Hinton Wood Products

A division of West Fraser Mills Ltd.

Development of the Landbase

for the 2014 DFMP

30 September 2014

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EXECUTIVE SUMMARY

This document describes Hinton Wood Products' (HWP) Landbase Classification, which will form the basis of the Timber Supply Analysis (TSA) and non-timber value assessments in the 2014 Detailed Forest Management Plan (DFMP). The classification is based on the natural disturbance-related strategies and targets set in the 2014 DFMP to allow for measuring and reporting on the targets. A reconciliation of the company's cutblock information stored in HWP's spatial management system (CengeaForest™TheForestManager) with the government Alberta Regeneration Information System was also completed.

The landbase development process was conducted in three main steps. First, the datasets were identified and spatially intersected using GIS software. This included forest inventory, operability, disturbance, administrative and ecological data from government and company sources. The associated tabular information was then classified to determine the polygons that will contribute to the active and passive landbases, and to the coniferous or deciduous harvest in the timber supply analysis. Finally, graphical and tabular summaries were compiled and presented.

Results show that the land available for timber harvesting has decreased since 1999 from 715,341 ha to 662,434 ha. The percentage of the total FMU area has also declined from 68.9% to 64.8% over the same period.

Landbase Classification Summary

Land Base Classification	1999	2009	2012
Total FMU E14 Area	1,038,564	1,034,067	1,022,465
Outside of FMA (LB_Deletion = 1)	36,093	45,293	33,711
Non-Forested (LB_Deletion = 2)	65,909	49,991	52,163
Prime Protection (LB_Deletion = 15)	-	962	467
Land Use (LB_Deletion = 3)	22,044	22,341	29,648
Seismic Lines (LB_Deletion = 4)	16,144	13,528	19,187
Total Non-Forested	140,190	132,115	135,176
Subjective Deletions (LB_Deletion = 7)			
Wet Sites		152,694	149,216
Larch		2,954	1,993
Non-Operational Ecosites	94,524	6,600	-
"A" Crown Closure with No UnderStory		3,924	4,304
Black Spruce >=80%	24,559	28,690	5,331
"U" TPR		2,355	19,741
Total Subjective Deletions	119,083	197,217	180,586
Inoperable/Inaccessible (LB_Deletion = 5)	10,303	37,794	40,237
Watercourse (LB_Deletion = 6)	53,648	16,737	2,237
Unharvested Burns (LB_Deletion = 8)			390
Horizontal Stands (LB_Deletion = 12)		41	180
ARIS			
Not Validated (LB_Deletion = 11)			-
<50% Stocking (LB_Deletion = 10)			226
Liability not assumed (LB_Deletion = 9)			-
Not Validated (LB_Deletion = 11)			
No Age Assignment (LB_Deletion = 13)			178
No Stratum Assignment (LB_Deletion = 14)			821
Total Passive	**323,224**	**383,904**	**360,031**
Total Active	**715,341**	**650,163**	**662,434**

1 Introduction

This document describes the data and processing used to develop the datasets that classify the Hinton Wood Products (HWP) landbase for timber supply analysis (TSA) purposes. The classification was completed to meet the requirements of the *Alberta Forest Management Planning Standard Version 4.1 – April 2006* (Alberta Sustainable Resource Development 2006). Separate documents describe the yield curve development and forecasting components of the TSA.

The classified landbase describes the condition of the forest as of May 1st, 2012. The extent of the gross landbase was all lands within the boundaries Forest Management Unit (FMU) E14 that are included within the HWP Forest Management Agreement (FMA) area as shown in FMA8800025. The landbase classification defines the area available for forest management activities – the active landbase – and area excluded from forest management activities – the passive landbase.

1.1 Spatial Landbase Process

The main phases of the landbase process include:

- Identification of the datasets required and intersection of the spatial layers using the Geographic Information System (GIS) software ArcGIS™ (Version 10.0).
- Landbase Classification of the tabular data using programming software (SQL Server™ version 2010, Python 2.6.5 and Microsoft Visual Basic 6.5).
- Summary of the results including creation of final landbase dataset.

Each of the phases is addressed in detail in the following sections.

1.2 Effective Date

This classified landbase describes the condition of the forest as of the effective date of May 1st, 2012. Spatial data for land-use, harvest and wildfires updated the condition of the forest defined in AVI to the effective date.

1.3 Terminology

In this document, the following terms are used to classify the landase:

Passive: That portion of the FMA area that is not available for forest management activities.

Active: That portion of the FMA area that is available for forest management activities. Further evaluation of these areas will take place during review of the Spatial Harvest Sequence.

Deletions: All areas excluded from the managed area.

1.4 Submission

The media provided with this document provides the final landbase classification in ESRI file geodatabase format along with maps and an Excel file containing summary tables. The individual layers used in the overlay process have not been provided, but can be made available upon request.

2 Identification of Datasets

Eighteen sources of spatial information are used in defining the landbase. These layers are combined using ArcGIS™ to produce the final layer of all data required to complete the landbase classification. Table 1provides a list of the spatial layers used in classifying the landbase.

The following sections describe the purpose and application of the spatial layer in the landbase classification process. The order in which the layers are described is the order in which they are combined to produce the final resultant dataset.

The fields in the final landbase file are referenced using square brackets (e.g. [YIELDCLASS]).

A data dictionary for the final landbase file is provided in Appendix A.

Table 1 Landbase Spatial Layers

Layer	Name	Purpose	Source	Scale of Accuracy	Projection	Datum	Zunits	Units	Spheriod	Fuzzy Tolerance	Dangle Tolerance
Forest Management unit	FMU	FMU E14 that defines the Full Extent of the Analysis Area	ESRD	1:50,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Forest Management Area	FMA	HWP's Forest Management Agreement Area	ESRD	1:50,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Special Management Areas	SMA	Defines those areas that will constrain the harvest schedule	ESRD	1:250,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Compartments	PU	Sub FMU Planning Units for HWP	HWP	1:50,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Natural Sub-Regions	Nreg	Natural Subregions	HWP	1:250,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Fire Smart	FireSmart	Community protection zones near towns and hamlets	ESRD	1:250,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Controlled Parentage Program Regions	DeploymentZones	Areas that will constrain deployment of improved seed	ESRD	1:250,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Blocks	Blks	Areas harvested and planned for harvest for all timber operators.	HWP	<1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
RSA Strata	RSAStrata	Regeneration Survey Stratification	HWP	<1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Retetention	Retention	In Block Retention Polygons	HWP	<1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Wild Fires	Fires	Areas disturbed by wild fire	ESRD	1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Watershed boundaries	WS	Watershed boundaries for Water Yield Analysis	ESRD	< 1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.001	0.0001
Riparian	Riparian	Riparian Area	HWP	<1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Hydrological Buffers	Hydro	Areas adjacent to watercourse not available for harvest	HWP	1:30,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01

Layer	Name	Purpose	Source	Scale of Accuracy	Projection	Datum	Zunits	Units	Spheriod	Fuzzy Tolerance	Dangle Tolerance
Inoperable Slopes	InOp	Areas that are greater than 45% slope and greater than 1 ha in size.	HWP	1:100,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Trails and Seismic	Trl	Trail and seismic lineal disturbances	ESRD	1:60,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Land Use	LU	Areas with a surface disposition	ESRD	1:5,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01
Alberta Vegetation Inventory	AVI	Defines the forest inventory	HWP	1:20,000	UTM 11	NAD83	No	Meters	GRS1980	0.01	0.01

2.1 Forest Management Unit E14

The FMU E14 boundary is used to define the extent of the landbase. This layer was updated by SRD in 2008. The value of [ISFMU] is assigned a value of 1.

2.2 Hinton Wood Products Forest Management Area

HWP's FMA Boundary is used to define areas within and outside the FMA but still within the FMU. Areas outside the FMA are generally defined protected areas and not available for scheduling. If the polygons are within the FMA, then the [ISFMA] value is equal to 1.

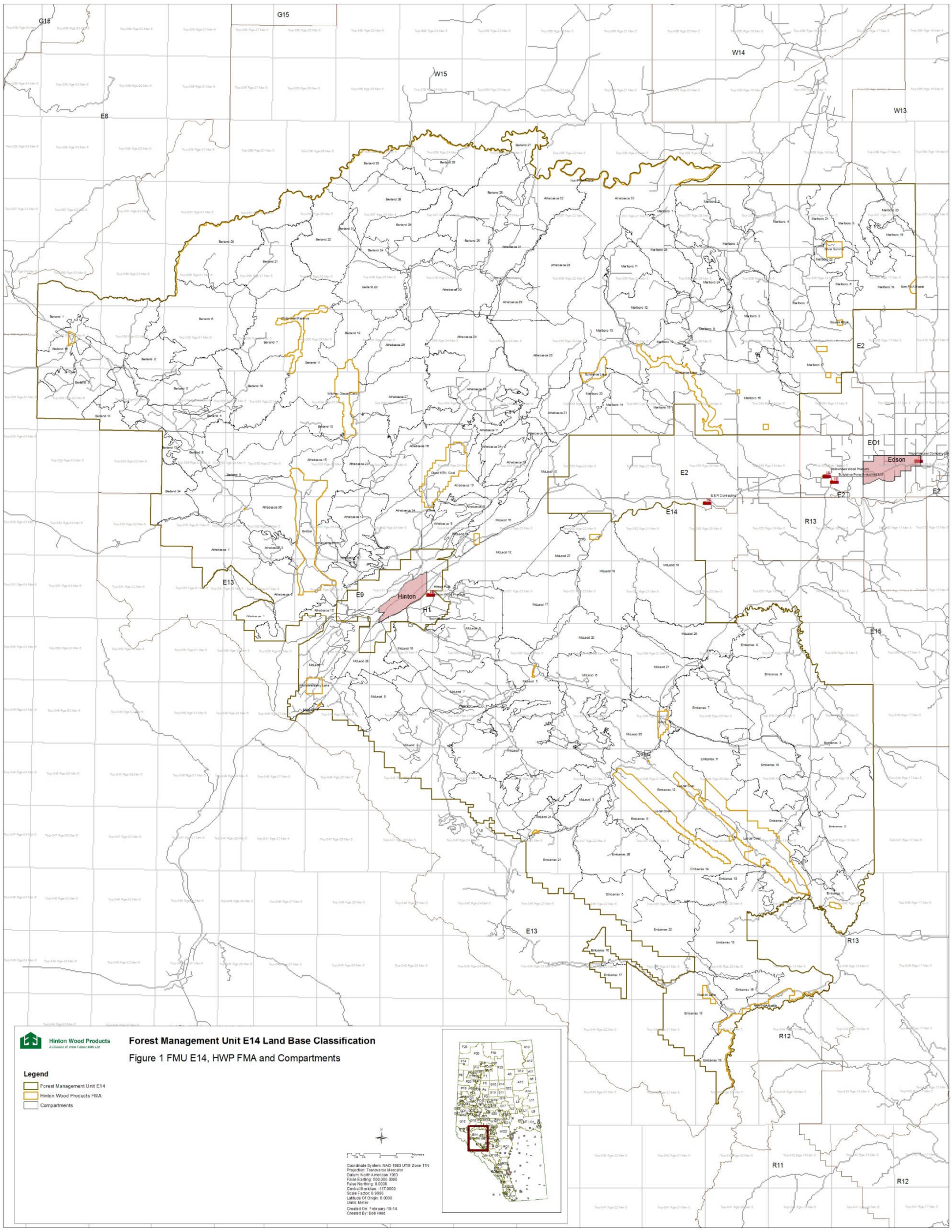
2.3 Compartments

The compartment layer defines smaller sub units of the FMU. Appendix C lists the compartments by Name along with the Identification number that links to the landbase file. The [PLANNINGUNITID] references the value of Planning Unit id in Appendix C.

Table 2 Compartment Areas

Compartment	Area (ha)
Athabasca 1	9,763.4
Athabasca 2	8,911.3
Athabasca 3	2,985.6
Athabasca 4	2,333.7
Athabasca 6	1,382.3
Athabasca 8	2,748.3
Athabasca 9	2,562.1
Athabasca 10	3,518.2
Athabasca 11	2,668.6
Athabasca 12	929.9
Athabasca 13	8,032.3
Athabasca 14	10,714.8
Athabasca 15	9,077.5
Athabasca 16	6,664.7
Athabasca 17	1,233.9
Athabasca 18	4,085.4
Athabasca 19	12,330.2
Athabasca 20	2,540.3
Athabasca 21	5,697.3
Athabasca 22	12,810.9
Athabasca 23	2,461.8
Athabasca 24	7,385.4
Athabasca 26	8,477.1
Athabasca 27	10,484.8
Athabasca 28	13,240.8
Athabasca 29	3,900.9
Athabasca 30	10,239.6
Athabasca 31	5,010.5
Athabasca 32	7,430.5
Athabasca 33	12,024.4
Athabasca 34	2,816.8
Athabasca 35	6,498.7
Berland 1	13,078.4
Berland 2	3,968.3
Berland 3	9,695.6
Berland 4	8,942.1
Berland 5	7,779.0
Berland 6	14,673.3
Berland 7	10,636.3
Berland 8	3,407.0
Berland 9	13,330.8
Berland 10	9,991.3
Berland 11	8,385.5
Berland 12	4,995.8
Berland 13	876.4
Berland 14	2,258.2
Berland 16	4,529.2
Berland 18	8,846.5
Berland 20	12,919.8
Berland 21	8,438.5
Berland 22	8,546.7
Berland 23	7,559.8
Berland 24	4,879.4
Berland 25	5,393.8
Berland 26	7,951.7
Berland 27	2,084.2
Berland 28	9,305.1
Berland 29	5,201.0
Berland 30	7,976.7
Berland 31	889.6
Berland 33	4,424.6
Berland 34	4,719.5
Embarras 1	6,186.8
Embarras 2	10,005.9
Embarras 3	22,814.7
Embarras 4	9,020.4
Embarras 5	6,249.1
Embarras 6	6,141.8
Embarras 7	8,427.8
Embarras 8	5,242.3
Embarras 9	16,252.6
Embarras 10	8,541.9
Embarras 11	6,663.1
Embarras 12	10,569.2
Embarras 13	4,116.8
Embarras 14	8,689.3
Embarras 15	16,261.3
Embarras 16	1,548.5
Embarras 17	1,654.9
Embarras 18	10,004.4
Embarras 19	6,692.4
Embarras 20	11,894.6
Embarras 21	7,051.4
Embarras 22	8,122.6
Marlboro 1	1,669.7
Marlboro 2	5,459.4
Marlboro 3	9,467.6
Marlboro 4	11,441.7
Marlboro 5	6,657.7
Marlboro 6	2,235.8
Marlboro 7	11,750.3
Marlboro 8	9,243.5
Marlboro 9	7,208.6
Marlboro 10	3,133.7
Marlboro 11	4,996.4
Marlboro 12	6,854.1
Marlboro 13	10,732.9
Marlboro 14	10,599.5
Marlboro 15	3,168.1
Marlboro 16	16,118.2
Marlboro 17	7,897.2
Marlboro 18	8,247.5
Marlboro 19	2,532.3
Marlboro 20	5,004.5
Marlboro 21	3,101.8
Marlboro 22	744.5
Marlboro 23	2,118.5
Marlboro 24	3,942.1
Marlboro 25	7,462.2
McLeod 1	10,497.6
McLeod 2	15,498.0
McLeod 3	14,453.8
McLeod 4	16,230.5
McLeod 5	7,534.1
McLeod 6	14,322.5
McLeod 7	10,224.4
McLeod 8	3,920.4
McLeod 9	12,827.5
McLeod 10	5,078.5
McLeod 11	246.0
McLeod 12	12,352.8
McLeod 13	4,233.2
McLeod 15	490.5
McLeod 16	3,904.7
McLeod 17	10,927.7
McLeod 18	12,673.3
McLeod 19	19,069.4
McLeod 20	6,780.5
McLeod 21	8,076.1
McLeod 23	9,778.9
McLeod 24	2,278.4
McLeod 25	7,773.4
McLeod 27	4,038.2
McLeod 28	4,962.5
Mines	*14,106.6*
Wildlife/Rec Area	*13,593.0*
Non-FMA Roads	*3,844.6*
Not Assigned	*969.6*
Non-Crown	*1,191.6*

Figure 1 Forest Management Unit E14, Hinton Wood Products FMA and Compartments



2.4 Special Management Areas

Special management Areas identify those areas of wildlife concern and will be used as constraint in the timber supply schedule. The unique identifier for this layer is [SMAID] as shown in Table 3. Boundaries for these areas are those that were effective as of the landbase date with the exception of the caribou ranges which were updated to include amendments made by ESRD in 2013. Seven separate areas resulted in 10 unique identifiers as the Little Smoky Caribou Range and the Pinto Creek Mountain Goat Special Management Area have 87.4 hectares of overlap, the Prime Protection overlaps 527.4 hectares of High Elevation Sheep and Goat as well as 12.6 ha of HRS.

Table 3 Special Management Areas

SMAID	Special Management Area	Total Area	Percent of FMU
1	AlaPeche Caribou Range	24,034.6	2.35%
2	Little Smoky Caribou Range	39,068.8	3.82%
3	Trumpeter Swan	537.9	0.05%
4	High Elevation Sheep and Goat SMA	773.1	0.08%
5	Pinto Creek Mountain Goat SMA	3,018.8	0.30%
6	Little Smoky Caribou Range and Pinto Creek Mountain Goat SMA	87.4	0.01%
7	HRS - Holding Reservation	4,349.1	0.43%
8	ESIP Prime Protection	462.3	0.05%
9	Prime Protection and High Elevation Sheep and Goat	527.4	0.05%
10	HRS and Prime Protection	12.6	0.00%
	Total	**72,871.1**	**7.13%**

2.5 FireSmartCommunity Zones

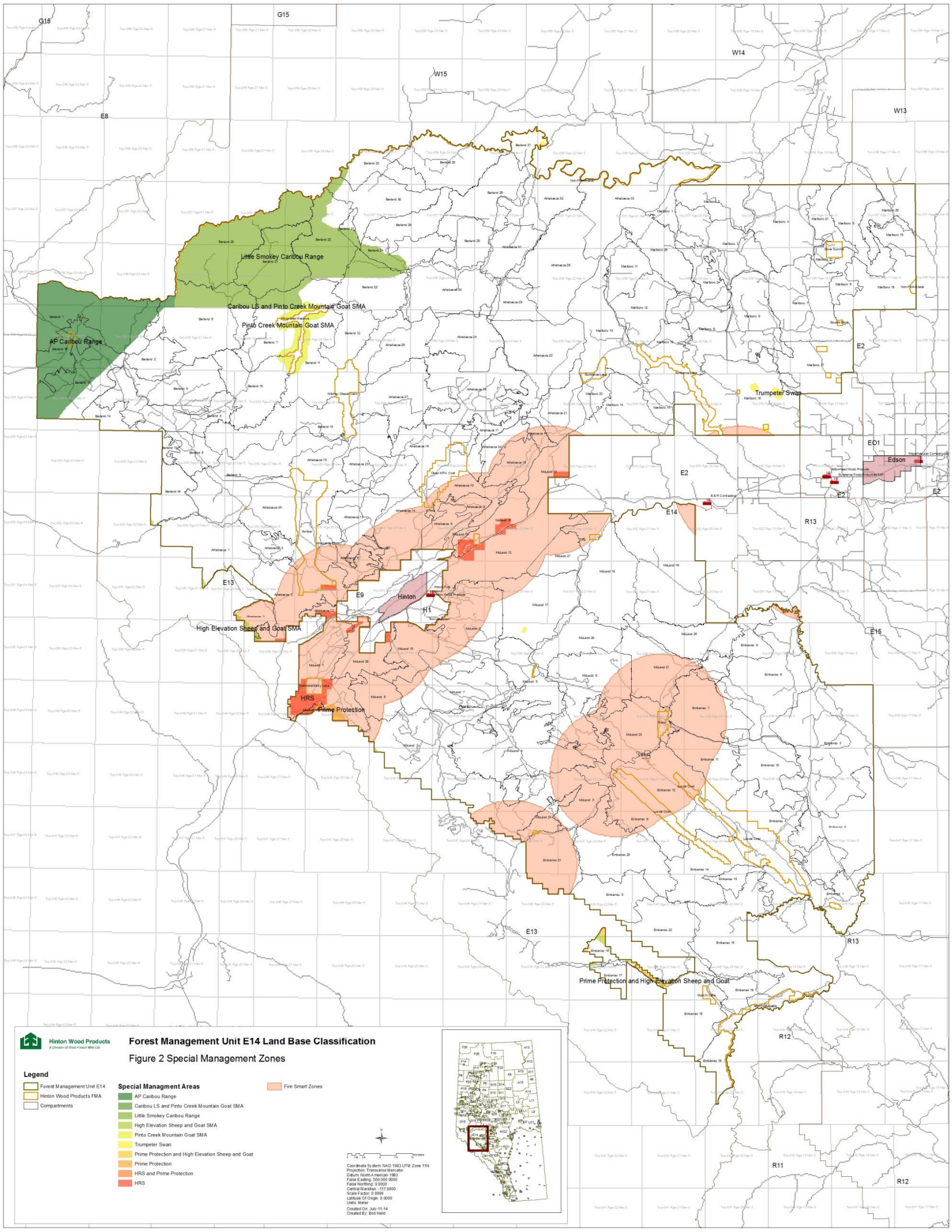
Boundaries of the FireSmart Community Zones that are within the HWP FMA area were provided by AESRD. There are 4 zones that are partially or completely within the FMA area. The boundaries will be used to help prioritize harvesting of high risk stands outside of the HRS dispositions to improve the fire safety of the communities within the identified zones.

[FSID] is the unique identifier for this layer.

