

The logo for CANFOR, featuring the word "CANFOR" in a bold, black, sans-serif font. The letter "O" is replaced by a stylized tree icon. The logo is set against a white background within a red-bordered oval, which is itself on a red rectangular background.

CANFOR

2011 ANNUAL PERFORMANCE MONITORING REPORT

Alberta

**Reporting Period:
January 1st, 2011 - December 31st, 2011**

March 31, 2012

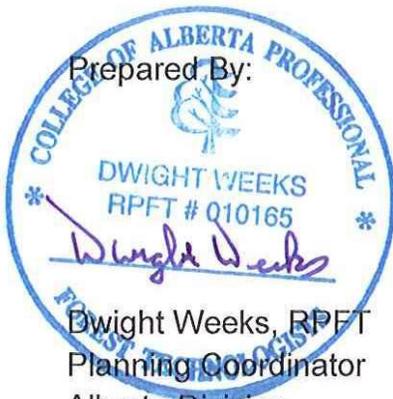


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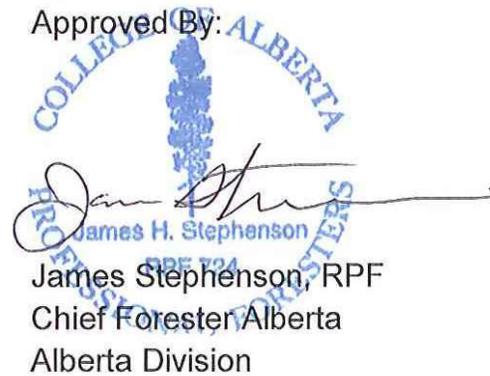
REPORTING PERIOD: January 1st, 2011-December 31st, 2011

Prepared By:

A circular blue professional seal for the College of Alberta Professional Foresters. The seal contains the text "COLLEGE OF ALBERTA PROFESSIONAL FORESTERS" around the perimeter and "DWIGHT WEEKS RPFT # Q10165" in the center. A handwritten signature in blue ink is written across the seal.

Dwight Weeks, RPFT
Planning Coordinator
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Approved By:

A circular blue professional seal for the College of Alberta Professional Foresters. The seal contains the text "COLLEGE OF ALBERTA PROFESSIONAL FORESTERS" around the perimeter and "JAMES H. STEPHENSON RPFT # 724" in the center. A handwritten signature in blue ink is written across the seal.

James H. Stephenson
James Stephenson, RPF
Chief Forester Alberta
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Executive Summary

The *2011 Annual Performance Monitoring Report* has been prepared in accordance with the Canadian Standards Association CAN/CSA-Z809-02 standard (CSA, 2002). The report summarizes the progress and performance that Canfor Alberta has achieved in meeting and maintaining the Sustainable Forest Management (SFM) requirements.

The *2005 Sustainable Forest Management Plan* (SFMP) for the Canfor Alberta Defined Forest Area is a compilation of Canadian Standards Association (CSA) standard requirements, corporate commitments and local level values, objectives, indicators and targets. Canfor Alberta's Forest Management Advisory Committee (FMAC) assisted Canfor in identifying the local level values, objectives, indicators and targets that are contained within the SFMP and in this report.

As a means of strengthening Canfor's commitment to SFM, the 2001 SFMP was incorporated into the Detailed Forest Management Plan (DFMP) that is required under the terms of Forest Management Agreement 9900037 (Province of Alberta Order in Council 198/99) (Canfor, 1999). The DFMP was reviewed and endorsed by the FMAC, then submitted to, and approved by, Alberta Sustainable Resource Development (ASRD) on November 3rd, 2003. In October 2006, the 2005 SFMP was incorporated into the 2003 DFMP and submitted to ASRD with a request that the government approve the replacement of the 2001 SFMP with the 2005 SFMP in conjunction with the Healthy Pine Strategy DFMP amendment in January, 2010.

In 2011, the ongoing economic difficulties in the United States contributed to weak housing markets and continuing soft prices for lumber and other forest products in North American markets. However, Canfor and other Canadian forest companies experienced a significant breakthrough in 2011 as lumber sales to China surpassed all previous records. Canfor has been a leader in developing markets in China for several years and has provided support for the development of new construction systems, building codes, training programs and lumber marketing in China. Whereas initial Canadian lumber sales to China consisted primarily of low grade material, fundamental changes to Chinese home construction systems have led to increasing demand for structural grade lumber and, as a result, a more stable pricing environment. The Canfor Alberta Operation provides an important contribution to Canfor's markets in the United States, China and Japan, particularly regarding the production of prime grade products. Canfor demonstrated the company's confidence in the Alberta Operation in July 2011 by announcing the investment of approximately \$38 million in Grande Prairie. The investments include acquisition of the TransAlta co-generation facility, modernization of the planer and changes in the log yard and sawmill to facilitate conversion from tree length to short wood harvesting systems.

Mountain pine beetle (MPB) survival rates in Alberta continued to decline in 2011 but survival rates in north-west Alberta remained relatively high. Canfor continued its aggressive strategy to mitigate the potential loss of timber supply due to the MPB infestation by focusing harvesting on pine stands. The announced capital improvements in the planer, log yard and sawmill will enable increased production and product recovery from small timber, thereby improving the company's ability to successfully manage the Alberta government's healthy pine strategy. Canfor maintained a reliance on ASRD in 2011 to supply MPB survey and monitoring data to ensure areas with significant outbreaks are scheduled for harvest.

In 2011 Canfor Alberta maintained overall conformance to the SFM requirements of the CAN/CSA Z809-02 standard, the ISO 14001:2004 standard and Canfor corporate environmental commitments in 2011 as verified by internal and third party audits.

