

## **Forest Management Plan Amendment**

# Mountain Pine Beetle Pine Strategy Plan Forest Management Unit R13 Approval Decision

Sundance Forest Industries Edson, Alberta

Forest Management Agreement #9700032

**Date: March 18, 2008 Effective: May 1, 2007** 

Approved by: <u>Original signed by</u>

D. (Doug) A. Sklar, RPF Executive Director

**Forest Management Branch** 

**Forestry Division** 

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#### 1.0 Introduction

Alberta is experiencing a significant outbreak of mountain pine beetle (MPB) and is implementing control strategies with respect to this outbreak and strategies to prevent future outbreaks<sup>1</sup>. Sundance Forest Industries (SFI) amendment to its existing Forest Management Plan (FMP) meets the requirements established by Alberta for such amendments<sup>2</sup>. This decision provides the rationale for approval and direction for ongoing work.

It is important to note the implementation of this plan is not intended to control the current MPB outbreak but rather to take actions over the next twenty years to create a forest that is more resistant to such outbreaks by dramatically reducing the overall susceptibility of the pine forest (Pine Strategy). This is a prudent and necessary strategy to avoid the types of catastrophic changes being seen in British Columbia's pine forests, if the extent of the current outbreak is limited. However, if the current outbreak in Alberta expands as rapidly as the British Columbia outbreak, the strategies in this plan will have to be modified to address that reality.

Alberta has directed<sup>3</sup> that the key outcomes of three scenarios (the current management plan or status quo, the Pine Strategy and a MPB outbreak) be presented. I believe given the MPB outbreak in Alberta, the current management plans do not present likely scenarios and considering today's circumstances, comparison of the Pine Strategy and the MPB outbreak scenarios are the pertinent analyses.

Alberta's goal is to mitigate the effects of MPB on the social, environmental, and economic values of Alberta's forests. To achieve this goal, Alberta must make trade-offs which involve achieving a desired result, generally at the complete or partial expense of something else. Stakeholders are often interested in only one value and are not prepared to consider trade-offs; whereas Alberta must make trade-off decisions in order to reasonably meet its goal for the overall benefit of Albertans.

#### 2.0 Forest Management Plans (FMP) and Priority of MPB Control Strategies

The approval of the Sundance Forest Industries (SFI) FMP amendment results in a new spatial harvest sequence and timber supply. Commitments in the balance of the existing FMP remain in effect until they are replaced by a new FMP expected to be approved by April 30, 2009. The status of the MPB outbreak may be more apparent in this FMA enabling the new FMP to better address the trade-offs between key outcomes.

The major MPB infestation in British Columbia has spread into Alberta: specifically the Eastern Slopes of the Rocky Mountains, Banff and Jasper National Parks, the Bow Corridor in Kananaskis Country, the Crowsnest Pass, the Grande Prairie region, and east to Slave Lake. MPB infestations are located to the north and west of the SFI FMA. In the event of an outbreak in the forest management unit (FMU), it will be crucial to take all appropriate steps to control the infestation by executing control activities (Level 1 and Level 2<sup>4</sup>) which will take priority over the spatial sequence in this amendment. I expect activities over the next few years to be a

<sup>&</sup>lt;sup>1</sup> See the Mountain Pine Beetle Action Plan for Alberta (AP) and the Interpretive Bulletin - Planning Mountain Pine Beetle Response Operations (IB) on the department of Sustainable Resource Development (SRD) website

See the Interpretive Bulletin - Planning Mountain Beetle Response Operations on SRD website.

<sup>&</sup>lt;sup>4</sup> See AP for definitions

combination of control (Level 1 and Level 2) and prevention (Pine Strategy), and operational changes necessary to accomplish both will be handled through annual operating plans.

### 3.0 Habitat for Species of Special Concern (Grizzly Bear)

Alberta's Grizzly Bear Recovery Plan (GBRP) has been accepted by the Minister of Sustainable Resource Development. The GBRP recognizes that reduced grizzly bear survival and reproductive success is linked to human activity in priority habitats. Access development increases this activity. The department is developing an implementation plan for the GBRP in the near term. When this is published the Company shall address these requirements in its operational plans and in the next Forest Management Plan (see section 10.0).

