP]* in ('SMC','SML') '
then *[NDNAME]* is assigned the value
'**GravelPits**'

5.2.10 Wildlife Licks

Identified ungulate wildlife licks were buffered by 100 m and excluded from the net timber harvesting landbase. These areas are removed from the TFLB as follows:

if *[TYPE]* is 'Lick'
then *[NDNAME]* is assigned the value
'**WildlifeLicks**'

5.2.11 Recreation Leases

A lease may be issued for the development of commercial recreation or tourism facilities on public land. Recreation leases are removed from the TFLB as follows:

if *[FORREC_MAN]* is not null
then *[NDNAME]* is assigned the value
'RecLeases'

5.2.12 Additional Clearings and Digital Integrated Dispositions (DID)

Numerous land uses unrelated to forest harvesting occur within the Grande Prairie FMA area. To simplify GIS processing while creating the resultant landbase cover, disposition types were aggregated with existing clearings from the AVI to create a comprehensive clearings layer. Digital Integrated Dispositions were updated to these areas were current to May 1, 2014.

Land use restrictions are removed from the TFLB as follows:

if *[ANTH_VEG]* is 'CLG'
then *[NDNAME]* is assigned the value
'ClearingDIDs'

Table 5-22 summarizes digital integrated dispositions (DID) land use disposition types and deletions within the FMA area.

Table 5-22 Disposition Classification

Disposition Code	Description	Deletion
DRS	Disposition Reservation	Yes
EZE	Easement	Yes
LOC	License of Occupation	Yes
MLL	Miscellaneous Lease	Yes
MSL	Mineral Surface Lease	Yes
PIL	Pipeline Installation	Yes
PLA	Pipeline Agreement	Yes
PNT[1]	Protective Notation	Yes
RDS	Provincial Roadways	Yes
RRD	Registered Roadway	Yes
SML	Surface Material Lease	Yes

[1] There are currently no PNTs within the FMA that require a spatial netdown from the landbase contributing to timber supply

5.2.13 Not Satisfactorily Restocked

Areas that are considered not satisfactorily restocked (post 1991 cutblock with < 50% stocking) are removed from the TFLB. These areas are defined based on ESRD's ARIS Records Validation Procedures as described in Section 0.

5.2.14 Rehabilitation Areas

As part of a provincially sponsored MPB Rehabilitation Research Program, previously planned cutblocks in the Peace Block that are no longer considered to be economically viable due to MPB impacts have been identified as potential rehabilitation opportunities under this program. These blocks have been removed from the THLB.

5.2.15 Isolated Landbase

Isolated patches of THLB are removed from the landbase where THLB patches are less than 1 hectare and are surrounded by non-contributing area. This reduction has been applied after the SCHEDULE_A netdown is complete and is therefore not part of the SCHEDULE_A but is reflected in the SCHEDULE_B resultant.

5.2.16 Seismic Lines

Existing forest inventories do not include seismic lines as individual polygons, as the seismic line width is often less than the minimum width that can be captured digitally as a polygon. The Foothills Landscape Management Forum (FLMF) provided buffered seismic line data within the caribou management zone.

Outside the caribou management zone, lineal seismic lines were buffered based on photo measurement samples within the three main operating areas: Peace; Puskwaskau; and Main. One section per township from each of the operating areas was sampled and an average buffer width for each operating area was calculated. The calculated averages are: 5.3 m in the Peace, 5.5 m in Puskwaskau and 6.1m in Main. These buffers were applied to the lineal seismic line data and added to the resultant database. Seismic lines not within post 2000 harvest blocks are removed from the TFLB as seismic lines are reforested post 2000 as follows:

Inside the caribou management zone:

> if *[LTYPE]* is 'SC' and [*TIMBER_YR*] < 2000
> then *[NDNAME]* is assigned the value
> **'Seismic Lines'**

Outside the caribou management zone:

> if *[SEISMIC_BUFFER]* is greater than 0 and [*TIMBER_YR*] < 2000
> then *[NDNAME]* is assigned the value
> **'Seismic Lines'**

Predictably, seismic areas account for a considerable amount of area and intersections across the FMA area. In order to better address the spatial validity of the blocking and sequencing process these areas were removed from the THLB (landbase contributing to timber supply) by aspatially reducing the existing yield curves based on the percent of the THLB area within each yield group occupied by seismic lines. This approach allows for the regeneration of seismic lines as adjacent areas are harvested and does so without unnecessarily fragmenting the resultant data set.

As such, the reduction for existing seismic lines is not included in the netdown table (Table 5-20). However, the 8,632 ha of THLB occupied by seismic lines has been addressed through yield curve reductions as shown in Table 5-23.

Table 5-23 Seismic Line Summary

Yield Group	THLB Area (ha)	Seismic Line Area (ha)	Percent Yield Curve Reduction (%)
CD-PlHw	1,202	15	0%
CD-SwHw	7,286	85	1%
C-Pl	18,558	145	1%
C-Sb	1,414	5	1%
C-Sw	17,817	156	0%
DC-HwSx	1,521	7	1%
D-Hw	4,135	9	0%
NAT-1	6,149	102	0%
NAT-10	14,862	371	0%
NAT-11	20,178	350	2%
NAT-12	11,688	279	2%
NAT-14	0	0	2%
NAT-15	19,750	527	2%
NAT-16	21,875	354	2%
NAT-17	19,627	339	3%
NAT-2	27,841	436	2%
NAT-3	74,680	1,305	2%
NAT-4	3,426	64	2%
NAT-5	7,955	204	2%
NAT-6	95,925	1,857	2%
NAT-7	13,804	206	2%
NAT-8	27,919	619	3%
NAT-9	17,467	379	2%
Total	**480,576**	**8,632**	**1%**

6 ADDITIONAL LANDBASE CLASSIFICATION

As shown in the following sections, additional landbase stratification includes yield groups, broad cover group, natural sub-region and seed zone, caribou management zone, watersheds, grizzly bear, timber supply units and sub-units and genetic breeding zones. These zones, along with the netdown from the SCHEDULE_A resultant are added to the SCHEDULE_B resultant.

6.1 Yield Strata

Table 6-24 shows the distribution of yield strata and broad cover types across the FMA area.

Table 6-24 Summary of Grande Prairie FMA Area Netdown by Stratum

Broad Cover Group	Stratum	Total (ha)	THLB (ha)
	NAT-0	42,354	0
D	NAT-1	9,777	6,108
D	NAT-2	29,878	27,614
DC	NAT-3	78,934	73,501
D	NAT-4	5,734	3,418
C	NAT-5	8,614	7,918
Du	NAT-6	100,703	95,007
D	NAT-7	24,327	13,754
C	NAT-8	28,023	24,285
CD/DC	NAT-9	17,624	16,110
C	NAT-10	16,074	13,541
C	NAT-11	20,573	17,460
C	NAT-12	12,756	11,564
C	NAT-13	60,577	0
C	NAT-14	21,904	18,928
C	NAT-15	28,264	21,470
C	NAT-16	21,664	19,042
CD	NAT-17	49,749	44,668
Subtotal Natural and Pre 1 March 1991		**577,530**	**414,386**
C	C-Pl	18,716	18,555
C	C-Sb	1,420	1,414
C	C-Sw	17,964	17,816
CD	CD-PlHw	1,244	1,202
CD	CD-SwHw	7,322	7,285
D	D-Hw	4,152	4,135
DC	DC-HwSx	1,532	1,521
	NSR	116	-
Subtotal Post 1 March 1991		**52,464**	**51,927**
	NAT-0	55	0
D	NAT-1	55	41
D	NAT-2	230	227
DC	NAT-3	1,182	1,180
D	NAT-4	10	8
C	NAT-5	38	38

Broad Cover Group	Stratum	Total (ha)	THLB (ha)
Du	NAT-6	936	919
D	NAT-7	70	50
C	NAT-8	3,695	3,634
CD/DC	NAT-9	1,369	1,357
C	NAT-10	1,339	1,322
C	NAT-11	2,770	2,718
C	NAT-12	124	124
C	NAT-13	149	0
C	NAT-14	832	822
C	NAT-15	413	404
C	NAT-16	588	585
CD	NAT-17	837	828
C	C-Pl	2	2
C	C-Sw	1	1
CD	CD-PlHw	0	0
CD	CD-SwHw	2	2
Subtotal Harvested After 2010		**14,699**	**14,263**
Total		**644,694**	**480,576**

6.2 Natural Sub regions and Seedzone

The FMA area boundary cover was overlaid with the Natural Sub-regions *[NSRNAME]* and seed zone were identified in the FMA area. Proportional Natural Sub-region distribution within the FMA area is summarized in Table 6-25.

Table 6-25 Area Distribution by Natural Sub-region and Seed Zone

Sub region	Seed Zone	Total (ha)	THLB (ha)	% of Total
Dry Mixedwood	DM 1.2, DM 1.3	44,529	32,103	7%
Central Mixedwood	CM 3.4	306,689	226,554	47%
Lower Foothills	LF 1.4	199,711	154,022	32%
Upper Foothills	UF 1.3	89,344	64,564	13%
Subalpine	SA 1.1	4,412	3,327	1%
Montane	M 2.1	9	6	0%
Total		**644,694**	**480,576**	**100%**

6.3 Woodland Caribou Management Areas

A digital overlay of the FMA area with Woodland Caribou Management Zones (CMZ) *[CARI_ZONE]* was used to determine areas of special management considerations for forestry operations. There are three CMZ areas that have been identified in the net TFLB landbase. These zones will have special forest management considerations applied within the timber supply analysis: Zone 1; Zone 2; and Zone 3. Caribou overlays were processed during the preparation of the resultant database and are described in Appendix B. Table 6-26 summarizes CMZ zones in the FMA.

Table 6-26 CMZ Area Distribution within FMA area

Zone	Description	Total (ha)	THLB (ha)	% of Total
n/a	Non-CMZ Area	465,105	348,403	72%
1	Zone 1	15,136	6,383	1%
2	Zone 2	56,174	41,979	9%
3	Zone 3	108,279	83,811	17%
Total		**644,694**	**480,576**	**100%**

6.4 Watersheds

Ninety-one watershed basins were provided by ESRD, delineated using LiDAR. Watershed classification is provided in *[WS_ID]*; although it does not impact the netdown, watersheds will be used to report on equivalent clearcut area (ECA) harvesting activities within each basin in the TSA.

6.5 Grizzly Bear

Grizzly Bear coverage was prepared and provided by ESRD; there were two habitat areas selected in the FMA area. Field *[TYPE]* is used to identify those areas that contribute to grizzly bear habitat.

6.6 Timber Supply Units

The FMA area is divided into 13 Timber Supply Units (TSUs) and further subdivided into 63 timber supply sub-units (TSCs).

The boundaries are based on geographic features and are primarily used in the resource and timber supply analysis for geographic harvest prioritization.

6.7 Genetic Breeding Region

There are two genetic breeding regions identified in the FMA area, namely B1 (lodgepole pine) and G1 (white spruce). These areas are defined mainly by adaptation criteria, for which improved materials are selected, bred, tested, multiplied and deployed in reforestation.

These areas are primarily used in the compilation of yield strata across the FMA area.

7 REFERENCES

Alberta Sustainable Resource Development. 2006. Alberta Forest Management Planning Manual (April 2006, Version 4.1). Alberta Sustainable Resource Development, Public Lands and Forests Division, Forest Management Branch. Edmonton, Alberta, Canada.

Alberta Sustainable Resource Development. 2009. Regenerating Landbase – ARIS Records Validation Procedures (December 02, 2009). Alberta Sustainable Resource Development, Public Lands and Forests Division, Forest Management Branch. Edmonton, Alberta, Canada.

APPENDIX A: AVI APPROVAL LETTER

Government of Alberta
Sustainable Resource Development

Resource Information Management Branch
14th Floor, Oxbridge Place
9820 – 105 Street
Edmonton, Alberta T5K 2J6
Canada
Telephone: 780-427-7222
www.alberta.ca

August 9, 2011

Mr. Dwight Weeks
Canadian Forest Products Ltd.
Postal Bag 100
Grande Prairie, Alberta T8V 3A3

Dear Mr. Weeks:

Subject: AVI audit of G15

Alberta Sustainable Resource Development staff completed a review of the Alberta Vegetation Inventory (AVI) completed by Canadian Forest Produces Ltd. for forest management unit G15. The data have successfully passed an audit by Resource Data Branch. The final audit report is attached. If you have any questions regarding this process, please feel free to contact me at (780) 422-0217.

Yours truly,

Brian Sawyer
Section Head, Data Acquisition

Enclosure (1)

cc: Darren Tapp
Executive Director, Forest Management
Daryl Price
Senior Manager, Res. Analysis

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APPENDIX B: GIS PROCESSING DOCUMENT

All datasets were assembled into ArcInfo™ workstation format from the source information and projected to UTM, Zone 11, NAD83 Datum where required. All input data sets were overlaid using the 'UNION' function to produce a composite (resultant) landbase coverage. The software and operating system used to produce this overlay product was ESRI, ArcInfo 10.1 on Windows 7 operating system, and AML routines.