Progress toward achievement of individual SFM targets is described fully within this *2011 Annual Performance Monitoring Report*. Following is a summary of performance:

Classification	2006	2007	2008	2009	2010	2011
Number of targets "Meets"	36	38	37	50	52	51
Number of targets "Does Not Meet"	12	12	11	6	8	9
Number of targets "Pending"	9	10	12	5	1	1
Total number of CSA Z809-02 targets	60	60	60	61	61	61

2011 results indicate Canfor continued to demonstrate improvement with respect to the number of targets met, however there was an increase in the number of targets not being met by one. For targets not met, explanations have been provided regarding the contributing factors, and corrective actions to address identified deficiencies or weaknesses have been included in the text.

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1. Introduction & Overview

1.1. Certification

Certification of sustainable forestry practices is an essential element for Canadian Forest Products Ltd. (Canfor) to meet public expectations and maintain product market share. Canfor Alberta has sought and achieved certification under a variety of respected standards including International Organization for Standardization (ISO) 14001, CAN/CSA Z809-02 and Program for the Endorsement of Forest Certification (PEFC) Chain of Custody.

As a preparatory step, Canfor corporately developed an Environmental Management System (EMS) to the ISO 14001 standard. The company's EMS provided the platform on which the Sustainable Forest Management System (SFMS) was built, and it was subsequently certified under the CSA SFM standard. Canfor eventually amalgamated the EMS and SFMS in the Canfor Forest Management System, under which it has operated since 2006.

1.2. The CSA Sustainable Forest Management System Standard

In 1996, six criteria were developed by the Canadian Council of Forest Ministers (CCFM) to address sustainable forest management. The criteria address the key aspects of forest management. The criteria are identified below:

Criterion 1: Conservation of Biological Diversity;

Criterion 2: Maintenance and Enhancement of Forest Ecosystem Condition and Productivity;

Criterion 3: Conservation of Soil and Water Resources;

Criterion 4: Forest Ecosystem Contributions to Global Ecological Cycles;

Criterion 5: Multiple Benefits to Society; and

Criterion 6: Accepting Society's Responsibility for Sustainable Development.

The CSA process led to the development of a set of critical elements for each of the criteria. Under the CSA standard, adoption of the CCFM criteria and elements as a framework for value identification provides vital links between local sustainable forest management and national and provincial-scale forest policy, as well as a strong measure of consistency in identification of local forest values across Canada. This standard, which utilizes a continual improvement approach, requires public participation, practical demonstration of sustainable forest management practices, and management commitment. Through a process of public participation, the CSA performance framework attains local relevance to the critical elements in the form of locally determined values¹, objectives², indicators³ and targets⁴. Canfor's Forest Management Advisory Committee (FMAC) assisted Canfor in the development of the Sustainable Forest Management Plan (SFMP) by identifying quantifiable local level values, objectives, indicators and targets applicable to sustainable forest management.

¹ Values: an FMA area characteristic, component or quality considered by an interested party to be important in relation to a CSA SFM element or other locally identified element;

² Objectives: a broad statement describing a desired future state or condition for a value;

³ Indicators: a variable that measures or describes the state or condition of a value; and

⁴ Targets: a specified statement describing a desired future state or condition of an indicator. Targets should be clearly defined, time limited, and quantified if possible.

1.3. Sustainable Forest Management Policy

Senior Canfor management has endorsed the corporate *Environment Policy* and *Canfor's Forestry Principles* that apply to all of the Canfor forestry operations, including Grande Prairie.

1.4. The Defined Forest Area

The CSA standard states that organizations “shall designate a clearly defined forest area to which the standard applies.” The Defined Forest Area (DFA) for Canfor Alberta is the FMA area indicated in Figure 1 below. The operating areas have been identified for reference also throughout the report.