The Company tested the Foothills Model Forest Grizzly Bear Model to assess the impact of its plan on grizzly bear habitat. Forests can be managed for MPB and meet the intent of the GBRP. Regenerating forests (8 to 42 years) support increased numbers of forage plants, depending on the silvicultural treatments used. Access, however, is difficult to restrict once routes are built but the government must take a solid stance on this issue in priority habitats. The Company can act to make roads impassable and to quickly reclaim access into completed compartments. Operational planning can mitigate many of the impacts of timber harvest.

#### 4.0 Access

A Road Corridor Plan is presented for accessing operating compartments during harvesting operations. Access is essential to the management of MPB and the impacts will be mitigated with Sundance's continued good planning, effective construction, timely reclamation, and reforestation. The plan is reasonable and implements the MPB Strategy efficiently.

#### 5.0 Water Yield

A Policy for Resource Management of the Eastern Slopes identifies watershed management as being of key importance to this area. Sundance assessed the impact of its Pine Strategy Plan on the watersheds in the FMA. Hydrologic recovery, averaged 14 years for all watersheds, with minimum and maximum values of 0-41 years. I consider the forecasted water yield and peak flow increases as small to moderate in magnitude and duration. Given existing regulations and operating ground rules are followed, no long-term adverse impacts on water quality and aquatic habitat are expected. These are acceptable outcomes from the planned operations.

#### 6.0 Long Term Fibre Sustainability

The coniferous fibre flow of 841,666 m<sup>3</sup>/yr proposed for 10 years in the MPB Preferred Scenario is acceptable. Equally acceptable is the long term even-flow harvest level of 420,670 m<sup>3</sup>/yr. Due to the extensive tracts of mature pine, full implementation of Alberta's Pine Strategy would require SFI to incorporate 69% of the managed landbase into its strategy. Addressing the vast areas of mature pine on this FMA will take many planning cycles. The Company further refined the selection of stands classified as Rank

1 and Rank 2 under the provincial classification as a harvesting priority. This breaks up the contiguous pine forest within the FMU and is acceptable and implements the Pine Strategy effectively.

### 7.0 Pine Strategy Implementation

The Company has developed a rational and feasible Pine Strategy Plan that achieves a reduction in MPB susceptible pine in the managed portion of the Rank 1 and Rank 2 stands within its management area. Ongoing and timely communication with local departmental staff is essential to manage the issues identified, and those yet to be identified. SFI is encouraged to continue its efforts to keep the public and stakeholders advised of its operational plans and accomplishments in addressing the MPB situation.

The implementation of the Pine Strategy does not guarantee the prevention of an outbreak in the near future, but in twenty years, will create a forest that is more resistant to such outbreaks. Should it occur, salvage strategies will address the outbreak to minimize the socio-economic and environmental impacts.

### **8.0 Embedded Timber Operators**

Sundance Forest Industries has consulted with the embedded timber operators and the department regarding operational sequencing and annual allowable cut (AAC) sharing. Tables 2 and 3 present the approved AACs for each operator based on their disposition allocations.

### 9.0 Performance Monitoring and Reporting

The effective implementation of the Pine Strategy throughout Alberta is very important, and timely information is vital to ensuring the best decisions are made and the most appropriate management strategies are developed. Considering this, the department will require Pine Strategy progress reports to be prepared to keep the department, other agencies and the public knowledgeable and current on the work completed. The department will publish these requirements at a later date.

#### 10.0 Forest Management Plan

Following the approval of the Pine Strategy Plan, the Plan Development Team (PDT) shall be reconvened to review the Forest Management Plan Amendment, and the Regulated Forestry Professional checklist and prepare an action plan to address the items remaining to bring the FMP to approval. With the Pine Strategy Plan in place, the PDT has time to complete this task and shall work toward achieving an approval by April 30, 2009.

#### 11.0 Authorization

The Forest Management Plan Amendment for Forest Management Unit R13 dated February 26, 2008 is approved as per the annual allowable cuts presented in Table 2 and Table 3.