Table 4 FireSmart Zones

FireSmart Zone ID (FSID)	Name	Total Area	Percent of FMU
33	Hinton/Carlsdale	99,039.4	**9.7%**
34	Marlboro/Wapiti Ridge	2,138.7	**0.2%**
36	Robb/Mercoal	54,374.3	**5.3%**
38	Cadomin	12,147.9	**1.2%**
	Total	**167,700.3**	**16.4%**

Figure 2 Special Management Areas and FireSmart Zones



2.6 Controlled Parentage Program Regions

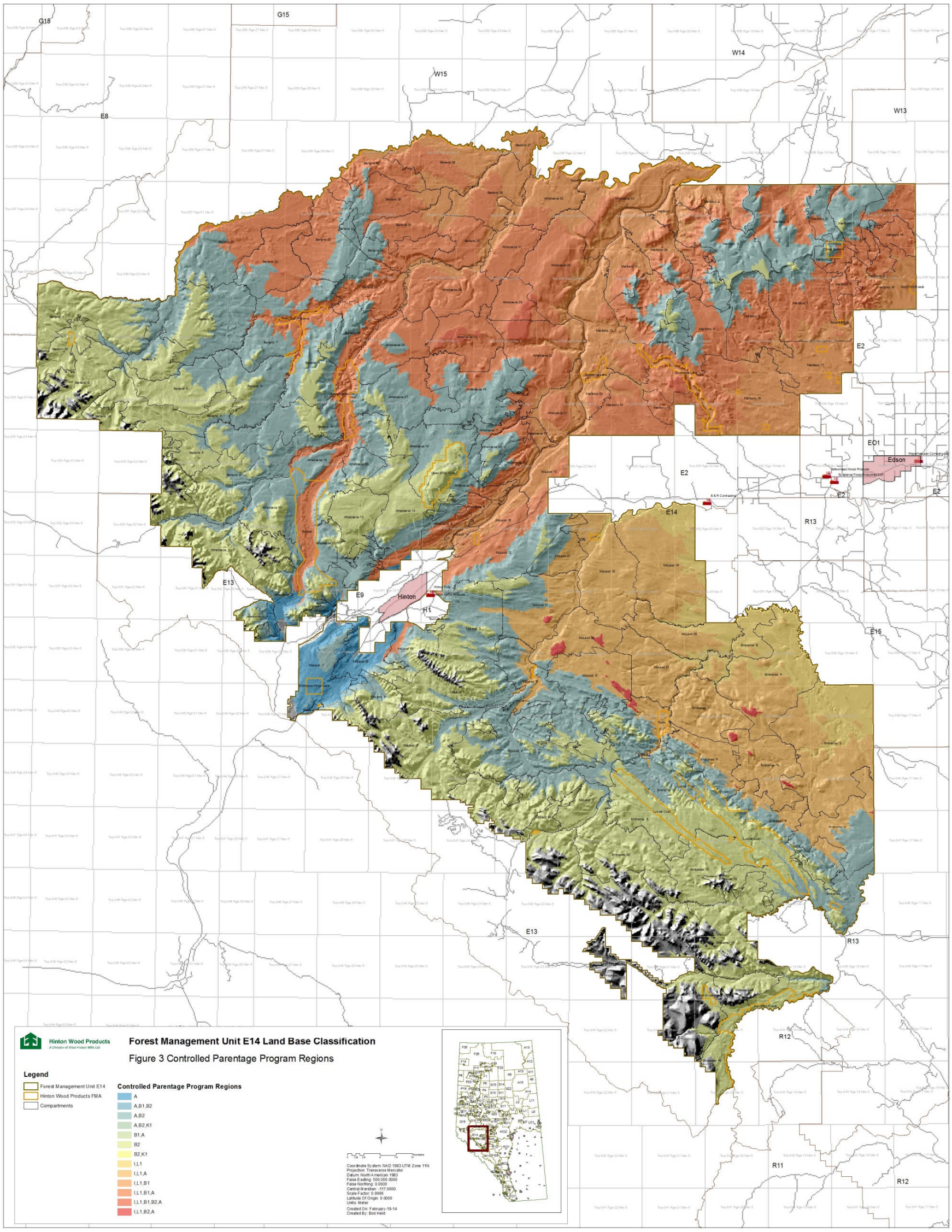
These boundaries are used by AESRD to regulate the deployment of improved stock. There are defined by species, which leads to overlapping boundaries. In order to use the data as a single overlay, unique identifiers were developed by combining the information into one layer. Because of overlapping areas, the seven input files produced 13 unique labels. The layer does not cover the full extent of FMU, as some higher elevation areas have been excluded. It will be used to schedule the deployment of improved stock as part of the TSA.

[DZID] is the unique identifier for this layer (See Table 5and Figure 3).

Table 5 Controlled Parentage Program Regions

DZID	Year	Area (ha)	Percent of FMU
1	A	14,033	**1.4%**
2	A,B1,B2	2	**0.0%**
3	A,B2	240,003	**23.5%**
4	A,B2,K1	37	**0.0%**
5	B1,A	9	**0.0%**
6	B2	242,295	**23.7%**
7	B2,K1	125	**0.0%**
8	I,L1	30,864	**3.0%**
9	I,L1,A	115,329	**11.3%**
10	I,L1,B1	111,930	**10.9%**
11	I,L1,B1,A	219,804	**21.5%**
12	I,L1,B1,B2,A	3,847	**0.4%**
13	I,L1,B2,A	1,798	**0.2%**
Total		**980,077**	**95.9%**

Figure 3 Controlled Parentage Program Regions



2.7 Natural Sub-Regions

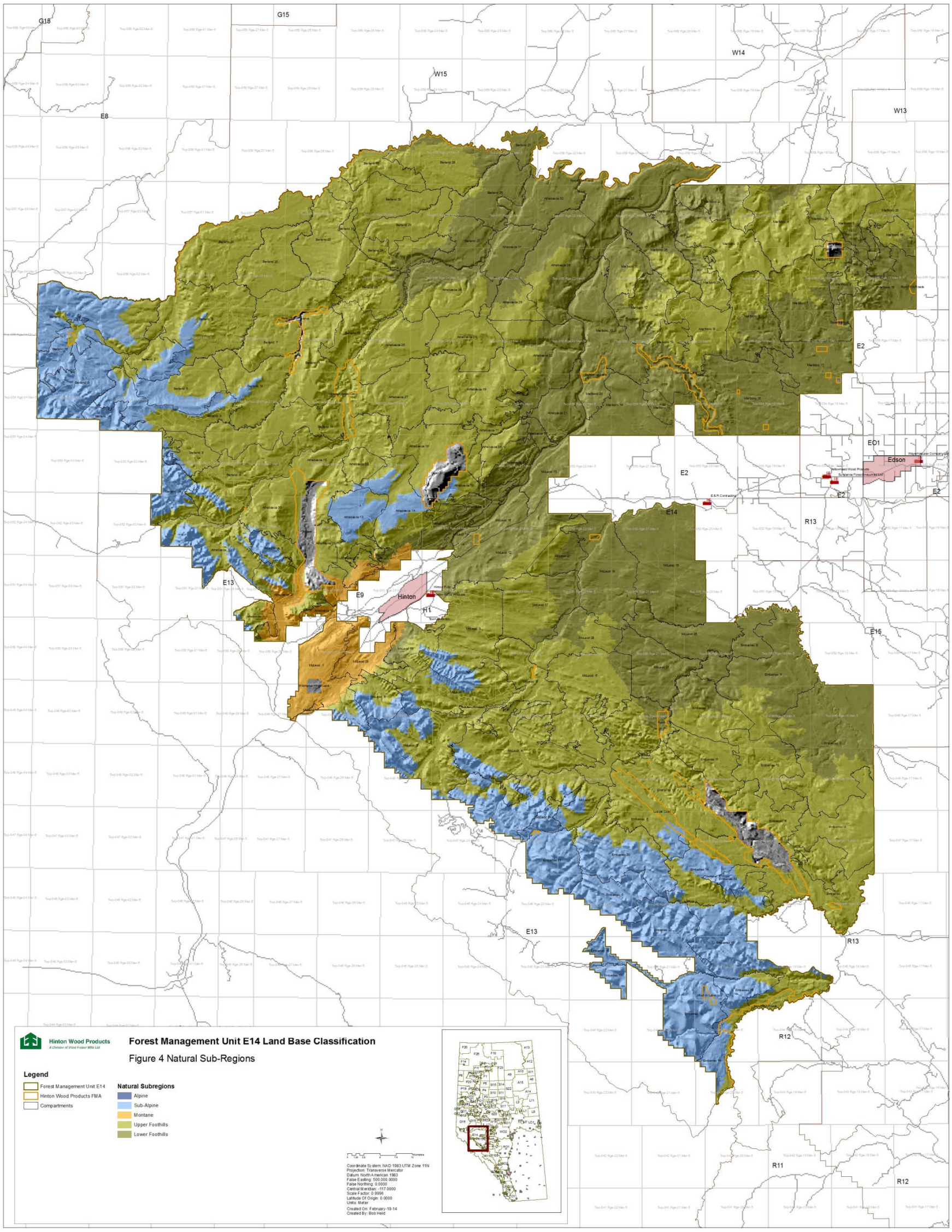
The Natural Sub-Region layer was developed by HWP in 2004 using the *Field Guide to Ecosites of West-Central Alberta* (Beckingham et al. 1996). As it was created using data from a large field sampling program, it will be used instead of the provincial layer. The layer was approved for use in the Terms of Reference. A copy of the approval letter is in Appendix G. See Table 6 and Figure 4

For seed inventory planning, seed transfer and forest gene resource conservation work, the Government of Alberta Natural Sub-Regions will be used.

Table 6 Natural Sub-Regions

Landbase Code (NregionID)	Name	Total Area	Percent of FMU
0	(NA)	16,787.4	1.6%
8	Sub-Alpine	147,089.5	14.4%
9	Montane	22,379.5	2.2%
10	Upper Foothills	529,683.3	51.8%
11	Lower Foothills	306,525.7	30.0%
	Total	**1,022,465.4**	**100.0%**

Figure 4 Natural Sub-Regions



2.8 Riparian Zones

The border of HWP's ecologically-based riparian zones is defined generally as the top (location of significant slope break) of the outermost contemporary fluvial hill slope that borders most streams (flowing water) and waterbodies (still water) on the FMA. Four classes of riparian areas were defined; fluvial, seepage-fed, isolated wetlands or complex using hydrography, landform and ecosite/vegetation information. Approximately 35% of the FMA area is within one of the 4 zones. Details on delineation of the ecologically-based riparian zones are described in Appendix B of *An Ecosystem-Based Riparian Management Strategy* (Jones, 2013).

For comparison purposes, the historical fixed-width stream buffers are also included in the landbase. These were described using the provincial hydrology layer, supplemented with information generated using NetMap and buffering 60 or 30 metres as per the HWP Timber Harvest Planning and Operating Ground Rules. Class A and Class B watercourses were buffered as per the Alberta Water Act and Regulations.

[RIPARIANID] is the unique identifier (See Table 7andFigure 5).

Table 7 Riparian Zones

RiparianID	Type	Area	Percent of FMA
0	None	669,986.4	65.5%
1	Complex	295.0	0.0%
2	Fluvial	120,289.4	11.8%
3	Seepage	225,416.6	22.0%
4	Isolated Wetland	6,477.9	0.6%
Total		**1,022,465.4**	

2.9 Hydrological Buffers

The following buffers and their map representations were applied:

- Class A and Class B Waterbodies were identified by manually selecting watercourse segments based on referencing the *Code of Practice for Pipelines and Telecommunications Lines Crossing a Water Body – Code of Practice for Watercourse Crossings – Edson Management Area Map.* Class A were buffered 100m on each side, permanent Class B 60m and non-permanent Class B 30m.
- Waterbodies within 2kms of a class "A" waterbody were identified by placing a 2km buffer on all class "A" waterbodies. These were buffered as per other Large or Small permanent watercourses.
- Waterbodies within 500m of a class "B" waterbody were identified by placing a 500m buffer on all class "B" waterbodies. These were buffered as per other Large or Small permanent watercourses.
- Large Permanent: All two-line watercourses were identified as large permanents. Islandswithin two-line watercourses were also flagged as being part of large permanent watercourses. Buffer width 60m when not part of a Class A waterbody.
- Small Permanent: All single-line permanent watercourses were identified as small permanents. Buffered 30m when not part of a Class A or B waterbody.
- Intermittent: Buffered 10m.

[HydroID] is the unique identifier. See Table 8 and Figure 5.

Table 8 Hydrology Buffers

HyrdroID	Description	Area	Percent of FMU
1	A and B Class Streams	3,440	0.34%
2	OGR Buffers	60,193	5.89%
3	Major Rivers	22,131	2.16%
4	Lakes	8,158	0.80%
	Total	93,921	9.19%

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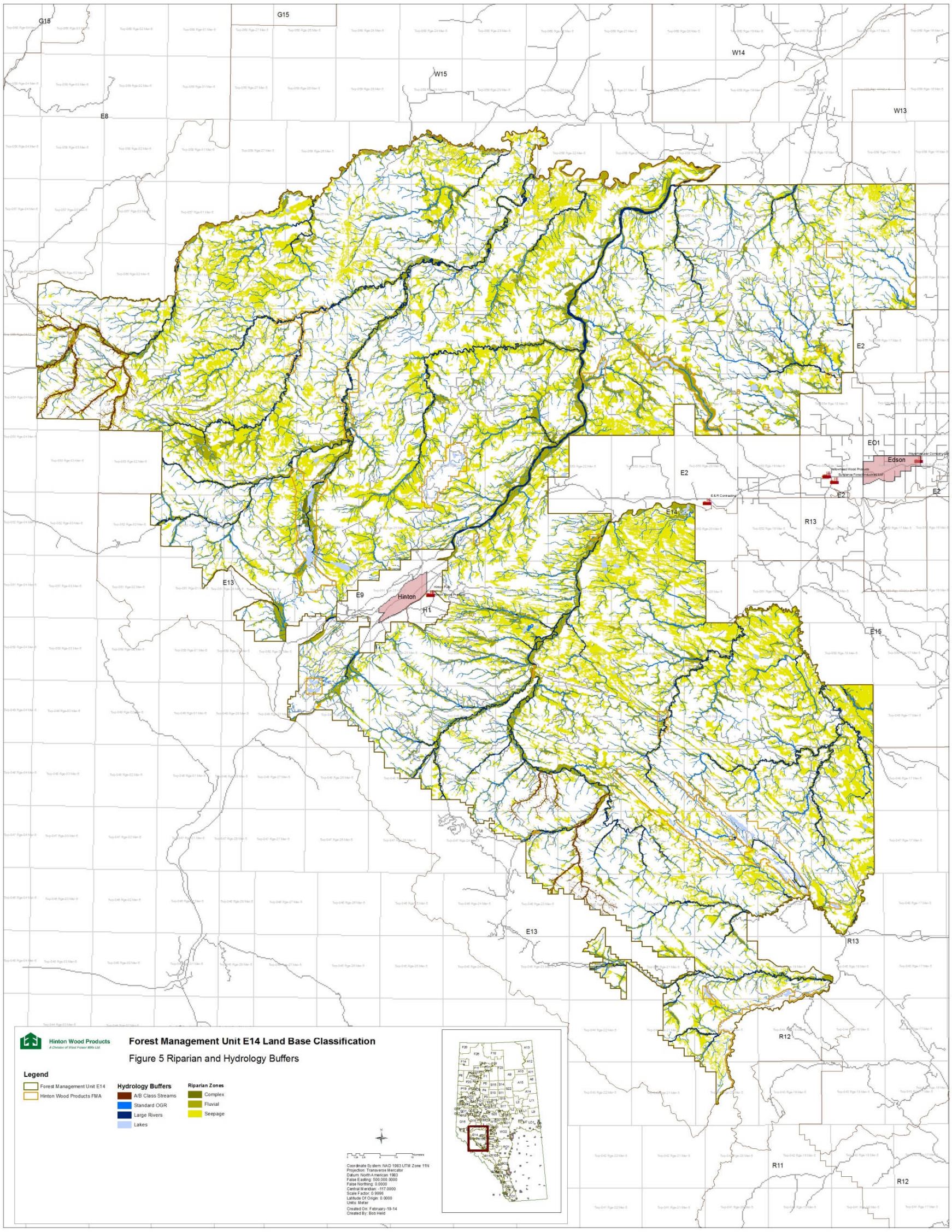
Figure 5 Riparian Zones and Hydrology Buffers



2.10 Watersheds

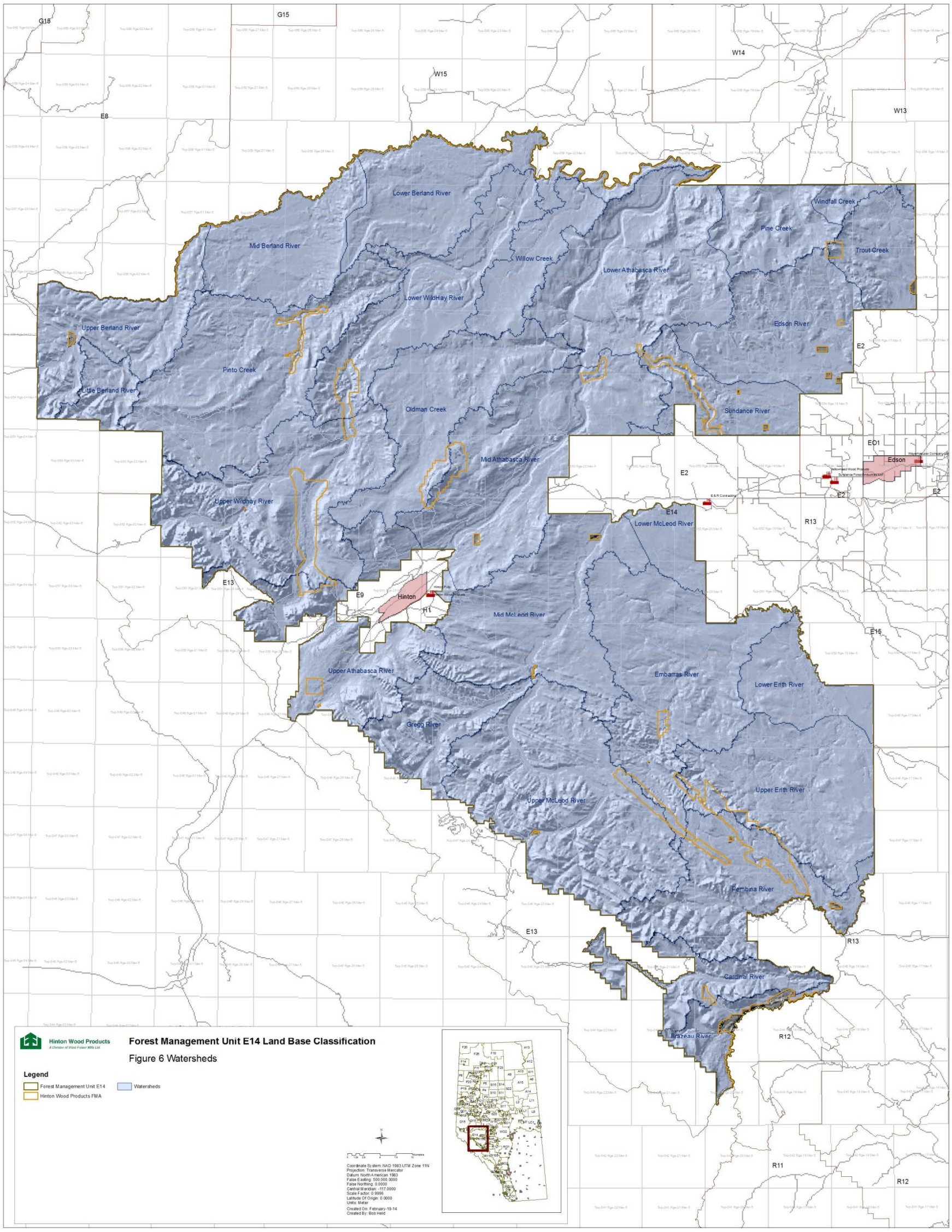
A new watershed layer was produced by HWP staff in 2010 by referencing watercourse locations, heights of land, and by using local knowledge. The goal was to ensure that each hectare of the FMA was assigned to a single watershed with a single exit point that was between 4,000 and 8,000 ha in size. The result was 27 watersheds. These watersheds will be further subdivided to assess water yield changes caused by implementing forest management.

[WSID] is the unique identifier. See Table 9 and Figure 6

Table 9 Watersheds

WSID	Name	Area (ha)	Percent of FMU
0	None	4,825	0.5%
1	Brazeau River	10,189	1.0%
2	Cardinal River	18,593	1.8%
3	Edson River	41,121	4.0%
4	Embarras River	66,506	6.5%
5	Gregg River	23,522	2.3%
6	Little Berland River	9,911	1.0%
7	Lower Athabasca River	62,046	6.1%
8	Lower Berland River	40,155	3.9%
9	Lower Erith River	19,989	2.0%
10	Lower McLeod River	11,015	1.1%
11	Lower WildHay River	44,616	4.4%
12	Mid Athabasca River	68,196	6.7%
13	Mid Berland River	33,315	3.3%
14	Mid McLeod River	55,451	5.4%
15	Oldman Creek	44,499	4.4%
16	Pembina River	43,172	4.2%
17	Pine Creek	20,569	2.0%
18	Pinto Creek	68,044	6.7%
19	Sundance River	21,197	2.1%
20	Trout Creek	19,056	1.9%
21	Upper Athabasca River	44,795	4.4%
22	Upper Berland River	32,405	3.2%
23	Upper Erith River	53,058	5.2%
24	Upper McLeod River	77,401	7.6%
25	Upper Wildhay River	64,499	6.3%
26	Willow Creek	19,643	1.9%
27	Windfall Creek	4,676	0.5%
	Total	**1,022,465**	**100.0%**

Figure 6 Watersheds



2.11 Wildfires

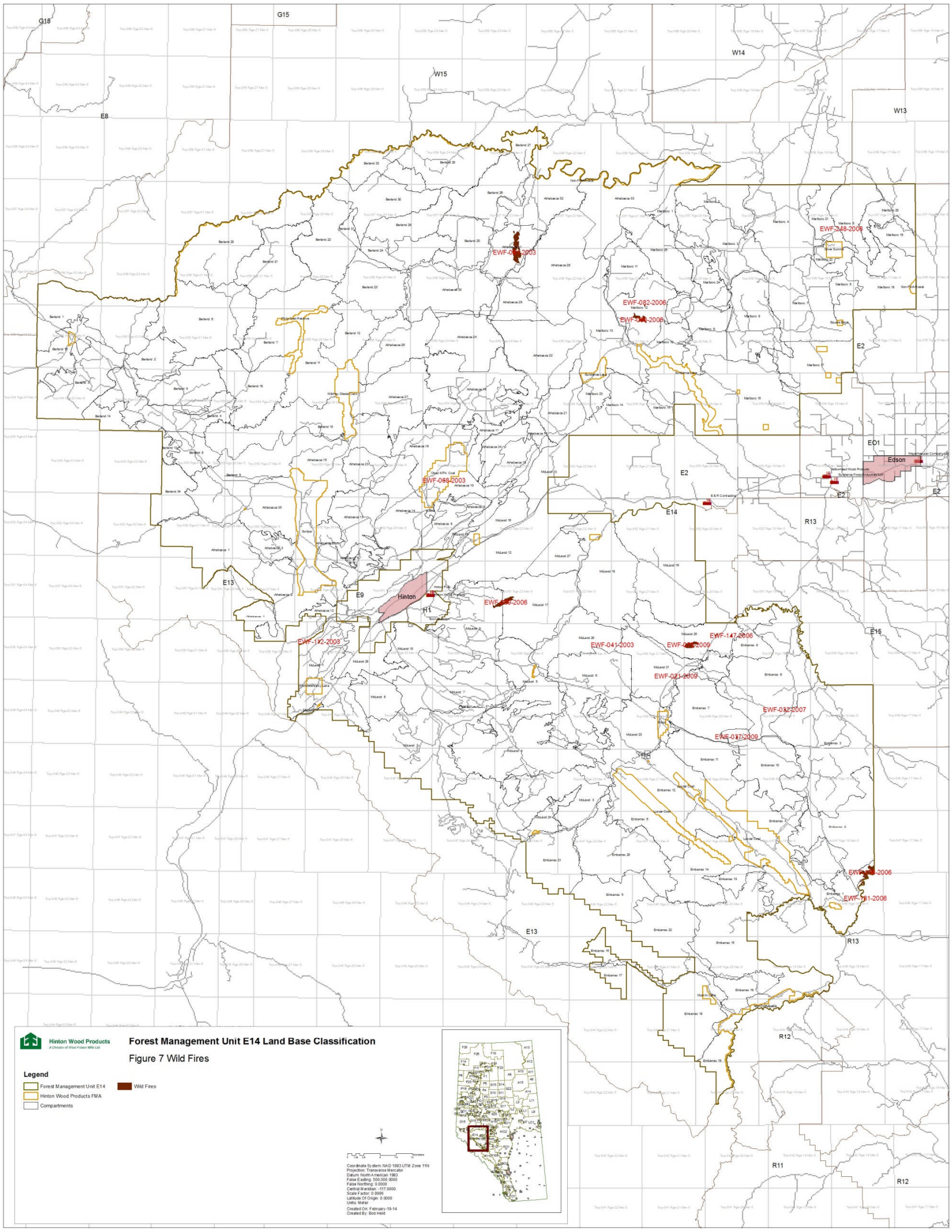
This layer contains all major fires that had not been updated into the forest cover between the last update and the effective date. The [FIRENUMBER] values are provided in Table 10.