The input datasets were overlaid in the order of their size, beginning with the smallest coverage. All spatial processing was done using a default fuzzy tolerance of 0.01 m and a dangle tolerance of 0.01 m. All of the coverages used to produce the composite landbase coverage have been provided to Canfor. Existing clearings and additional dispositions (DIDs) layers were provided by Canfor and were combined by Ecora. Sliver polygons created by this process were identified and eliminated. The AVI attribute database files including data dictionaries outlining the attribute items for these files have been added to this document.

Input cover quality control procedures were adapted from the development of 2006 spatial composite landbase coverage determination. All input coverages were individually verified including both their spatial representation (overlapping/duplicate polygons) as well as associated attribute data quality. The following table describes individual coverages in more details.

ID	Layer	Source	Date	Netdown	Notes
01	FMA Boundary	ESRD	11-Apr-11	Yes	MASTER, Reviewed 18 July 2011, OK
02	Slope Classes	CANFOR	13-Jun-11	Yes	Reviewed 18 July 2011, OK
03	AVI	CANFOR	17-Jun-11	Yes	Reviewed 18 July 2011, verify that clearing coverage provided by Greenlink is included in AVI (COMPLETE)
04	Trumpeter Swans	CANFOR	10-Jun-14	Yes	
05	Riparian (Rivers and Lakes)	ESRD	7-Feb-12	Yes	
06	Riparian (Streams)	ESRD	09-Jan-13	Yes	
07	Riparian (Boundary Rivers)	ESRD	7-Feb-12	Yes	
08	Existing Clearing and Additional Dispositions (DIDs)	CANFOR / ECORA	4-Jun-14	Yes	
09	Gravesites	ESRD	1-Jun-11	Yes	Reviewed 18 July 2011, OK
10	Wildlife Licks (AOP)	CANFOR	18-Jul-11	Yes	Reviewed 18 July 2011, OK
11	Seismic (Outside FLMF)	ESRD	21-Jun-11	Yes	Reviewed 18 July 2011, OK
12	Seismic (FLMF)	Foothills Landscape Management Forum	21-Jun-11	Yes	Reviewed 18 July 2011, OK
13	Government Deletions (DRSs)	ESRD	22-Jul-11	Yes	DRSs (government deletions)
14	Gravel Pits	ESRD	23-Jul-11	Yes	Gravel pits
15	Parabolic Sand Dunes	CANFOR	21-Jul-11	Yes	Parabolic Sand Dunes (from timber supply units coverage)
16	Proposed Cutblocks	CANFOR, Norbord Inc., Tolko	4-Jun-14	No	
17	Natural Regions/Sub regions	ESRD	11-Apr-11	No	Reviewed 18 July 2011, OK
18	Grizzly bear	ESRD	11-Apr-11	No	Reviewed 18 July 2011, OK
19	Watersheds	ESRD	11-Apr-11	No	Reviewed 18 July 2011, OK

ID	Layer	Source	Date	Netdown	Notes
20	Recreation Leases	ESRD	8-Jul-11	Yes	Reviewed 18 July 2011, OK
21	Genetic Breeding Region_B1	ESRD	11-Apr-11	No	Reviewed 18 July 2011, OK
22	Genetic Breeding Region_G1	ESRD	11-Apr-11	No	Reviewed 18 July 2011, OK
23	Caribou	CANFOR	26-May-14	No	
24	Forest Management Units	ESRD	8-Jul-11	No	Mapping only
25	Timber Supply Units	CANFOR	21-Jul-11	No	Forest operations and economics
26	Rehabilitation Blocks	CANFOR	24-Oct-13	Yes	Rehabilitation areas to be removed from the THLB
27	Access Management Plan	CANFOR	28-Oct-13	No	

Quality control checks were performed on both the input and output databases. The employed process ensured that no duplicate shapefile polygons were added to the resultant database. The GIS process was documented using the Python program, making the process verifiable and repeatable.

APPENDIX C: DATA LIBRARY

Feature Class	Field Name	Field Type	Values	Field Description[7]
jim_bob	Shape	Geometry	Polygon	Geometry
	FEATURE_CO	String		Not Used
	FEATURE_TY	String	Class A	
	NAME	String	Jim Bob Creek	
	BUFF_DIST	Double	100	Buffer distance
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
berland_amp	OBJECTID_12	OID	1	
	Shape	Geometry	Polygon	Geometry
	OBJECTID_1	Integer	1	
	OBJECTID_2	Integer	1	
	AMP_NAME	String	Berland Smoky	
	SHAPE_LE_1	Double		
	SHAPE_LE_2	Double		
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
caribou	Shape	Geometry	Polygon	Geometry
	FMA_CODE	String	C	
	FMANAME	String	Canadian Forest Products Ltd.	Defines area inside / outside the FMA
	C_BUFFER	String	Y	
	INTACT	String	Caribou Range DRAFT SRD Caribou Line Primary Intactness	
	ZONE	String	Buffer 3 2 1 0	Caribou Zone
	A_CARIBOU_PERIME	Double		
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
grizzly_bear	OBJECTID_1	OID		
	Shape	Geometry	Polygon	Geometry
	GB_POPUNIT	String	Grande Cache	Not Used
	TYPE	String	Core Secondary	Not Used
	PERIM10TM	Double		Not Used
	AREA10TM	Double		Not Used
	ACRES10TM	Double		Not Used
	HA10TM	Double		Not Used
	GRIZ_ZONE	String	Grizzly bear	Grizzly Bear Zone
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
fma_boundary	OBJECTID_1	OID		
	Shape	Geometry	Polygon	Geometry
	FMA_CODE	String		Defines area inside /

[7] Fields without a field description were not used in the analysis.

Feature Class	Field Name	Field Type	Values	Field Description[7]
			C	outside the FMA
	FMANAME	String	Canadian Forest Products Ltd.	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
regions_subr	OBJECTID_1	OID		
	Shape	Geometry	Polygon	Geometry
	SEEDZONES2	Double	28 41 48 52 66 84 89 91	Not Used
	SEEDZONES3	Double	411 413 705 636 467 369 469 470	Not Used
	SEEDZONE	String	DM 1.2 DM 1.3 CM 3.4 LF 1.4 UF 1.3 SA 1.1 M 2.1	Not Used
	NSRNAME	String	Dry Mixedwood Central Mixedwood Lower Foothills Upper Foothills Subalpine Montane	Natural Sub-Regions
	NR	String	Boreal Foothills	Natural Regions
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
trumpeter_sw	Shape	Geometry	Polygon	Geometry
	SWAN_JUNE14_PERI	Double		
	FEATURE_TY	String	Swan_Buff	Area removed for swan buffer
	BUFF_DIST	Double	200 0	Buffer distance
	SOURCE	String	ESRD_2014	Source of the information
	SWAN	String	Swan_Buff	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
timber_suppl	Shape	Geometry	Polygon	Geometry
	HAUL_DIST	Double		Haul Distance
	LOG_HAUL_C	Double		Haul Cost
	REFOR_COST	Double		Reforestation Cost
	CYCLE_TIME	Double		Cycyle Time

Feature Class	Field Name	Field Type	Values	Field Description[7]
	AREA_HA_1	Double		
	TS_UNIT	String	Peace PUSK3 PUSK2 Economy North Latornell North Simonette Economy South Wask Latornell South Deep North Smoky Deep South Bolton Creek	Timber Supply Unit
	TS_SUBUNIT	String	Peace-2 Peace-1 Pusk-W Pusk-E EN-1 EN-2 EN-3 EN-4 LN-1 EN-5 EN-6 EN-7 LN-3 LN-2 SIM-1 ES-1 SIM-2 SIM-3 ES-2 Wask-1 LS-1 LS-2 ES-4 ES-3 LS-3 Sim-4 Wask-3 Wask-2 LS-5 LS-4 ES-5 DN-1 SM-2 DN-4 SM-1 DN-2 DN-5 SM-3 DN-3 SM-5 SM-4 DS-1 DN-7 DN-6	Timber Supply Sub-Unit

Feature Class	Field Name	Field Type	Values	Field Description[7]
			SM-6 DS-2 DS-4 DN-9 DS-5 SM-7 DS-3 DN-8 DS-6 SM-8 DS-7 Bolt-3 Bolt-2 Bolt-1 Bolt-4 Bolt-7 Bolt-6 Bolt-5	Timber Supply Sub-unit
	FMA_CD_TIMB	String	CFP	Not Used
	FMA_NM_TIMB	String	Canadian Forest Products Ltd.	Not Used
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
watershed	OBJECTID_1	OID		Not used
	Shape	Geometry	Polygon	Geometry
	HECTARES	Double		
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
genetic_g1	OBJECTID_12	OID	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	
	Shape	Geometry	Polygon	Geometry
	OBJECTID_1	Integer		
	IN_RANGE	SmallInteger	1	
	BREEDING_G	String	G1	Spruce Genetic Zone
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Aera
genetic_b1	OBJECTID_12	OID		
	Shape	Geometry	Polygon	Geometry
	OBJECTID_1	Integer		

Feature Class	Field Name	Field Type	Values	Field Description[7]
	BREEDING_B	String	B1	Pine Genetic Zone
	IN_RNG_B1	SmallInteger	1 0	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
blocks_june14	Shape	Geometry	Polygon	Geometry
	BLOCK_TYPE	String	CUT HAR FTR DFC DHR	Block Type
	BLOCK_STAT	String	FHP FINAL CLEARANCE HAUL CLEARANCE AVAILABLE PARTIAL HARVEST FIELD COMPLETE PROPOSED AOP OTH	Block Status
	HS_IND	String	P D	Not Used
	HS_DATE	Date		Not used
	SC_IND	String	P D	Not used
	SC_DATE	Date		Skid Clearance Date
	HC_STATUS	String	P D	Not used
	HC_DATE	Date		Not used
	LP_IND	String	D P	Note used
	LP_DATE	Date		Not used
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
did_june2014	Shape	Geometry	Polygon	Geometry
	ANTH_VEG	String	CLG	
	TYPENAME	String	PIPELINE AGREEMENT MINERAL SURFACE LEASE LICENSE OF OCCUPATION PIPELINE INSTALLATION LEASE MISCELLANEOUS LEASE SURFACE MATERIAL LEASE EASEMENT ROADWAY	DID Removal Areas

Feature Class	Field Name	Field Type	Values	Field Description[7]
			CONSULTATIVE NOTATION DISPOSITION RESERVATION PROTECTIVE NOTATION INDUSTRIAL SAMPLE PLOT	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
ssi	Shape	Geometry	Polygon	Geometry
	SSI	Double		
	SSI_CF	Double		Not Used Not Used
	SSI_PRIORI	Double	0 2 3 1	Not Used
	SSI_YG	Double	0 4 3 1 2	Not Used
	SSI_HEIGHT	Double	0 3 2 1	Not Used
	SSI_RANK	Double	0 9 8 7 10 6 3 4 5 2	Stand Susceptibility Index
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
fma_nd_new	Shape	Geometry	Polygon	Geometry
	ND	String	NonForVeg AoverNothing RiversBnd thlb SteepSlope NatNonVeg ClearingDIDs GravelPits thlb_island AnthVeg AnthNonveg NotFMA Streams MPBRehab RiversLakes LowProd1 LowProd2 DRSDeletion NSR Swan WildlifeLicks	Not used

Feature Class	Field Name	Field Type	Values	Field Description[7]
			LowProd3	
			ParabolicSandDunes	
			RecLeases	
			Grave	
			Clearings	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
avi	Shape	Geometry	Polygon	Geometry
	POLY_NUM	Integer		integer
	NFL	String	SC	Not used
			HG	
			SO	
			HF	
			BR	
	NAT_NON	String		Natural Non-Vegetated
			NMC	
			NMS	
			NWF	
			NWL	
			NWR	
			NMB	
			NMR	
	ANTH_NON	String		Anthropocentric Non-Vegetated
			AIH	
			AIG	
			AII	
			AIE	
			ASR	
	MOD1	String		Not used
			CC	
			CL	
			IK	
			SN	
			WF	
			DI	
			BU	
			UK	
			TH	
			SI	
			DT	
	STD_SRD	String		Not used
			D04	
			CD01	
			DC01	
			D01	
			CD05	
			C02	
			D02	
			C03	
			D03	
			DC02	
			C01	
			C05	
			C04	
			CD04	
			CD02	
			DC09	
			D05	