The annual allowable cuts are effective beginning May 1, 2007.
The next forest management plan shall be received by the department in time for approval by April 30, 2009.
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Table 1. FMU R13 Historical Allocations and Annual Allowable Cuts Effective Date – January 14, 2002

Company Name	Disposition Number	Disposition Allocations (%)	Calcula	ted Cut	Structure Retention (1.5%)		AAC (15+/11/15 cm)		AAC (15+/11/30 cm)	
			Coniferous (m³/yr)	Deciduous (m³/yr)	Coniferous (m³/yr)	Deciduous (m³/yr)	Coniferous (m³/yr)	Deciduous (m³/yr)	Coniferous (m³/yr)	Deciduous (m³/yr)
Tall Pine Timber	E5-CTQ02	0.16% of FMA AAC	698	*	-10	*	687	*	n/a	*
Precision Forest Industries	E1-CTQ06	0.46% of FMA AAC	2,006	*	-30	*	1,976	*	n/a	*
Medicine Lodge Timber Prod.	E1-CTQ15	1.92% of FMA AAC	8,371	*	-126	*	8,246	*	8,021	*
E1 Community Timber Program	E1 CTP	2.26% of FMA AAC	9,361	*	-140	*	9,220	*	8,969	*
E1 Community Timber Program	E1 CTP	11.85% of FMA AAC	*	5,849	*	-88	*	5,762	*	5,605
E5 Community Timber Program	E5 CTP	Fixed Volume	7,062	*	0	*	7,062	*	6,870	*
Sundance Forest Industries Ltd.	FMA 9700032	Remainder of AAC	408,500	*	-6,233	*	402,266	*	n/a	*
Sundance Forest Industries Ltd.	FMA 9700032	Remainder of AAC	*	43,512	*	-653	*	42,859	*	n/a
Total			435,997	49,361	-6,540	-740	429,457	48,621		

Table 2. FMU R13 Approved Coniferous Annual Allowable Cuts Effective Date – May 1, 2007

FMU	Company Name	Disposition Number	Management Type (Single Combined Landbase or Separate Distinct Landbase)	Source (FMA, Non- FMA, All- FMU)	Cover Groups Used in Coniferous AAC	Disposition Allocations (%)	Coniferous AAC (m³) (15+/11/15 cm)
R13	Sundance Forest Industries Ltd.	FMA 9700032	Single Combined Landbase	All-FMU	D, DC,CD, C	*	791,153
R13		Local Use 1	Single Combined Landbase	All-FMU	D, DC,CD, C	*	3,976
FMA Sub-total	Sundance Forest Industries Ltd.	FMA 9700032	Single Combined Landbase	All-FMU	D, DC,CD, C	Remainder of FMU AAC which equals 94.47%.	795,129
R13	Precision Forest Industries	CTQR130001	Single Combined Landbase	All-FMU	D, DC,CD, C	0.46% of FMU AAC	3,872
R13	Medicine Lodge Timber Prod.	CTQR130002	Single Combined Landbase	All-FMU	D, DC,CD, C	1.92% of FMU AAC	16,160
R13	Tall Pine Timber	CTQR130003	Single Combined Landbase	All-FMU	D, DC,CD, C	0.16% of FMU AAC	1,347
R13	Edson Community Harvesting Operations Ltd.	CTQR130004	Single Combined Landbase	All-FMU	D, DC,CD, C	0.94% of FMU AAC	7,912
R13	Edson Community Harvesting Operations Ltd.	CTQR130004	Single Combined Landbase	All-FMU	D, DC,CD, C	Fixed Volume	7,062
R13	R13 Community Timber Program	R13 CTP	Single Combined Landbase	All-FMU	D, DC,CD, C	1.21% of FMU AAC	10,184
FMU Total		•	•			•	841,666

 $<sup>^{1}</sup>$  0.5% of the FMA coniferous AAC is available for local use. (0.5% X 795,129) = 3,976 m $^{3}$ /yr

Table 3. FMU R13 Approved Deciduous Annual Allowable Cuts Effective Date – May 1, 2007

FMU	Company Name	Disposition Number	Management Type (Single Combined Landbase or Separate Distinct Landbase)	Source (FMA, Non- FMA, All- FMU)	Cover Groups Used in Deciduous AAC	Deciduous AAC (m <sup>3</sup> ) (15+/10/15 cm)
R13	Sundance Forest Industries Ltd.	FMA 9700032	Single Combined Landbase	All-FMU	D, DC,CD, C	52,661
R13		Local Use 1	Single Combined Landbase	All-FMU	D, DC,CD, C	265
FMA Sub-total	Sundance Forest Industries Ltd.	FMA 9700032				52,926
R13	R13 Community Timber Program	R13 CTP	Single Combined Landbase	All-FMU	D, DC,CD, C	7,115
FMU Total				•		60,041

<sup>10.5%</sup> of the FMA deciduous AAC is available for local use.  $(0.5\% \times 52,926) = 265 \text{ m}^3/\text{yr}$ 