A total of 940 ha have been burned within the FMU. This information is used to update the forest cover attribute to reflect the disturbance.

Table 10 Summary of Major Fire Occurrences

FireNumber	Year	Area (ha)	Percent of FMU
EWF-013-2006	2006	1.26	0.0001%
EWF-021-2009	2009	2.83	0.0003%
EWF-032-2007	2007	4.64	0.0005%
EWF-037-2009	2009	4.78	0.0005%
EWF-041-2003	2003	1.53	0.0001%
EWF-044-2008	2008	5.87	0.0006%
EWF-059-2006	2006	149.32	0.0146%
EWF-061-2003	2003	345.50	0.0338%
EWF-068-2003	2003	1.47	0.0001%
EWF-075-2009	2009	108.95	0.0107%
EWF-080-2006	2006	94.46	0.0092%
EWF-082-2006	2006	3.18	0.0003%
EWF-112-2003	2003	5.04	0.0005%
EWF-138-2006	2006	203.39	0.0199%
EWF-147-2006	2006	6.96	0.0007%
EWF-181-2006	2006	0.53	0.0001%
EWF-248-2006	2006	1.09	0.0001%
Total		**940.82**	**0.0920%**

Figure 7 Wild Fires



2.12 Inoperable Slopes

The purpose of this layer is to define those areas within the FMU that are not operable (i.e. greater than 45% slope) or inaccessible. LiDAR data were used to delineate areas greater than 45%. These areas were then buffered 75 m to capture areas that are inaccessible. The layer contains a field [INOP] that identifies all those areas ([ISINOP] is equal to 1). There are 40,237 ha in this layer.

2.13 Trails and Seismic

This layer was derived up to the end of 2007 for the 2010 MPB Amendment. Any low-impact lines (width less than 2.5 m) were removed and remaining lines were buffered as per the Final Plan Report for each individual GEO disposition. Since the creation of the Trails coverage, there has been some activity. However, the majority of this activity was completed as low impact (i.e. narrow line widths not discernable through photo interpretation). Other new lines were buffered 3m on each side. This layer contains trails and seismic lines within the FMA. It will be used to update the AVI attributes to non-forested. There are 19,187 ha in this layer ([isTRL] is equal to 1).

Figure 8 Inaccessible and Inoperable Areas

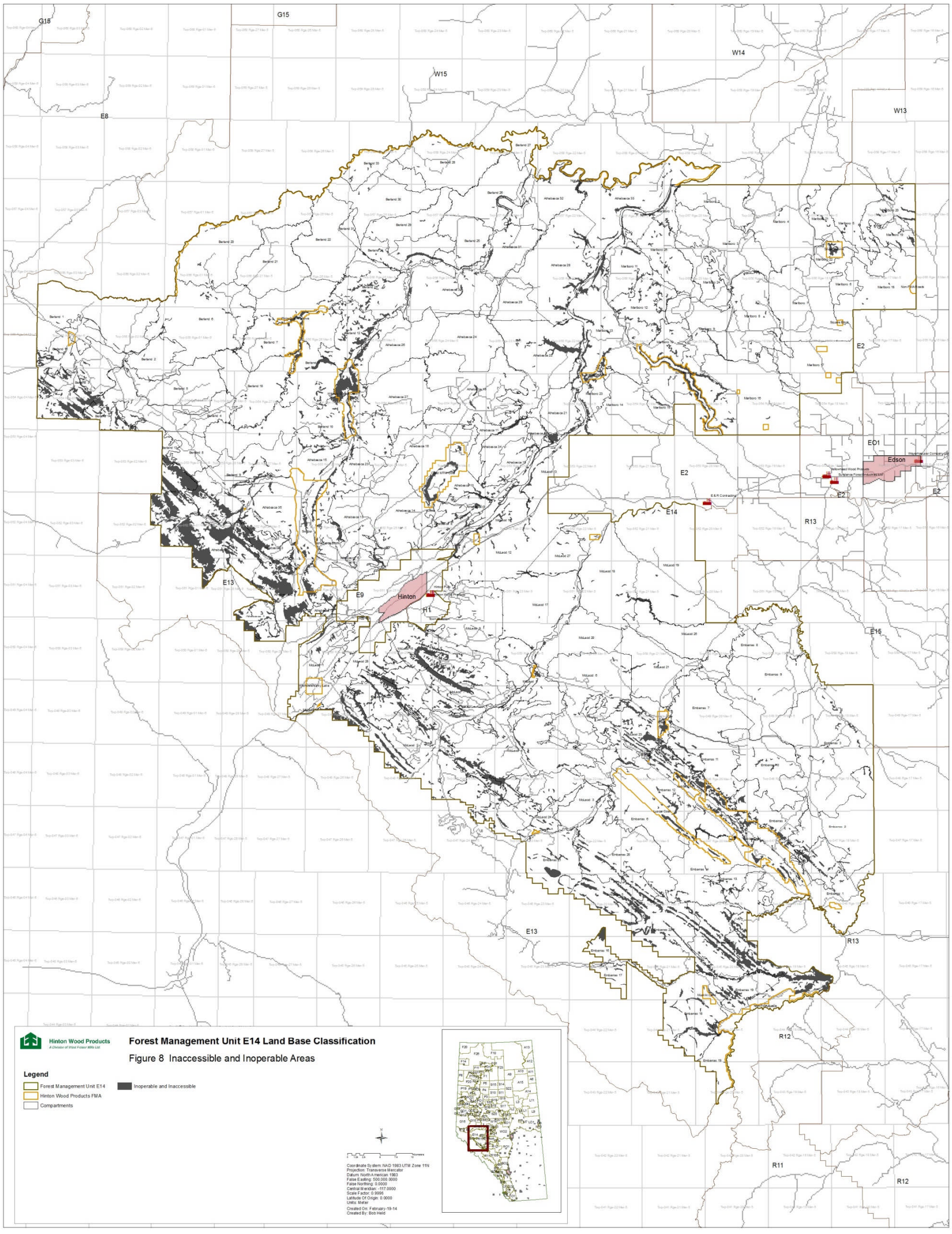
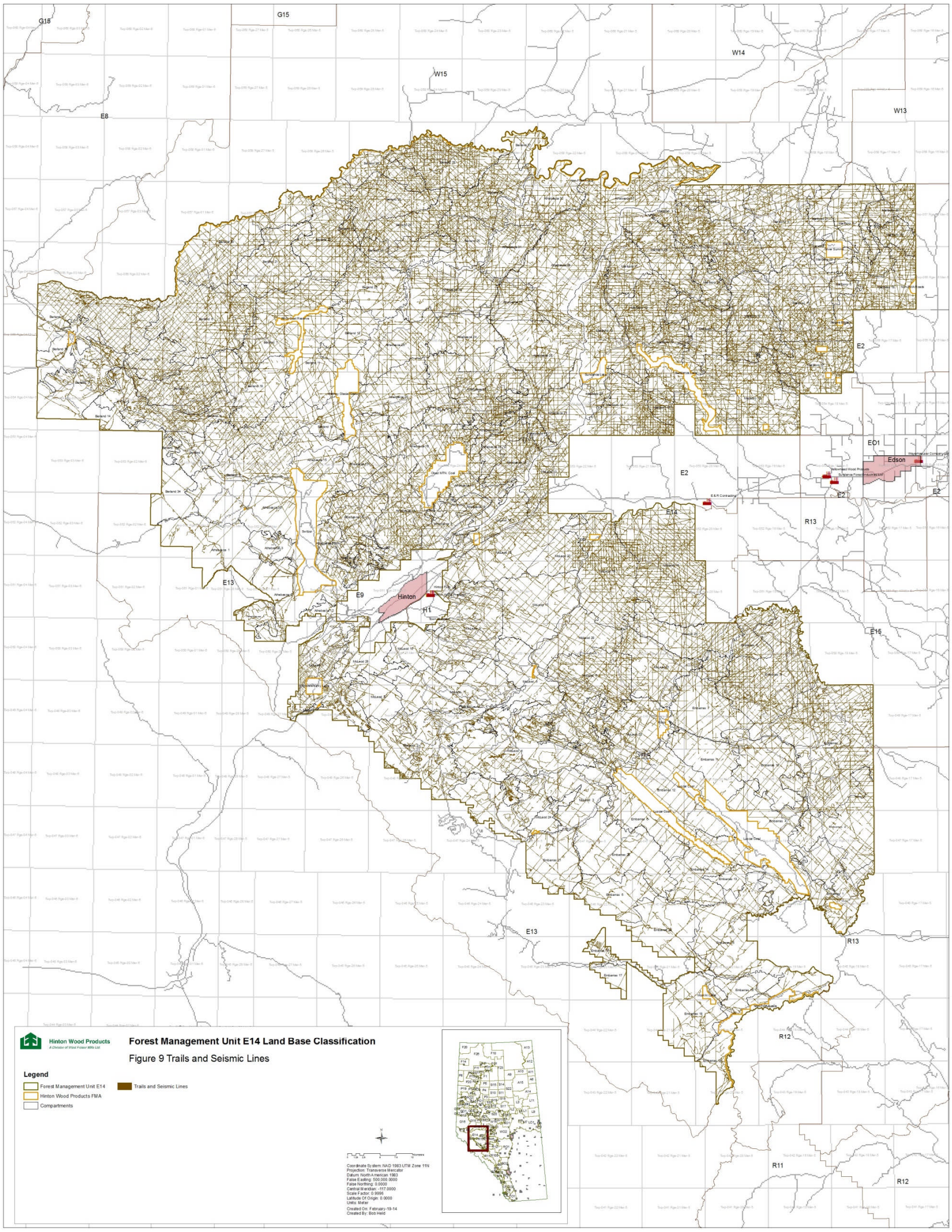


Figure 9 Trails and Seismic Lines



2.14 Land Use

Alberta Environment and Sustainable Resource Development's Digital Integrated Dispositions system is used as a base to define areas under other dispositions within the FMU. This layer defines those areas that will not contribute to the final AAC landbase. Harvest planning staff identified "As Built" dispositions within the FMU from 2007 Ortho Photography. These "As Built" dispositions will be deleted from the Active Landbase.

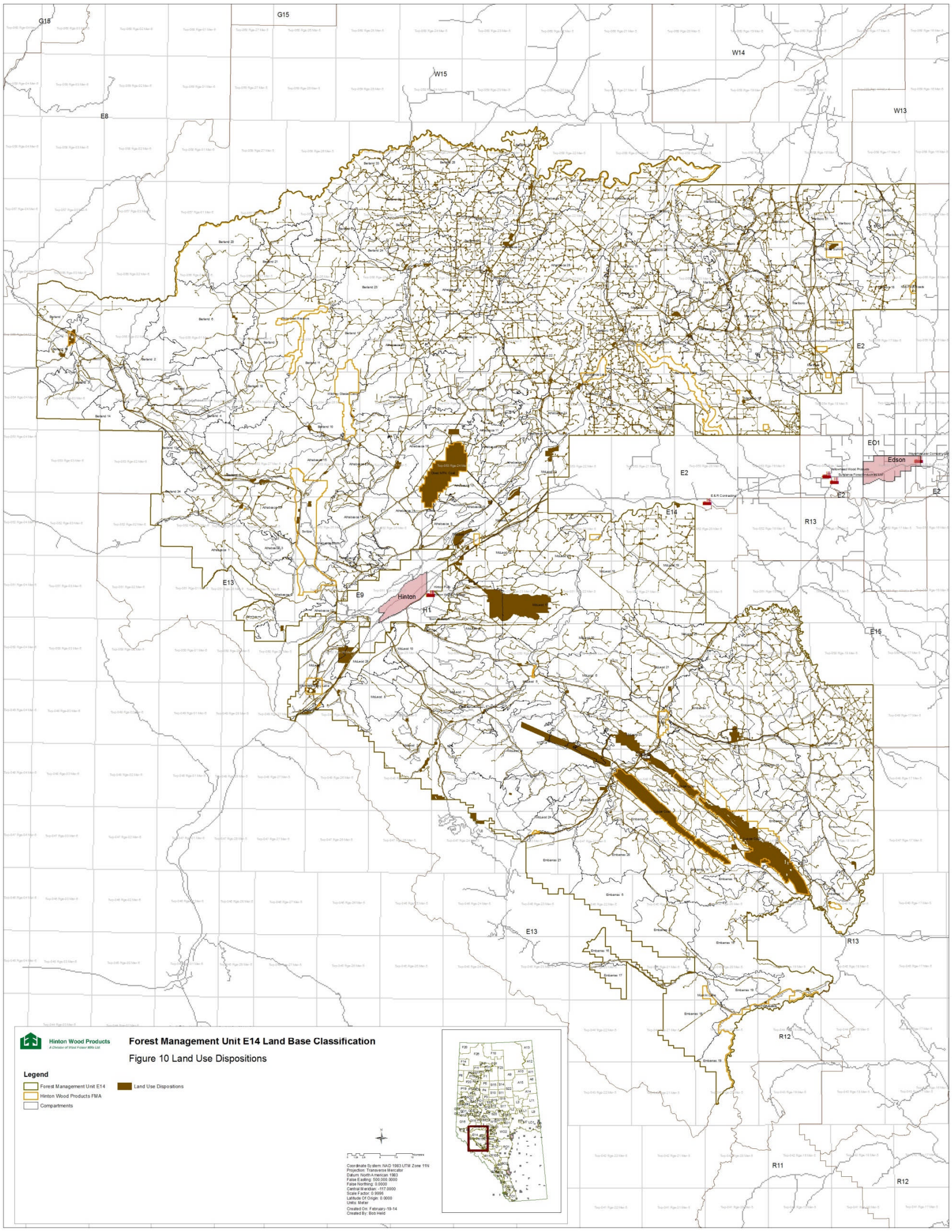
Table 11 provides a list of the disposition types. The dispositions will be designated as forested or non-forested. Dispositions that are deemed non-forested will have the forest cover attributes (i.e. landbase designation, yield class and cover group assignments) changed to reflect the non-forested state. A total of 60,185 hectares lie within the land use disposition areas. The [DISPOSITIONID] value is a valid Land Use Disposition code. Table 11 provides as summary of the area by Disposition Type. Figure 10 provides an illustration.

Dispositions that remain in the active landbase are shown in Appendix D. None have restrictions that would prevent timber harvesting. They will be assessed on a case-by-case basis through operational planning.

Table 11 Disposition Types

Disposition Type	Area	Percent of FMU
DRS	1,473	**0.14%**
EZE	923	**0.09%**
FRD	155	**0.02%**
LOC	17,190	**1.68%**
MLL	1,340	**0.13%**
MLP	61	**0.01%**
MSL	22,568	**2.21%**
PIL	127	**0.01%**
PLA	10,629	**1.04%**
RDS	785	**0.08%**
REC	49	**0.00%**
ROE	186	**0.02%**
RRD	1,458	**0.14%**
SMC	54	**0.01%**
SML	3,013	**0.29%**
VCE	174	**0.02%**
Total	**60,183**	**5.89%**

Figure 10 Land Use Dispositions



2.15 Blocks

The block layer defines blocks harvested and planned for harvest by HWP and other embedded timber operators. The [OPENINGNUMBER] value is a valid opening number as per ARIS Standards or equal to NA (where Field Number exists) otherwise is missing.

Attributes provided for all blocks in this layer include:

- Field Number
- Block Stage (identifies planned and harvested blocks)
- Opening Number
- ARIS AOP Area
- ARIS Net Harvested Hectares
- ARIS Update Area
- ARIS Skid clearance Date
- ARIS Disposition
- ARIS Responsibility
- ARIS Operator
- ARIS Regeneration Standard
- ARIS Declaration
- Last Establishment Survey Date
- Last Establishment Survey Stocking
- Last Establishment Survey Status
- Last Performance Survey Date
- Last Performance Survey Stocking
- Last Performance Survey Status
- Flag to Identify Blocks Harvested prior to 1991
- Site Prep Method, Date and Area
- Planting Date Species and area
- Seeding Date, Species and area
- Improved stock identifier and percent of block planted

As per the *Alberta Forest Management Planning Standard,Version 4.1 – April 2006* (Alberta Sustainable Resource Development, 2006), areas harvested after March 2, 1991 will be assigned to the yield stratum based on the regeneration stratum for the harvest area as defined in the Alberta Regeneration Information System (ARIS) and the most current information on the harvest area and its associated regeneration stratum in ARIS.

The above information is used to determine how stratum/strata will be applied to a block. There are 13 possible stratum assignments. Figure12 provides the decision rules on allocation of the stratum assignment codes. Table 13provides the summary of stratum assignments. This information was used in the landbase classification to assign the final yield strata to the blocks and landbase.

Blocks exist within the landbase that have a skid clearance date after the cutoff date. This information will be used to ensure the block is scheduled correctly in the timber supply analysis.

Improved stock was deployed in as subset of harvested blocks. The field [IMPROVEDSTOCKIDS] provides the Seedlots deployed in each block, and [IMPROVEDSTOCKPCT] provides the percent of area of the block that has improved stock. Table 12 provides a list of the Seed lots deployed.

Table 12 Seed Lots

SeedLotID	SeedLotCode	SeedLot
1	HASOC	HASOCIG303SO2006PL
2	HASOC	HASOCIG303SO2007PL
3	HASOC	HASOCIG303SO2009PL
4	HASOC	HASOCIG303SO2011PL
5	HASOC	HASOCIG333SO2005SW
6	HASOC	HASOCIG333SO2006/07SW
7	HASOC	HASOCIG333SO2009SW
8	T1C1	T1C1 G147-50-95 PL
9	WWI	WW I G801 2008/2009 PL
10	WWI	WW I G801 2010 PL
11	WWI	WW I G801 SO 2010 PL

Table 13 Summary of Stratum Assignments

	Stratum Assignment	Number of Blocks	Total Area
1	Not Harvested, Not Declared to Base 10	831	22,228
2	Not Harvested Declared To Base 10	177	5,958
3	Pre 91 Block	6,917	111,575
5	No Performance Survey, Stratum Declaration - Declared to Base 10	804	18,957
6	No Performance Survey, Declared to Deciduous	78	1,445
7	No Performance Survey, Dragged > 50% and Planted Area < 50%	650	16,812
8	No Performance Survey, Planted > 50%	2,502	55,049
10	No Performance Survey, Seeded	223	4,098
13	No Performance Survey - Assume LFN Assume Pine	1,403	29,092
14	Performance Survey - Newer than AVI - RSA Aerial Stratification	5	100
	Total	**13,590**	**265,314**

An ARIS Validation has been completed. This information is provided in digital format on the provided media.

Figure 11 Blocks

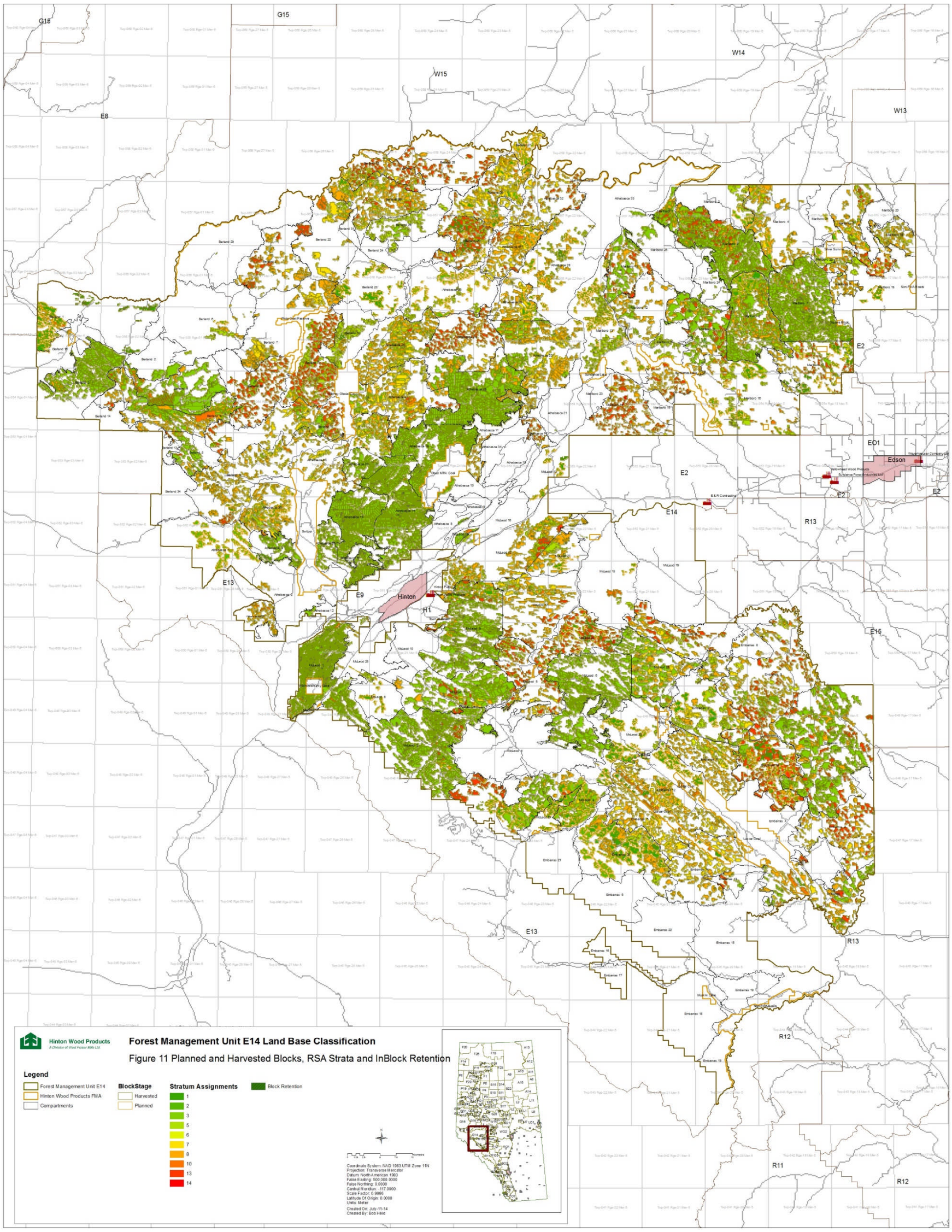
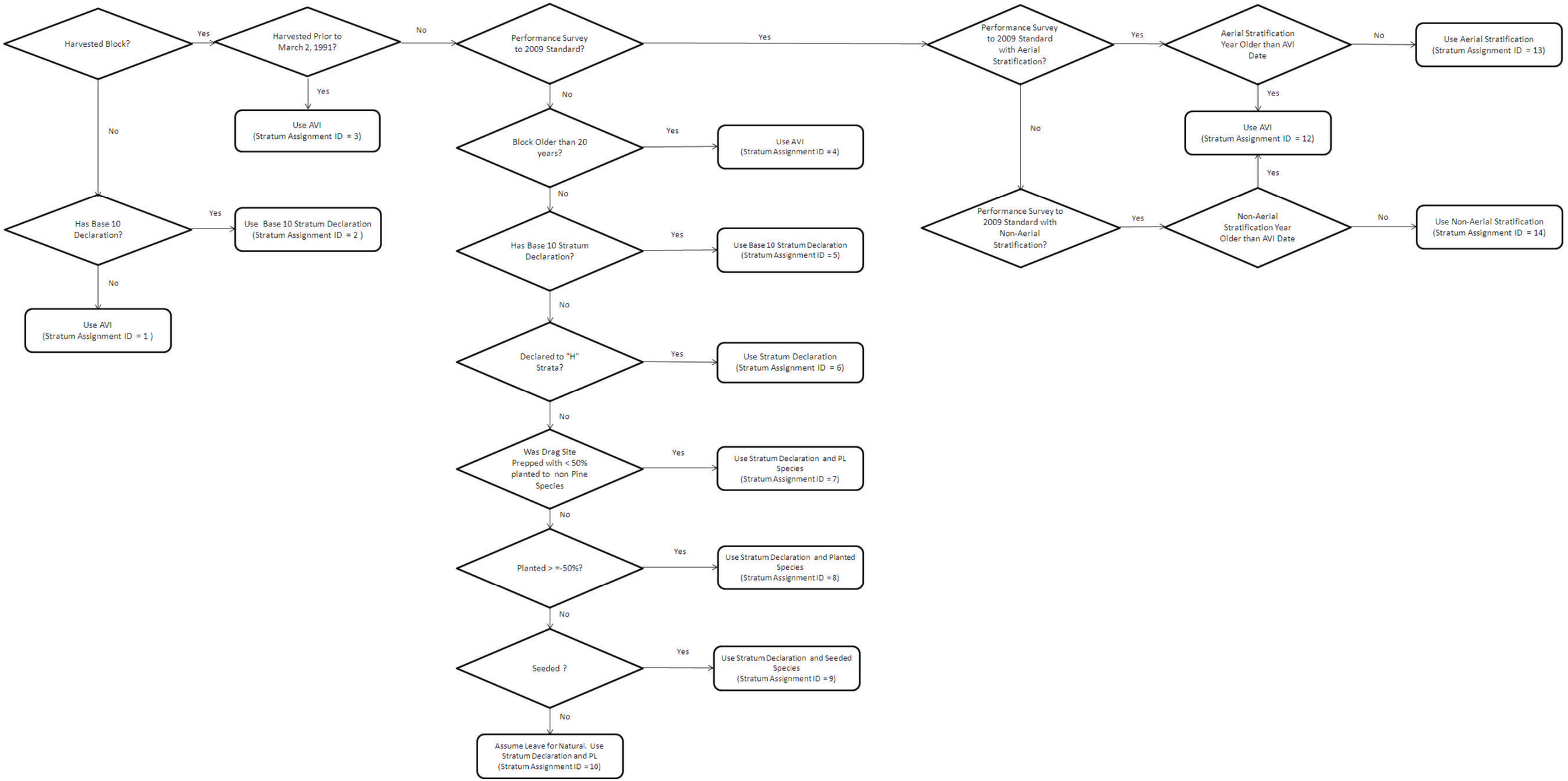