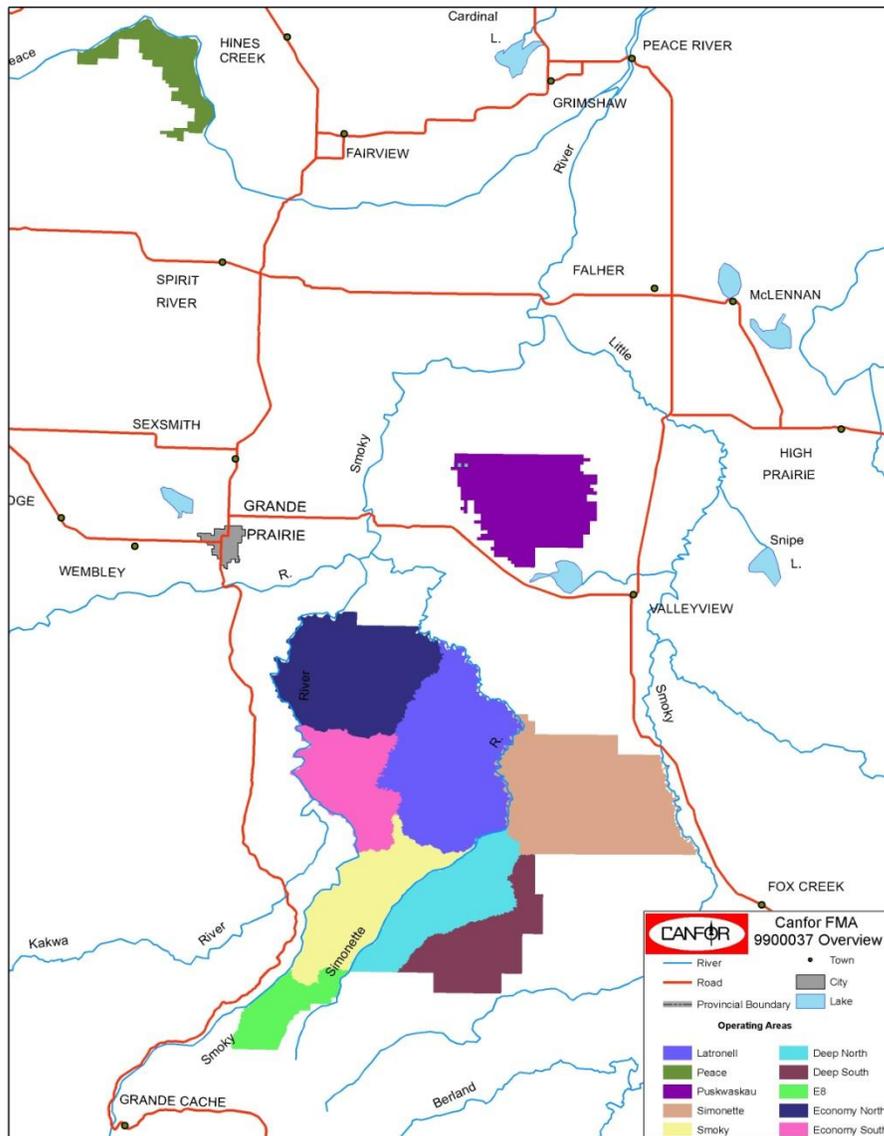


Figure 1. Defined Forest Area (DFA)

1.5. Landbase & Resource Information

Total Landbase: 649,160 hectares

Productive Landbase (Coniferous and Deciduous): 474,193 hectares

Approved (2009) Coniferous AAC: 715,000 m³/yr

Approved (2009) Deciduous AAC: 453,712 m³/yr

1.6. Annual Report

Canfor prepares an Annual Performance Monitoring Report to illustrate its progress in meeting commitments identified in the SFMP in accordance with the CAN/CSA Z809-02 standard (CSA, 2002). This report contains information regarding the achievement and maintenance of SFM requirements in general (Section 2) and also indicates the status of each of the 61 targets (Sections 3-9). An additional target was added in 2009 at the request of the FMAC. This target ((2.1) 1a.2.1) has not yet been updated in the SFMP, but is reported in the 2010 and 2011 Annual Performance Monitoring Report.

Three classifications are used for reporting performance toward achievement of each target:

1. Meets;
2. Does not meet;
3. Pending

2. Progress in Meeting and Maintaining SFM Requirements

In 2005, the Canfor FMAC developed quantifiable local level values, objectives, indicators and targets of sustainable forest management, as defined in the Canadian Standards Association CAN/CSA Z809-02 standard. These were then used to develop the 2005 SFMP. The SFMP was audited by an independent third party (KPMG Performance Registrar) and approved on November 7, 2005.

Since approval of the SFMP, Canfor Alberta has maintained overall conformance to the SFM requirements of the CAN/CSA Z809-02 standard and Canfor corporate commitments. Results of internal and external third party audits are included in Section 9.

Progress toward achievement of individual targets is included in Sections 3 – 8. Target results are reported for the 2011 calendar year unless it is stated that they are being reported for the 2010 timber year. (May 1, 2010 to April 30, 2011). Results of target achievement are summarized in Table 1 below.

Table 1. 2011 Target Summary

Target	Meets	Does Not Meet	Pending
(1.1) 1a.1.1 100% of the seral stages will meet the 2009 projections	X		
(1.2) 1a.1.1 To maintain the habitat suitability rating for each ecosection group for the period 1997 - 2017 at the 1997 level			X
(1.2) 1a.2 .1 Annually, zero bull trout watersheds with ≥ 35% equivalent clearcut area (ECA) above the H60 elevation.	X		
(1.2) 1a.3.1 Woodland caribou: no more than 20% of the area in pioneer or young seral condition and at least 20% of the area in old seral condition at key points in time Trumpeter swan: to buffer 100% of identified trumpeter swan lakes with a 200 m no harvest buffer (reported annually)	X		
(1.2) 1a.4.1 100% of the Canfor forestry staff receives training to identify and report rare plants (reported annually)	X		
(1.2) 1a.5.1 Participate in one or more biodiversity monitoring program(s) annually	X		
(1.2) 1a.6.1 100% of the pre-harvest volume per hectare CWD will be retained on harvest areas annually	X		
(1.2) 1a.7.1 The actual area in watercourse buffers is a minimum of 100% of the planned (DFMP) area annually	X		
(1.2) 1a.8.1 A minimum of 10% of the area harvested across the FMA area will contain structure retention accumulated annually beginning in 2002	X		
(1.3) 1a.1.1 MPS (ha) for 2009 will not fall below the MPS forecasts	X		
(1.3) 1a.2.1 The MNND for 2009 will not exceed the MNND forecasts	X		
(1.3) 1a.3.1 The AWMSI for 2009 will not fall below the AWMSI forecasts	X		
(1.3) 1a.4.1 100% of the total area by patch size class will meet the 2009 projections	X		
(1.3) 1a.5.1 A maximum of 70% of area is planted with genetically improved stock accumulated annually	X		