Feature Class	Field Name	Field Type	Values	Field Description[7]
			CD06 CD03 DC05 C08 C11 C10 C06 DC06 C09 DC10 CD07 C07 DC03 CD09 DC11 C12 CD08 DC07 XX0 CD10 C17 DC12 DC04 CD12 CD11 C15 C16 DC08	
	STD_ORIGIN	Double		Not Used
	STD_AGE	Double		AVI Attributes
	STD_STRATU	String	NAT-0 NAT-7 NAT-17 NAT-3 CD-PlHw NAT-9 NAT-11 NAT-6 NAT-15 NAT-1 NAT-16 NAT-2 NAT-8 NAT-4 CD-SwHw NAT-10 DC-HwSx NAT-14 C-Pl NAT-13 D-Hw C-Sw NAT-12 NSR C-Sb NAT-5	Existing Yield Group (2012)
	STD_BCG	String	 D CD	Broad Cover Group

Feature Class	Field Name	Field Type	Values	Field Description[7]
			DC	
			C	
			Du	
	STD_SOPM	Double	0	Not used
			1	
			9	
			2	
			3	
	STD_HT	Double		AVI Height
	STD_CC	String		AVI Crown Closure
			A	
			B	
			C	
			D	
	STD_TPR	String		Not used
			G	
			M	
			F	
			U	
	STD_RULE	String	R0	Silviculture Era
			R2	
			R1	
	DENSITY	String		Density Class
			A	
			B	
			C	
			D	
	UDENSITY	String		Understory Density Class
			A	
			B	
			C	
			D	
	ANTH_VEG_AV	String		Anthropocentric Vegetated Class
			CIW	
			CIP	
			CA	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
fmu	Shape	Geometry	Polygon	Geometry
	FMU_POLY	String		Not Used
	PL_LIFE	Double	2025	Not Used
			2020	
			2017	
			0	
			2015	
	FMU	String	MAIN	Portion of FMU
			PUSK	Portion of FMU
			PEACE	Portion of FMU
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
mpb_rhab_blks	Shape	Geometry	Polygon	Geometry
	OBJCTID_MPB	Double	0	Not used
			160006	
			154882	
			160002	
			159693	
			159694	

Feature Class	Field Name	Field Type	Values	Field Description[7]
			159691 160617	
	CB_SEQ_N_MPB	Double		Not used
	CB_SEQ_1_MPB	Double		Not used
	OPEN_MPB	String		Not used
	BLK_ID_MPB	String		Not used
	OPER_AR_MPB	String		Not used
	SUB_UN_MPB	String	Peace PEACE-3	Not used
	GROS_HA_MPB	Double		Not used
	EST_HA_MPB	Double		Not used
	MER_HA_MPB	Double		Not used
	VOL_M3_MPB	Double		Not used
	BLK_TYP_MPB	String		Not used
	BLK_STA_MPB	String	GHT NOT AVAILABLE	Area removed as MPB rehab
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
gravesites	Shape	Geometry	Polygon	Geometry
	GRAVESITE	String	Y	Areas removed as grave sites
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
gravelpits	Shape	Geometry	Polygon	Geometry
	TYPE_DISP	String	SML SMC	Areas removed as gravel pits
	NUM_DISP	String		
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
parabolic	Shape	Geometry	Polygon	Geometry
	PBS_TYPE	String	ParabolicSandDunes	Areas removed as parabolic sand dunes
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
drs	Shape	Geometry	Polygon	Geometry
	DRS_TYPE_DISP	String	DRS	Areas removed as DRS Deletions
	NUM_DISP	String		
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
forestreclea	Shape	Geometry	Polygon	Geometry
	FMA_CODE	String	C	
	FMANAME	String	Canadian Forest Products Ltd.	Defines area inside/ outside the FMA
	FORREC_NAM	String	Westview Forest Recreation Area Bison Flats Forest Recreation Area Economy Lake Forest Recreation Area	Areas removed as recreation leases
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
wildlife_lic	Shape	Geometry	Polygon	Geometry
	TYPE	String	Lick	Areas removed as wildlife licks

Feature Class	Field Name	Field Type	Values	Field Description[7]
	SOURCE	String		Source of the information
			GPS	
			Drafted	
	MONTH	String		Month
			June	
			Nov	
			Apr	
	YEAR	String		Year
			2010	
			2007	
			2011	
	SIGNIFICAN	String		Not used
			P	
	BUFF_DIST	Double	0	Buffer distance
			100	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
riparian_bnd	Shape	Geometry	Polygon	Geometry
	RIVER_NAME	String	Simonette River	Not used
			Little Smoky River	
			Smoky River	
			Peace River	
	FEATURE_TY	String	RIV-MAJ-REP-PRI	Areas removed as river and lake buffers
	FEATURE_CO	String	GA28362530	Not Used
	CFP_EDIT	String	Y (added feat type)	Not used
	COMMENTS	String	Buffer West	Not used
			Buffer East	
			Buffer South	
	BND60_BUFFER	Double	60	Not used
			0	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
riparian_riv	Shape	Geometry	Polygon	Geometry
	AT_NON	String	NWR	
			NWL	
			NMS	
	RIVERSLAKES_BUFF	SmallInteger	100	Areas removed as river and lake buffers
			0	
			30	
			60	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
blks_2012_13	OBJECTID_1	OID		
	Shape	Geometry	Polygon	Geometry
	BLKS_20121	Integer		Not used
	CUTB_SEQ_N	Double		Not used
	CUTB_SEQ_1	Double		Not used
	OPENING	String		Not used
	SUB_UNIT	String		Not used
			E8-3	
			E8-1	

Feature Class	Field Name	Field Type	Values	Field Description[7]
			SMOKY-5	
			SMOKY-4	
			SMOKY-3	
			SMOKY-2	
			SIM-3	
			SIM-4	
			SMOKY-1	
			LAT-3	
			SIM-2	
			LAT-2	
			LAT-1	
			ES-1	
			PEACE-3	
	VOLUME_M3	Double		Not used
	BLOCK_TYPE	String		Block Type
			HAR	
			DHR	
	BLOCK_STAT	String		Block Status
			HAUL CLEARANCE	
			OTH	
			PARTIAL HARVEST	
	HS_IND	String		Not used
			D	
	HS_DATE	Date		Not used
	SC_IND	String		Not used
			D	
			P	
	SC_DATE	Date		Skid Clearance Date
	HC_STATUS	String		Not used
			D	
			P	
	HC_DATE	Date		Not used
	LP_IND	String		Not used
			D	
	LP_DATE	Date		Not used
	CUTB_SEQ_2	Double	0	Not used
			100025125	
			100019755	
			100027438	
			100027321	
			100027279	
			100027322	
			100027328	
			100027325	
			100024978	
			100025819	
			100025815	
			100025807	
			100025879	
			100025816	
			100025818	
			100025817	
			100014635	
			100025547	
			100025298	
			100023918	
			100014524	
			100026178	
			100026179	
			100026182	

Feature Class	Field Name	Field Type	Values	Field Description[7]
			100026221	
			100026220	
			100026219	
			100026183	
			100023558	
	BLAL_MERCH	Double	0	Not used
			70.8	
			15.6	
			78.6	
			105.1	
			138.7	
			59.7	
			40	
			44.1	
			54.5	
			9.8	
			36.2	
			26.9	
			59.2	
			16.1	
			27	
			27.4	
			22.1	
			12.4	
			6.1	
			47.5292	
			23.7	
			23.8	
			7.3	
			6.7	
			7.2	
			23.6	
			9.4	
			7.6	
			207.3	
	SPECIES_TY	String		Not used
			CONI	
	BLK_VOL	Double		Not used
	CUTB_SEQ_3	Double		Not used
	BLAL_MER_1	Double		Not used
	SPECIES__1	String		
			CONI	
	NET_MERCH1	Double		Not used
	BLK_VOL_1	Double		Not used
	STEMS_PER1	Double		Not used
	CUTB_SEQ_4	Double		Not used
	BLAL_MER_2	Double		Not used
	SPECIES__2	String		
			CONI	
	NET_MERC_1	Double		Not used
	BLK_VOL_12	Double		Not used
	STEMS_PE_1	Double		Not used
	EDIT_NUM	SmallInteger	0	Not used
			2	
			1	
			3	
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
cfp_blk_nov13	Shape	Geometry	Polygon	Not used
	OBJCTID_CFP	Double		Not used

Feature Class	Field Name	Field Type	Values	Field Description[7]
	CB_SEQ_N_CFP	Double		Not used
	CB_SEQ_1_CFP	Double		Not used
	CUTB_BLK_CFP	String		Not used
	CB_BLK1_CFP	String	CUT	Not used
			HAR	
			FTR	
			DFC	
			DHR	
	CB_CONTI_CFB	String	N	Not used
			Y	
	CB_HARV_CFP	String	S	Not used
			W	
	GEN_GROS_CFP	Double		Not used
	STOCK_CFP	String		Not used
	CB_HR1_CFP	Double		Not used
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
cc_91	Shape	Geometry	Polygon	Not used
	CC_91	String	N	Not used
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
riparian_str	Shape	Geometry	Polygon	Geometry
	FEATURE_CO	String		Not used
	FEATURE_TY	String	STR-RECUR	Type
			STR-INDEF	
			STR-PER	
			RIV-MAJ-REP-PRI	
			ClassA	
			FLOW-ARB-MANUAL	
			LAKE-REP-PRI	
			FLOW-ARB-DEM	
			RIV-MAJ-REP-SEC	
			OXBOW-RECUR	
			OXBOW-PER	
			DITCH	
	NAME	String		Name of streams
			Bolton Creek	
			Norris Creek	
			Jim Bob Creek	
			Deep Valley Creek	
			Simonette River	
			Waskahigan River	
			Cousin Creek	
			Latornell River	
			Smoky River	
			Moose River	
			Karr Creek	
			Hodgins Creek	
			Smuland Creek	
			Ante Creek	
			Lignite Creek	
			Economy Creek	
			Harper Creek	

Feature Class	Field Name	Field Type	Values	Field Description[7]
			Clouston Creek Wabatanisk Creek Puskwaskau River New Fish Creek White Mud Creek Fourth Creek	
	CFP_EDIT	String	Y M	Not used
	STREAMS_BUFFER	SmallInteger	30 10 60 100 0	Area removed as riparian stream buffer
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
slopes_lidar	Shape	Geometry	Polygon	Geometry
	BLOCK_TYPE	String	 BU	Block Type
	HECTARES	Double		
	SP1	Double	0 45	
	SP2	Double	35 0	
	SP3	Double	0 45	
	SP4	Double	0 35	
	SLOPE	Double	35 45 0	Area removed as steep slopes
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area
rl_buf	Shape	Geometry	Polygon	Geometry
	INSIDE	Integer	100 1	Not used
	Shape_Length	Double	Polygon Length	Length
	Shape_Area	Double	Polygon Area	Area

Feature Class	Field Name	Field Type	Values	Field Description[8]
schedule_a	area	Double	too many to list	
	perimeter	Double	too many to list	
	scheda_2014_	integer	too many to list	
	scheda_2014_id	integer	too many to list	
	addon2014_	integer	too many to list	
	addon2014_id	integer	too many to list	
	swan_june14_	integer	0 1 2 3 4 5 6 7 8	

[8] Fields without a field description were not used in the analysis.