Figure 12 Stratum Assignment Flow Diagram



2.16 Cut Block vs ARIS data

ESRD uses the ARIS database to maintain information on all cutblocks harvested in Alberta. After a block is harvested, HWP reports the area cut to ARIS based on the area in the spatial cutblock layer. Theoretically, the areas recorded in ARIS should match the areas in HWP's current spatial cutblock layer. As the cutblocks are located on an active landbase with other activities removing land from forest production on a regular basis, block boundaries do change. These changes are not always captured in both databases in the same way.

As part of the landbase classification, the company records for all cutblocks harvested after 1991 were compared to the ESRD records in ARIS. The 406 individual discrepancies identified are shown in Appendix F. The block boundaries included in this landbase are the best information available. Most of the discrepancies are related to land use dispositions that have occurred after harvest which have not been updated in ARIS as of yet. There are 121 openings where HWP will need to submit updates in order to have the 2 systems align. This work will be completed within 90 days of approval of the landbase.

Going forward, the Alberta Energy Regulator's plan to enforce the submission of as-built drawings for surface dispositions will improve the alignment of areas in the company and government databases.

2.17 Alberta Vegetation Inventory

This layer contains the forest cover described as per the *Alberta Vegetation Inventory Standards Manual - Version 2.1.* (Alberta Environmental Protection, 1991).The newest version of AVI for the Hinton FMA was completed on 2001 aerial photos and approved in 2006. This was the second full AVI completed across the Hinton FMA. The approval letter is attached in Appendix B. The [FORESTKEY] value is populated with the unique AVI polygon identifier.

The current AVI does not completely cover the FMU. There are gaps at the outer boundary of the FMU and in private lands within the FMU. In these instances, township, range, meridian and stand values are zero.

3 Landbase Classification

The landbase classification process involves:

- Stratification of the landbase based on the forest cover attributes,
- Identification of the active and passive landbase,
- Creation of the final landbase dataset.

The cutoff date for the landbase is April 30, 2012, inclusive.

3.1 Forest Cover Stratification

The landbase is stratified to identify, cover group, age and yield class, Mountain Pine Beetle Risk, stand productivity, and landbase contribution.

Cover Group

Stand cover group (overstory and understory) is assigned based on the following criteria:

- If the sum of coniferous species composition has a value of 8 or greater, then the cover group is assigned a value of 'C' (pure coniferous).
- If the sum of deciduous species composition has a value 8 or greater, then the cover group is assigned a value of 'D' (pure deciduous).
- If the sum of coniferous species composition has a value of 6 or 7, then cover group is assigned a value of 'CD' (coniferous/deciduous).
- If the sum of coniferous species composition has a value of 5 and the first species is coniferous then cover group is assigned a value of 'CD' (coniferous/deciduous).
- If the sum of deciduous species composition has a value of 6 or 7, then cover group is assigned a value of 'DC' (deciduous/coniferous).
- If the sum of deciduous species composition has a value of 5 and the first species is deciduous, then cover group is assigned a value of 'DC' (deciduous/coniferous).

Overstory and understory cover groups are assigned to the [OCG] and [UCG] fields in the landbase file, respectively.

Yield Class

The overstory and understory are assigned to a yield class, [OYIELDCLASS] and [UYIELDCLASS] respectively. Table 14 provides the criteria for yield class assignment.

Table 14 Summary of Yield Strata

Yield Class	Description	Cover Group	Species Composition
1	RSA Stratum 1 HW	Pure Deciduous (D)	Deciduous composition ≥ to 8
2	RSA Stratum 2 HW/PL	Deciduous Coniferous (DC)	Pl/Lt composition ≥Sw/Fb and Pl/Lt composition ≥ to Sb
3	RSA Stratum 3 HW/SW	Deciduous Coniferous (DC)	Sw/Fb composition ≤Pl/Lt and Sw/Fir composition ≥ Sb
4	RSA Stratum 4 SW/HW	Coniferous/Deciduous (CD)	Sw/Fb composition ≤Pl/Lt and Sw/Fir composition ≥Sb
5	RSA Stratum 5 PL/HW	Coniferous/Deciduous (CD)	Pl/Lt composition ≥Sw/Fb and Pl/Lt composition ≥Sb
6	RSA Stratum 6 SB/HW	Coniferous/Deciduous (CD)	Sb composition ≥Sw/Fb and Sb composition ≥ Pl/Lt
7	RSA Stratum 7 SW	Pure Coniferous (C)	Sw/Fb composition ≤ Pl/Lt and Sw/Fir composition ≥ Sb
8	RSA Stratum 8 PL	Pure Coniferous (C)	Pl/Lt composition ≥Sw/Fb and Pl/Lt composition ≥Sb
9	RSA Stratum 9 SB	Pure Coniferous (C)	Sb composition ≥ Sw/Fb and Sb composition ≥ Pl/Lt

3.2 Rank

A decision rule was applied to each polygon as to whether the overstory or understory will define the layer that will be managed. All Forested polygons are managed for the overstory ([Rank] is equal to 1) with the exceptions of stands where:

- The overstory density is “A” and the understory density is “A” and the stand structure is not horizontal and the understory yield class [UYIELDCLASS] is not equal to 6 or 9.
- The overstory cover group [OCG] is equal to “D” and the understory density [UDENSITY] is “B” or “C’ or “D and the Overstory Origin [ORIGIN] >is equal to1930 and the stand structure is not horizontal and the understory yield class [UYIELDCLASS] is not equal to 6 or 9.

3.3 Landbase Assignments

The landbase stratification is required to identify polygons that will contribute to either the coniferous or deciduous harvest in the timber supply analysis, and to identify polygons that are in a regenerating phase. The landbase assignment is based on the [RANK], [OCG] and [UCG] values.

If the [RANK] is 1:

- If the [OCG] variable has a value of ‘C’ or ‘CD’ or DC’ then the [LANDBASE] is assigned a value of 1.
- If the [OCG] variable has a value of ‘D’ and there is no understory then the [LANDBASE] is assigned a value of 2.

If the [RANK] is 2:

- If the [UCG] variable has a value of 'C' or 'CD' or DC' then the [LANDBASE] is assigned a value of 1.
- If the [UCG] variable has a value of 'D' then the [LANDBASE] is assigned a value of 2.

Independent of rank:

- All non-forested are assigned a LANDBASE value of 0.

3.4 Subjective Deletions

Stand productivity is identified using the following rules:

- If the overstory moisture regime [MOIST_REG] is equal to 'W' or 'A' then then the [SUBJECTIVEDELETIONID] value is assigned a value of 1.
- If the values of SP1, SP2, SP3, SP4 or SP5 are 'Lt' then the [SUBJECTIVEDELETIONID] value is assigned a value of 2.
- If there is an overstory and the TPR class is equal to 'U' then the [SUBJECTIVEDELETIONID] value is assigned a value of 3.
- If the overstory density [DENSITY] is equal to 'A' and the stand age is greater than or equal to 60 and there is no forested understory, then the [SUBJECTIVEDELETIONID] value is assigned a value of 4.
- If the value of SP1 is 'SB' and the SB component [SP1_PER] is greater and or equal to 8then the [SUBJECTIVEDELETIONID] value is assigned a value of 5.

3.5 MPB Index and MPB Rank

The MPB index was assigned the value as provided by ASRD for each polygon using the Shore/Safrinyk model and the ranking system provided in the Interpretive Bulletin – *Planning Mountain Pine Beetle Response Operations* (Alberta Sustainable Resource Development, 2007). Using the Compartment Attack Risk [MPB Risk] (defined as 1 is equal to High, 2 is equal to Moderate, 3 is equal to Low) and MPB Index [SSI] and Climate Factor [CF], an MPB Rank is assigned to each polygon.

- If [MPBRISK] equal to 1 and [CF]is equal to 1.0 and [SSI] is greater than 0, or[CF] equal to0.8 and SSI greater than 0, or [CF] is equal to0.5 and [SSI] greater than 30 or [CF] equal to0.2 and [SSI] greater than 30 then [MPBRANK] is equal to 1.
- IF [MPBRISK] equal to 1 and [CF] is equal to 0. 5 or [CF] is equal to0.2 and [SSI] greater than 1 and less than or equal to 30 or [CF] is equal to0.1 and [SSI] greater than or equal to 31 then [MPBRANK] is equal to 2.
- If [MPBRISK] equal to 1 and [CF] is equal to 1.0 and [SSI] greater than 0 and less than or equal to 30 then [MPBRANK] is equal to 3.
- If [MPBRISK] equal to 2 and[CF] is equal to 1.0 and [SSI] greater than 30, or [CF] is equal to 0.8 and [SSI] greater than 50 or [CF] is equal to 0.5 and [SSI] greater than 80 then [MPBRANK] is equal to 1.

- IF [MPBRISK] is equal to 2 and [CF] is equal to1and [SSI] Greater than or and less than or equal to 30 or [CF] is equal to 0.8 and [SSI] greater than 0 and less than 51 or [CF] is equal to 0.5 and [SSI] greater than 0 and less than 81, or [CF] is equal to 0.2 and [SSI] greater than 30, or [CF] is equal to 0.1 and [SSI] greater than 50 then [MPBRANK] is equal to 2.
- If [MPBRISK] equal to2 and [CF] is equal to 0.2 and [SSI] greater than 0 and less than 31 or [CF] is equal to 0.1 and [SSI] greater than 0 and less than 51 then [MPBRANK] is equal to 3.

Table 15 Mountain Pine Beetle Stand Ranking

Climate Factor		Pine Rating 0 to 30	31to 50	51to 80	81to 100	Compartment Risk
Very Suitable	1	Rank 1	Rank 1	Rank 1	Rank 1	High (1)
		Rank 2	Rank 1	Rank 1	Rank 1	Moderate (2)
		Rank 2	Rank 2	Rank 1	Rank 1	Low (3)
Highly Suitable	0.8	Rank 1	Rank 1	Rank 1	Rank 1	High (1)
		Rank 2	Rank 2	Rank 1	Rank 1	Moderate (2)
		Rank 2	Rank 2	Rank 2	Rank 1	Low (3)
Moderately Suitable	0.5	Rank 2	Rank 1	Rank 1	Rank 1	High (1)
		Rank 2	Rank 2	Rank 2	Rank 1	Moderate (2)
		Rank 3	Rank 2	Rank 2	Rank 2	Low (3)
Low Suitability	0.2	Rank 2	Rank 1	Rank 1	Rank 1	High (1)
		Rank 3	Rank 2	Rank 2	Rank 2	Moderate (2)
		Rank 3	Rank 2	Rank 2	Rank 2	Low (3)
Very Low Suitability	0.1	Rank 3	Rank 2	Rank 2	Rank 2	High (1)
		Rank 3	Rank 3	Rank 2	Rank 2	Moderate (2)
		Rank 3	Rank 3	Rank 3	Rank 3	Low (3)

Results for each compartment are shown with compartment areas in Appendix C.

3.6 Age and Age Class Assignments

The year of the cutoff date and stand origin (overstory and understory) are used to calculate the stand age and age Class for all forested polygons.

- If the [RANK] is equal to 1 then [Age] is calculated as 2012 – [ORIGIN]
- If the [RANK] is equal to 2 then [Age] is calculated as 2012 – [UORIGIN]

Age Class is ranges are as follows:

- Lower limit is equal to[AGECLASS] -5
- Upper limit [AGECLASS] + 4
- [AGECLASS] 10 has lower limit of 0.

4 Definition of ACTIVE/PASSIVE Landbase

Identification of active/passive landbases is done hierarchically. The following describes the order in which the landbase is categorized.

Initially all [LB_DELETION] values are assigned a value of 99.

4.1 Non FMA

Areas outside the FMA but within the FMU are assigned to the passive landbase i.e. [LB_DELETION] is equal to 1.

4.2 Non-forested

Non- forested areas defined by AVI are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [OYIELDCLASS] is equal to 0 and [STRATUMASSIGNMENTID] is equal to 1, 2, 3 or 4 then [LB_DELETION] is equal to 2.

4.3 Land Use Dispositions

All areas within disposition are assumed to have occurred after the landbase cutoff date, are non-forested and assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [DISPID] is not blank, then [LB_DELETION] value is equal to 3.

4.4 Seismic Lines and Trails

All trails except for those in harvested blocks after March 1, 1991and before the cutoff date are assigned to the passive landbase.

If the [ISTRL] value is equal to 1 and [LB_DELETION] is equal to 99 and the [STRATUMASSIGNMENTID] is equal to 1 or 2 or 3 then [LB_DELETION] is assigned a value of 4.

4.5 Inoperable Areas

All inoperable areas that are not within a block harvested after March 1, 1991 are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [ISINOP] is equal to 1 and [BLOCKOID] is equal to 0 or [STRATUMASSIGNMENTID] is equal to3 then [LB_DELETION] is equal to 5.

4.6 Hydrology Buffers

All areas within A/B Class stream buffers and not in a block harvested after March 1, 1991 are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [HYDROID] is equal to 1 then [LB_DELETION] is equal to 6.

4.7 Subjective Deletions

All Subjective deletions not in a block harvested after March 1, 1991 are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [SUBJECTIVEDELETIONID] is greater than 0 and [BLOCKOID] is equal to 0 or [STRATUMASSIGNMENTID] is equal to 3, then [LB_DELETION] is equal to 7.

4.8 Unharvested Burns

Harvested areas where fire occurred after harvest are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [FIRENUMBER] is not blank and the [FIREYR] is greater than [HARVYR] then [LB_DELETION] equals 8.

4.9 Performance Survey < 50%

All Blocks with Performance Survey Stocking < 50% are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [LASTSURVEYTYPE] “PER” and [LASTSURVEYSTOCKING] is less than 50 then [LB_DELETION] is equal to 10.

4.10 Not Validated with ARIS

Blocks that are a valid ARIS block with no skid clearance date or are not a valid ARIS are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and the [FIELDNUMBER] does not contain ‘OTHER’ or the [STRATUMASSIGNMENTID] is greater than 4 and [SKIDCLEARANCEDATE] is missing then the [LB_DELETION] is equal to 11

4.11 Horizontal

All stands identified as having a horizontal structure [STRUC] is equal to ’H’ are either not harvested or harvested prior to March 2, 1991 are assigned to the passive landbase.

If [LB_DELETION] is equal to 99 and [STRATUMASSIGNMENTID] is equal to of 1,2 or 3 and [STRUC] is equal to ‘H’ then the [LB_DELETION] is equal to 12

4.12 Active Landbase Re-Classification

The active landbase was further classified to identify those areas where scheduling constraints might be applied in the timber supply analyses. Table 16 provides as summary.

These include:

Improved Stock

If [IMPROVEDSTOCKPCT] is greater than 0, [LB_DELETION] is equal to 991.

Retention

If [ISRETENTION] is equal to 1 and [BLOCKOID] is equal to 0, [LB_DELETION] is equal to 992.

Hydrology Outside of Riparian Areas

If [HYDROID] is greater than 0 and [RIPARIANID] is equal to 0 and [BLOCKOID] is equal to 0, [LB_DELETION] is equal to 993.

Hydrology Inside of Riparian Areas

If [HYDROID] is greater than 0 and [RIPARIANID] is greater than 0 and [BLOCKOID] is equal to 0, [LB_DELETION] is equal to 994.

Riparian Areas without Hydro

If [HYDROID] is equal to 0 and [RIPARIANID] is greater than 0 and [BLOCKOID] is equal to 0, [LB_DELETION] is equal to 995.

Table 16 Active Landbase Re-classification

LB_Deletion	Name	Area (Ha)
99	AAC	511,070
991	AAC - Planned Block	31,691
992	AAC - Improved Stock	1,255
993	AAC - Retention	3,856
994	AAC - Traditional Hydro Only	4,307
995	AAC - Riparian and Hydro	28,476
996	AAC - Riparian Only	79,477
997	AAC - HRS	2,302
Total		662,434

5 Final Stratification Assignments

Final cover group, dominant species, yield class, MPB Rank, landbase category and landbase status assignments are made to reflect the post-harvest and fire disturbance states.

5.1 Compartment and Natural Sub-region

Assign blocks to one compartment [ASSIGNEDPLANNINGUNITID] where they are split by the boundary otherwise where no block exists use [PLANNINGUNITID]. [ASSIGNEDNREGIONID] is assigned the [NREGIONID] value.

5.2 Yield Class and Yield Adjustment

- If [STRATUMASSIGNMENTID] is equal to 1,3,4 or 12 and [RANK] is equal to 1 then [ASSIGNEDYIELDCLASS] is equal to [OYIELDCLASS]
- If [STRATUMASSIGNMENTID] is equal to 1,3,4 or 12 and [RANK] is equal to 2 then [ASSIGNEDYIELDCLASS] is equal to [UYIELDCLASS]
- If [STRATUMASSIGNMENTID] is equal to 2 or 5 and then [ASSIGNEDYIELDCLASS] is assigned the value of the last 2 digits of [ARISDECLARATION]
- If [STRATUMASSIGNMENTID] is equal to 6 and then [ASSIGNEDYIELDCLASS] is equal to 1
- If [STRATUMASSIGNMENTID] is equal to 7 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” and [PLANTSPPS]is equal to “SW” then [ASSIGNEDYIELDCLASS] is equal to 7
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” and [PLANTSPPS] is equal to “PL” then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” and [PLANTSPPS] is equal to “SB” then [ASSIGNEDYIELDCLASS] is equal to 9
- If [STRATUMASSIGNMENTID] is equal to 9 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” and [SEEDSPPS]is equal to “SW” then [ASSIGNEDYIELDCLASS] is equal to 7
- If [STRATUMASSIGNMENTID] is equal to 9 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” and [SEEDSPPS]is equal to “PL” then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to9 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” and [SEEDSPPS]is equal to “SB” then [ASSIGNEDYIELDCLASS] is equal to 9
- If [STRATUMASSIGNMENTID] is equal to 10 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘S” then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 7 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘C” then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘C” and [PLANTSPPS] is equal to “SW” then [ASSIGNEDYIELDCLASS] is equal to 7
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘C” and [PLANTSPPS] is equal to “PL” then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘C” and [PLANTSPPS] is equal to “SB” then [ASSIGNEDYIELDCLASS] is equal to 9
- If [STRATUMASSIGNMENTID] is equal to 9 and Second Letter of [ARISSTRATADECLARATION] is equal to ‘C” and [SEEDSPPS]is equal to “SW” then [ASSIGNEDYIELDCLASS] is equal to 7

- If [STRATUMASSIGNMENTID] is equal to 9 and Second Letter of [ARISSTRATADECLARATION] is equal to 'C" and [SEEDSPPS]is equal to "PL" then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to 'C" and [SEEDSPPS]is equal to "SB" then [ASSIGNEDYIELDCLASS] is equal to 9
- If [STRATUMASSIGNMENTID] is equal to 10 and Second Letter of [ARISSTRATADECLARATION] is equal to 'C" then [ASSIGNEDYIELDCLASS] is equal to 8
- If [STRATUMASSIGNMENTID] is equal to 7 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" then [ASSIGNEDYIELDCLASS] is equal to 4
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" and [PLANTSPPS] is equal to "SW" then [ASSIGNEDYIELDCLASS] is equal to 2
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" and [PLANTSPPS] is equal to "PL" then [ASSIGNEDYIELDCLASS] is equal to 4
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" and [PLANTSPPS] is equal to "SB" then [ASSIGNEDYIELDCLASS] is equal to 2
- If [STRATUMASSIGNMENTID] is equal to 9 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" and [PLANTSPPS] is equal to "SW" then [ASSIGNEDYIELDCLASS] is equal to 2
- If [STRATUMASSIGNMENTID] is equal to 9 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" and [SEEDSPPS]is equal to "PL" then [ASSIGNEDYIELDCLASS] is equal to 4
- If [STRATUMASSIGNMENTID] is equal to 8 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" and [SEEDSPPS]is equal to "SB" then [ASSIGNEDYIELDCLASS] is equal to 2
- If [STRATUMASSIGNMENTID] is equal to 10 and Second Letter of [ARISSTRATADECLARATION] is equal to 'D" then [ASSIGNEDYIELDCLASS] is equal to 4
- If [STRATUMASSIGNMENTID] is equal to 13 or 14 then [ASSIGNEDYIELDCLASS] is equal to [RSASTRATA]

5.3 Landbase Category

If [ASSIGNEDYIELDCLASS] is equal to "1" the [ASSIGNEDLANDBASE] is equal to 2, otherwise [ASSIGNEDLANDBASE] is equal to 1

5.4 Cover group

If [ASSIGNEDYIELDCLASS] is equal to 1 then [ASSIGNEDCG] is equal to "D", when [ASSIGNEDLANDBASE] is equal to 2 or 3 then [ASSIGNEDCG] is equal to "DC" when [ASSIGNEDYIELDCLASS] is equal to 4,5 or6 then [ASSIGNEDCG] is equal to "CD" when [ASSIGNEDYIELDCLASS] is equal to 7,8 or 9 then [ASSIGNEDCG] is equal to "C".