Target	Meets	Does Not Meet	Pending
(1.3) 1a.6.1 100% of utilized grass seed mix will not contain restricted or noxious weeds as identified in the Weed Control Act annually	X		
(1.3) 1b.1.1 100% of seeds collected and seedlings planted annually will be in accordance with the "Standards for Tree Improvement in Alberta"	X		
(1.4) 1a.1.1 100% of significant wildlife mineral licks will be conserved annually	X		
(1.4) 1a.2.1 100% of identified protected areas and special biologically significant sites will be conserved annually	X		
(2.1) 1a.1.1 100% of the identified insect and disease treatments will be scheduled for treatment annually	X		
(2.1) 1a.2.1 90% of the annual harvest area is within MPB pine susceptible stands beginning in the 2009 timber year.		X	
(2.1) 2a.1.1 100% of harvest areas meet the required regeneration standards as confirmed by completion of establishment surveys, measured on a 5-yr. rolling average	X		
(2.1).2a.2.1 100% of harvest areas meet the required regeneration standards as confirmed by completion of performance surveys, measured on a 5 year rolling average	X		
(2.2).1a.1.1 100% of the productive areas, adjacent to proposed harvest area boundaries, impacted by windfall receive a silviculture prescription annually	X		
(2.2).1a.2.1 100% of temporary "in block" roads used for extraction of timber will be reforested within 18 months after the end of the timber year of harvest	X		
(2.2).1a.3.1 100% of tasks outlined in the approved Growth and Yield Monitoring Plan are completed on schedule	X		
(3.1) 1a.1.1 Average accumulated post harvest site index will not be less than average pre harvest site index (with reporting commencing in 2008)	X		
(3.1) 2a.1.1 Zero major slumping events annually caused by road construction	X		
(3.1) 2a.2.1 Zero slumping events annually due to harvesting activities	X		
(3.1) 2a.3.1 Zero significant erosion events related to silviculture, harvesting and road activities annually	X		
(3.1) 2a.4.1 100% of temporary roads will be deactivated within 6 months after usage is complete	X		
(3.1) 2b.1.1 100% of prescriptions created throughout the year conform to Section 9.0.3 of the Operating Ground Rules	X		
(3.1) 2b.2.1 100% of harvest areas do not exceed the soil disturbance prescriptions annually		X	
(3.2) 1a.1.1 Less than 10% of surveyed stream crossings on forestry roads will have a "High" and "Very High" WQCR annually		X	
(3.2) 1a.2.1 100% of crossings receive remedial action as identified in the Road Maintenance Plan annually		X	
(3.2) 1a.3.1 Zero non-compliance incidents related to riparian zone standards annually		X	
(3.2) 2a.1.1 100% of sampled watersheds are in conformance with the annual average water yield increase limit of 15% as indicated in the Operating Ground Rules	X		

Target	Meets	Does Not Meet	Pending
(4.1) 1a.1.1 100% of harvest areas are reforested within 18 months after the end of the timber year in which it was harvested	X		
(4.1) 1a.2.1 Reforest 100% of the productive areas >4 ha impacted by fire within 24 months	X		
(4.2) 1a.1.1 100% of the harvested area sufficiently restocked by yield group accumulated annually beginning in 2000		X	
(4.2) 1b.1.1 To leave less than 1% conifer and 1% deciduous harvested merchantable wood on site annually	X		
(4.2) 1b.2.1 100% of the dispositions where merchantable industrial salvage wood from permanent land withdrawals is utilized on an annual basis	X		
(4.2) 2a.1.1 To have no more than 0.6 lineal km/km ² in open (non-reclaimed) roads over a 5-year period, for each FMA parcel (Peace, Puskwaskau and Main)	X		
(4.2) 2b.1.1 100% of previously withdrawn areas that are suitable candidates for reforestation are restored to productive forestland within 24 months	X		
(5.1) 1a.1.1 Actual extraction rates (m ³) are less than or equal to the long-term harvest level (m ³) at the end of the 1999-2008 period	X		
(5.1) 2a.1.1 Canfor will maintain a minimum of 5 recreation areas for use by the public annually	X		
(5.1) 2a.2.1 100% of registered trappers directly impacted by harvesting, silviculture and reclamation operations are contacted as specified in the <i>Trapper Consultation and Notification Program</i> annually		X	
(5.1) 2a.3.1 100% of outfitters potentially affected by operations within the FMA area will be supplied a 5 year General Development Plan map annually		X	
(5.2) 1a.1.1 Over a rolling 5-year period, a minimum of 75% of dollars paid for contract services will be expended locally	X		
(5.2) 1b.1.1 Maintain 100% of identified social and cultural benefits that occur on the FMA area annually	X		
(5.3) 1a.1.1 Annual economic contributions to local communities will be a minimum of 80% of the 5 year rolling average	X		
(5.3) 1a.2.1 0.5% of the coniferous AAC is made available for local use and for local residents as per Forest Management Agreement (FMA) 9900037 annually	X		
(5.3) 1a.3.1 10,000 m ³ of the coniferous AAC is made available annually for Community Timber Use (CTU) program	X		
(6.1) 1a.1.1 100% conformance to SFMP targets of Element (1.2) Species Diversity and Element (3.2) Water Quality and Quantity annually		X	
(6.2) 1a.1.1 To annually provide a range of opportunities for early and effective consultation with Aboriginal peoples who have indicated interest in activities on the FMA area	X		
(6.2) 1b.1.1 100% conformance to the prescriptions for historical resources prepared by a certified archaeologist annually	X		
(6.2) 1b.2.1 100% of known local historical resources are respected annually	X		

Target	Meets	Does Not Meet	Pending
(6.3) 1a.1.1 100% conformance to the FMAC's Terms of Reference (TOR) annually	X		
(6.3) 1a.2.1 To provide a minimum of 4 types of opportunities for public participation annually	X		
(6.3) 1a.3.1 To make initial contact to 100% of public inquires within one month of receipt	X		
(6.4) 1a.1.1 To provide a minimum of 8 different opportunities to enhance knowledge annually	X		
(6.4) 1a.2.1 To be involved in a minimum of 10 active research projects annually	X		
	51	9	1

3. Criterion 1: Conservation of Biological Diversity

Conserve biological diversity by maintaining integrity, function and diversity of living organisms and the complexes of which they are part.