Feature Class	Field Name	Field Type	Values	Field Description[8]
			9	
			10	
			12	
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			68 more values	
	swan_june14_id	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			12	
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			68 more values	
	swan_june14_area	Double	0	Not used
			12081.214	
			31695.329	
			35474.319	
			131938.821	
			131938.822	
			131938.823	
			131938.824	
			131938.827	
			131938.828	
			131938.845	
			134517.561	
			150683.813	
			212685.037	
			230594.631	
			234013.939	
			234704.796	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			241309.325	
			250711.033	
			251192.012	
			252111.807	
			264433.481	
			265272.874	
			267659.831	
			272973.701	
			66 more values	
	swan_june14_peri	Double	0	Not used
			733.296	
			762.267	
			892.722	
			1287.818	
			1644.735	
			1729.404	
			1730.986	
			1736.784	
			1752.059	
			1795.677	
			1803.956	
			1806.118	
			1854.169	
			1864.803	
			1880.027	
			1893.428	
			1899.353	
			2006.853	
			2007.439	
			2035.682	
			2045.571	
			2064.52	
			2155.444	
			2165.191	
			60 more values	
	swan_jn2014_	integer	0	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			11	
			12	
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			31	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			67 more values	
	swan_jn2014_id	integer	0	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			11	
			12	
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			31	
			67 more values	
	feature_ty	Char	Swan_Buff	Area removed for Swan buffer
	buff_dist	Double	0	Buffer distance
			200	
	area_ha	Double	0	
			6823	
	source	Char	ESRD_2014	Source of the information
	swan	Char	Swan_Buff	
	blocks_june14_	integer	too many to list	
	blocks_june14_id	integer	too many to list	
	block_id	Char	too many to list	
	block_type	Char	CUT	Block Type
			DFC	
			DHR	
			FTR	
			HAR	
	block_stat	Char	AOP	Block Status
			AVAILABLE	
			FHP	
			FIELD COMPLETE	
			FINAL CLEARANCE	
			HAUL CLEARANCE	
			OTH	
			PARTIAL HARVEST	
			PROPOSED	
	hs_ind	Char	D	Not used
			P	

Feature Class	Field Name	Field Type	Values	Field Description[8]
	hs_date	Char	too many to list	Not used
	sc_ind	Char		Not used
			D	
			P	
	sc_date	Char	too many to list	Skid Clearance Date
	hc_status	Char		Not used
			D	
			P	
	hc_date	Char	too many to list	Not used
	lp_ind	Char		Not used
			D	
			P	
	lp_date	Char	0	Not used
			18991230	
			20120802	
			20120918	
			20121101	
			20121128	
			20130625	
			20130906	
			20130909	
			20131001	
			20131129	
	did_june2014_	integer	too many to list	Not used
	did_june2014_id	integer	too many to list	Not used
	anth_veg	Char		Not used
			CLG	
	typename	Char		Did Removal Areas
			CONSULTATIVE NOTATION	
			DISPOSITION RESERVATION EASEMENT	
			INDUSTRIAL SAMPLE PLOT LICENSE OF OCCUPATION	
			MINERAL SURFACE LEASE	
			MISCELLANEOUS LEASE	
			PIPELINE AGREEMENT	
			PIPELINE INSTALLATION LEASE	
			PROTECTIVE NOTATION	
			ROADWAY SURFACE MATERIAL LEASE	
	schedule_a_	integer	too many to list	Not used
	schedule_a_id	integer	too many to list	Not used
	objectid	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
	shape_leng	Double	0	Not used

Feature Class	Field Name	Field Type	Values	Field Description[8]
			9707.474	
			31113.954	
			135453.841	
			163169.527	
			550013.787	
	fma_code	Char		
			C	
	fmaname	Char		Defines area inside/outside the FMA
			Canadian Forest Products Ltd.	
	gravesites_	integer	1	Not used
			2	
			3	
			4	
	gravesites_id	integer	1	Not used
			2	
			3	
			4	
	a_gravesites_are	Double	0	Not used
			37445.847	
			37684.247	
			37823.698	
	a_gravesites_per	Double	0	Not used
			687.624	
			689.877	
			691.193	
	grave_	Double	0	Not used
			2	
			3	
			4	
	grave_id	Double	0	Not used
			1	
			2	
			3	
	gravesite	Char		Areas removed as grave site
			Y	
	gravelpits_	integer	too many to list	Areas removed as gravel pits
	gravelpits_id	integer	too many to list	Not used
	fid_83k_l_	integer	-1	Not used
			0	
			3671	
			6375	
			7858	
			8973	
			10278	
			12579	
			16479	
			16677	
			17341	
			18316	
			18386	
			18804	
			19270	
			21783	
			24267	
			24349	
			25534	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			25919	
			25953	
			26546	
			28859	
			29409	
			29734	
			33 more values	
	type_disp	Char		Not used
			SMC	
			SML	
	num_disp	Char		Not used
			SMC000004	
			SMC060023	
			SMC070008	
			SMC900081	
			SML000029	
			SML000058	
			SML010050	
			SML030053	
			SML040005	
			SML040006	
			SML060062	
			SML100096	
			SML100120	
			SML780038	
			SML780119	
			SML780127	
			SML790035	
			SML790069	
			SML790108	
			SML790137	
			SML790164	
			SML810014	
			SML820011	
			SML830022	
			15 more values	
	ha	Double	0	Not used
			0.001	
			0.008	
			0.015	
			0.026	
			0.038	
			0.041	
			0.046	
			0.054	
			0.063	
			0.1	
			0.119	
			0.125	
			0.179	
			0.193	
			0.207	
			0.225	
			0.233	
			0.261	
			0.336	
			0.397	
			0.402	
			0.415	
			0.484	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			0.618	
			58 more values	
	orig_fid	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			60 more values	
	parabolic_	integer	1	Not used
			2	
	parabolic_id	integer	1	Not used
			2	
	pbs_type	Char	ParabolicSandDunes	
	drs_	integer	too many to list	Not used
	drs_id	integer	too many to list	Not used
	drs_type_disp	Char	DRS	Not used
	forestreclea_	integer	1	Not used
			2	
			3	
			4	
	forestreclea_id	integer	1	Not used
			2	
			3	
			4	
	forrec_nam	Char	Bison Flats Forest Recreation Area Economy Lake Forest Recreation Area Westview Forest Recreation Area	Areas removed as recreation leases
	wildlife_lic_	integer	too many to list	
	wildlife_lic_id	integer	too many to list	
	type	Char	Lick	Areas removed as wildlife licks
	comment_	Char		Not used

Feature Class	Field Name	Field Type	Values	Field Description[8]
			Mineral	
			Moose/Deer Lick	
			Moose/Deer Mineral Lick	
			MooseDeer	
			Significant	
	month	Char		Month
			Apr	
			June	
			Nov	
	year	Char		Year
			2007	
			2010	
			2011	
	significan	Char		Not used
			P	
	mpb_rhab_blks_	integer	1	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			44 more values	
	mpb_rhab_blks_id	integer	1	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			44 more values	
	fid_mpb_re	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
			6	
	objctid_mpb	Double	0	Not used
			154882	
			159691	
			159693	
			159694	
			160002	
			160006	
			160617	
	cb_seq_n_mpb	Double	0	Not used
			100027199	
			100027201	
			100027202	
			100027203	
			100027206	
			100027209	
			100027210	
	cb_seq_1_mpb	Double	0	Not used
			100027199	
			100027201	
			100027202	
			100027203	
			100027206	
			100027209	
			100027210	
	open_mpb	Char		Not used
			6070822988	
			6070830371	
			6070830931	
			6070840674	
			6080840182	
			6080840201	
			6080841576	
	blk_id_mpb	Char		Not used
			R430182	
			R430201	
			R431576	
			R440674	
			R460371	
			R460931	
			R472988	
	oper_ar_mpb	Char		Not used
			Peace	
	sub_un_mpb	Char		Not used
			PEACE-3	
	gros_ha_mpb	Double	0	Not used

Feature Class	Field Name	Field Type	Values	Field Description[8]
			22	
			33	
			38	
			78	
			100	
			146	
	est_ha_mpb	Double	0	Not used
			33	
			38	
			52	
			100	
			134	
			146	
	mer_ha_mpb	Double	0	Not used
			22	
			33	
			38	
			78	
			100	
			146	
	vol_m3_mpb	Double	0	
			6346	
			6758	
			7616	
			10441	
			19400	
			25491	
			26834	
	blk_typ_mpb	Char		Block type MPB
			GHT	
	blk_sta_mpb	Char		Block Status MPB
			NOT AVAILABLE	
	trumpeter_sw_	integer	1	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			55 more values	
	trumpeter_sw_id	integer	1	Not used
			2	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			55 more values	
	fid_cfp_fm	integer	0	Not used
	swan_type	Char	LAKE-RECUR	
	name	Char		Not used
	perim10tm	Double	0	Not used
			2064.379	
	area10tm	Double	0	Not used
			101050.878	
	acres10tm	Double	0	Not used
			24.97	
	ha10tm	Double	0	Not used
			10.105	
	a_trumpeter__are	Double	0	Not used
			0.914	
			1.36	
			2.179	
			7.684	
			7.757	
			7.769	
			7.774	
			7.792	
			10.965	
			10.976	
			14.253	
			15.081	
			16.467	
			16.506	
			16.543	
			17.042	
			17.823	
			18.231	
			18.324	
			18.539	
			18.626	
			18.761	
			19.541	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			19.652	
			55 more values	
	len	Double	0	Not used
			0.025	
	fma	Char		Not used
			Y	
	fid_fma	integer	0	Not used
			2	
	fma_area	Char		Not used
	riparian_bnd_	integer	1	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
	riparian_bnd_id	integer	1	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
	river_name	Char		Not used
			Little Smoky River	
			Peace River	
			Simonette River	
			Smoky River	
	feature_co	Char		Not Used
			GA28362530	
	cfp_edit	Char		Not used
			Y (added feat type)	
	length	Double	0	Not used
			9537.763	
			10913.111	
			11384.955	
			15189.08	
			57291.025	
			62109.232	
			175278.988	
	comments	Char		Not used
			Buffer East	
			Buffer South	
			Buffer West	
	bnd60_buffer	Double	0	Not used
			60	
	clearing_did_	integer	too many to list	Not used
	clearing_did_id	integer	too many to list	Not used
	riparian_riv_	integer	too many to list	Not used
	riparian_riv_id	integer	too many to list	Not used

Feature Class	Field Name	Field Type	Values	Field Description[8]
	a_riparian_r_are	Double	too many to list	Not used
	a_riparian_r_per	Double	too many to list	Not used
	at_non	Char		
			NMS	
			NWL	
			NWR	
	riverslakes_buff	integer	0	Not used
			30	
			60	
			100	
	blks_2012_13_	integer	too many to list	Not used
	blks_2012_13_id	integer	too many to list	Not used
	blocks_2012__are	Double	too many to list	Not used
	blocks_2012__per	Double	too many to list	Not used
	blks_2012_	integer	too many to list	Not used
	blks_20121	integer	too many to list	Not used
	cutb_seq_n	Double	0	Not used
			100014524	
			100014635	
			100019755	
			100023558	
			100023720	
			100023918	
			100024978	
			100025125	
			100025298	
			100025431	
			100025432	
			100025433	
			100025434	
			100025435	
			100025436	
			100025438	
			100025439	
			100025440	
			100025441	
			100025442	
			100025518	
			100025519	
			100025547	
			100025698	
			67 more values	
	cutb_seq_1	Double	0	Not used
			100014524	
			100014635	
			100019755	
			100023558	
			100023720	
			100023918	
			100024978	
			100025125	
			100025298	
			100025431	
			100025432	
			100025433	
			100025434	
			100025435	
			100025436	
			100025438	
			100025439	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			100025440	
			100025441	
			100025442	
			100025518	
			100025519	
			100025547	
			100025698	
			67 more values	
	opening	Char		Not used
			5220641768	
			5230640144	
			5230640149	
			5230641218	
			5230641312	
			5230641419	
			5230641509	
			5230641563	
			5230641669	
			5230641673	
			5230642260	
			5230650638	
			5240640123	
			5240641101	
			5240641193	
			5240641440	
			5240651047	
			5250640134	
			5260641929	
			5260642103	
			5260642151	
			5260661847	
			5260661902	
			5260661908	
			67 more values	
	oper_area	Char		Not used
			E8	
			Economy South	
			Latronell	
			Peace	
			Simonette	
			Smoky	
	sub_unit	Char		Not used
			E8-1	
			E8-3	
			ES-1	
			LAT-1	
			LAT-2	
			LAT-3	
			PEACE-3	
			SIM-2	
			SIM-3	
			SIM-4	
			SMOKY-1	
			SMOKY-2	
			SMOKY-3	
			SMOKY-4	
			SMOKY-5	
	gross_ha	Double	0	Not used
			3.057	
			3.626	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			3.662	
			3.947	
			4.59	
			4.692	
			5.095	
			5.874	
			5.99	
			6.022	
			6.379	
			6.57	
			6.917	
			7.248	
			7.435	
			7.501	
			7.866	
			8.091	
			8.397	
			8.462	
			8.891	
			9.893	
			10.044	
			10.439	
			68 more values	
	estim_ha	Double	0	Not used
			2.9	
			3.4	
			4.7	
			6	
			6.1	
			6.6	
			6.7	
			7.2	
			7.3	
			7.6	
			7.7	
			7.9	
			8.1	
			8.2	
			9.4	
			9.8	
			10	
			10.5	
			11.6	
			12.4	
			13	
			13.8	
			14.4	
			14.8	
			52 more values	
	merch_ha	Double	0	Not used
			3.057	
			3.626	
			3.662	
			3.947	
			4.59	
			4.692	
			5.095	
			5.874	
			5.99	
			6.022	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			6.379	
			6.57	
			6.917	
			7.248	
			7.435	
			7.501	
			7.866	
			8.091	
			8.397	
			8.462	
			8.891	
			9.893	
			10.044	
			10.439	
			68 more values	
	volume_m3	Double	0	Not used
			449.5	
			897.7	
			918	
			1342	
			1394.3	
			1584	
			1641.5	
			1771	
			1968	
			1972	
			2135.6	
			2160	
			2300	
			2349	
			2350	
			2520	
			2618	
			2728	
			3510	
			3528	
			3757	
			4032	
			4284	
			4331.545	
			38 more values	
	cutb_seq_2	Double	0	Not used
			100014524	
			100014635	
			100019755	
			100023558	
			100023918	
			100024978	
			100025125	
			100025298	
			100025547	
			100025807	
			100025815	
			100025816	
			100025817	
			100025818	
			100025819	
			100025879	
			100026178	
			100026179	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			100026182	
			100026183	
			100026219	
			100026220	
			100026221	
			100027279	
			5 more values	
	blal_merch	Double	0	Not used
			6.1	
			6.7	
			7.2	
			7.3	
			7.6	
			9.4	
			9.8	
			12.4	
			15.6	
			16.1	
			22.1	
			23.6	
			23.7	
			23.8	
			26.9	
			27	
			27.4	
			36.2	
			40	
			44.1	
			47.529	
			54.5	
			59.2	
			59.7	
			5 more values	
	species_ty	Char		Not used
			CONI	
	net_merch_	Double	0	Not used
			115	
			130	
			144.309	
			150	
			168	
			172.775	
			180	
			186	
			191	
			200	
			210	
			220	
			221	
			230	
			237.84	
			250	
			260	
			275	
			280	
			290	
	blk_vol	Double	0	Not used
			1098	
			1125.6	
			1394.3	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			1512	
			1679.6	
			1880	
			2156	
			2480	
			3420.115	
			3542	
			3818.317	
			4426.8	
			4524	
			5192	
			6267.5	
			6850	
			7397.5	
			7560	
			7964	
			10400	
			10620	
			11304.345	
			11840	
			12127.5	
			5 more values	
	stems_per_	Double	0	Not used
			242	
			253.8	
			274.68	
			300	
			310.2	
			336	
			345	
			352	
			368.861	
			369	
			374	
			383	
			388	
			396	
			417	
			444.5	
			450	
			454	
			468.09	
			473	
			480	
			520	
			606	
			676.97	
			5 more values	
	cutb_seq_3	Double	0	Not used
			100019755	
			100023558	
			100024978	
			100025125	
			100025298	
			100025518	
			100025519	
			100025547	
			100025698	
			100025699	
			100025811	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			100025812	
			100025813	
			100025814	
			100025879	
			100026178	
			100026179	
			100026180	
			100026182	
			100026183	
			100026198	
			100026199	
			100026219	
			100026220	
			37 more values	
	blal_mer_1	Double	0	Not used
			2.9	
			3.4	
			4.7	
			6.1	
			6.6	
			6.7	
			7.2	
			7.3	
			7.6	
			7.9	
			8.1	
			8.2	
			9.4	
			10	
			10.5	
			11.6	
			12.4	
			13	
			13.3	
			14.4	
			15.5	
			15.6	
			19.6	
			19.8	
			35 more values	
	species__1	Char		Not used
			CONI	
	net_merch1	Double	0	Not used
			115	
			120	
			130	
			140	
			145	
			150	
			168	
			170	
			175	
			180	
			189	
			190	
			192	
			200	
			210	
			220	
			225	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			230	
			240	
			247	
			250	
			265	
			288	
			290	
			5 more values	
	blk_vol_1	Double	0	Not used
			406	
			850	
			893	
			1098	
			1320	
			1392	
			1512	
			1558	
			1580	
			1606	
			1608	
			1672	
			1701	
			1880	
			1975	
			2100	
			2376	
			2457	
			2480	
			2520	
			2736	
			3430	
			3621	
			3662.4	
			37 more values	
	stems_per1	Double	0	Not used
			125	
			144.57	
			192.86	
			223.81	
			229.37	
			231.33	
			240	
			253.8	
			271.43	
			274.28	
			283	
			285.72	
			289.66	
			314.29	
			323.07	
			325.96	
			337.5	
			338.1	
			342.86	
			345	
			358.57	
			362.05	
			370	
			373.1	
			34 more values	