5.5 Age and Age Class

If [LB_DELETION] is equal to 2,3or 4 then [ASSIGNEDAGE] is equal to blank, if [HARYR] is greater than [FIREYR] then [ASSIGNEDAGE] is given the values of 2012 less the [HARVYR], if [FIREYR] is greater than [HARVYR] then [ASSIGNEDAGE] is given the values of 2012 less the [FIREYR], otherwise then [ASSIGNEDAGE] is given the [AGE] value.

5.6 MPB Risk and Rank

If [LB_DELETION] is equal to 2, 3 or 4 or [ASSIGNEDLANDBASE] is equal to 0 or [HARVYR] is greater than 0 or [FIREYR] is greater than 0 then the [ASSIGNEDMPBRANK] and [ASSIGNEDMPBINDEX] values are equal to 0. Otherwise [ASSIGNEDMPBRISK] and [ASSIGNEDMPBRANK] are assigned the [MPBRISK] and [MPBRANK] values respectively.

5.7 Disturbance Year

Original stand origin according to [RANK] otherwise the lesser of [HARYR] and [FIREYR]. IF [HARVYR] is equal to [FIREYR] then [HARVYR].

5.8 Clean up

In some instances, polygons have been assigned to the 'Active' landbase where no age or yield class information exists. These polygons have their classification reset to non-forested (i.e. [LB_DELETION] equal to 12 if no age available or 14 if not yield class is available) and [ASSIGNEDLANDBASE] set to 0, [ASSIGNEDCG] equal to blank, [ASSIGNEDYIELDCLASS] equal to 0, [ASSIGNEDAGE] equal to blank, [ASSIGNEDMPBINDEX] equal to 0 and [ASSIGNEDMPBRANK] equal to 0.

5.9 Regeneration Status, Landbase Status and Area

If [STRATUMASSIGNMENTID] is equal to2,3 or 4 then [STATUS] is equal to "ST" for non-Regenerated else "RT" for Regenerated.

If [STRATUMASSIGNMENTID] is greater than 3 and [SKIDCLEARANCEDATE] less than the cutoff date then [STATUS] is equal to "RT'. Otherwise, [STATUS] is equal to "ST" for forested polygons. Otherwise "NA".

[LBSTATUS] is equal to 'Active' where [LB_DELETION] is greater than or equal to 99. Otherwise [LBSTATUS] is equal to 'Passive'.

[AREAHA] is calculated as [AREA] divided by 10,000.

5.10 Fire Risk

Assigned to each forested polygonwithin the FireSmart Zones based on AVI attributes. Any white spruce, black spruce or pine polygon with a stand age greater than 60 and density of C or D was defined as a high risk. See

Table 17 for a summary of areas by FireSmart Zone and species.

Table 17 Summary of Fire Risk

		Fire Risk			
FSID	**FireSmart Zone**	**Sw (FBP = 1)**	**Pl (FBID = 2)**	**Sb (FBPID = 3)**	**Total**
33	Hinton/Carlsdale	6,889	4,113	118	11,121
34	Marlboro/Wapiti Ridge	13	64	7	84
36	Robb/Mercoal	137	11,565	92	11,794
38	Cadomin	232	3,891	-	4,123

Total	**7,271**	**19,634**	**217**	**27,122**

5.11 Seral Stage

Seral Stages have been assigned to all forested polygons based on [ASSIGNEDYIELDCLASS] and [ASSIGNEDAGE] and [STATUS]. SeeTable 18.

Table 18 Seral Stage Definitions

			Seral Stage				
Forest Type	**Yield Class**	**Origin**	**Young**	**Pole**	**Early Mature**	**Late Mature**	**Old**
Pine Leading	8	Fire	0-20	21-69	70-119	120-159	160+
		Harvest	0-20	21-49	50-99	100-159	160+
Spruce Leading	7	Fire	0-20	21-49	50-99	100-159	160+
		Harvest	0-20	21-49	50-99	100-159	160+
Wetland Spruce	9	Fire	0-30	31-89	90-109	100-189	190+
		Harvest	0-30	31-89	90-109	100-189	190+
Mixed Wood	2,3,4,5,6	Fire	0-20	21-59	60-109	110-149	150+
		Harvest	0-20	21-49	50-99	100-149	150+
Deciduous	1	Fire	0-20	21-59	60-109	110-149	150+
		Harvest	0-20	21-59	60-109	110-149	150+

A unique [SERALSTAGEID] identifier was assigned to each polygon. See Appendix E for a description.

5.12 Summary and Results

Table 19 provides a comparison of landbase classifications to the 1999 FMP and then 2009 MPB amendment. No sliver removal process was completed.

The active landbase is 662,434 hectares or 64.8% of the gross landbase. This is an increase from 650,163 hectares or 1.6% from the landbase used in the 2009 MPB Amendment.

Figure 14 and Figure 15 provide a tabular and graphical summary of age class distributions by yield class.

The landbase information will be aggregated and reformatted to be used in the timber supply analysis component of the Detailed Forest Management Plan. A description of how the data will be modified and summary information for the analysis will be provided in the final plan. Appendix B provides the data dictionary for the submitted landbase.

Table 19 Landbase Classification Summary

Landbase Classification	1999	2009	2012
Total FMU E14 Area	1,038,564	1,034,067	1,022,465
Outside of FMA (LB_Deletion = 1)	36,093	45,293	33,711
Non-Forested (LB_Deletion = 2)	65,909	49,991	52,163
Prime Protection	-	962	467
Land Use (LB_Deletion = 3)	22,044	22,341	29,648
Seismic Lines (LB_Deletion = 4)	16,144	13,528	19,187
Total Non-Forested	140,190	132,115	135,176
Subjective Deletions (LB_Deletion = 7)			
Wet Sites		152,694	149,216
Larch		2,954	1,993
Non-Operational Ecosites	94,524	6,600	-
"A" Crown Closure with No Understory		3,924	4,304
Black Spruce >=80%	24,559	28,690	5,331
"U" TPR		2,355	19,741
Total Subjective Deletions	119,083	197,217	180,586
Inoperable/Inaccessible (LB_Deletion = 5)	10,303	37,794	40,237
Watercourse (LB_Deletion = 6)	53,648	16,737	2,237
Unharvested Burns (LB_Deletion = 8)			390
Horizontal Stands (LB_Deletion = 12)		41	178
ARIS			
Not Validated (LB_Deletion = 11)			-
<50% Stocking (LB_Deletion = 10)			226
Liability not assumed (LB_Deletion = 9)			-
No Age Assignment (LB_Deletion = 13)			187
No Stratum Assignment (LB_Deletion = 14)			821
Total Passive	**323,224**	**383,904**	**360,031**
Total Active	**715,341**	**650,163**	**662,434**

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Figure 13 Landbase Classification

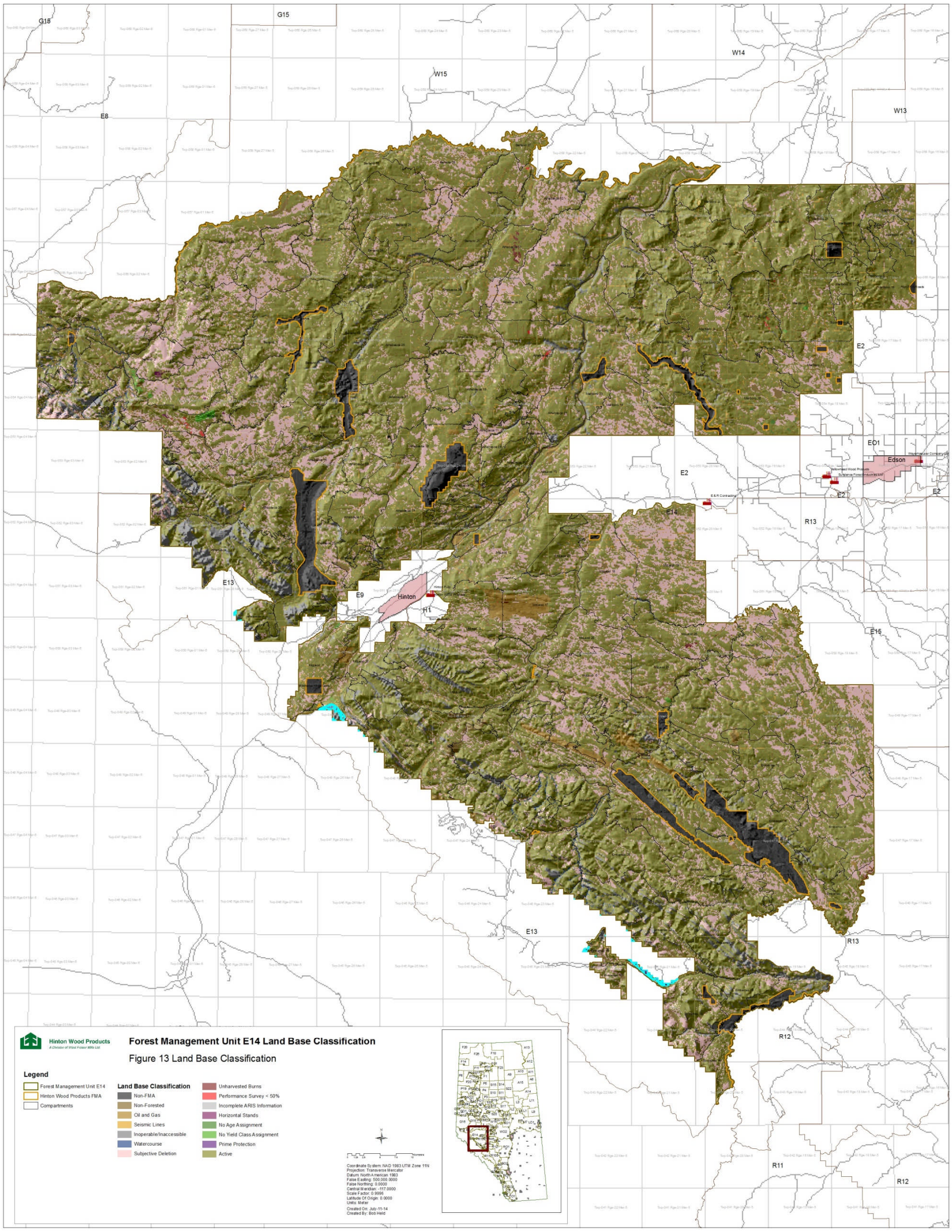


Table 20 Age Class Distributions by Yield Strata

Age Class	Total Area	Active Area	Passive Area	Yield Class (Active Land Base)									
				HW	HW/PL	HW/SW	SW/HW	PL/HW	SB/HW	SW	PL	SB	Total
0	118,468	-	118,468	-	-	-	-	-	-	-	-	-	-
10	80,180	79,032	1,148	2,390	968	1,153	2,155	2,415	-	10,909	58,828	215	79,032
20	44,386	43,482	904	245	258	385	948	1,378	11	7,285	32,880	92	43,482
30	28,926	26,449	2,476	1,170	765	413	513	2,719	55	3,276	17,514	24	26,449
40	39,141	34,542	4,599	2,685	2,682	1,778	2,091	5,866	24	4,083	15,210	123	34,542
50	44,837	36,666	8,171	2,364	2,255	1,618	3,474	3,967	36	6,659	16,183	110	36,666
60	36,611	24,214	12,397	806	546	1,020	1,118	1,237	9	2,890	16,449	138	24,214
70	23,011	13,117	9,893	971	1,062	764	738	988	4	1,322	7,230	36	13,117
80	67,126	40,665	26,461	2,333	1,205	1,294	1,274	1,723	8	4,421	28,216	191	40,665
90	51,279	27,638	23,641	3,662	1,008	1,083	965	1,329	27	3,099	16,214	252	27,638
100	42,076	30,544	11,532	4,031	2,290	1,958	950	1,004	2	3,921	16,283	104	30,544
110	84,089	63,099	20,990	9,640	3,606	3,674	1,194	3,767	44	4,406	36,495	273	63,099
120	198,382	148,877	49,505	15,147	7,106	7,279	3,268	12,009	56	11,934	91,361	717	148,877
130	48,575	34,925	13,650	4,071	1,270	2,261	1,805	2,958	90	6,512	15,385	573	34,925
140	26,102	13,712	12,390	453	72	341	1,733	791	55	6,051	3,922	294	13,712
150	19,923	10,485	9,438	205	57	78	921	458	57	5,512	2,881	315	10,485
160	14,727	6,930	7,796	124	21	18	417	235	4	3,923	2,089	100	6,930
170	17,516	10,918	6,598	5	16	67	224	27	14	3,771	6,337	457	10,918
180	4,096	2,539	1,556	32	-	5	88	78	-	1,656	635	46	2,539
190	3,913	2,488	1,425	-	-	22	56	12	-	1,423	956	18	2,488
200	2,638	1,648	990	25	15	4	148	11	-	724	720	1	1,648
210	1,813	590	1,223	-	-	-	-	-	-	442	148	-	590
220	15,679	6,512	9,167	-	-	0	36	-	-	3,552	2,895	30	6,512
230	163	62	101	-	-	-	-	-	-	48	14	-	62
240	1,579	487	1,092	-	-	-	5	-	-	202	280	-	487
250	7,231	2,812	4,419	-	-	-	-	-	-	1,204	1,595	13	2,812
Total	**1,022,465**	**662,434**	**360,031**	**50,357**	**25,202**	**25,215**	**24,121**	**42,973**	**498**	**99,227**	**390,720**	**4,121**	**662,434**

Figure 14 Passive and Active Age Class Distribution

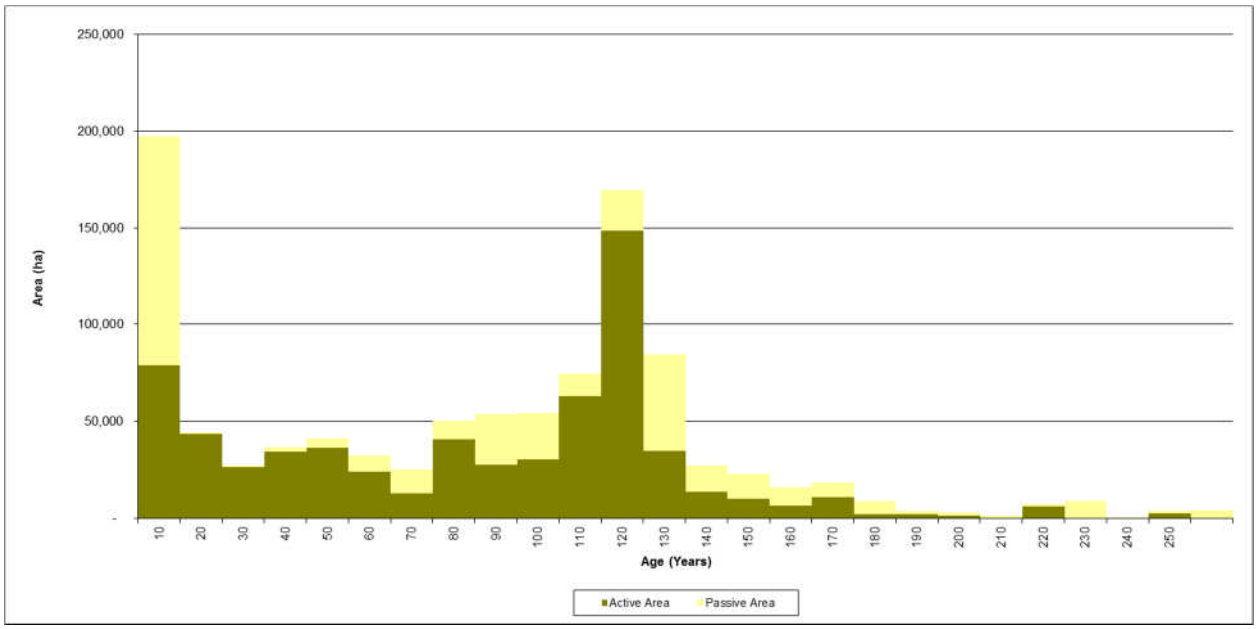
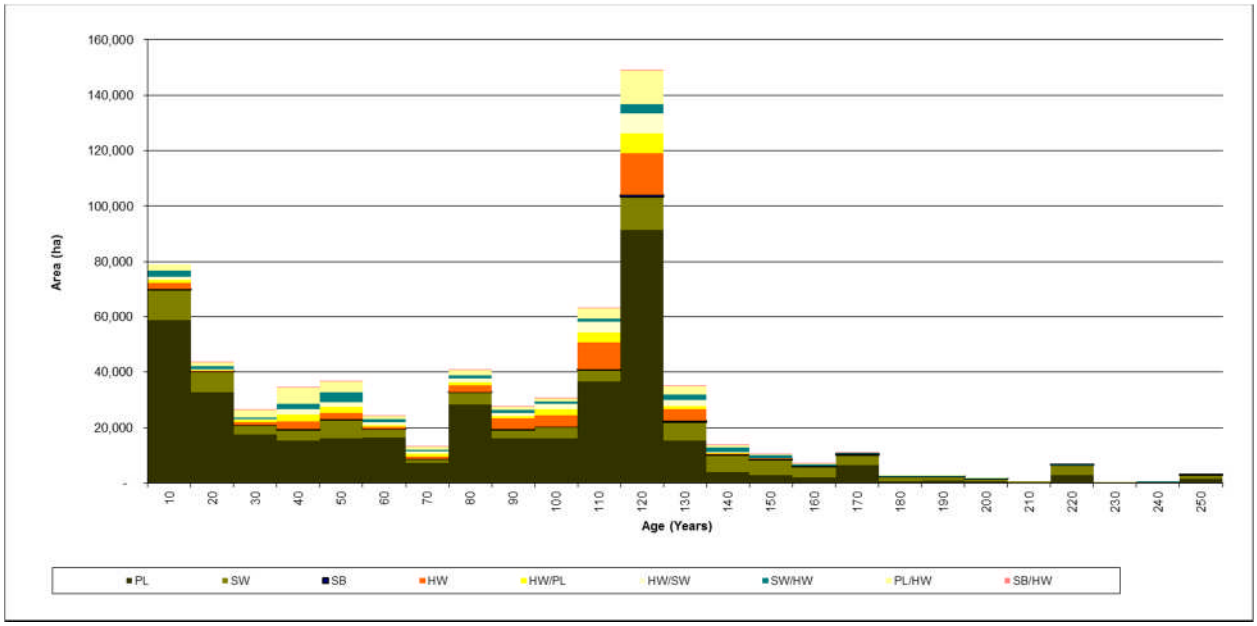


Figure 15 Active Age Class Distribution by Yield Class



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Appendix A Landbase classification data dictionary

Name HWPLandBase

Projection UTM11

Datum NAD83

Source	FIELD NAME	Data Type	Length	DESCRIPTION	Table Reference
Overlay Coverage	**OBJECTID**	OID	4	Unique Polygon Identifier (ESRI)	
	Forestkey	Integer	4	AVI polygon number	
	DZID	Integer	2	CONTROLLED PARENTAGE PROGRAM REGIONS (0 to 13)	Table 5
	Firenumber	Character	12	Fire Numbers	Table 10
	FSID	Integer	4	Fire Smart Zones (0,33,34,36,38)	Table 4
	IsFMU	Integer	2	Identifier for areas within FMU (1 = Inside FMU R10)	
	IsFMA	Integer	2	Identifier for areas within FMA (0 = Outside of FMA or 1 = Inside of FMA)	
	HydroID	Integer	4	Hydrology (0= none, 1 = A/B class streams, 3 = Traditional OGR, 4 = Lakes)	Table 8
	IsInop	Integer	2	Identifies Inoperable Areas (0 = Operable or 1 = Inoperable)	
	DISPID	Character	10	Blank or Valid Disposition	
	Nregionid	Integer	2	Natural Subregion Identifications are extracted from the HWP Ecosite layer 0 None 8 Alpine 9 Montane 10 Upper Foothills 11 Lower Foothills	Table 6
	PUID	Integer	4	Compartment Identifier (>= 0)	Appendix C
	IsRetention	Integer	2	Defines Retention polygons (0 or 1 for Retention)	
	RiparianID	Integer	2	Riparian Zone identifier (0 = none, 1 = Complex, 2 Fluvial, 3 = Seepage, 4 = ELC Wetland)	Table 7
	StratumID	Integer	2	Defines RSA Base 10 Strata (0,1,2,3,4,5,6,7,8,9)	Table 14
	SMAID	Integer	2	Special Management Areas 0,1,2,3,4,5,6	Table 3
	IsTrl	Integer	2	Identifies Linear Disturbances(Trails and Seismic Lines 0 = non Trail or 1 = Trail)	
	WSID	Integer	4	WaterShed Identifier (0 to 27)	Table 9
	BLOCKOID	Integer	4	0 or Between 180174 and 413349	
	OVLID	Integer	4	Unique Landbase Identifier	

Source	FIELD NAME	Data Type	Length	DESCRIPTION	Table Reference
AVI Overstory (Fields Have "AVI_" Prefix)	**M**	Integer	4	Meridian	
	RG	Integer	4	Range	
	TWP	Integer	4	Township	
	Stand	Integer	4	Stand Number	
	Moist_Reg	Character	1	Moisture Regime d = dry m = mesic w = wet a = aquatic	
	Density	Character	1	Crown Closure (%) A = 6 to 30 % B = 31 to 50 % C = 51 to 70 % D = 70 % +	
	Height	Integer	4	Average Stand Height (dominant & codominant trees) in meters	
	Sp1, Sp2, Sp3, Sp4, Sp5	Character	2	Declining order of species based on crown closure Sw, Sb, Se Pl, Pj Fb, Lt, Aw, Pb, Bw,Fa,Fd	
	Sp1_Per, Sp2_Per, Sp3_Per, Sp4_Per, Sp5_Per	Integer	4	Actual % (to nearest 10) of species listed above.	
	Struc	Character	1	Stand structure Blank= inferred single storey M = multi-layer canopy (2 storey) C = Complex (multiple or uneven stories) H = Horizontal (Homogeneous stand w/ scattered pockets)	
	Struc_val	Integer	4	Used primarily with 'H'	
	Origin	Integer	4	Actual year of origin	
	TPR	Character	1	Tree productivity rating (site index grouping) U = Unproductive F = Fair M = Medium G = Good	
	TPR_Interp	Character	1	Interpreted Tree productivity rating (site index grouping) U = Unproductive F = Fair M = Medium G = Good	
	Initials	Character	2	AVI interpreters initials	
	NFL	Character	2	Non-forest vegetated land (>6% plant cover and <6% tree cover) SC= closed shrub SO= open shrub HG= herbaceous grassland HF= herbaceous forbs BR= bryophyte (moss)	
	NFL_Per	Integer	4	Nfl % closure, SC or SO only	
	NAT_Non	Character	3	Naturally non-vegetated (<6% plant cover) NWI = Permanent ice/snow NWL = Seasonal thaws, lakes, ponds NWR = River NWF = Flooded NMB = Recent burn, N/A NMC = Cutbank NMR = Rock/barren NMS = Sand	
	Anth_Veg	Character	3	Human-induced vegetation CA = Annual crops (farmland) CP = Perennial forage crops CPR = Rough pasture (>10% woody cover) CIP = Pipelines, powerlines etc. seeded to grass CIW = Geophysical + wellsites seeded to grass	
	Anth_Non	Character	3	Anthropogenic non-vegetated land ASC = Cities, towns, villages, hamlets ASR = Ribbon development, subdivisions, acreages AIH = Permanent right-of-way AIE = Peat extractions AIG = Gravel/borrow pits AIF = Farmyards AIM = Surface mines AII = Industrial sites, sewage lagoons	
	Mod1, Mod2	Character	2	Stand modifier 1 (or 2) condition/treatment CC = Clearcut, partial cut BU = Burn WF = Windfall CL = Clearing DI = Disease IK = Insect kill UK = Unknown kill WE = Weather (ex. redbelt) DT = Discolored/dead tops BT = Broken tops SN = snags ST = Scattered timber SI = Site improvement (fert, drain) SC = Seedbed prepared PL = Planted/seeded TH = Thinned GR = Grazing development (domestic) IR = Irrigated	
	Mod1_Ext, Mod2_Ext	Integer	4	Modifier extent Blank = nil 1 = 1 to 25% loss of crown closure or area affected 2 = 26 tp 50% 3 = 51 to 75% 4 = 76 to 94% 5 = Entire	
	Mod1_Yr, Mod2_Yr	Integer	4	Year of the stand modifying occurrence	
	Data	Character	1	Interpreter	
	Data_Yr	Integer	4	Year of the data source	