Critical Element (1.1): Ecosystem Diversity

Conserve ecosystems diversity at the landscape level by maintaining the variety of communities and ecosystems that naturally occur on the DFA.

Value (1.1) 1: All natural ecosystems are important on the landscape

Objective (1.1) 1a: All current ecosystems are represented on the landscape at natural levels

Indicator (1.1) 1a.1: Area (%) in each seral stage

<p>Target (1.1) 1a.1.1: 100% of the seral stages will meet the 2009 projections.</p>	<p>Acceptable variance: ± 20% of the 2009 projections</p>
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Status: Meets

The reporting of this target was completed in 2009 and the next scheduled reporting period is 2019. In the meantime, Canfor, with the assistance of the Forest Management Advisory Committee (FMAC) are working on development of a new SFMP and associated Values, Objectives, Indicators and Targets (VOITs). Information regarding the reporting of this target remains the same as reported in the 2009 APMR.

Maintenance of appropriate seral stage distribution is important for the conservation of biodiversity as it enables continuation of a full range of successional habitats for wildlife and ecosystem types over the long-term (CCFM, 1997). Seral stages are defined by the age of the forest stand, measured at breast height (1.3 meters above ground level) for various yield groups (Table 2).

Seral stage quantification is a surrogate measurement that reflects an important aspect of the biodiversity of the forest. In maintaining biodiversity and the recycling of life sustaining elements, it is important that the impacts of forest management on seral stage distribution be within the natural range of variability. The seral stage indicator offers a means to assess the results of forest management on the age distribution of the forest, species composition and relative amount of wildlife habitat on the landscape.

The seral stage results reflect implementation of the DFMP Healthy Pine Strategy (HPS) amendment. As indicated in tables 2-5, 19 of 20 (95 percent) seral stage groups are within the acceptable variance of 20% compared to the updated forecasts for the 2005 SFMP. The pioneer seral stage in the Peace Parcel exceeds the acceptable variance because of accelerated harvest activities in MPB infested stands.

Table 2. Seral Stage Distribution for the FMA Area

	Area (ha) in each Seral Stage					Total Forested Landbase
	Pioneer(1)	Young(2)	Mature(3)	OverMature(4)	Old(5)	
2009 Current ¹	28,935	90,670	248,171	170,832	49,325	587,932
2009a (SFMP Updated) ²	30,389	93,105	246,750	170,613	47,076	587,932
Percent Variance	-4.8%	-2.6%	0.6%	0.1%	4.8%	
2009 Current ¹ - Result from the Healthy Pine Strategy (HPS) DFMP amendment.						
2009a (SFMP Updated) ² - This is the projected outcome from the 2005 SFMP document.						

Table 3. Seral Stage Distribution for the Peace Parcel

	Area (ha) in each Seral Stage					Total Forested Landbase
	Pioneer(1)	Young(2)	Mature(3)	OverMature(4)	Old(5)	
2009 Current	652	1,929	20,915	1,897	508	25,901
2009a (SFMP Updated)	0	1,927	21,542	1,920	511	25,901
Percent Variance	100.0%	0.1%	-2.9%	-1.2%	-0.6%	

Table 4. Seral Stage Distribution for the Puskwaskau Parcel

	Area (ha) in each Seral Stage					Total Forested Landbase
	Pioneer(1)	Young(2)	Mature(3)	OverMature(4)	Old(5)	
2009 Current	2,689	12,822	29,673	12,072	5,949	63,205
2009a (SFMP Updated)	2,957	13,185	29,605	11,509	5,949	63,205
Percent Variance	-9.1%	-2.7%	0.2%	4.9%	0.0%	

Table 5. Seral Stage Distribution for the Main Parcel

	Area (ha) in each Seral Stage					Total Forested Landbase
	Pioneer(1)	Young(2)	Mature(3)	OverMature(4)	Old(5)	
2009 Current	25,595	75,919	197,583	156,863	42,868	498,827
2009a (SFMP Updated)	27,432	77,993	195,603	157,184	40,615	498,827
Percent Variance	-6.7%	-2.7%	1.0%	-0.2%	5.5%	

Critical Element (1.2): Species Diversity

Conserve species diversity by ensuring that habitats for the native species found on the FMA are maintained through time.

Value (1.2) 1: Through time all current habitats are represented.

Objective (1.2) 1a: Current species diversity is maintained on the landscape.

Indicator (1.2) 1a.1: Habitat suitability rating.

Target (1.2) 1a.1.1:

To maintain the habitat suitability rating for each ecosection group for the period 1997-2017 at the 1997 level.

Acceptable variance:

To maintain, within $\pm 20\%$, the proportions (area) of general habitat, critical habitat and landscape metrics that contribute to each wildlife guild habitat suitability rating.

Status: Pending

Since 2006-2008, Canfor has altered the planned spatial harvest sequence and has completed a Healthy Pine Strategy DFMP amendment. The process includes calculation of annual allowable cut levels and preparation of a corresponding spatial harvest sequence for both coniferous and deciduous species groups. This target will be reassessed during preparation of the next Sustainable Forest Management Plan (SFMP) and Forest Management Plan.

A new Sustainable Forest Management Plan that will meet the CSA Z809-08 standards is scheduled for completion in 2012. Canfor's FMAC has established values, objectives, indicators and targets and is currently being reviewed by Alberta Sustainable Resource Development (ASRD) for alignment to the Forest Management Planning Standards. The Forest Management Plan process is also underway and Canfor has entered into discussions with government about priority species monitoring.