Feature Class	Field Name	Field Type	Values	Field Description[8]
	cutb_seq_4	Double	0	Not used
			100014524	
			100014635	
			100019755	
			100023558	
			100023918	
			100025298	
			100025518	
			100025519	
			100025547	
			100025698	
			100025699	
			100025807	
			100025811	
			100025812	
			100025813	
			100025814	
			100025815	
			100025816	
			100025817	
			100025818	
			100025819	
			100025879	
			100026178	
			100026179	
			47 more values	
	blal_mer_2	Double	0	Not used
			2.9	
			3.4	
			4.7	
			6.1	
			6.6	
			6.7	
			7.2	
			7.3	
			7.6	
			7.9	
			8.1	
			8.2	
			9.4	
			9.8	
			10	
			10.5	
			11.6	
			12.4	
			13	
			13.3	
			14.4	
			15.5	
			15.6	
			16.1	
			45 more values	
	species__2	Char		Not used
			CONI	
	net_merc_1	Double	0	Not used
			91	
			99.5	
			113.5	
			117	
			122	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			131	
			136.17	
			136.93	
			141	
			141.5	
			142	
			144.01	
			147	
			148	
			149	
			151.39	
			152	
			155.87	
			162.72	
			164	
			165	
			167	
			167.45	
			169.47	
			40 more values	
	blk_vol_12	Double	0	Not used
			414.8	
			668.885	
			714.4	
			948.05	
			995	
			1055.6	
			1094.476	
			1105.17	
			1109.133	
			1116.594	
			1231.373	
			1237.131	
			1736.784	
			1762.9	
			1860.845	
			1930.008	
			1968.07	
			2567.6	
			2691.504	
			2765.2	
			2950.2	
			3055.5	
			3205.3	
			3268.3	
			47 more values	
	stems_pe_1	Double	0	Not used
			270.25	
			294	
			339	
			353.24	
			357	
			379	
			384.16	
			396	
			400.51	
			407	
			417	
			427.4	
			429	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			460	
			467	
			468.55	
			469	
			475	
			480.24	
			483	
			491.53	
			495.17	
			508	
			520.7	
			43 more values	
	edit_num	integer	0	Not used
			1	
			2	
			3	
	cfp_blk_nov13_	integer	too many to list	Not used
	cfp_blk_nov13_id	integer	too many to list	Not used
	objctid_cfp	Double	too many to list	Not used
	cb_seq_n_cfp	Double	too many to list	Not used
	cb_seq_1_cfp	Double	too many to list	Not used
	cutb_blk_cfp	Char	too many to list	Not used
	cb_blk1_cfp	Char		Not used
			CUT	
			DFC	
			DHR	
			FTR	
			HAR	
	cb_conti_cfb	Char		Not used
			N	
			Y	
	cb_harv_cfp	Char		Not used
			S	
			W	
	gen_gros_cfp	Double	too many to list	Not used
	stock_cfp	Char		Not used
	cb_hr1_cfp	Double	0	Not used
			2009	
			2010	
			2011	
			2012	
			2013	
			2014	
			2015	
			2100	
	cc_91_	integer	too many to list	Not used
	cc_91_id	integer	too many to list	Not used
	cc_91	Char		Not used
			N	
	riparian_str_	integer	too many to list	Not used
	riparian_str_id	integer	too many to list	Not used
	streams_buffer	integer	0	Not used
			10	
			30	
			60	
			100	
	a_riparian_s_are	Double	too many to list	Not used
	a_riparian_s_per	Double	too many to list	Not used
	slopes_lidar_	integer	too many to list	Not used
	slopes_lidar_id	integer	too many to list	Not used

Feature Class	Field Name	Field Type	Values	Field Description[8]
	fid_block_	integer	-1	Not used
			0	
			40098	
	hectares	Double	too many to list	Not used
	sp1	Double	0	Not used
			45	
	sp2	Double	0	Not used
			35	
	perimeter_	Double	too many to list	Not used
	sp3	Double	0	Not used
			45	
	sp4	Double	0	Not used
			35	
	slope	Double	0	Not used
			35	
			45	
	avi_	integer	too many to list	
	avi_id	integer	too many to list	Not used
	poly_num	integer	too many to list	Not used
	nfl	Char		Not used
			BR	
			HF	
			HG	
			SC	
			SO	
	nat_non	Char		Natural Non-Vegetated
			NMB	
			NMC	
			NMR	
			NMS	
			NWF	
			NWL	
			NWR	
	anth_non	Char		Anthropocentric Non-Vegetated
			AIE	
			AIG	
			AIH	
			AII	
			ASR	
	mod1	Char		Not used
			BU	
			CC	
			CL	
			DI	
			DT	
			IK	
			SI	
			SN	
			TH	
			UK	
			WF	
	unique_id	integer	too many to list	Not used
	std_srd	Char		
			C01	
			C02	
			C03	
			C04	
			C05	
			C06	

Feature Class	Field Name	Field Type	Values	Field Description[8]
			C07	
			C08	
			C09	
			C10	
			C11	
			C12	
			C15	
			C16	
			C17	
			CD01	
			CD02	
			CD03	
			CD04	
			CD05	
			CD06	
			CD07	
			CD08	
			CD09	
			21 more values	
	std_origin	Double	too many to list	Not used
	std_age	Double	too many to list	AVI Attributes
	std_stratu	Char		Existing Yield Group(2012)
			C-Pl	
			C-Sb	
			C-Sw	
			CD-PlHw	
			CD-SwHw	
			D-Hw	
			DC-HwSx	
			NAT-0	
			NAT-1	
			NAT-10	
			NAT-11	
			NAT-12	
			NAT-13	
			NAT-14	
			NAT-15	
			NAT-16	
			NAT-17	
			NAT-2	
			NAT-3	
			NAT-4	
			NAT-5	
			NAT-6	
			NAT-7	
			NAT-8	
			2 more values	
	std_bcg	Char		Broad Cover Group
			C	
			CD	
			D	
			DC	
			Du	
	std_sopm	Double	0	Not used
			1	
			2	
			3	
			9	
	std_ht	Double	too many to list	AVI Height
	std_cc	Char		AVI Crown Clousre

Feature Class	Field Name	Field Type	Values	Field Description[8]
			A	
			B	
			C	
			D	
	std_tpr	Char		Not used
			F	
			G	
			M	
			U	
	std_rule	Char		Silviculture Era
			R0	
			R1	
			R2	
	density	Char		Density Class
			A	
			B	
			C	
			D	
	udensity	Char		Understory Density Class
			A	
			B	
			C	
			D	
	anth_veg_av	Char		Anthropocentric Vegetated Class
			CA	
			CIP	
			CIW	
	rl_buf_	integer	too many to list	Not used
	rl_buf_id	integer	too many to list	Not used
	inside	integer	0	Not used
			1	
			100	
	un_id	integer	too many to list	Not used
	ndname	Char	AnthNonveg	Not used
			AnthVeg	Not used
			AoverNothing	
			ClearingDIDs	
			Clearings	
			DRSDeletion	
			Grave	
			GravelPits	
			LowProd1	
			LowProd2	
			LowProd3	
			MPBRehab	
			NSR	
			NatNonVeg	
			NonForVeg	
			NotFMA	
			ParabolicSandDunes	
			RecLeases	
			RiversBnd	
			RiversLakes	
			SteepSlope	
			Streams	
			Swan	
			WildlifeLicks	
			thlb	

Feature Class	Field Name	Field Type	Values	Field Description[9]
schedule_b	area	Double	too many to list	
	perimeter	Double	too many to list	
	schedule_b_	integer	too many to list	
	schedule_b_id	integer	too many to list	
	feature_co	Char	GA61750000	Not Used
	feature_ty	Char	Class A	Not Used (Additional Class A stream buffer for Jim Bob Creek)
	name	Char	Jim Bob Creek	Not Used (Additional Class A stream buffer for Jim Bob Creek)
	buff_dist	Double	0 100	Not Used(Additional Class stream buffer distance)
	berland_amp_	integer	1 2	Not Used (Berland Smoky RAD Plan Area)
	berland_amp_id	integer	1 2	Not Used
	objectid_1	integer	0 1	Not Used
	objectid_2	integer	0 1	Not Used
	objectid	integer	0 1	Not Used
	id	integer	0	
	shape_leng	Double	0 660575.565	Not Used
	amp_name	Char	Berland Smoky	Not Used (Berland Smoky RAD Plan Area)
	shape_le_1	Double	541583.156	Not Used
	shape_le_2	Double	0 484682.369	Not Used
	caribou_	integer	1 2 3 4 5 6 7 8 9 10 11	Not Used

[9] Fields without a field description were not used in the analysis.