Table 4. FMU R13 Coniferous Utilization Standards Effective Date – May 1, 2007

			Utilization S Managemen	Standard of nt Scenario	the Preferre	ed Forest	
FMU	Company Name	Disposition Number	Cover Groups Used in Coniferous AAC	Top Diameter (cm)	Butt Diameter (cm)	Minimum Length (m)	Stump Height (cm)
R13	Sundance Forest Industries Ltd.	FMA 9700032	D, DC,CD, C	11	15	3.84	15
R13	Precision Forest Industries	CTQR130001	D, DC,CD, C	11	15	3.84	15
R13	Medicine Lodge Timber Prod.	CTQR130002	D, DC,CD, C	11	15	3.84	15
R13	Tall Pine Timber	CTQR130003	D, DC,CD, C	11	15	3.84	15
R13	Edson Community Harvesting Operations Ltd.	CTQR130004	D, DC,CD, C	11	15	3.84	15
R13	R13 Community Timber Program	R13 CTP	D, DC,CD, C	11	15	3.84	15

Table 5. FMU R13 Deciduous Utilization Standards Effective Date – May 1, 2007

			Utilization S Managemen		the Preferre	ed Forest	
FMU	Company Name	Disposition Number	Cover Groups Used in Deciduous AAC	Top Diameter (cm)	Butt Diameter (cm)	Minimum Length (m)	Stump Height (cm)
R13	Sundance Forest Industries Ltd.	FMA 9700032	D, DC,CD, C	10	15	2.49	15
R13	R13 Community Timber Program	R13 CTP	D, DC,CD, C	10	15	2.49	15

Table 6. FMU R13 Coniferous Periodic Allowable and Quadrant Authorized Allowable Cuts Effective January 2007 to April 2012

FMU	Company Name	Disposition Number	PAC /	Approved Coniferous	Primary Coniferous Quadrant Allowable Cut	Comments
		Number	Period <sup>1</sup>	(m <sup>3</sup> )	(m <sup>3</sup> )	
R13	Sundance Forest Industries Ltd.	FMA 9700032	Jan. 14/07 to Apr. 30, 2012	-179,318	3,914,271	Assumed (0.2932 yrs. x 402,266 m <sup>3</sup> /yr.) + (5 yrs. x 795,129 m <sup>3</sup> /yr coniferous) - 179,318 m <sup>3</sup> coniferous overproduction from 2002-2007 PAC period.
R13	Precision Forest Industries	CTQR130001	May 1/07 to Apr. 30/12	-734	, in the second	Assumed (5 yrs. x 3,872 m³/yr.) - 734 m³ coniferous AAC reconciliation from 2002-2007 QAAC period. Overcut is based on unaudited production. 2007-2012 QAAC may be adjusted once a production audit has been completed.
R13	Medicine Lodge Timber Prod.	CTQR130002	May 1/07 to Apr. 30/12		80,800	Assumed (5 yrs. x 16,160 m <sup>3</sup> /yr.)
R13	Tall Pine Timber	CTQR130003	May 1/07 to Apr. 30/12		6,735	Assumed (5 yrs. x 1,347 m <sup>3</sup> /yr.)
R13	Edson Community Harvesting Operations Ltd.	CTQR130004	May 1/07 to Apr. 30/12		74,870	Assumed (5 yrs. x 14,974 m <sup>3</sup> /yr.)
R13	R13 Community Timber Program	R13 CTP	May 1/07 to Apr. 30/12		50,920	Assumed (5 yrs. x 10,184 m <sup>3</sup> /yr.)

<sup>&</sup>lt;sup>1</sup> The FMA period adjustment for January to April 2007 is calculated as follows: (January 14, 2007 to April 30, 2007 = 107 days = 0.2932 yrs.)

Table 7. FMU R13 Deciduous Periodic Allowable and Quadrant Authorized Allowable Cuts Effective January 2007 to April 2012

FMU	Company Name	Disposition Number	PAC / Quadrant Period <sup>1</sup>	Approved Deciduous Reconciliation Volume (m³)	Primary Deciduous Quadrant Allowable Cut (m³)	Comments
R13	Sundance Forest Industries Ltd.	1111117700052	Jan 14/07 to Apr. 30/12	-23,753	ŕ	Assumed (0.2932 yrs. x 42,859 $\text{m}^3$ /yr.) + (5 yrs. x 52,926 $\text{m}^3$ /yr deciduous) - 23,753 $\text{m}^3$ deciduous overproduction from 2002-2007 PAC period.
R13	R13 Community Timber Program	1113 011	May 1/07 to Apr. 30/12		35,575	Assumed (5 yrs. x 7,115 m <sup>3</sup> /yr.)