Indicator (1.2) 1a.2: Number of bull trout watersheds with $\geq 35\%$ Equivalent Clearcut Area (ECA) above the H60⁵ elevation.

Target (1.2) 1a.2.1:

Annually, zero bull trout watersheds with $\geq 35\%$ equivalent clear-cut area (ECA) above the H60 elevation.

Acceptable variance:

No more than 5 (3%) of the watersheds in the bull trout area to exceed 35% ECA above the H60 elevation

Status: Meets

Bull trout habitat is monitored by calculating the Equivalent Clearcut Area (ECA) in bull trout watersheds above the H60 elevation. Each year Canfor utilizes the Detailed Forest Management Plan (DFMP)/Annual Operating Plan (AOP) validation process to verify whether the ECA within selected watersheds exceeds the target. Four (4) watersheds exceeded the 35% target as indicated in 2010 APMR. As indicated in Table 6, of the four watersheds that exceeded the 35% reported in 2010, two have recovered below the 35% ECA

⁵ H60 is the elevation above which 60% of the watersheds lie (the watershed area above the H60 is considered as the source area for the major snowmelt peak flows).

Table 6. Watersheds above the ECA of 35%

Watershed ID	2007 ECA%	2008 ECA%	2009 ECA%	2010 ECA%	2011 ECA%
670	-	36	36	37	31
696	-	-	-	39	35
4877	-	38	37	35	32
7658	-	-	-	46	42

Indicator (1.2) 1a.3: Percentage of habitat for endangered⁶ or threatened⁷ vertebrate species over time.

Target (1.2) 1a.3.1:

Woodland Caribou: No more than 20% of the area in pioneer or young seral condition and at least 20% of the area in old seral condition at key points in time.

Trumpeter Swan: To buffer 100% of identified trumpeter swan lakes with a 200-metre no harvest buffer (reported annually).

Acceptable variance:

Woodland Caribou: In 2009 pioneer/young seral condition will be $\leq 18\%$ of the area and for old seral condition will be $\geq 11\%$ of the area.

Trumpeter Swan: Zero

Status: Woodland Caribou: **Meets**

Trumpeter Swan: **Meets**

Woodland Caribou

The reporting of this target was completed in 2009 and the next scheduled reporting period is 2019. In the meantime, Canfor and the FMAC are working on developing a new SFMP and associated VOITs. Planning activities are also being completed by signatories to the Canadian Boreal Forest Agreement (CBFA) that may influence Canfor's caribou habitat management strategies. However, at this time, information regarding this target remains the same as reported in the 2009 APMR.

The percentage area in pioneer/young and old seral condition through key points in time for the 2005 SFMP versus the 2009 approved HPS is depicted in the following table.

Table 7. Comparison of Pioneer/Young and Old Seral Stages for Woodland Caribou through Key Points in Time.

Year	2005 SFMP		HPS	
	Pioneer/Young (%)	Old (%)	Pioneer/Young (%)	Old (%)
1999	13	10	13	10
2005	15	10	15	12
2009	18	11	16	12

⁶ Endangered: Any species facing imminent extirpation or extinction

⁷ Threatened: Any species likely to become endangered if limiting factors are not reversed.

In July 2008, the *West Central Alberta Caribou Landscape Plan* (WCACLP) was submitted to the Alberta Caribou Committee Governance Board. The WCACLP defines and identifies areas of primary caribou habitat intactness, including a portion of the range of the Little Smoky Caribou herd in the southern portion of Canfor's FMA area. Canfor has made a commitment in its Healthy Pine Strategy DFMP amendment to defer harvesting in the primary intactness area (see Figure 2) to year 2022. Canfor also committed to not harvest in the un-fragmented areas outside of the primary intactness area until May 1, 2011, as noted in the approval decision of the DFMP amendment (ASRD, 2010). Canfor is currently in consultation with ASRD Fish and Wildlife in the process in developing a new Forest Management Plan and new Caribou strategy. Until completion of new Caribou strategy, Canfor will continue deferral of harvesting in areas identified in Figure 2 primary south of Deep Valley River until completion of the FMP. Table 7 indicates that the pioneer/young seral stage is 2% favourable to the forecast and the old seral stage is 1% favourable to the forecast. With the anticipated spread of MPB, seral stage will be impacted as pine trees die. The effect of the Healthy Pine Strategy on the woodland caribou target has been modelled, and the results indicate that progress toward the pioneer and young seral stage target will be negatively affected whereas the old seral stage target can be achieved within the same time period as forecasted in the original DFMP. The models indicate that the Healthy Pine Strategy provides a more favourable outcome with respect to both seral stage targets than the modelled "disaster" scenario in which most of the pine is killed by mountain pine beetle.

Trumpeter Swan

Known trumpeter swan nest sites are protected with a 200-metre no-harvest buffer. Newly discovered water bodies supporting trumpeter swan habitat are confirmed by ASRD and their locations are provided to Canfor for inclusion in the company's spatial data base. The locations of harvest areas from the 2010 Timber Year were superimposed onto known buffered water bodies indicating that no incursions occurred.

In December of 2010, Canfor received an updated trumpeter swan location file from ASRD. Canfor worked with ASRD and validated the file. The 2011 timber year planned harvest was checked to see if there were any conflicts with the new trumpeter swan location file. None were found.