Feature Class	Field Name	Field Type	Values	Field Description[9]
	caribou_id	integer	12 1 2 3 4 5 6 7 8 9 10 11 12	Not Used
	fma_code	Char	C	Not used C = area within the Caribou range of FMA
	fmaname	Char	Canadian Forest Products Ltd.	
	c_buffer	Char	Y	Denotes the total Caribou Zone including an old buffer area
	intact	Char		Not used (Old Caribou zone)
	zone	Char	Caribou Range Buffer DRAFT SRD Caribou Line Primary Intactness	(Not used) Old Caribou zone
	a_caribou_area	Double	1 2 3 0 105496.928 900039.173 1263403.181 3847902.899 35499045.26 128587793.6 249542771.3 293353074.9 870604397.1	Caribou area (sq meters)
	a_caribou_perime	Double	0 2118.631 3843.387 6492.408 13476.31	Not Used

Feature Class	Field Name	Field Type	Values	Field Description[9]
			29625.977	
			78122.984	
			116549.226	
			152894.14	
			210921.197	
	grizzly_bear_	integer	1	Grizzly Bear zone
			2	Core
			3	Core
			4	Secondary
	grizzly_bear_id	integer	1	Not Used
			2	(Grizzly Bear Zone same as above)
			3	
			4	
	gb_popunit	Char		Not Used (Grizzly Bear Population Unit)
			Grande Cache	
	type	Char		Not Used (Grizzly Bear Zone)
			Core	
			Secondary	
	perim10tm	Double		Not Used
			892691.432	
			1230635.06	
	area10tm	Double	0	Not Used
			10575304062	
			11544177479	
	acres10tm	Double	0	Not Used
			2613214.544	
			2852628.38	
	ha10tm	Double	0	Not Used
			1057530.406	
			1154417.748	
	a_grizzly_be_are	Double	0	Not Used
			1.457	
			1.582	
	len	Double	0	Not Used
			10.875	
			15.582	
	griz_zone	Char		Not Used (Grizzly Bear Zone)
			Grizzly bear	
	mpb_rhab_blks_	integer		Not Used (Mountain Pine Beetle Research Blocks)
			2	
			3	
			4	
			5	
			6	
			7	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			44 more values	
	mpb_rhab_blks_id	integer		Not Used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			44 more values	
	fid_mpb_re	integer		Not Used
			1	
			2	
			3	
			4	
			5	
			6	

Feature Class	Field Name	Field Type	Values	Field Description[9]
	objctid_mpb	Double	0	Not Used
			154882	
			159691	
			159693	
			159694	
			160002	
			160006	
			160617	
	cb_seq_n_mpb	Double	0	Not Used
			100027199	
			100027201	
			100027202	
			100027203	
			100027206	
			100027209	
			100027210	
	cb_seq_1_mpb	Double	0	
			100027199	
			100027201	
			100027202	
			100027203	
			100027206	
			100027209	
			100027210	
	open_mpb	Char		Not Used
				Block Opening Number
			6070822988	
			6070830371	
			6070830931	
			6070840674	
			6080840182	
			6080840201	
			6080841576	
	blk_id_mpb	Char		Not Used
				(Company Block ID)
			R430182	
			R430201	
			R431576	
			R440674	
			R460371	
			R460931	
			R472988	
	oper_ar_mpb	Char		Not Used (Timber Supply Unit for MPB Rehab Blocks)
			Peace	
	sub_un_mpb	Char		Not Used (Timber Supply Sub-unit for MPB Rehab Blocks)
			PEACE-3	
	gros_ha_mpb	Double		Not Used
			22	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			33	
			38	
			78	
			100	
			146	
	est_ha_mpb	Double	0	Not Used
			33	
			38	
			52	
			100	
			134	
			146	
	mer_ha_mpb	Double	0	Not Used
			22	
			33	
			38	
			78	
			100	
			146	
	vol_m3_mpb	Double	0	Not Used
			6346	
			6758	
			7616	
			10441	
			19400	
			25491	
			26834	
	blk_typ_mpb	Char		Not Used
			GHT	
	blk_sta_mpb	Char		Areas removed as MPB
			NOT AVAILABLE	
	fma_boundary_	integer		Not Used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
	fma_boundary_id	integer	1	Not Used
			2	
			3	
			4	
			5	
			6	
			7	
			8	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			9	
			10	
			11	
			12	
			13	
	area_ha	Double	0	Not used
			263.647	
			3719.719	
			20117.196	
			69673.878	
			550920.166	
	regions_subr_	integer	1	Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			3 more values	
	regions_subr_id	integer		Not used
			488	
			490	
			498	
			513	
			528	
			532	
			539	
			551	
	forest_10_	Double	0	Not used
	a_regions_su_per	Double	0	Not used
			108449.26	
			300949.427	
			349165.645	
			2082956.059	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			2155087.698	
			2187928.74	
			2326128.177	
			2683718.441	
	seedzones2	Double	0	Not used
			28	
			41	
			48	
			52	
			66	
			84	
			89	
			91	
	seedzones3	Double	0	Not used
			369	
			411	
			413	
			467	
			469	
			470	
			636	
			705	
	seedzone	Char		Seedzone
			CM 3.4	Central Mixedwood 3.4
			DM 1.2	Dry Mixedwood 1.2
			DM 1.3	Dry Mixedwood 1.3
			LF 1.4	Lower Foothills 1.4
			M 2.1	Montane 2.1
			SA 1.1	Subalpine 1.1
			UF 1.3	Upperfoothills 1.3
	nsrname	Char		Natural Sub-regions
			Central Mixedwood	
			Dry Mixedwood	
			Lower Foothills	
			Montane	
			Subalpine	
			Upper Foothills	
	nr	Char		Natural regions
			Boreal	
			Foothills	
	swan_june14_	integer		Non Trumpeter Swan Sites
			2	2 to 131 Trumpeter Swan Sites
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			12	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			31	
			67 more values	
	swan_june14_id	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			12	
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			31	
			67 more values	
	swan_june14_area	Double		Not used
			12081.214	
			31695.329	
			35474.319	
			131938.821	
			131938.822	
			131938.823	
			131938.824	
			131938.827	
			131938.828	
			131938.845	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			134517.561	
			150683.813	
			212685.037	
			230594.631	
			234013.939	
			234704.796	
			241309.325	
			250711.033	
			251192.012	
			252111.807	
			264433.481	
			265272.874	
			267659.831	
			272973.701	
			66 more values	
	swan_june14_peri	Double		Not used
			733.296	
			762.267	
			892.722	
			1287.818	
			1644.735	
			1729.404	
			1730.986	
			1736.784	
			1752.059	
			1795.677	
			1803.956	
			1806.118	
			1854.169	
			1864.803	
			1880.027	
			1893.428	
			1899.353	
			2006.853	
			2007.439	
			2035.682	
			2045.571	
			2064.52	
			2155.444	
			2165.191	
			60 more values	
	swan_jn2014_	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			11	
			12	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			31	
			67 more values	
	swan_jn2014_id	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			11	
			12	
			13	
			18	
			20	
			21	
			22	
			23	
			24	
			25	
			26	
			27	
			28	
			29	
			30	
			31	
			67 more values	
	source	Char		Source of the information
			ESRD_2014	
	swan	Char		
			Swan_Buff	Area removed for swam buffer
	timber_suppl_	integer		Not used
			2	
			3	
			4	
			5	
			6	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			46 more values	
	timber_suppl_id	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			46 more values	
	fid_canfor	integer		Not used
			1	
			3	
			4	
	ts_unit	Char		Timber Supply Unit
			Bolton Creek	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			Deep North	
			Deep South	
			Economy North	
			Economy South	
			Latornell North	
			Latornell South	
			PUSK2	
			PUSK3	
			Peace	
			Simonette	
			Smoky	
			Wask	
	ts_sub-unit	Char		Timber Supply Sub-Unit
			Bolt-1	
			Bolt-2	
			Bolt-3	
			Bolt-4	
			Bolt-5	
			Bolt-6	
			Bolt-7	
			DN-1	
			DN-2	
			DN-3	
			DN-4	
			DN-5	
			DN-6	
			DN-7	
			DN-8	
			DN-9	
			DS-1	
			DS-2	
			DS-3	
			DS-4	
			DS-5	
			DS-6	
			DS-7	
			EN-1	
			38 more values	
	orig_fid	integer		Not used
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			37 more values	
	fma_cd_timb	Char		Not used
			CFP	
	fma_nm_timb	Char	Canadian Forest Products Ltd.	Not used
	blocks_june14_	integer	1	NA
			2 to 2057	Proposed Blocks
	blocks_june14_id	integer	too many to list	
	block_id	Char	too many to list	
	block_type	Char		Block Type
			CUT	Proposed Conifer Block
			DFC	Proposed Deciduous Block
			DHR	Deciduous Harvested Block
			FTR	Proposed Conifer Block
			HAR	Conifer Harvest Block
	block_stat	Char		Not Used (Block Status)
			AOP	
			AVAILABLE	
			FHP	
			FIELD COMPLETE	
			FINAL CLEARANCE	
			HAUL CLEARANCE	
			OTH	
			PARTIAL HARVEST	
			PROPOSED	
	hs_ind	Char		Harvest Start Status
			D	Done
			P	Planned
	hs_date	Char	too many to list	Harvest Start Date – used to update the inventory where sc_date is incomplete
	sc_ind	Char		Skid Clearance Status
			D	Done
			P	Planned
	sc_date	Char		Skid Clearance Date – used to update for blocks
			00000000	Not harvested
			18991230	Proposed Blocks Only
			too many to list	Skid Clearance date

Feature Class	Field Name	Field Type	Values	Field Description[9]
	hc_status	Char		Haul Clearance Status
			D	Done
			P	Planned
	hc_date	Char	too many to list	Haul Clearance Date
	lp_ind	Char		Not used
			D	
			P	
	lp_date	Char		Not used
			18991230	
			20120802	
			20120918	
			20121101	
			20121128	
			20130625	
			20130906	
			20130909	
			20131001	
			20131129	
	watersheds_	integer	too many to list	
	watersheds_id	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			25	
			67 more values	
	hectares	Double		Not used
			1096.596	
			1426.264	
			1467.565	
			1612.443	
			1821.336	
			2520.99	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			2791.016	
			3134.196	
			3341.28	
			3378.723	
			3678.701	
			3681.949	
			4038.977	
			4544.532	
			4709.769	
			4725.224	
			4808.482	
			5068.281	
			5092.42	
			5112.296	
			5248.977	
			5419.176	
			5468.033	
			5478.935	
			64 more values	
	ws_id	integer		Watersheds
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			64 more values	
	genetic_g1_	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			8	
			9	
			10	
			12	
			13	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
	genetic_g1_id	integer	1	Not used
			3	
			4	
			5	
			8	
			10	
			31	
			40	
			69	
			70	
	in_range	integer	0	Not used
			1	G1 Range
	breeding_g	Char	G1	Spruce Genetic Zone
	genetic_b1_	integer		Not used
			2	
			3	
			4	
			5	
			6	
			7	
			9	
			10	
			11	
			13	
			14	
			16	
			17	
			18	
			20	
			21	
			22	
			23	
			24	
			26	
			27	
			28	
			30	
			31	
			28 more values	
	genetic_b1_id	integer	1	Not used

Feature Class	Field Name	Field Type	Values	Field Description[9]
			100	
			158	
			159	
			160	
			162	
			163	
			164	
			165	
			167	
			168	
			169	
			170	
			176	
			177	
			178	
			181	
			183	
			192	
			193	
			194	
			196	
			197	
			198	
			199	
			21 more values	
	breeding_b	Char	B1	Pine Genetic Zone
	in_rng_b1	integer	0	Not used
			1	In B1 Range
	ssi_	integer	too many to list	Not used
	ssi_id	integer	too many to list	Not used
	ssi	Double	0	Not used
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			22	
			23	
			24	
			58 more values	
	ssi_cf	Double	0	MPB stand susceptibility index
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			57 more values	
	ssi_priori	Double	0	MPB stand susceptibility index ranking
			1	
			2	
			3	
	ssi_yg	Double	0	MPB yield group ranking
			1	
			2	
			3	
			4	
	ssi_height	Double	0	MPB height ranking
			1	
			2	
			3	
	ssi_rank	Double	0	MPB harvest priority (10 highest)
			2	
			3	
			4	
			5	
			6	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			7	
			8	
			9	
			10	
	fma_nd_	integer	too many to list	Not used
	fma_nd_id	integer	too many to list	Not used
	nd	Char		Landbase removal code
			AnthNonveg	AVI non-vegetated
			AnthVeg	AVI vegetated
			AoverNothing	"A" density deciduous with no understory
			ClearingDIDs	Additional clearings
			Clearings	AVI clearings
			DRSDeletion	GoA dispositions
			Grave	Grave site
			GravelPits	Gravel pits
			LowProd1	YG 13 subjective deletion
			LowProd2	YG/TPR subjective deletion
			LowProd3	YG/TPR subjective deletion
			MPBRehab	MPB rehab blocks
			NSR	Harvested blocks not satisfactory stocked
			NatNonVeg	Natural non-vegetated
			NonForVeg	Non-forest vegetated
			NotFMA	Outside of FMA area
			ParabolicSandDunes	Parabolic Sand Dunes
			RecLeases	Recreational Leases
			RiversBnd	River buffers
			RiversLakes	River & lake buffers
			SteepSlope	>35% slopes
			Streams	Stream buffers
			Swan	Trumpeter Swan buffers sites
			WildlifeLicks	Licks
			THLB	Timber Harvest Landbase
			THLB_ISLAND	Timber Harvesting Landbase Island
	avi_	integer	too many to list	Not used
	avi_id	integer	too many to list	Not used
	poly_num	integer	too many to list	Not used (AVI stand number)
	nfl	Char		AVI Non-forest vegetated land
			BR	
			HF	
			HG	
			SC	
			SO	
	nat_non	Char		AVI Natural Non-Vegetated
			NMB	
			NMC	
			NMR	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			NMS	
			NWF	
			NWL	
			NWR	
	anth_non	Char		AVI Anthropocentric Non-Vegetated
			AIE	
			AIG	
			AIH	
			AII	
			ASR	
	mod1	Char		AVI Stand Condition modifier
			BU	
			CC	
			CL	
			DI	
			DT	
			IK	
			SI	
			SN	
			TH	
			UK	
			WF	
	unique_id	integer	too many to list	Not used
	std_srd	Char		Planning Standard extended stratification
			C01	
			C02	
			C03	
			C04	
			C05	
			C06	
			C07	
			C08	
			C09	
			C10	
			C11	
			C12	
			C15	
			C16	
			C17	
			CD01	
			CD02	
			CD03	
			CD04	
			CD05	
			CD06	
			CD07	
			CD08	
			CD09	
			21 more values	