The FMA period adjustment for January to April 2007 is calculated as follows: (January 14, 2007 to April 30, 2007 = 107 days = 0.2932 yrs.)

## Table 8. FMU R13 Coniferous Chargeability

FMU	Company Name	Disposition Number	Coniferous Species Used in AAC	Species NOT Chargeable to AAC	Rights to Species NOT Chargeable to AAC	Structure Retention (%)	Structure Retention (%) Accounted for in AAC (Description)	Net Landbase Deletions and Deferrals (Cover Group, Subjective Deletions, Landbase Deferrals, Stand Height)	Net Landbase Deletions and Deferrals: Rights to Timber	Industrial Salvage Chargeability Strategy (Values based on FMA average Timber Damage Assessment Tables.)
R13	Sundance Forest Industries Ltd.	FMA 9700032	All coniferous	n/a	n/a	1.5	Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	Precision Forest Industries	CTQR130001	All coniferous	n/a	n/a	1.5	Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	Medicine Lodge Timber Prod.	CTQR130002	All coniferous	n/a	n/a	1.5	Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	Tall Pine Timber	CTQR130003	All coniferous	n/a	n/a		Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	Edson Community Harvesting Operations Ltd.	CTQR130004	All coniferous	n/a	n/a	1.5	Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	Edson Community Harvesting Operations Ltd.	CTQR130004	All coniferous	n/a	n/a	1.5	Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	R13 Community Timber Program	R13 CTP	All coniferous	n/a	n/a	1.5	Structure Retention is AAC chargeable.	*Deletions: see Section 6.2 of the Landbase document (p. 59-61). *Appears minimal amount of SB is being sequenced in the short-term. A noticeable portion of the sequence is supported by SB at the end of the first rotation. See figure 5.2 on page 32 of the	Sundance FMA	All industrial salvage volumes are AAC chargeable.

## Table 9. FMU R13 Deciduous Chargeability

FMU	Company Name	Disposition Number	Deciduous Species Used in AAC	Species NOT Chargeable to AAC	Rights to Species NOT Chargeable to AAC	Retention (%)	Net Landbase Deletions and Deferrals (Cover Group, Subjective Deletions, Landbase Deferrals, Stand Height)	Net Landbase Deletions and Deferrals: Rights to Timber	Industrial Salvage Chargeability Strategy (Values based on FMA average Timber Damage Assessment Tables.)
R13	Sundance Forest Industries Ltd.	FMA 9700032	All deciduous	n/a	n/a		*Deletions: see Section 6.2 of the Landbase document (p. 59-61).	Sundance FMA	All industrial salvage volumes are AAC chargeable.
R13	R13 Community Timber Program	R13 CTP	All deciduous	n/a	n/a		 *Deletions: see Section 6.2 of the Landbase document (p. 59-61).		All industrial salvage volumes are AAC chargeable.

**Table 10. Fibre Assignment Agreements** 

Assignment Type (e.g. FMA, DTA, Volume Supply Agreement, CTQ)	Directed to (Company Name)	Dispositon Number	Species Group (Coniferous or Deciduous)	Volume (m³/yr)
FMA	Sundance Forest Industries Ltd.	FMA 9700032	Coniferous	795,129
CTQ	Precision Forest Industries	CTQR130001	Coniferous	3,872
CTQ	Medicine Lodge Timber Prod.	CTQR130002	Coniferous	16,160
CTQ	Tall Pine Timber	CTQR130003	Coniferous	1,347
CTQ	Edson Community Harvesting Operations Ltd.	CTQR130004	Coniferous	7,912
CTQ	Edson Community Harvesting Operations Ltd.	CTQR130004	Coniferous	7,062
CTP	R13 Community Timber Program	R13 CTP	Coniferous	10,184
FMA	Sundance Forest Industries Ltd. <sup>1</sup>	FMA 9700032	Deciduous	52,926
CTP	R13 Community Timber Program	R13 CTP	Deciduous	7,115

<sup>&</sup>lt;sup>1</sup> Sundance shall offer to Weyerhaeuser 43,500 m<sup>3</sup> of harvested merchantable deciduous timber annually through reciprocal obligations described in clause 20 of the Sundance FMA agreement dated December 19, 1996.