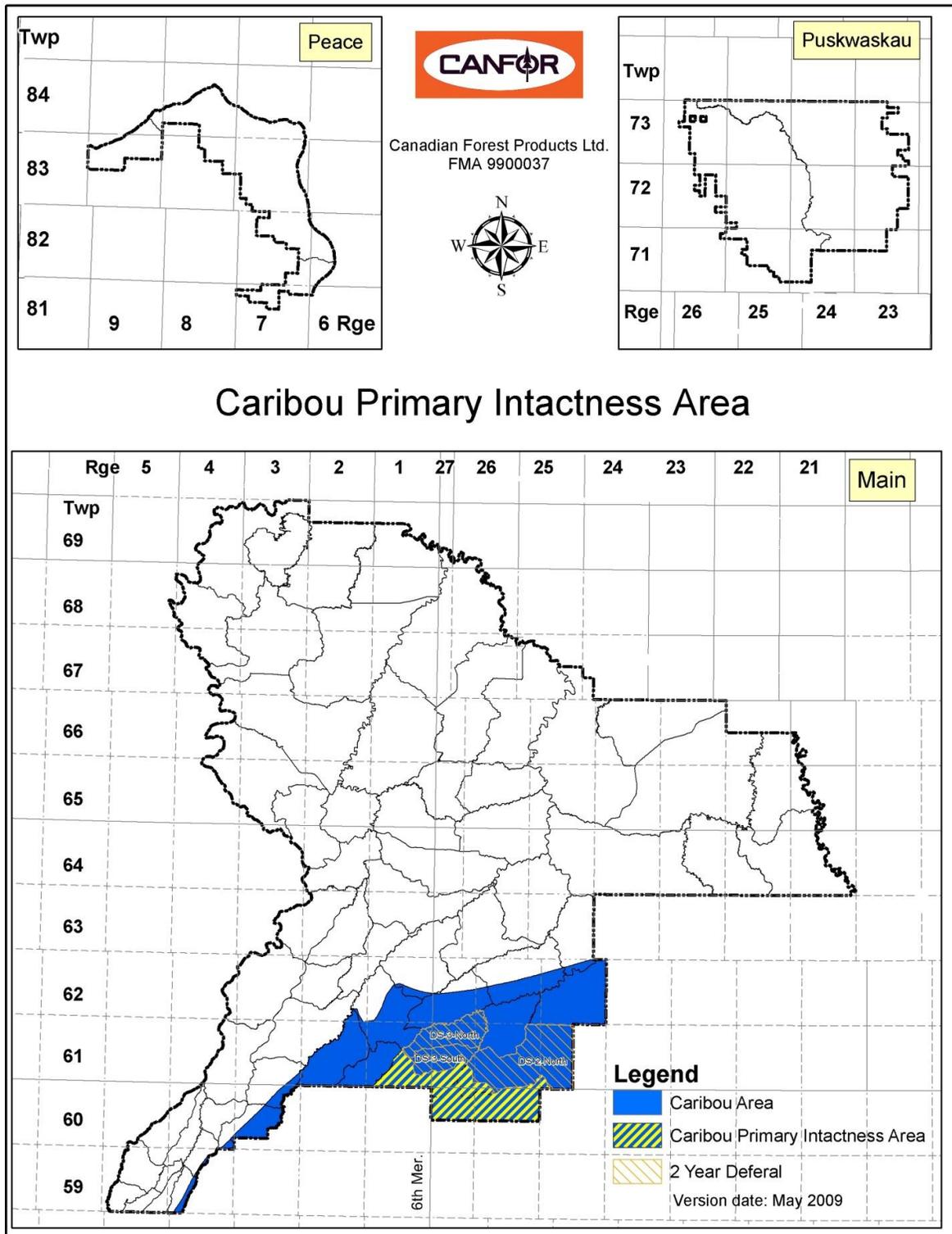


Figure 2. Caribou Primary Intactness Area

Indicator (1.2) 1a.4: Percentage of Canfor forestry staff trained to identify rare plants.

<p>Target (1.2) 1a.4.1: 100% of Canfor forestry staff receives training to identify and report rare plants (reported annually).</p>	<p>Acceptable variance: 90% of forestry staff receives training to identify and report rare plants.</p>
--	--

Status: Meets

All staff members requiring rare plant identification training have received training. There were no new staff members in 2011 (Table 8). Training prepares individuals to find data regarding the probability of encountering rare plants and to process findings without endangering the plants or their habitats.

Table 8. Staff Trained in Rare Plant Identification and Reporting

	Forestry Employee	Date Trained
Full Time Forestry Employees	Operations Manager	16-Dec-05
	Operations Superintendent	16-Dec-05
	Planning Coordinator	12-Jun-01
	Forestry Supervisor (Silviculture)	16-Dec-05
	Forestry Supervisor (Planning)	12-Jun-01
	Forestry Supervisor (Silviculture)	6-May-08
	Forestry Supervisor (Planning)	16-Dec-05
	Forestry Supervisor (Planning)	8-Jun-05
	Forestry Supervisor (Harvesting)	6-May-08
	Forestry Supervisor (road)	16-Dec-05
	Forestry Supervisor (Harvesting)	16-Dec-05
	Landuse Supervisor	16-Dec-05
	Forestry Supervisor (Harvesting)	10-Jun-10
Summer Student	Silviculture Student	3-May-10
	Silviculture Student	3-May-10
Total Required Forestry Personnel Trained		100%

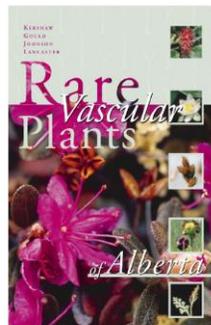


Figure 3. Rare Vascular Plants of Alberta Book

Indicator (1.2) 1a.5: Number of biodiversity monitoring programs in which Canfor actively participates.