Feature Class	Field Name	Field Type	Values	Field Description[9]
	std_origin	Double	too many to list	AVI Stand origin
	std_age	Double	too many to list	AVI age
	std_stratu	Char		Existing Yield Group
			C-Pl	Pine Leading Conifer (Regenerated)
			C-Sb	Black Spruce Leading (Regenerated)
			C-Sw	Spruce leading (Regenerated)
			CD-PlHw	Pine Leading CD Mixewood (Regenerated)
			CD-SwHw	Spruce Leading CD Mixedwood (Regenerated)
			D-Hw	Deciduous (Regenerated)
			DC-HwSx	DC Mixedwood Containing SW (Regenerated)
			NAT-0	Non forest
			NAT-1	AW +(S)-AB
			NAT-10	PLSB+OTH
			NAT-11	PLSW/SWPL +(H)
			NAT-12	SBLT(G)
			NAT-13	Removed from the thlb Landbase
			NAT-14	SBLT/LTSB(M/F/U) SBPL/SBSW/SBFB
			NAT-15	SW/SWFB+(H)-AB
			NAT-16	SW/SWFB+(H)-CD
			NAT-17	SWAW/SWAWPL
			NAT-2	AW+(S)-(CD)
			NAT-3	AW/SW/PBSW/BWSW
			NAT-4	BW/BWAW+(S)
			NAT-5	FB+OTH
			NAT-6	H+(S)/S
			NAT-7	PB+(S)
			NAT-8	PL/PLFB+(H)
			NAT-9	PLAW/AWPL
			NSR	Not Satisfactory Restocked
	std_bcg	Char		Broad Cover Group
			C	Conifer
			CD	Conifer/Deciduous
			D	Deciduous
			DC	Deciduous/Conifer
			Du	Deciduous overstory/Conifer understory
	std_sopm	Double	0	Not used
			1	
			2	
			3	
			9	
	std_ht	Double	too many to list	AVI height
	std_cc	Char		AVI crown closure

Feature Class	Field Name	Field Type	Values	Field Description[9]
			A	
			B	
			C	
			D	
	std_tpr	Char		AVI TPR
			F	
			G	
			M	
			U	
	std_rule	Char		Silviculture Era
			R0	Natural Stands
			R1	Stands with Cutblock information prior to 1991
			R2	Stands with Cutblock information 1991 to 2010
	density	Char		AVI Overstory Density Class
			A	
			B	
			C	
			D	
	udensity	Char		AVI Understory Density Class
			A	
			B	
			C	
			D	
	anth_veg_av	Char		AVI Anthropocentric Vegetated Class
			CA	
			CIP	
			CIW	
	fmu_poly_	integer	too many to list	Not used
	fmu_poly_id	integer	too many to list	Not used
	pl_life	Double	0	Not used (MPB Pine life)
			2015	
			2017	
			2020	
			2025	
	fmu	Char		FMA Parcel
			MAIN	
			PEACE	
			PUSK	
	rowid	integer	too many to list	Not used
	opening_nu	Char	too many to list	Not used
	timber_yr	integer	0	Harvested timber year
			1960	
			1962	
			1963	
			1964	
			1965	
			1966	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			1967	
			1968	
			1969	
			1970	
			1971	
			1972	
			1973	
			1974	
			1975	
			1976	
			1977	
			1978	
			1979	
			1980	
			1981	
			1982	
			1983	
			1984	
			25 more values	
	clg	Char	CLG	Clearings
	moist_reg	Char		Not used
			a	
			d	
			m	
			w	
	height	integer	0	AVI height
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			15 more values	
	sp1	Char		AVI Species 1

Feature Class	Field Name	Field Type	Values	Field Description[9]
			Aw	Trembling aspen
			Bw	White birch
			Fa	Subalpine fir
			Fb	Balsam fir
			Lt	Tamarack larch
			Pb	Balsam (Black) poplar
			Pl	Lodgepole pine
			Sb	Black spruce
			Sw	White spruce
	sp1_per	integer	0	AVI Species 1 percent
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
	sp2	Char		AVI Species 2
			Aw	
			Bw	
			Fa	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	sp2_per	integer	0	AVI Species 2 percent
			1	
			2	
			3	
			4	
			5	
	sp3	Char		AVI Species 3
			Aw	
			Bw	
			Fa	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	sp3_per	integer	0	AVI Species 3 percent
			1	
			2	
			3	
	sp4	Char		AVI Species 4
			Aw	
			Bw	
			Fa	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	sp4_per	integer	0	AVI Species 4 percent
			1	
			2	
	sp5	Char		AVI Species 5
			Aw	
			Bw	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	sp5_per	integer	0	AVI Species 5 percent
			1	
	struc	Char		Not used
			H	
			M	
	struc_val	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
	origin	integer	too many to list	AVI Overstory origin
	tpr	Char		AVI TPR
			F	
			G	
			M	
			U	
	initials	Char		Not used
			AW	
			BM	
			DF	
			JB	
			KN	
			TH	
			TP	
	nfl_per	integer	0	AVI Non-forest vegetated land percent
			1	
			2	
			3	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			4	
			5	
			6	
			7	
			8	
			9	
			10	
	anth_veg	Char		AVI Anthr_Veg
			CA	
			CIP	
			CIW	
	pattern	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
	mod1_ext	integer	0	AVI Stand condition modifier disturbance ranking
			1	
			2	
			3	
			4	
			5	
	mod1_yr	integer	0	AVI Stand condition modifier disturbance year
			1960	
			1962	
			1963	
			1964	
			1965	
			1966	
			1967	
			1968	
			1969	
			1970	
			1971	
			1972	
			1973	
			1974	
			1975	
			1976	
			1977	
			1978	
			1979	
			1980	
			1981	
			1982	
			1983	
			1984	
			26 more values	AVI Stand condition

Feature Class	Field Name	Field Type	Values	Field Description[9]
				modifier
	mod2	Char		
			BU	
			CL	
			PL	
			SI	
			SN	
			WF	
	mod2_ext	integer	0	AVI Stand condition modifier disturbance ranking
			1	
			2	
			3	
			4	
			5	
	mod2_yr	integer	0	AVI Stand condition modifier disturbance year
			1988	
			1989	
			1991	
			1992	
			1993	
			1994	
			1995	
			1996	
			1997	
			1998	
			1999	
			2000	
			2001	
			2002	
			2003	
			2004	
			2005	
			2006	
			2007	
			2008	
			2009	
	data	Char		Not used
			A	
			F	
	data_yr	integer	0	Not used
			1997	
			2009	
			2010	
			2011	
	umoist_reg	Char		AVI Understory moisture regime
			a	
			d	
			m	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			w	
	uheight	integer	0	AVI Understory height
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
			20	
			21	
			22	
			23	
			24	
			8 more values	
	usp1	Char		AVI Understory species 1
			Aw	
			Bw	
			Fa	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	usp1_per	integer	0	AVI Understory species 1 percent
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
	usp2	Char		AVI Understory species 2
			Aw	
			Bw	
			Fa	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	usp2_per	integer	0	AVI Understory species 2 percent
			1	
			2	
			3	
			4	
			5	
	usp3	Char		AVI Understory species 3
			Aw	
			Bw	
			Fa	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	usp3_per	integer	0	AVI Understory species 3 percent
			1	
			2	
			3	
	usp4	Char		AVI Understory species 4
			Aw	
			Bw	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	usp4_per	integer	0	AVI Understory species 4 percent
			1	
			2	
	usp5	Char		AVI Understory species 5
			Aw	
			Bw	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	usp5_per	integer	0	AVI Understory species 5 percent

Feature Class	Field Name	Field Type	Values	Field Description[9]
			1	
			2	
	ustruc	Char		Not used
			H	
			M	
	ustruc_val	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
	uorigin	integer	too many to list	AVI Understory origin
	utpr	Char		AVI Understory TPR
			F	
			G	
			M	
			U	
	uinitials	Char		Not used
			AW	
			BM	
			DF	
			JB	
			KN	
			TH	
			TP	
	unfl	Char		AVI Understory non-forest vegetated land
			BR	
			HF	
			HG	
			SC	
			SO	
	unfl_per	integer	0	AVI Understory non-forest vegetated land percent
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
	unat_non	Char		AVI Understory natural non-vegetated
			NMC	
			NMS	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			NWF	
			NWL	
			NWR	
	uanth_veg	Char		AVI Understory non-forest vegetated
			CIP	
			CIW	
	uanth_non	Char		AVI Understory anthro non-forest vegetated
			AIG	
			AIH	
	umod1	Char		AVI Understory stand condition modifier
	umod1_ext	integer	0	AVI Understory stand condition modifier disturbance ranking
	umod1_yr	integer	0	AVI Understory stand condition modifier disturbance year
	umod2	Char		AVI Understory stand condition modifier
	umod2_ext	integer	0	AVI Understory stand condition modifier disturbance ranking
	umod2_yr	integer	0	AVI Understory stand condition modifier disturbance year
	udata	Char		Not used
			A	
			F	
	udata_yr	integer	0	Not used
			1997	
			2009	
			2010	
			2011	
	photo_yr	integer	0	Not used
			2007	
			2008	
	aris	Char	too many to list	ARIS Id
	dist_ptrn	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
	upattern	integer	0	Not used
			1	
			2	
			3	
			4	
			5	
	uden_cl	integer	0	AVI Tertiary layer density

Feature Class	Field Name	Field Type	Values	Field Description[9]
				class
			1	
			2	
			3	
			4	
			5	
			6	
			7	
	tmoist_reg	Char		AVI Tertiary layer moisture regime
			m	
	tdensity	Char		AVI Tertiary layer density
			A	
			B	
			C	
	theight	integer	0	AVI Tertiary layer height
			1	
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
			11	
			12	
			13	
			14	
			15	
			16	
			17	
			18	
			19	
	tsp1	Char		AVI Tertiary layer species 1
			Aw	
			Bw	
			Fb	
			Pb	
			Pl	
			Sb	
			Sw	
	tsp1_per	integer	0	AVI Tertiary layer species 1 percent
			4	
			5	
			6	
			7	
			8	
			9	
			10	