Source	FIELD NAME	Data Type	Length	DESCRIPTION	Table Reference
AVI Understory (Fields Have "AVI_" Prefix)	**UMoist_Reg**	Character	1	Moisture Regime d = dry m = mesic w = wet a = aquatic	
	UDensity	Character	1	Crown Closure (%) A = 6 to 30 % B = 31 to 50 % C = 51 to 70 % D = 70 % +	
	UHeight	Integer	4	Average Stand Height (dominant & codominant trees) in meters	
	USp1, USp2, USp3, USp4, USp5	Character	2	Declining order of species based on crown closure Sw, Sb, Se Pl, Pj Fb, Lt, Aw, Pb, Bw,Fa,Fd	
	USp1_Per, USp2_Per, USp3_Per, USp4_Per, USp5_Per	Integer	4	Actual % (to nearest 10) of species listed above.	
	UStruc	Character	1	Stand structure Blank= inferred single storey M = multi-layer canopy (2 storey) C = Complex (multiple or uneven stories) H = Horizontal (Homogeneous stand w/ scattered pockets)	
	UStruc_val	Integer	4	Used primarily with 'H'	
	UOrigin	Integer	4	Actual year of origin	
	UTPR	Character	1	Tree productivity rating (site index grouping) U = Unproductive F = Fair M = Medium G = Good	
	UTPR_Interp	Character	1	Interpreted Tree productivity rating (site index grouping) U = Unproductive F = Fair M = Medium G = Good	
	UInitials	Character	2	AVI interpreters initials	
	UNFL	Character	2	Non-forest vegetated land (>6% plant cover and <6% tree cover) SC= closed shrub SO= open shrub HG= herbaceous grassland HF= herbaceous forbs BR= bryophyte (moss)	
	UNFL_Per	Integer	4	Nfl % closure, SC or SO only	
	UAnth_Non	Character	3	Naturally non-vegetated (<6% plant cover) NWI = Permanent ice/snow NWL = Seasonal thaws, lakes, ponds NWR = River NWF = Flooded NMB = Recent burn, N/A NMC = Cutbank NMR = Rock/barren NMS = Sand	
	UAnth_Veg	Character	3	Human-induced vegetation CA = Annual crops (farmland) CP = Perennial forage crops CPR = Rough pasture (>10% woody cover) CIP = Pipelines, powerlines etc. seeded to grass CIW = Geophysical + wellsites seeded to grass	
	UAnth_Non	Character	3	Anthropogenic non-vegetated land ASC = Cities, towns, villages, hamlets ASR = Ribbon development, subdivisions, acreages AIH = Permanent right-of-way AIE = Peat extractions AIG = Gravel/borrow pits AIF = Farmyards AIM = Surface mines AII = Industrial sites, sewage lagoons	
	UMod1, UMod2	Character	2	Stand modifier 1 (or 2) condition/treatment CC = Clearcut, partial cut BU = Burn WF = Windfall CL = Clearing DI = Disease IK = Insect kill UK = Unknown kill WE = Weather (ex. redbelt) DT = Discolored/dead tops BT = Broken tops SN = snags ST = Scattered timber SI = Site improvement (fert, drain) SC = Seedbed prepared PL = Planted/seeded TH = Thinned GR = Grazing development (domestic) IR = Irrigated	
	UMod1_Ext, UMod2_Ext	Integer	4	Modifier extent Blank = nil 1 = 1 to 25% loss of crown closure or area affected 2 = 26 tp 50% 3 = 51 to 75% 4 = 76 to 94% 5 = Entire	
	UMod1_Yr, UMod2_Yr	Integer	4	Year of the stand modifying occurrence	
	UData	Character	1	Interpreter	
	UData_Yr	Integer	4	Year of the data source	

Source	FIELD NAME	Data Type	Length	DESCRIPTION	Table Reference
Block Information (Prefix "LBC_")	**FieldNumber**	Character	20	ARIS Reported Block Identifier	
	BlockStage	character	20	Defines 'Harvested', 'Planned' Blocks, Null if neither	
	Openingnumber	Character	20	Opening Number	
	ARISAOPArea	Double	8	ARIS reported AOP Area (null, > 0)	
	ARISNetHarvestArea	Double	8	ARIS reported Net_Harvested_Hectares (null, > 0)	
	ARISUpdateArea	Double	8	ARIS reported Update_Area (null, > 0)	
	SkidClearanceDate	Date	8	Skid Clearance Date	
	ARISDisposition	Character	20	ARIS Disposition	
	ARISResponsibility	Character	5	ARIS Responsibility Code (NULL,A1,A2,AA,AN,AQ,F4,F5,IC,IF,IQ)	
	ARISOperator	Character	5	ARIS Operator (NULL,,CECH,FRIA,GABE,GRAY,LFS,LPFC,MCLN,RAYD,ROCK,SFPI,SFPL,SPRA,VOIL,VSIX)	
	ARISRegenStandard	Character	20	ARIS Regeneration Standard (NULL,CC,CD,CH,CS,DC,DD,DH,DS,HC,HH,MH,MS,SC,SD,WFLM*,SH,SS)	
	ARISDeclaration	Character	50	ARIS Regeneration Declaration (NULL,C-2000,CD-2000,CONF,D-2000,DC-2000,PR91)	
	SurveyType	Character	5	Last Survey Type (NULL, Est Survey, Per Survey)	
	SurveyDate	Date	8	Last Survey Date (null, 1977-05-01 to 2010-05-09)	
	SurveyStatus	Character	10	Last Survey Status (NULL,CSR,FTG,NSR,PSC,RTD,SR0	
	SurveyStocking	Double	8	Last Survey Stocking (null, 0 to 99)	
	AssumedLiablity	Integer	4	Reforestation Liability Asssumed (0 = no liability, 1 = liability assumed)	
	Pre91Block	Integer	10	Idendifier for blocks harvested prior to 1991 (-1 = < 1991m, 0 = >= 1991)	
	SitePrepMethod	Character	5	Dominant Site Prep method used on the block	
	SitePrepArea	Double	8	Area Site Prepped	
	SitePrepRatio	Double	8	Percent of block site prepped	
	PlantSpps	Character	5	Dominant species planted	
	PlantArea	Double	8	Area Planted	
	PlantTrees	Integer	8	Number of Trees Planted	
	PlantRatio	Double	8	Percent of block Planted	
	SeedSpps	Character	5	Species Seeded	
	ImprovedStockIDs	Character	10	Improved Stock deployed	Table 12
	ImprovedStockPct	Double	8	Percent of block with improved stock (by area)	
	StratumAssignmentID	Integer	4	Rule for stratum assignment (1 to 14)	Table 13
Compiled AVI Pre Disturbance (Have "LBC_" prefix)	**FullLabel**	Character	50	Covertype (concatenated overstory and understory)	
	OCG	Character	5	Stand Overstory Covergroup Assignment Blank None C Pure Coniferous CD Coniferous/Deciduous DC Deciduous/Coniferous D Pure Deciduous	
	UCG	Character	5	Stand Understory Covergroup Assignment Blank None C Pure Coniferous CD Coniferous/Deciduous DC Deciduous/Coniferous D Pure Deciduous	
	OYieldClass	Integer	4	Overstory Yield Class (0 to 9)	Table 14
	UYieldClass	Integer	4	Understory Yield Class (0 to 9)	Table 14
	Rank	Integer	4	Layer to be managed (0 = None, 1 = Overstory, 2 = Understorey)	
	Age	Integer	4	Stand age from AVI	
	AgeClass	Integer	4	Age Class from Above (10 Year classes)	
	MPBRisk	Integer	4	Compartment Risk Factor (1,2 or 3)	Table 15
	SSI	Integer	4	Stand Susceptibility Index (0 to 100)	Table 15
	CF	Double	8	Climate Factor (0 to 1)	Table 15
	MPBRank	Integer	4	Stand MPB Ranking (0 to 3)	Table 15
	FBPID	Integer	4	Fire Risk Identifier	
	SubjectiveDeletionId	Integer	4	Subjective deletion (0 to 4)	
	Landbase	Integer	4	Numerical Landbase designations : 1 = Coniferous Coniferous 2 = Deciduous Deciduous	
	FireYr	Integer	4	Year of Wild Fire	
	HarvYy	Integer	4	Year of Harvest (From Skid clearance date0	
	DisturbanceYr	Integer	4	Disturbance year (Greater of HarvYr or Fireyr)	
	SeralStageID	Integer	4	Seral stage identifier (0 to 90)	Appendix E
Final Assignments (Prefix "LBC_")	**AssignedPlanningUnitid**	Integer	4	Compartment Identifier (>= 0)	Appendix C
	AssignedNRegionid	Integer	4	Natural Subregion Identifications are extracted from the HWP Ecosite layer	Table 6
	AssignedYieldClass	Integer	4	Yield Class Assignment as per Land base Classification Document 0 None 1 RSA Stratum AW 2 RSA Stratum HW/PL 3 RSA Stratum HW/SW 4 RSA Stratum SW/HW 5 RSA Stratum PL/HW 6 RSA Stratum SB/HW 7 RSA Stratum SW 8 RSA Stratum PL 9 RSA Stratum SB	Table 14
	YieldAdjustment	**Character**	**5**	Yield adjustment Applied as per performation survey stocking results (0 to 100)	
	AssignedLandbase	Integer	10	Numerical Landbase designations : 1 = Coniferous Coniferous 2 = Deciduous Deciduous	
	AssignedCG	Character	5	Final Covergroup Assignment Blank None C Pure Coniferous CD Coniferous/Deciduous DC Deciduous/Coniferous D Pure Deciduous	
	AssignedMPBIndex	Double	4	Assigned MPB Index to Polygon	
	AssignedMPBRank	Integer	4	Assigned MPB Rank To Polygon	
	AssignedAge	Integer	4	Final Assigned Stand age from AVI	
	AssignedAgeClass	Integer	4	Final AssignedAgeClass class based on AssignedAge	
	Status	Character	2	Land base Status (ie. Natural-ST or Regenerated-RT or None-NA)	
	LB_Deletion	Integer	4	Reason why polygon was deleted, incorporates appropriate heirarchy : 1 Non FMA (Mines, Towns, Protected) Passive 2 Non-Forested Passive 3 Oil and Gas Passive 4 Seismic Lines Passive 5 Inoperable/Inaccessible Passive 6 Watercourse Passive 7 Subjective Deletions Passive 8 UnHarvested Burns Passive 9 Waived Reforestation Liability Passive 10 Performance Survey < 50% Passive 11 Incomplete ARIS Information Passive 12 Horizontal Stands Passive 13 Cannot Assign an Age Passive 14 No YieldClass Assignment Passive 99 AAC Active 991 AAC - Planned Block Active 992 AAC - Improved Stock Active 993 AAC - Retention Active 994 AAC - Traditional Hydro Only Active 995 AAC - Active 996 AAC - Riparian Only Active 997 HRS - Holding Reservarion Active	Table 18
	LBStatus	Character	20	Landbase Contribution (Passive or Active)	
	Areaha	Double	8	Area of the polygon in hectares	
	Shape_Length	Double	8	Polygon Perimeter	
	Shape_Area	Double	8	Polygon Area (m2)	

Appendix B Alberta Vegetation Inventory Documentation

Alberta
SUSTAINABLE RESOURCE DEVELOPMENT

June 11, 2007

Mr. Richard Briand, RPF
Management Forester
Hinton Wood Products
A Division of West Fraser Mills Ltd.
760 Switzer Drive
Hinton, AB
T7V 1V7

Dear Mr. Briand:

Alberta Sustainable Resource Development staff completed a review of the Alberta Vegetation Inventory data submitted for the Hinton Wood Products forest management agreement area. The data successfully met all audit requirements requested by SRD.

If you have any questions regarding this process, please feel free to contact Daryl McEwan at (780) 415-0010.

Sincerely,

for Craig Barnes, Executive Director
Resource Information Management Branch

c: Doug Sklar, Executive Director
Forest Management Branch

Bruce Mayer, Director
FPD Wildfire & Aircraft Mgmt Branch

Appendix C Compartment Information

Planning Unit ID	Compartment	MPB Risk	Total Area
16323	Athabasca 1	1	9,763.4
16329	Athabasca 2	1	8,911.3
16325	Athabasca 3	1	2,985.6
16346	Athabasca 4	1	2,333.7
16328	Athabasca 6	1	1,382.3
16144	Athabasca 8	1	2,748.3
16142	Athabasca 9	1	2,562.1
16342	Athabasca 10	1	3,518.2
16468	Athabasca 11	1	2,668.6
16347	Athabasca 12	1	929.9
16141	Athabasca 13	1	8,032.3
16340	Athabasca 14	1	10,7148
16464	Athabasca 15	1	9,077.5
16332	Athabasca 16	1	6,664.7
16469	Athabasca 17	1	1,233.9
16337	Athabasca 18	1	4,085.4
16456	Athabasca 19	1	12,330.2
16324	Athabasca 20	1	2,540.3
16460	Athabasca 21	1	5,697.3
16452	Athabasca 22	1	12,810.9
16338	Athabasca 23	1	2,461.8
16446	Athabasca 24	1	7,385.4
16448	Athabasca 26	1	8,477.1
16459	Athabasca 27	1	10,484.8
16369	Athabasca 28	1	13,240.8
16441	Athabasca 29	1	3,900.9
16437	Athabasca 30	1	10,239.6
16373	Athabasca 31	1	5,010.5
16355	Athabasca 32	1	7,430.5
16354	Athabasca 33	1	12,024.4
16331	Athabasca 34	1	2,816.8
16344	Athabasca 35	1	6,498.7
16443	Berland 1	1	13,078.4
16453	Berland 2	1	3,968.3
16454	Berland 3	1	9,695.6
16463	Berland 4	1	8,942.1
16458	Berland 5	1	7,779.0
16442	Berland 6	1	14,673.3
16440	Berland 7	1	10,636.3
16335	Berland 8	1	3,407.0
16333	Berland 9	1	13,330.8
16466	Berland 10	1	9,991.3
16447	Berland 11	1	8,385.5
16445	Berland 12	1	4,995.8
16334	Berland 13	1	876.4
16467	Berland 14	1	2,258.2
16449	Berland 16	1	4,529.2
16457	Berland 18	1	8,846.5
16365	Berland 20	1	12,919.8
16372	Berland 21	1	8,438.5
16364	Berland 22	1	8,546.7
16380	Berland 23	1	7,559.8
16375	Berland 24	1	4,879.4
16370	Berland 25	1	5,393.8
16353	Berland 26	1	7,951.7
16350	Berland 27	1	2,084.2
16351	Berland 28	1	9,305.1
16363	Berland 29	1	5,201.0
16356	Berland 30	1	7,976.7
16368	Berland 31	1	889.6
16352	Berland 33	1	4,424.6
16341	Berland 34	1	4,719.5
16408	Coalspur	2	6,186.8
16426	Embarras 1	2	10,005.9
16418	Embarras 2	2	9,763.4
16395	Embarras 3	2	22,814.7
16421	Embarras 4	2	9,020.4
16428	Embarras 5	2	6,249.1
16420	Embarras 6	2	6,141.8
16393	Embarras 7	2	8,427.8
16385	Embarras 8	2	5,242.3
16349	Embarras 9	2	16,252.6
16416	Embarras 10	2	8,541.9
16415	Embarras 11	2	6,663.1
16417	Embarras 12	2	10,569.2
16427	Embarras 13	2	4,116.8
16425	Embarras 14	2	8,689.3
16401	Embarras 15	2	16,261.3
16403	Embarras 16	2	1,548.5
16404	Embarras 17	2	1,654.9
16405	Embarras 18	2	10,004.4
16435	Embarras 19	2	6,692.4
16423	Embarras 20	2	11,894.6
16424	Embarras 21	2	7,051.4
16402	Embarras 22	2	8,122.6
16434	Luscar Coal	2	1,669.7
16357	Marlboro 1	1	5,459.4
16362	Marlboro 2	1	9,467.6
16366	Marlboro 3	1	11,441.7
16361	Marlboro 4	1	6,657.7
16359	Marlboro 5	1	2,235.8
16379	Marlboro 6	1	11,750.3
16381	Marlboro 7	1	9,243.5
16439	Marlboro 8	1	7,208.6
16444	Marlboro 9	1	3,133.7
16451	Marlboro 10	1	4,996.4
16374	Marlboro 11	1	6,854.1
16438	Marlboro 12	1	10,732.9
16382	Marlboro 13	1	10,599.5
16462	Marlboro 14	1	3,168.1
16432	Marlboro 15	1	16,118.2
16407	Marlboro 16	1	7,897.2
16406	Marlboro 17	1	8,247.5
16378	Marlboro 18	1	2,532.3
16371	Marlboro 19	1	5,004.5
16358	Marlboro 20	1	3,101.8
16360	Marlboro 21	1	744.5
16377	Marlboro 22	1	2,118.5
16455	Marlboro 23	1	3,942.1
16376	Marlboro 24	1	7,462.2
16367	Marlboro 25	1	10,497.6
16387	McLeod 1	2	15,498.0
16400	McLeod 2	2	14,453.8
16419	McLeod 3	2	16,230.5
16398	McLeod 4	2	7,534.1
16390	McLeod 5	2	14,322.5
16391	McLeod 6	2	10,224.4
16392	McLeod 7	2	3,920.4
16394	McLeod 8	2	12,827.5
16345	McLeod 9	2	5,078.5
16388	McLeod 10	2	246.0
16399	McLeod 11	2	12,352.8
16321	McLeod 12	2	4,233.2
16336	McLeod 13	2	490.5
16326	McLeod 15	2	3,904.7
16339	McLeod 16	2	22,814.7
16330	McLeod 17	2	10,927.7
16322	McLeod 18	2	12,673.3
16143	McLeod 19	2	19,069.4
16384	McLeod 20	2	6,780.5
16389	McLeod 21	2	8,076.1
16397	McLeod 23	2	9,778.9
16422	McLeod 24	2	2,278.4
16348	McLeod 25	2	7,773.4
16327	McLeod 27	2	4,038.2
16386	McLeod 28	2	4,962.5
16408	Coalspur	2	113.3
16434	LuscarCoal	2	10,541.0
16433	MuskikiLake	2	262.5
20481	Non-FMARoads	1	3,844.6
0	NotAssigned	2	969.6
16412	ObedMTN.Coal	1	3,452.3
16413	PintoGoatReserve	1	1,232.4
16409	Robb	2	534.2
16430	SilverSummit	1	592.6
16431	SquareBlock	1	64.8
16429	SundanceLake	1	2,766.1
16411	Switzer	1	6,261.6
16410	TownofHinton	1	1.3
16414	WildhayGlacialCascade	1	2,474.3

Appendix D Dispositions Remaining on the Landbase

Disposition Number	Client	Purpose	Restrictions
PNT550001			
PNT550004			
PNT550005			
PNT550006			
PNT550007			
PNT742945	EDSON OFFICE - FISH AND WILDLIFE DEPT. OF SUSTAINABLE RESOURCE DEV	FISHERIES ENHANCEMENT AREA - BUCK FOR WILDLIFE	NO AGRICULTURAL DISPOSITION
PNT890291	EDSON OFFICE - FISH AND WILDLIFE DEPT. OF SUSTAINABLE RESOURCE DEV	WILDLIFE ENHANCEMENT AREA - BUCK FOR WILDLIFE	NO SURFACE DISPOSITION
PNT900211	EDMONTON OFFICE - FORESTRY DIVISIONDEPT. OF ENVIRONMENT AND SUSTAINAB LE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
PNT900213	EDMONTON OFFICE - FORESTRY DIVISIONDEPT. OF ENVIRONMENT AND SUSTAINAB LE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
PNT910257			
PNT910258			
PNT910259			
PNT910261	NATURAL RESOURCES CANADA	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
PNT920190	EDMONTON OFFICE - FORESTRY DIVISIONDEPT. OF ENVIRONMENT AND SUSTAINAB LE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
PNT960185	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	OTHER MISCELLANEOUS SITE PROTEC. AREA	NO SURFACE DISPOSITION
PNT960186	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
PNT980159	EDMONTON OFFICE - OPERATIONS DIVISION, DEPT OF ESRD	RESEARCH SITE STRUCTURE	NO SURFACE DISPOSITION
DRS591	GRANDE CACHE OFFICE - LAND AND FOREST SERVICE DEPT. OF SUSTAINABLE RESOURCE DEV	FOREST RECREATION CAMPGROUND	
DRS692	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	
DRS060031	EDMONTON OFFICE - FORESTRY DIVISIONDEPT. OF ENVIRONMENT AND SUSTAINAB LE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
DRS060032	EDMONTON OFFICE - FORESTRY DIVISIONDEPT. OF ENVIRONMENT AND SUSTAINAB LE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION
DRS810052			
DRS810055			
DRS810057	HINTON OFFICE - LAND USE AREA- LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	
DRS860117	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	
DRS870075	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	
DRS870076	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	
DRS870081	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	
DRS870082	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	

Disposition Number	Client	Purpose	Restrictions
	RESOURCE DEV		
DRS870090	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	
DRS870124	EDSON OFFICE - LAND USE AREA-LANDS DIVISION DEPT. OF SUSTAINABLE RESOURCE DEV	METEOROLOGICAL/HYDRO-METEOROLOGICAL SITE	
DRS890004	EDMONTON OFFICE - FORESTRY DIVISIONDEPT. OF ENVIRONMENT AND SUSTAINAB LE RESOURCE DEV	RESEARCH OR SAMPLE PLOT / EXP. PROG.	NO SURFACE DISPOSITION

Appendix E Seral Stage Definitions

Seral StageID	Yield Class	AgeClassID	Age Class	Status	Min Age	MaxAge
1	1	1	Young	ST	0	20
2	1	2	Pole	ST	21	59
3	1	3	Immature	ST	60	109
4	1	4	Mature	ST	110	149
5	1	5	Old	ST	150	999
6	2	1	Young	ST	0	20
7	2	2	Pole	ST	21	59
8	2	3	Immature	ST	60	109
9	2	4	Mature	ST	110	149
10	2	5	Old	ST	150	999
11	3	1	Young	ST	0	20
12	3	2	Pole	ST	21	59
13	3	3	Immature	ST	60	109
14	3	4	Mature	ST	110	149
15	3	5	Old	ST	150	999
16	4	1	Young	ST	0	20
17	4	2	Pole	ST	21	59
18	4	3	Immature	ST	60	109
19	4	4	Mature	ST	110	149
20	4	5	Old	ST	150	999
21	5	1	Young	ST	0	20
22	5	2	Pole	ST	21	59
23	5	3	Immature	ST	60	109
24	5	4	Mature	ST	110	149
25	5	5	Old	ST	150	999
26	6	1	Young	ST	0	20
27	6	2	Pole	ST	21	59
28	6	3	Immature	ST	60	109
29	6	4	Mature	ST	110	149
30	6	5	Old	ST	150	999
31	7	1	Young	ST	0	20
32	7	2	Pole	ST	21	49
33	7	3	Immature	ST	50	99
34	7	4	Mature	ST	100	159
35	7	5	Old	ST	160	999
36	8	1	Young	ST	0	20
37	8	2	Pole	ST	21	69
38	8	3	Immature	ST	70	119
39	8	4	Mature	ST	120	159
40	8	5	Old	ST	160	999
41	9	1	Young	ST	0	30
42	9	2	Pole	ST	31	89
43	9	3	Immature	ST	90	109
44	9	4	Mature	ST	100	189
45	9	5	Old	ST	190	999
46	1	1	Young	RT	0	20
47	1	2	Pole	RT	21	59
48	1	3	Immature	RT	60	109
49	1	4	Mature	RT	110	149
50	1	5	Old	RT	150	999
51	2	1	Young	RT	0	20
52	2	2	Pole	RT	21	49
53	2	3	Immature	RT	50	99
54	2	4	Mature	RT	100	149
55	2	5	Old	RT	150	999
56	3	1	Young	RT	0	20
57	3	2	Pole	RT	21	49
58	3	3	Immature	RT	50	99
59	3	4	Mature	RT	100	149
60	3	5	Old	RT	150	999
61	4	1	Young	RT	0	20
62	4	2	Pole	RT	21	49
63	4	3	Immature	RT	50	99
64	4	4	Mature	RT	100	149
65	4	5	Old	RT	150	999
66	5	1	Young	RT	0	20
67	5	2	Pole	RT	21	49
68	5	3	Immature	RT	50	99
69	5	4	Mature	RT	100	149
70	5	5	Old	RT	150	999
71	6	1	Young	RT	0	20
72	6	2	Pole	RT	21	49
73	6	3	Immature	RT	50	99
74	6	4	Mature	RT	100	149
75	6	5	Old	RT	150	999
76	7	1	Young	RT	0	20
77	7	2	Pole	RT	21	49
78	7	3	Immature	RT	50	99
79	7	4	Mature	RT	100	159
80	7	5	Old	RT	160	999
81	8	1	Young	RT	0	20
82	8	2	Pole	RT	21	49
83	8	3	Immature	RT	50	99
84	8	4	Mature	RT	100	159
85	8	5	Old	RT	160	999
86	9	1	Young	RT	0	30
87	9	2	Pole	RT	31	89
88	9	3	Immature	RT	90	109
89	9	4	Mature	RT	100	189
90	9	5	Old	RT	190	999

Appendix F ARIS Reconciliation

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5170473128		0.27	0.27			Net Area within tolerance	None	none
5190543550	5190543550	1.21	1.21		1.44	Net Area within tolerance	none - use landbase netdown area	none
5190570324	5190570324	26.18	26.10		25.64	Update required	Will be updated	none
5190573335	5190573335	43.12	43.12		43.85	Update required	Will be updated	none
5200480766		4.90	-			Within Coal Valley Mine	none - use landbase netdown area	none
5200480801	5200480801	5.03	4.55		4.68	Disposition not built	none - use landbase netdown area	none
5200482290	5200482290	39.51	37.68		40.24	Update required	Will be updated	none
5210480934		13.92	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210480960		12.74	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481715		7.03	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481726		10.98	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481751		20.78	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481763		13.58	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481770		8.15	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481829	5210481829	0.11	-		1.27	Within Coal Valley Mine	none - use landbase netdown area	none
5210481889		17.45	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481896		13.41	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481915		14.48	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481942		36.50	-			Within Coal Valley Mine	none - use landbase netdown area	none
5210481955	5210481955	2.94	-		6.05	Within Coal Valley Mine	none - use landbase netdown area	none
5210492254	5210492254	1.67	-			FRIA	Will be updated	none
5210492637	5210492655A	46.33	-		46.40	Net Area within tolerance	Will be updated	none
5210492650	5210492650	13.07	12.04		13.10	Net Area within tolerance	None	none
5210492688	5210492688	2.73	2.73		3.00	Not a HWP block	none - use landbase netdown area	none
5220482476		6.70	-			Within Coal Valley Mine	none - use landbase netdown area	none
5220511390	5220511390	30.32	30.32		14.86	Update required	Will be updated	none
5220552800	5220552800	3.53	1.95		2.95	Disposition not built	none - use landbase netdown area	none
5230510888	5230510888	4.98	0.51		3.77	Update required	Will be updated	none
5230570367	5230570367	35.35	35.20		43.36	Update required	Will be updated	none
5240512646	5240512646	22.71	17.30		24.69	Update required	Will be updated	none
5240512670	5240512670	7.74	1.93		9.58	Update required	Will be updated	none
5240513452	5240513452	6.17	3.70		8.10	Update required	Will be updated	none
5240552924	5240552924	4.55	4.51		5.11	Update required	Will be updated	none
5250541367	5250541367	3.89	3.86		3.68	Net Area within tolerance	none - use landbase netdown area	none
5250541377	5250541377	15.62	15.56		14.57	Update required	Will be updated	none
5270523105	5270523105	17.13	15.81		14.59	Update required	Will be updated	none
5170562252A	5170562252A	13.51	13.22	13.51	14.04	Previously reported in RSA	none	ARIS Staff will update areas
5170562945A	5170562945A	28.36	28.36	29.29	29.39	Update required	Will be updated	none
5170563241A	5170563241A	36.17	36.09	36.18	36.87	Previously reported in RSA	none	ARIS Staff will update areas
5170563527A	5170563527A	29.68	28.43		31.00	Update required	Will be updated	none
5170563632A	5170563632A	25.60	25.05		26.70	Disposition not built	none - use landbase netdown area	none
5170563634A	5170563634A	14.71	13.96		17.90	Update required	Will be updated	none
5170570122A	5170570122A	24.39	24.39		25.50	Update required	Will be updated	none
5170570223A	5170570223A	41.02	40.45		42.40	Update required	Will be updated	none
5170570224A	5170570224A	13.93	12.60		15.00	Update required	Will be updated	none
5170570226A	5170570226A	38.09	37.14		43.20	Update required	Will be updated	none
5170570308A	5170570308A	26.09	25.46		27.00	Update required	Will be updated	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5170570407A	5170570407A	10.47	10.47		14.50	Update required	Will be updated	none
5170570436A	5170570436A	17.38	17.38		18.90	Update required	Will be updated	none
5170570729A	5170570729A	20.06	20.03		18.90	Update required	Will be updated	none
5170570839A	5170570839A	18.52	18.04		20.10	Update required	Will be updated	none
5170570929A	5170570929A	0.17	0.17		0.20	Net Area within tolerance	none - use landbase netdown area	none
5170570938A	5170570938A	12.00	11.80		16.50	Update required	Will be updated	none
5170571015A	5170571015A	28.74	28.59		28.20	Update required	Will be updated	none
5170571220A	5170571220A	31.72	31.15		32.81	Update required	Will be updated	none
5170571913A	5170571913A	21.64	21.64		19.90	Update required	Will be updated	none
5170572908A	5170572908A	44.16	39.41		41.40	Update required	Will be updated	none
5170573007A	5170573007A	23.49	23.49	23.53	24.30	Previously reported in RSA	none	ARIS Staff will update areas
5170573012A	5170573012A	9.35	9.35	9.35	8.90	Previously reported in RSA	none	ARIS Staff will update areas
5170573074A	5170573074A	2.28	2.28	2.28	2.48	Previously reported in RSA	none	ARIS Staff will update areas
5170573105A	5170573105A	19.17	19.15		8.83	Update required	Will be updated	none
5180462202A	5180462202A	23.51	22.26		12.30	Update required	Will be updated	none
5180462203A	5180462203A	19.95	19.43	19.95	5.26	Previously reported in RSA	none	ARIS Staff will update areas
5180471219A	5180471219A	32.93	32.93	32.93	32.23	Previously reported in RSA	none	ARIS Staff will update areas
5180471315A	5180471315A	14.39	14.39		14.90	Update required	Will be updated	none
5180471848A	5180471848A	1.88	1.88		2.04	Net Area within tolerance	none - use landbase netdown area	none
5180472783A	5180472783A	39.63	39.63	39.63	39.02	Previously reported in RSA	none	ARIS Staff will update areas
5180473429A	5180473429A	32.71	32.71	32.71	31.33	Previously reported in RSA	none	ARIS Staff will update areas
5180473543A	5180473543A	27.09	26.97	27.09	26.04	Previously reported in RSA	none	ARIS Staff will update areas
5180480502A	5180480502A	81.03	79.61	81.02	82.47	Previously reported in RSA	none	ARIS Staff will update areas
5180480700A	5180480700A	4.60	4.50		4.90	FTG Block	none - use landbase netdown area	none
5180490201A	5180490201A	76.45	72.86	76.45	78.45	Previously reported in RSA	none	ARIS Staff will update areas
5180500700A	5180500700A	16.37	16.23		17.87	Update required	Will be updated	none
5180500701A	5180500701A	1.75	1.74		2.12	Net Area within tolerance	none - use landbase netdown area	none
5180541872A	5180541872	8.67	7.86		6.10	FTG Block	Will be updated	Update area
5180542745A	5180542745A	4.74	4.50	4.74	4.48	Previously reported in RSA	none	ARIS Staff will update areas
5180542817A	5180542817A	4.01	3.79	4.01	3.06	Previously reported in RSA	none	ARIS Staff will update areas
5180543098A	5180543098A	6.71	6.45		7.15	Net Area within tolerance	none - use landbase netdown area	none
5180543099A	5180543099A	2.14	2.07		2.33	Net Area within tolerance	none - use landbase netdown area	none
5180543310A	5180543310A	6.85	6.18	6.85	5.63	Previously reported in RSA	none	ARIS Staff will update areas
5180543418A	5180543418A	4.58	3.90	4.58	3.44	Previously reported in RSA	none	ARIS Staff will update areas
5180550317A	5180550317A	7.85	7.85		8.66	Disposition not built	none - use landbase netdown area	none
5180550317B	5180550317B	8.37	8.37		8.86	Net Area within tolerance	none - use landbase netdown area	none
5180550476A	5180550476A	1.09	1.07	1.09	1.30	Previously reported in RSA	none	ARIS Staff will update areas
5180550477A	5180550477A	7.75	7.73	7.75	7.33	Previously reported in RSA	none	ARIS Staff will update areas
5180550478A	5180550478A	29.15	28.98	29.15	29.92	Previously reported in RSA	none	ARIS Staff will update areas
5180550581A	5180550581A	18.79	18.17	18.79	18.14	Previously reported in RSA	none	ARIS Staff will update areas
5180551006A	5180551006A	30.96	22.17	30.97	29.99	Previously reported in RSA	none	ARIS Staff will update areas
5180551008A	5180551008A	1.31	1.30	1.31	1.42	Previously reported in RSA	none	ARIS Staff will update areas
5180551010A	5180551010A	2.47	2.47	2.47	4.00	Previously reported in RSA	none	ARIS Staff will update areas
5180551013A	5180551013A	0.91	0.76	0.91	0.80	Previously reported in RSA	none	ARIS Staff will update areas
5180551023A	5180551023A	8.93	8.85	8.93	8.14	Previously reported in RSA	none	ARIS Staff will update areas
5180551024A	5180551024A	3.39	3.35	3.39	2.94	Previously reported in RSA	none	ARIS Staff will update areas
5180551266A	5180551266A	3.83	3.83		4.10	Not a HWP block	none - use landbase netdown area	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5180551735A	5180551735A	1.14	1.03	1.23	0.94	Previously reported in RSA	none	ARIS Staff will update areas
5180571231A	5180571231A	55.50	51.54		56.06	Update required	Will be updated	none
5190471100A	5190471100A	29.16	28.88	29.16	6.87	Previously reported in RSA	none	ARIS Staff will update areas
5190471200A	5190471200A	33.65	33.35	33.65	4.68	Previously reported in RSA	none	ARIS Staff will update areas
5190471350A	5190471350A	2.50	2.50		5.34	Update required	Will be updated	none
5190471351A	5190471351A	3.57	3.57		6.13	Update required	Will be updated	none
5190471354A	5190471354A	5.42	5.39		6.65	Update required	Will be updated	none
5190471355A	5190471355A	2.84	2.84		2.44	Net Area within tolerance	none - use landbase netdown area	none
5190480201A	5190480201A	34.00	31.26	34.00	35.48	Previously reported in RSA	none	ARIS Staff will update areas
5190481401A	5190481401A	49.56	48.44		48.24	FTG Block	none - use landbase netdown area	none
5190482001A	5190482001A	42.85	40.13	42.85	45.85	Previously reported in RSA	none	ARIS Staff will update areas
5190482101A	5190482101A	33.07	32.91	33.29	34.39	Previously reported in RSA	none	ARIS Staff will update areas
5190482102A	5190482102A	16.56	16.52	16.56	17.17	Previously reported in RSA	none	ARIS Staff will update areas
5190482203A	5190482203A	4.47	4.31	4.47	4.87	Previously reported in RSA	none	ARIS Staff will update areas
5190482301A	5190482301A	36.28	35.82	36.29	40.04	Previously reported in RSA	none	ARIS Staff will update areas
5190482801A	5190482801A	23.59	23.34	23.86	25.32	Previously reported in RSA	none	ARIS Staff will update areas
5190482904A	5190482904A	15.23	15.15	15.24	17.18	Previously reported in RSA	none	ARIS Staff will update areas
5190483201A	5190483201A	26.99	26.94	27.70	27.70	Previously reported in RSA	none	ARIS Staff will update areas
5190490502A	5190490502A	39.46	38.57	40.31	40.31	Previously reported in RSA	none	ARIS Staff will update areas
5190490503A	5190490503A	38.17	38.17	39.13	39.13	Previously reported in RSA	none	ARIS Staff will update areas
5190490600A	5190490600A	46.76	44.45		47.90	Update required	Will be updated	none
5190491602A	5190491602A	33.66	33.66		31.08	Update required	Will be updated	none
5190492100A	5190492100A	0.74	0.74		0.68	Net Area within tolerance	none - use landbase netdown area	none
5190492102A	5190492102A	11.94	11.94		13.53	Update required	Will be updated	none
5190492103A	5190492103A	4.77	4.77		6.43	Update required	Will be updated	none
5190492600A	5190492600A	20.37	17.97		22.00	FTG Block	none - use landbase netdown area	none
5190492800A	5190493305A	22.43	22.43		24.80	Not a HWP block	Will be updated	none
5190492801A	5190493308A	4.59	4.59		3.40	Not a HWP block	Will be updated	none
5190493300A	5190493300A	17.97	17.97	17.97	17.47	Previously reported in RSA	none	ARIS Staff will update areas
5190493301A	5190493357A	9.64	8.58		9.80	Net Area within tolerance	Will be updated	none
5190493310A	5190493385A	19.77	17.47		18.80	Not a HWP block	Will be updated	Update area
5190493402A	5190493339A	9.84	9.84		10.60	Not a HWP block	Will be updated	none
5190500305A	5190500305A	4.84	4.61	4.84	4.50	Previously reported in RSA	none	ARIS Staff will update areas
5190501201A	5190501201A	5.77	5.77	5.77	4.55	Previously reported in RSA	none	ARIS Staff will update areas
5190502200A	5190502200A	23.98	23.30	23.98	34.73	Previously reported in RSA	none	ARIS Staff will update areas
5190540844A	5190540844	13.51	13.51		13.50	Net Area within tolerance	Will be updated	none
5190540863A	5190540863	4.58	4.58		5.60	FTG Block	Will be updated	none
5190540983A	5190540983	3.14	3.14		2.80	FTG Block	Will be updated	none
5190541026A	5190541026	2.63	2.63		2.30	FTG Block	Will be updated	none
5190541881A	5190541881	14.99	13.96		14.90	Net Area within tolerance	Will be updated	none
5190541939A	5190541939	20.45	20.45		17.30	FTG Block	Will be updated	none
5190542504A	5190542504A	1.82	1.82		2.29	Net Area within tolerance	none - use landbase netdown area	none
5190551001A	5190551001A	0.36	0.35	0.36	0.31	Previously reported in RSA	none	ARIS Staff will update areas
5190551783A	5190551783A	53.38	47.66		52.64	FTG Block	none - use landbase netdown area	none
5190552046A	5190552046A	29.34	26.49		28.12	FTG Block	none - use landbase netdown area	none
5190552447A	5190552447A	18.04	-		16.10	FTG Block	none - use landbase netdown area	none
5190552867A	5190552867A	12.77	12.14		11.80	FTG Block	none - use landbase netdown area	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5190553282A	5190553282A	23.85	22.34		18.00	Update required	Will be updated	none
5190553361A	5190553361A	22.64	19.28		21.90	FTG Block	none - use landbase netdown area	none
5190553501A	5190553501A	11.59	-		10.40	FTG Block	none - use landbase netdown area	none
5190560990A	5190560990A	3.67	3.57		0.30	Update required	Will be updated	none
5190561680A	5190561680A	23.59	23.43		24.20	FTG Block	none - use landbase netdown area	none
5190562201A	5190562201A	15.96	15.96	15.96	15.10	Previously reported in RSA	none	ARIS Staff will update areas
5190562403A	5190562403A	2.94	2.94		6.04	FTG Block	none - use landbase netdown area	none
5190562738A	5190562738A	41.19	37.28		40.40	FTG Block	none - use landbase netdown area	none
5190570602A	5190570602A	71.96	71.76		77.42	Update required	Will be updated	none
5190570604A	5190570604A	37.06	37.06		36.48	Update required	Will be updated	none
5190570700A	5190570700A	3.52	3.41		4.50	Update required	Will be updated	none
5190570702A	5190570702A	55.91	53.32		56.64	Update required	Will be updated	none
5190570767A	5190570767A	7.50	6.86		7.10	Net Area within tolerance	none - use landbase netdown area	none
5190570802A	5190570802A	15.62	15.53	15.62	18.30	Previously reported in RSA	none	ARIS Staff will update areas
5200471117A	5200471117A	15.86	15.82		21.10	Update required	Will be updated	none
5200471316A	5200471316A	33.41	32.96		36.15	Update required	Will be updated	none
5200471324A	5200471324A	3.33	3.32		3.88	Update required	Will be updated	none
5200471426A	5200471426A	20.15	20.06		21.70	Update required	Will be updated	none
5200471427A	5200471427A	45.62	44.95		44.77	Update required	Will be updated	none
5200471645A	5200471645A	47.87	46.85		48.98	Update required	Will be updated	none
5200480658A	5200480658A	36.77	34.77		35.60	Update required	Will be updated	none
5200481102A	5200481102A	22.89	22.89		23.90	Update required	Will be updated	none
5200481103A	5200481103A	14.86	14.86		14.10	Update required	Will be updated	none
5200481401A	5200481401A	18.56	17.52		19.26	Update required	Will be updated	none
5200481506A	5200481506A	9.66	9.66		9.16	Net Area within tolerance	none - use landbase netdown area	none
5200481507A	5200481507A	8.07	8.07		6.50	Update required	Will be updated	none
5200481510A	5200481510A	22.00	21.69		18.30	Update required	Will be updated	none
5200482189A	5200482189A	17.94	17.59		18.78	Update required	Will be updated	none
5200482291A	5200482291A	13.72	13.39		14.50	Update required	Will be updated	none
5200482292A	5200482292A	28.54	28.07		33.00	Update required	Will be updated	none
5200482636A	5200482636A	17.04	17.04		18.66	Update required	Will be updated	none
5200482637A	5200482637A	11.50	11.50		12.23	Update required	Will be updated	none
5200482786A	5200482786A	16.42	15.59		18.83	Update required	Will be updated	none
5200482887A	5200482887A	21.32	20.97		26.10	Update required	Will be updated	none
5200482888A	5200482888A	22.08	21.31		23.42	Update required	Will be updated	none
5200482959A	5200482959A	2.24	2.24		3.90	Update required	Will be updated	none
5200482960A	5200482960A	1.83	1.83		3.40	Update required	Will be updated	none
5200482961A	5200482961A	5.47	5.41		7.70	Update required	Will be updated	none
5200482963A	5200482963A	11.23	11.15		20.60	Update required	Will be updated	none
5200483062A	5200483062A	17.27	17.27		33.20	Update required	Will be updated	none
5200483164A	5200483164A	22.47	21.42		29.50	Update required	Will be updated	none
5200483249A	5200483249A	24.36	24.15		34.00	Update required	Will be updated	none
5200483430A	5200473408A	20.79	20.79		21.00	Net Area within tolerance	Will be updated	none
5200483532A	5200473503A	12.56	12.56		13.00	Net Area within tolerance	Will be updated	none
5200483533A	5200483533A	19.41	19.21		21.94	Update required	Will be updated	none
5200490415A	5200490415A	26.95	25.05		32.40	Update required	Will be updated	none
5200490646A	5200490646A	6.59	6.10		9.60	Update required	Will be updated	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5200490648A	5200490648A	5.50	5.11		11.00	Update required	Will be updated	none
5200492501A	5200492501A	10.99	10.81		12.40	Update required	Will be updated	none
5200543005A	5200543005A	11.05	11.05	11.05	10.40	Previously reported in RSA	none	ARIS Staff will update areas
5200543613A	5200543613A	14.42	-		8.00	FTG Block	none - use landbase netdown area	none
5200550261A	5200550261A	12.75	12.20		12.80	Net Area within tolerance	None	none
5200550601A	5200550601A	16.16	15.77		14.11	Update required	Will be updated	none
5200551001A	5200551001A	11.71	11.71		11.90	Net Area within tolerance	None	none
5200551002A	5200551002A	6.74	6.44		7.10	FTG Block	none - use landbase netdown area	none
5200551011A	5200551011A	18.26	17.74		18.50	Net Area within tolerance	None	none
5200551012A	5200551012A	8.52	8.31		8.70	Net Area within tolerance	None	none
5200551031A	5200551031A	8.30	-		8.30	FTG Block	none - use landbase netdown area	none
5200551032A	5200551032A	25.23	25.23		26.10	Net Area within tolerance	None	none
5200551033A	5200551033A	16.11	15.53		16.40	Net Area within tolerance	None	none
5200551035A	5200551035A	7.16	6.57		7.10	Net Area within tolerance	None	none
5200551036A	5200551036A	15.82	12.45		15.30	Net Area within tolerance	None	none
5200551037A	5200551037A	9.81	9.41		9.40	Net Area within tolerance	None	none
5200551038A	5200551038A	16.23	16.23		15.80	Net Area within tolerance	None	none
5200551041A	5200551041A	17.85	17.63		17.20	Net Area within tolerance	None	none
5200551824A	5200551824A	19.14	19.14		20.59	FTG Block	none - use landbase netdown area	none
5200553208A	5200553208A	23.88	3.43		23.34	Update required	Will be updated	none
5200553532A	5200553532A	9.76	8.18			FTG Block	none - use landbase netdown area	none
5200560881A	5200560881A	8.07	8.04		8.63	Update required	Will be updated	none
5200561882A	5200561882A	8.47	7.48		10.22	Update required	Will be updated	none
5200570104A	5200570104A	5.17	5.17		4.30	Update required	Will be updated	none
5200570801A	5200570801A	39.27	39.03	39.27	39.92	Previously reported in RSA	none	ARIS Staff will update areas
5200571204A	5200571204A	23.19	23.19		24.04	Update required	Will be updated	none
5200571501A	5200571501A	29.52	27.69		19.01	Update required	Will be updated	none
5200571502A	5200571502A	8.55	8.27	8.55	9.36	Previously reported in RSA	none	ARIS Staff will update areas
5200571505A	5200571505A	3.18	2.97	3.17	2.58	Previously reported in RSA	none	ARIS Staff will update areas
5200571605A	5200571605A	5.72	5.72	5.72	5.34	Previously reported in RSA	none	ARIS Staff will update areas
5200571606A	5200571606A	3.87	3.87	3.87	3.50	Previously reported in RSA	none	ARIS Staff will update areas
5200571607A	5200571607A	18.45	18.45	18.45	17.71	Previously reported in RSA	none	ARIS Staff will update areas
5200572201A	5200572201A	11.81	11.65	23.71	12.63	Previously reported in RSA	none	ARIS Staff will update areas
5210471397A	5210471397A	0.11	0.08		4.62	Update required	Will be updated	none
5210480831A	5210480831A	1.51	-		4.53	Within Coal Valley Mine	none - use landbase netdown area	none
5210480834A	5210480834A	2.10	-		8.20	Within Coal Valley Mine	none - use landbase netdown area	none
5210481813A	5210481813A	3.49	-		13.78	Within Coal Valley Mine	none - use landbase netdown area	none
5210481817A	5210481817A	4.12	-		13.53	Within Coal Valley Mine	none - use landbase netdown area	none
5210481903A	5210481903A	1.89	-		4.62	Within Coal Valley Mine	none - use landbase netdown area	none
5210490142A	5210481114A	29.32	27.24		33.40	Not a HWP block	Will be updated	Update area
5210490143A	5210480107A	17.31	17.31		21.40	Not a HWP block	Will be updated	none
5210490144A	5210490144A	6.05	3.78		8.90	Update required	Will be updated	none
5210490145A	5210490145A	24.33	24.21		30.60	Update required	Will be updated	none
5210491141A	5210491141A	25.00	24.90		40.30	Update required	Will be updated	none
5210491203A	5210481210A	8.74	8.74		8.60	Net Area within tolerance	Will be updated	none
5210491401A	5210491401A	10.46	10.46		12.40	Update required	Will be updated	none
5210491800A	5210491800A	3.17	3.17	3.17	3.00	Previously reported in RSA	none	ARIS Staff will update areas