Feature Class	Field Name	Field Type	Values	Field Description[9]
	tsp2	Char		AVI Tertiary layer species 2
			Aw	
			Bw	
			Fb	
			Lt	
			Pb	
			Pl	
			Sb	
			Sw	
	tsp2_per	integer	0	AVI Tertiary layer species 2 percent
			1	
			2	
			3	
			4	
			5	
	tsp3	Char		AVI Tertiary layer species 3
			Aw	
			Bw	
			Fb	
			Pb	
			Pl	
			Sb	
			Sw	
	tsp3_per	integer	0	AVI Tertiary layer species 3 percent
			1	
			2	
	tsp4	Char		AVI Tertiary layer species 4
			Aw	
			Bw	
			Fb	
			Pb	
			Sw	
	tsp4_per	integer	0	AVI Tertiary layer species 4 percent
			1	
			2	
	tsp5	Char		AVI Tertiary layer species 5
			Fb	
			Pb	
	tsp5_per	integer	0	AVI Tertiary layer species 5 percent
			1	
	tstruc	Char		Not used
			M	
	tstruc_val	integer	0	Not used
	torigin	integer	0	AVI Tertiary layer origin
			1890	
			1910	
			1920	
			1930	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			1940	
			1949	
			1950	
			1952	
			1955	
			1957	
			1960	
			1966	
			1970	
			1973	
			1974	
			1975	
			1977	
			1979	
			1980	
			1982	
			1987	
			1988	
			1989	
			1990	
			7 more values	
	ttpr	Char		AVI Tertiary layer TPR
			F	
			G	
			M	
	tnfl	Char		AVI Tertiary layer non-forest vegetated land
	tnfl_per	integer	0	AVI Tertiary layer non-forest vegetated land percent
	tnat_non	Char		AVI Tertiary layer natural non-vegetated
	tanth_veg	Char		AVI Tertiary layer vegetated
	tanth_non	Char		AVI Tertiary layer anthro non-forest vegetated
	tdata	Char		Not used
			A	Not used
			F	
	tdata_yr	integer	0	Not used
			1997	
			2009	
			2010	
			2011	
	tpattern	integer	0	Not used
			1	
			2	
			3	
			4	
	tinitials	Char		Not used
			AW	
			BM	
			JB	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			KN	
			TH	
			TP	
	tden_cl	integer	0	AVI Tertiary layer density class (stems/ha)
			1	0
			2	1-100
			3	101-250
			4	251-500
			5	501-750
			6	750-1000
			7	1001+
	islandcc	Char		Not used (Island patch within harvested block)
			Yes	
	un_id	integer	too many to list	Unique block id – joins with block in all modelling outputs
	seismic_line	Char		
			yes	
	seismic_ha	Double	too many to list	Area occupied by seismic lines
	gha	numeric	too many to list	Total Gross Landbase (TGLB)
	pha	numeric	too many to list	Total Forested LandBase (TFLB) Area
	nha	numeric	too many to list	THLB area – used in PFMS
	rha	numeric	too many to list	Non-THLB
	fmu_poly	Char	too many to list	Not used
	cheight	numeric	too many to list	Composite forest cover height
	cdensity	Char	None	Composite forest cover density
			A	
			B	
			C	
			D	
	std_dencl	Char	None	Not used
			3	
			4	
			5	
			6	
			7	
	csp1	Char	None	Composite forest cover species 1
			AW	
			Aw	
			BW	
			Bw	
			FB	
			Fa	
			Fb	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			LT	
			Lt	
			PB	
			PL	
			Pb	
			Pl	
			SB	
			SW	
			Sb	
			Sw	
	csp1_per	numeric	too many to list	Composite forest cover species 1 percent
	csp2	Char	None	Composite forest cover species 2
			AW	
			Aw	
			BW	
			Bw	
			FB	
			Fa	
			Fb	
			LT	
			Lt	
			PB	
			PL	
			Pb	
			Pl	
			SB	
			SW	
			Sb	
			Sw	
	csp2_per	numeric	too many to list	Composite forest cover species 2 percent
	csp3	Char	None	Composite forest cover species 3
			AW	
			Aw	
			BW	
			Bw	
			FB	
			Fa	
			Fb	
			LT	
			Lt	
			PB	
			PL	
			Pb	
			Pl	
			SB	
			SW	
			Sb	
			Sw	

Feature Class	Field Name	Field Type	Values	Field Description[9]
	csp3_per	numeric	None	Composite forest cover species 3 percent
			0	
			0.17	
			0.23	
			0.31	
			0.32	
			0.35	
			0.4	
			0.46	
			0.5	
			0.52	
			0.6	
			0.62	
			0.64	
			0.68	
			0.69	
			0.7	
			0.77	
			0.8	
			0.83	
			0.87	
			0.92	
			0.93	
			0.96	
			1	
			72 more values	
	csp4	Char	None	Composite forest cover species 4
			AW	
			Aw	
			BW	
			Bw	
			FB	
			Fb	
			LT	
			Lt	
			PB	
			PL	
			Pb	
			Pl	
			SB	
			SW	
			Sb	
			Sw	
	csp4_per	numeric	None	Composite forest cover species 4 percent
			0	
			0.17	
			0.23	
			0.31	
			0.32	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			0.35	
			0.4	
			0.46	
			0.5	
			0.52	
			0.6	
			0.62	
			0.64	
			0.68	
			0.69	
			0.7	
			0.77	
			0.8	
			0.83	
			0.92	
			0.93	
			1	
			1.05	
			1.15	
			31 more values	
	csp5	Char	None	Composite forest cover species 5
			AW	
			Aw	
			BW	
			Bw	
			FB	
			Fb	
			LT	
			Lt	
			PB	
			PL	
			Pb	
			Pl	
			SB	
			SW	
			Sb	
			Sw	
	csp5_per	numeric	None	Composite forest cover species 5 percent
			0	
			0.17	
			0.23	
			0.31	
			0.35	
			0.4	
			0.46	
			0.5	
			0.59	
			0.6	
			0.62	
			0.69	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			0.77	
			0.8	
			0.83	
			0.92	
			0.93	
			1	
			1.05	
			1.15	
			1.2	
			1.23	
			1.31	
			1.38	
			4 more values	
	genetic	Char	B1	Pine genetic gain
			B1G1	
			G1	Spruce gentic gain
			X	
	track	Char	R999	Yield Curve Link with genetic zone
			r0_01_b	
			r0_02_b	
			r0_03_b	
			r0_03_g	
			r0_04_b	
			r0_05_b	
			r0_05_g	
			r0_06_cd_b	
			r0_06_cd_g	
			r0_06_dc_b	
			r0_06_dc_g	
			r0_07_b	
			r0_08_b	
			r0_08_g	
			r0_09_b	
			r0_09_g	
			r0_10_b	
			r0_10_g	
			r0_11_b	
			r0_11_pl_g	
			r0_11_sw_g	
			r0_12_b	
			r0_14_pl_g	
			r0_14_sb_b	
			69 more values	
	yldcrv_id	Char	R999	Yield curve ID (link)
			r0_01	
			r0_02	
			r0_03	
			r0_04	
			r0_05	
			r0_06_cd	
			r0_06_dc	

Feature Class	Field Name	Field Type	Values	Field Description[9]
			r0_07	
			r0_08	
			r0_09	
			r0_10	
			r0_11	
			r0_12	
			r0_14	
			r0_15	
			r0_16	
			r0_17	
			r1_01	
			r1_02	
			r1_03	
			r1_04	
			r1_05	
			r1_06_cd	
			r1_06_dc	
			22 more values	
	avi_block_id	Char	too many to list	AVI Block Id
	pl_life_new	integer	0	Updated Year of Mortality – not used in PFMS
			2015	
			2020	
			2026	
			2028	
	dage	integer	too many to list	MPB Death age – not used in PFMS
	mpb_curve	Char	too many to list	MPB Yieldcurve – not used in PFMS
	ssi_rank_new	integer	0	Final Harvest Priority Rank
			2	
			3	
			4	
			5	
			6	
			7	
			8	
			9	
			10	
	age_2014	integer	too many to list	Final Stand Age in 2014 – used in the PFMS model
	log_year	integer	None	Consolidated Log Year
			10	
			2010	
			2011	
			2012	
			2013	
			2014	
			2015	
			2016	
	new_rule	Char		Updated Silviculture Era
			R0	Natural stands

Feature Class	Field Name	Field Type	Values	Field Description[9]
			R1	Regenerated pre-1991
			R2	Regenerated post-1991
			R3	Future cutblock
	regencrv_id	Char	R999	Transition yield group
			r3_c_pl_b	
			r3_c_pl_g	
			r3_c_sb_b	
			r3_c_sw_b	
			r3_c_sw_g	
			r3_cd_plhw_b	
			r3_cd_swhw_b	
			r3_cd_swhw_g	
			r3_d_hw1_b	
			r3_d_hw2_b	
			r3_d_hw4_b	
			r3_d_hw7_b	
			r3_dc_hwsx_b	
			r3_dc_hwsx_g	
	track_caribou	Char	Too many to list	An amalgamation of track (yield group), genetic zone and caribou zone. These are the final yield groups used in the PFMS model
	cari_zone	Char		The final caribou zone
			1	Conservation Zone
			2	Expansion Zone
			3	Support Zone
			4	Remainder of the range plan zone
	arcids	ARRAY	too many to list	

APPENDIX D: SLIVER REMOVAL PROCEDURES AND RESULTS

The GIS processing of the landbase determination process involved an overlay of multiple coverages (see table on the next page). To reduce the file spatial complexity and improve processing time required to obtain the resultant database, a range of smaller polygons (slivers) were eliminated.

The purpose of this process is to reduce the number of polygons while having no effect on the operational realism of the resultant landbase file. The sliver elimination procedure was developed in AML and provided capability of eliminating small polygons by merging them into adjacent polygons based on minimum polygon size and the attribute rules.

For the Canfor Grande Prairie FMA area, all sliver polygons were removed if their area was less than 0.01 ha. A second eliminate was conducted to consider all further polygons for eliminate if their area was less that 0.1 ha. The attribute rules were based on the field list – a sliver polygon was considered for a merger into a larger adjacent polygon if the values in the 'hard' attribute types were the same.

The resultant post-merged polygon retained attributes of the adjacent larger polygon; the area of the post-merged polygon has increased by amount of the sliver polygon; and the post-merged polygon outer boundaries[10] remained intact.

Table 27 summarizes 'hard' and 'soft' attribute types by source GIS datasets.

[10] During the sliver removal process, polygon lines separating different 'hard' attributes could not be removed or dissolved; only matching 'soft' attributes were eligible to be dissolved if required.

Table 27: GIS Feature Layers and Attribute Classification for Sliver Removal

Index	GIS Coverage / Shapefiles	Attribute Type
1	AVI	Hard
2	Netdown	Hard
3	Caribou	Hard
4	Natural Regions/Sub regions	Soft
5	Grizzly bear	Soft
6	Watersheds	Soft
7	Genetic Breeding Region_B1	Soft
8	Genetic Breeding Region_G1	Soft
9	Timber Supply Units	Soft
10	Proposed Blocks	Soft
11	Mountain Pine Beetle Rehab Blocks	Soft

Table 28 summarizes polygon statistics before and after sliver polygon removal. The results from sliver removal process indicate a loss of total landbase area of less than 1 ha.

Table 28: Sliver Polygon Removal Summary

Polygon Statistics	Before Sliver Removal		After Sliver Removal		% Difference	
	Count (#)	Area (ha)	Count (#)	Area (ha)	Count	Area
Polygon Area Classes (ha)						
<0.001	76,324	12	25,673	6	66%	44%
0.001to0.01	45,643	203	33,065	150	28%	26%
0.01to0.1	84,975	3,603	65,308	2,785	23%	23%
0.1to1	122,865	51,783	129,493	54,055	-5%	-4%
1to10	111,952	345,604	112,832	346,990	-1%	0%
10to20	8,287	112,920	8,229	112,032	1%	1%
20to100	3,434	114,307	3,392	112,858	1%	1%
>100	107	16,263	104	15,818	3%	3%
Sub-section Total	**453,587**	**644,695**	**378,096**	**644,695**	17%	0%

Polygon Statistics	Before Sliver Removal		After Sliver Removal		% Difference	
	Count (#)	Area (ha)	Count (#)	Area (ha)	Count	Area
Area by Category (Stratum)						
NAT-0	25,239	42,409	19,268	42,409	24%	0%
NAT-1	7,563	9,832	6,373	9,832	16%	0%
NAT-2	13,098	30,109	11,059	30,109	16%	0%
NAT-3	47,218	80,116	39,334	80,116	17%	0%
NAT-4	3,696	5,744	2,989	5,744	19%	0%
NAT-5	7,543	8,651	6,294	8,651	17%	0%
NAT-6	47,125	101,640	40,136	101,640	15%	0%
NAT-7	12,618	24,396	10,358	24,396	18%	0%
NAT-8	36,987	31,718	29,903	31,718	19%	0%
NAT-9	18,856	18,994	15,223	18,994	19%	0%
NAT-10	17,854	17,413	15,086	17,413	16%	0%
NAT-11	34,205	23,343	28,165	23,343	18%	0%
NAT-12	8,873	12,881	8,037	12,881	9%	0%
NAT-13	33,471	60,726	29,173	60,726	13%	0%
NAT-14	19,816	22,736	17,327	22,736	13%	0%
NAT-15	44,425	28,678	37,111	28,678	16%	0%
NAT-16	21,712	22,252	18,384	22,252	15%	0%
NAT-17	39,932	50,586	33,789	50,586	15%	0%
CD-PlHw	379	1,244	296	1,244	22%	0%
CD-SwHw	2,086	7,323	1,650	7,323	21%	0%
C-Pl	5,190	18,718	3,623	18,718	30%	0%
C-Sb	366	1,420	245	1,420	33%	0%
C-Sw	4,496	17,965	3,611	17,965	20%	0%
DC-HwSx	269	1,532	226	1,532	16%	0%
D-Hw	524	4,152	393	4,152	25%	0%
NSR	33	116	30	116	9%	0%
Sub-section Total	**453,574**	**644,694**	**378,083**	**644,694**	17%	0%