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5210541233B	5210541233B	2.02	2.02		9.50	Update required	Will be updated	none
5210541233C	5210541233C	5.84	5.55		2.30	FTG Block	none	none
5210541704A	5210541704A	17.43	17.36		22.11	Update required	Will be updated	none
5210552904A	5210552904A	5.75	5.67		4.64	Update required	Will be updated	none
5210560990A	5210560990A	1.69	1.62		1.50	Net Area within tolerance	none - use landbase netdown area	none
5210561594A	5210561594A	1.52	1.52	1.52	1.63	Previously reported in RSA	none	ARIS Staff will update areas
5210562271A	5210562271A	24.78	24.78		27.05	Update required	Will be updated	none
5210562672A	5210562672A	65.33	65.32	65.32	66.22	Previously reported in RSA	none	ARIS Staff will update areas
5210563209A	5210563209A	14.52	13.71		17.72	FTG Block	none - use landbase netdown area	none
5220481984A	5220481984A	5.94	5.94		11.55	FTG Block	none - use landbase netdown area	none
5220502504A	5220502504A	27.13	24.64	27.18	28.16	Previously reported in RSA	none	ARIS Staff will update areas
5220502836A	5220502836A	0.27	0.27	0.27	0.20	Previously reported in RSA	none	ARIS Staff will update areas
5220510901A	5220510901A	25.67	25.67	25.67	26.26	Previously reported in RSA	none	ARIS Staff will update areas
5220550853A	5220550853A	57.02	53.40		58.42	FTG Block	none - use landbase netdown area	none
5220551535A	5220551535A	7.05	6.46		11.11	FTG Block	none - use landbase netdown area	none
5220552180A	5220552180A	33.68	31.36		40.05	FTG Block	none - use landbase netdown area	none
5220552224A	5220552224A	4.26	4.24		4.79	FTG Block	none - use landbase netdown area	none
5220583018A	5220583018A	3.50	3.21		3.30	Net Area within tolerance	none - use landbase netdown area	none
5230481872A	5230481872A	16.55	16.54	16.55	17.36	Previously reported in RSA	none	ARIS Staff will update areas
5230491113A	5230491113A	7.42	-		2.90	Within Coal Valley Mine	none - use landbase netdown area	none
5230491510A	5230491510A	14.30	14.30		13.47	Update required	Will be updated	none
5230492304A	5230492304A	1.68	1.68		2.40	Update required	Will be updated	none
5230492307A	5230492307A	3.44	3.44		3.26	Net Area within tolerance	none - use landbase netdown area	none
5230492878A	5230492878A	14.00	13.73		21.60	Update required	Will be updated	none
5230492968A	5230492968A	3.52	3.28		1.40	Update required	Will be updated	none
5230493200A	5230493200A	21.13	20.37	21.13	0.77	Previously reported in RSA	none	ARIS Staff will update areas
5230500260A	5230500260A	7.00	6.27		8.10	Update required	Will be updated	none
5230500454A	5230500454A	16.46	16.24	16.48	15.92	Previously reported in RSA	none	ARIS Staff will update areas
5230500842A	5230500842A	19.50	19.47	19.50	22.54	Previously reported in RSA	none	ARIS Staff will update areas
5230500845A	5230500845A	11.25	11.09	11.25	12.05	Previously reported in RSA	none	ARIS Staff will update areas
5230500851A	5230500851A	32.99	31.76	34.32	35.06	Previously reported in RSA	none	ARIS Staff will update areas
5230501049A	5230501049A	30.72	30.72	30.72	31.41	Previously reported in RSA	none	ARIS Staff will update areas
5230501148A	5230501148A	28.00	28.00	27.99	27.08	Previously reported in RSA	none	ARIS Staff will update areas
5230501502A	5230501502A	1.25	0.73	1.25	0.70	Previously reported in RSA	none	ARIS Staff will update areas
5230501914A	5230501914A	30.64	27.92	30.65	31.22	Previously reported in RSA	none	ARIS Staff will update areas
5230502007A	5230502007A	39.81	36.48	39.94	40.57	Previously reported in RSA	none	ARIS Staff will update areas
5230502403A	5230502403A	21.62	21.62	21.61	20.76	Previously reported in RSA	none	ARIS Staff will update areas
5230502704A	5230502704A	1.40	1.40	1.40	1.51	Previously reported in RSA	none	ARIS Staff will update areas
5230511838A	5230511838A	10.96	7.76		15.87	FTG Block	none - use landbase netdown area	none
5230511871A	5230511871A	0.73	-		11.31	Disposition not built	none - use landbase netdown area	none
5230511961A	5230511961A	1.70	0.26		7.99	Disposition not built	none - use landbase netdown area	none
5230513484A	5230513484A	20.60	19.37		23.50	Update required	Will be updated	none
5230533501A	5230533501A	16.85	15.86	16.85	16.29	Previously reported in RSA	none	ARIS Staff will update areas
5230540201A	5230540201A	16.67	16.38	16.67	17.22	Previously reported in RSA	none	ARIS Staff will update areas
5230540203A	5230540203A	3.87	3.23	3.87	4.42	Previously reported in RSA	none	ARIS Staff will update areas
5230541586A	5230541586A	1.29	1.29		1.20	Net Area within tolerance	none - use landbase netdown area	none
5230542341A	5230542341A	63.98	60.93		60.72	FTG Block	none - use landbase netdown area	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5230543608A	5230543608A	23.07	19.35		21.84	FTG Block	none - use landbase netdown area	none
5230551628A	5230551628A	63.89	55.79		66.80	FTG Block	none - use landbase netdown area	none
5230551855A	5230551855A	33.62	33.62		35.58	FTG Block	none - use landbase netdown area	none
5230551893A	5230551893A	43.39	37.95		45.22	FTG Block	none - use landbase netdown area	none
5230551909A	5230551909A	41.70	41.68		45.53	FTG Block	none - use landbase netdown area	none
5230552034A	5230552034A	20.35	19.54		24.11	FTG Block	none - use landbase netdown area	none
5230552145A	5230552145A	58.88	57.43		61.98	FTG Block	none - use landbase netdown area	none
5230552178A	5230552178A	40.46	38.64		47.11	FTG Block	none - use landbase netdown area	none
5230553001A	5230553001A	5.63	4.99		5.31	Net Area within tolerance	none - use landbase netdown area	none
5230553060A	5230553060A	21.39	21.39		22.83	FTG Block	none - use landbase netdown area	none
5230553401A	5230553401A	77.76	73.65		79.85	FTG Block	none - use landbase netdown area	none
5230553501A	5230553501A	32.30	28.68		31.46	FTG Block	none - use landbase netdown area	none
5230559125A	5230559125A	55.07	53.91		54.53	FTG Block	none - use landbase netdown area	none
5230560251A	5230560251A	35.88	33.91		41.49	FTG Block	none - use landbase netdown area	none
5230560301A	5230560301A	24.51	20.53		19.05	FTG Block	none - use landbase netdown area	none
5230561183A	5230561183A	30.68	29.42		29.90	FTG Block	none - use landbase netdown area	none
5230561189A	5230561189A	38.54	36.94		69.56	FTG Block	none - use landbase netdown area	none
5230570208A	5230570208A	12.08	11.94		14.92	FTG Block	none - use landbase netdown area	none
5230570305A	5230570305A	56.08	29.59		56.92	FTG Block	none - use landbase netdown area	none
5230570800A	5230570800A	71.07	70.62	71.61	71.61	Previously reported in RSA	none	ARIS Staff will update areas
5230571064A	5230571064A	23.83	19.64		24.33	FTG Block	none - use landbase netdown area	none
5230571505A	5230571505A	10.03	10.03	10.02	6.77	Previously reported in RSA	none	ARIS Staff will update areas
5230573002A	5230573002A	26.60	26.60		27.30	FTG Block	none - use landbase netdown area	none
5230581500A	5230581500A	41.51	37.78		42.08	FTG Block	none - use landbase netdown area	none
5230581752A	5230581752A	24.73	24.68		24.18	FTG Block	none - use landbase netdown area	none
5230582309A	5230582309A	10.63	10.12		10.00	Update required	Will be updated	none
5240480901A	5240480901A	79.84	79.84	79.84	78.79	Previously reported in RSA	none	ARIS Staff will update areas
5240490121A	5240490121A	0.93	0.93	0.93	0.84	Previously reported in RSA	none	ARIS Staff will update areas
5240490907A	5240490907A	25.59	25.59	25.60	18.90	Previously reported in RSA	none	ARIS Staff will update areas
5240490910A	5240490910A	4.65	4.65	4.65	3.70	Previously reported in RSA	none	ARIS Staff will update areas
5240491606A	5240491606A	1.86	1.86	1.86	1.30	Previously reported in RSA	none	ARIS Staff will update areas
5240492003A	5240492003A	1.43	1.43	1.43	1.56	Previously reported in RSA	none	ARIS Staff will update areas
5240492104A	5240492104A	78.36	78.32	78.36	79.85	Previously reported in RSA	none	ARIS Staff will update areas
5240512438A	5240512438A	15.68	12.40		17.20	FTG Block	none - use landbase netdown area	none
5240512601A	5240512601A	42.25	40.30	42.52	30.20	Previously reported in RSA	none	ARIS Staff will update areas
5240512634A	5240512634A	23.51	19.03	25.78	25.78	Previously reported in RSA	none	ARIS Staff will update areas
5240512732A	5240512732A	14.01	11.86		15.04	Update required	Will be updated	none
5240512813A	5240512813A	19.21	17.79		21.77	Update required	Will be updated	none
5240513315A	5240513315A	6.31	4.89		7.86	Update required	Will be updated	none
5240513414A	5240513414A	24.83	19.86		29.86	Update required	Will be updated	none
5240513415A	5240513415A	4.19	3.19		5.41	Disposition not built	none - use landbase netdown area	none
5240532614A	5240532614A	10.57	10.17		10.00	Net Area within tolerance	none - use landbase netdown area	none
5240542101A	5240542101A	35.09	34.75		36.74	FTG Block	none - use landbase netdown area	none
5240542201A	5240542201A	28.03	28.03		27.34	FTG Block	none - use landbase netdown area	none
5240543101A	5240543101A	31.31	31.18		34.50	FTG Block	none - use landbase netdown area	none
5240543371A	5240543371A	9.92	9.92		8.30	FTG Block	none - use landbase netdown area	none
5240550501A	5240550501A	26.19	26.12		28.70	FTG Block	none - use landbase netdown area	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5240550601A	5240550601A	1.02	0.95		0.80	FTG Block	none - use landbase netdown area	none
5240550902A	5240550902A	8.87	8.83	8.87	26.43	Previously reported in RSA	none	ARIS Staff will update areas
5240551505A	5240551505A	2.61	2.51	2.61	2.20	Previously reported in RSA	none	ARIS Staff will update areas
5240552501A	5240552501A	3.38	2.96	3.38	3.60	Previously reported in RSA	none	ARIS Staff will update areas
5240552601A	5240552601A	1.37	0.99	1.37	1.30	Previously reported in RSA	none	ARIS Staff will update areas
5240553600A	5240553600A	13.43	12.97	13.43	12.92	Previously reported in RSA	none	ARIS Staff will update areas
5240553601A	5240553601A	21.94	21.93	21.94	21.21	Previously reported in RSA	none	ARIS Staff will update areas
5240571402A	5240571402A	49.37	48.93	50.62	50.62	Previously reported in RSA	none	ARIS Staff will update areas
5240571909A	5240571909A	23.57	23.38		29.76	Update required	Will be updated	none
5240580610A	5240580610A	23.19	22.95		21.80	Update required	Will be updated	none
5250531812A	5250531812A	32.70	32.70		34.03	FTG Block	none - use landbase netdown area	none
5250532074A	5250532074A	32.70	29.81		1.00	FTG Block	none - use landbase netdown area	none
5250540279A	5250540279A	28.62	28.36		29.42	FTG Block	none - use landbase netdown area	none
5250540429A	5250540429A	17.35	15.38		19.46	Update required	Will be updated	none
5250540502A	5250540502A	3.31	3.31		3.08	Net Area within tolerance	none - use landbase netdown area	none
5250541194A	5250541194A	43.57	43.25		45.32	FTG Block	none - use landbase netdown area	none
5250541485A	5250541485A	53.64	53.22		54.67	FTG Block	none - use landbase netdown area	none
5250542001A	5250542001A	17.35	17.35		16.34	FTG Block	none - use landbase netdown area	none
5250542175A	5250542175A	21.21	21.21		19.80	FTG Block	none - use landbase netdown area	none
5250542194A	5250542194A	22.32	21.93		21.82	FTG Block	none - use landbase netdown area	none
5250542211A	5250542211A	8.37	8.36		7.20	FTG Block	none - use landbase netdown area	none
5250542245A	5250542245A	38.33	38.29		38.88	FTG Block	none - use landbase netdown area	none
5250542417A	5250542417A	10.31	10.31		9.20	FTG Block	none - use landbase netdown area	none
5250542648A	5250542648A	7.31	6.73		7.78	FTG Block	none - use landbase netdown area	none
5250542776A	5250542776A	44.62	44.52		45.59	FTG Block	none - use landbase netdown area	none
5250543491A	5250543491A	52.30	52.20		51.51	FTG Block	none - use landbase netdown area	none
5250543576A	5250543576A	2.93	2.73		2.53	FTG Block	none - use landbase netdown area	none
5250550160A	5250550160A	43.70	43.54		41.40	Disposition not built	none - use landbase netdown area	none
5250551349A	5250551349A	57.55	51.94		58.75	FTG Block	none - use landbase netdown area	none
5250552373A	5250552373A	7.29	7.29		6.00	Update required	Will be updated	none
5250552644A	5250552644A	18.24	17.51		19.85	Update required	Will be updated	none
5250552742A	5250552742A	0.40	0.35		0.30	Net Area within tolerance	none - use landbase netdown area	none
5250572638A	5250572638A	16.75	16.21		15.90	Update required	Will be updated	none
5250580677A	5250580677A	17.70	17.66	17.97	18.32	Previously reported in RSA	none	ARIS Staff will update areas
5250580679A	5250580679A	8.69	8.44	8.70	9.37	Previously reported in RSA	none	ARIS Staff will update areas
5250581277A	5250581277A	24.22	23.81	24.22	23.33	Previously reported in RSA	none	ARIS Staff will update areas
5260531107A	5260531107A	28.37	28.14		31.63	Update required	Will be updated	none
5260531592A	5260531592A	36.24	27.51		39.40	Update required	Will be updated	none
5260532299A	5260532299A	0.70	0.42		0.40	Net Area within tolerance	none - use landbase netdown area	none
5260532661A	5260532661A	17.57	17.54		19.35	Update required	Will be updated	none
5260532866A	5260532866A	15.94	14.45		17.30	Update required	Will be updated	none
5260540697A	5260540697A	27.66	21.79		28.48	FTG Block	none - use landbase netdown area	none
5260541285A	5260541285A	43.83	43.83		44.52	FTG Block	none - use landbase netdown area	none
5260543102A	5260543102A	25.75	25.75	25.83	12.06	Previously reported in RSA	none	ARIS Staff will update areas
5260550401A	5260550401A	2.29	2.18	2.29	1.75	Previously reported in RSA	none	ARIS Staff will update areas
5260550500A	5260550500A	54.88	54.83	55.14	56.36	Previously reported in RSA	none	ARIS Staff will update areas
5260550603A	5260550603A	3.01	3.01		2.62	Net Area within tolerance	none - use landbase netdown area	none

Opening Number								
Land Base	ARIS	Gross Land Base Area	Net Land Base	RSA Area	ARIS	Rationale	WFML action	AESRD/ARIS action
5260552207A	5260552207A	53.79	53.53	53.89	54.57	Previously reported in RSA	none	ARIS Staff will update areas
5260560753A	5260560753A	2.43	2.43		2.10	Net Area within tolerance	none - use landbase netdown area	none
5260561748A	5260561748A	5.16	5.16		4.60	Update required	Will be updated	none
5260561842A	5260561842A	1.21	1.21		1.41	Net Area within tolerance	none - use landbase netdown area	none
5260561849A	5260561849A	2.22	2.22		1.90	Net Area within tolerance	none - use landbase netdown area	none
5260562043A	5260562043A	240.74	239.31		254.24	Update required	Will be updated	none
5260570910A	5260570910A	0.38	0.38	0.38	0.42	Previously reported in RSA	none	ARIS Staff will update areas
5270511001A	5270511001A	14.46	13.20		13.54	Update required	Will be updated	none
5270540700A	5270540700A	21.93	21.72	21.93	8.91	Previously reported in RSA	none	ARIS Staff will update areas
5270541062A	5270541062A	3.33	3.33		3.01	Net Area within tolerance	none - use landbase netdown area	none
5270541063A	5270541063A	3.40	3.40		3.05	Net Area within tolerance	none - use landbase netdown area	none
5270542401A	5270542401A	33.52	33.52	33.81	21.82	Previously reported in RSA	none	ARIS Staff will update areas
5270542803A	5270542803A	0.49	0.49	0.49	0.45	Previously reported in RSA	none	ARIS Staff will update areas
5270542901A	5270542901A	35.68	35.65	35.85	31.50	Previously reported in RSA	none	ARIS Staff will update areas
5270543004A	5270543004A	41.31	41.31	41.31	40.62	Previously reported in RSA	none	ARIS Staff will update areas
5270543302A	5270543302A	1.78	1.70	1.78	2.07	Previously reported in RSA	none	ARIS Staff will update areas
5270543503A	5270543503A	5.12	5.12		7.08	Update required	Will be updated	none
5270543504A	5270543504A	0.20	0.20		0.23	Net Area within tolerance	none - use landbase netdown area	none
5270561159A	5270561159A	1.83	1.83		1.50	Net Area within tolerance	none - use landbase netdown area	none
5270561257A	5270561257A	4.71	4.71		4.30	Net Area within tolerance	none - use landbase netdown area	none
5270561258A	5270561258A	2.99	2.99		2.70	Net Area within tolerance	none - use landbase netdown area	none
5270562283A	5270562283A	0.25	0.22		0.30	Net Area within tolerance	none - use landbase netdown area	none
5270563617A	5270563617A	28.44	26.67		30.90	Update required	Will be updated	none
6010533102A	6010533102A	13.43	13.43	13.43	11.70	Previously reported in RSA	none	ARIS Staff will update areas
6010533202A	6010533202A	33.16	33.16		26.65	FTG Block	none - use landbase netdown area	none
6020541769A	6020541769A	54.76	54.76	54.76	53.83	Previously reported in RSA	none	ARIS Staff will update areas
6020542759A	6020542759A	8.57	5.47	8.57	9.56	Previously reported in RSA	none	ARIS Staff will update areas
6020543251A	6020543251A	3.36	2.69	3.36	2.28	Previously reported in RSA	none	ARIS Staff will update areas
6030552000A	6030552000A	13.20	13.20	13.20	11.78	Previously reported in RSA	none	ARIS Staff will update areas
6030553100A	6030553100A	4.70	4.49		5.42	FTG Block	none - use landbase netdown area	none
						Overide by harvested Blocks (OpeningNumbers 5210541233B and 5210541233C)	none	none
	5210541233A	-	-		2.40			
	5200491482	-	-		1.14	Overide by planned block(OpeningNum	none	none

Appendix G Terms of ReferenceApproval Letter

Alberta Environment and Sustainable Resource Development

Forestry Division
Forest Management Branch
7th Floor, Great West Life Building
9920 – 108 Street
Edmonton, Alberta T5K 2M4
Telephone: 780-427-8474
www.alberta.ca

File: 06322-F02-04

December 11, 2012

Mr. Richard Briand
Planning Coordinator
Hinton Wood Products, West Fraser Mills Ltd.
756 Switzer Drive
Hinton, AB T7V 0A2

Dear Mr. Briand:

Subject: **APPROVAL - FOREST MANAGEMENT PLAN TERMS OF REFERENCE, FMA8800025**

The department has received the Terms of Reference for your 2014 Forest Management Plan submitted on November 19.

The Terms of Reference is approved.

If you have any questions, please contact Brendan Hemens at (780) 643-6778.

Sincerely,

Robert W. Stokes, RPF
Senior Manager, Forest Planning Section

c: Kevin Vander Haeghe, Acting Forestry Program Manager, Foothills
Brendan Hemens, Lead, Forest Planning & Performance Monitoring