<p>Target (1.2) 1a.5.1: Participates in 1 or more biodiversity monitoring program(s) annually.</p>	<p>Acceptable variance: Zero</p>
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Status: Meets

Canfor continues to support two biodiversity monitoring programs.

Commencing in 1997, Canfor and other partners established the Ecological Management Emulating Natural Disturbance (EMEND) project located near Peace River, Alberta. The EMEND project is a large-scale variable retention harvest experiment designed specifically to answer questions about how retention of green tree residuals affects harvest cost, forest regeneration, patterns of succession, biodiversity, nutrient cycling, ground water characteristics and public perception. EMEND is a long-term project that began in 1998 and is forecast to run for one stand rotation, or approximately 80 to 100 years. The project has two primary objectives:

- To determine which forest harvest and regenerative practices best maintain biotic communities, spatial patterns of forest structure and functional ecosystem integrity in comparison with mixed-wood landscapes that have originated through wildfire and other inherent natural disturbances; and
- To employ economic and social analyses to evaluate these practices in terms of economic viability, sustainability and social acceptability.

<http://www.emend.rr.ualberta.ca/index.asp>

Canfor has been a partner in the funding of the EMEND project since inception.

In 2011, Canfor continued to be an active participant on the EMEND management committee. The committee was successful in securing additional funds which will sustain EMEND through 2012.

Canfor also continues to monitor the Alberta Biodiversity Monitoring Program.

<http://www.abmi.ca/abmi/home/home.jsp>

Indicator (1.2) 1a.6: Percentage (volume/ha) of Coarse Woody Debris (CWD) on harvested areas.

<p>Target (1.2) 1a.6.1: 100% of the pre-harvest volume per hectare CWD will be retained on harvest areas annually.</p>	<p>Acceptable variance: >90% of the pre-harvest CWD volume per hectare.</p>
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Status: Meets

Current harvest practices require all excessive dead or dry fiber to be left disbursed within the harvest area during operations. With the onset of a large percentage of red attacked mountain pine beetle trees in the FMA, dry beetle trees with multiple checks are being left on site within harvest areas because they do not meet log quality standards for saw log production. These trees are often harvested to facilitate operations and left scattered within the harvest area or left as single tree retention.

In 2011, due to economic conditions, deciduous companies operating on the FMA waived their requirement to take all incidental deciduous from areas associated with Canfor harvest activities. Approximately 45% of the area harvested for conifer by Canfor was comprised of mixed wood or deciduous leading stands. Deciduous volume within road right-of-ways was harvested to facilitate conifer operations and scattered within the block area in single tree form contributing to the CWD volume on site.

Recurrent previous surveys have indicated that the amount of CWD left after harvesting more than exceeds the pre-harvest volume. With the additional volume outlined above being taken into account for 2011, it is accurate to state that the volume of CWD retained within harvest areas in 2011 far exceeded the pre-harvest CWD volume on site.

Indicator (1.2) 1a.7: Percentage of area (ha) in watercourse buffers.

Target (1.2) 1a.7.1:	Acceptable variance:
The actual area in watercourse buffers is a minimum of 100% of the planned (DFMP) area (ha) annually.	Zero

Status: Meets

A total of 37,716 ha are designated in the DFMP as watercourse buffers. A comparison of the area of planned watercourse buffers reported in the 2011 Annual Operating Plan (AOP) to the area designated (i.e. planned) as DFMP watercourse buffers was completed. Table 9 indicates that during the development of the 2011 AOP an accumulated 4 percent of the timber harvesting landbase (1,402 ha) was reclassified as watercourse buffers. The primary reason for this reclassification is that the original DFMP watercourse buffer map layer did not identify all streams that are now present on the landbase. In addition, buffers planned in the AOP are often extended to take advantage of existing terrain features so that stable boundaries are established.

Note: It is assumed that the area planned as watercourse buffers in AOP's equals the actual area in watercourse buffers specified in the target.

Table 9. DFMP Buffer Area versus AOP Buffer Area

Year	DFMP Buffer Area (ha)	Additional Area Buffered (deleted) in the AOP (ha)	DFMP buffer area not used (added back to DFMP landbase)(ha)	Net addition of landbase into buffers (ha)	Net Total Area in Buffers (ha)	% of Landbase in Buffers over the DFMP
2006	37716	4,415	2,766	1,649	39,365	4%
2007	37716	4,452	2,813	1,639	39,355	4%
2008	37716	4,492	2,944	1,548	39,264	4%
2009	37716	4,494	2,984	1,510	39,226	4%
2010	37716	4,597	3,103	1,494	39,210	4%
2011	37716	4,598	3,195	1,402	39,119	4%

Indicator (1.2) 1a.8: Percent of the area harvested across the FMA area with structure retention.

Target (1.2) 1a.8.1:

A minimum of 10% of the area harvested across the FMA area will contain structure retention accumulated annually beginning in 2008.

Acceptable variance:

Minimum of 5% of the area harvested across the FMA area will contain structure retention accumulated annually.

Status: Meets

In the 2010 timber year, 3,831 ha that were harvested across the FMA area had wide range of dispersed structure left throughout the operating areas. Deciduous harvested blocks were included in this calculation. Table 10 shows that the accumulated average retention for this reporting period was eleven (11) percent.

Table 10. Area (ha) and Percentage of Structure Retention across the FMA Area

Timber Year	Total Harvested (ha)	Total Retention (ha)	Total Retention % (accumulated average)
2008	2,826	320	11%
2009	3,886	498	12%
2010	3,831	414	11%

Critical Element (1.3): Genetic Diversity

Conserve genetic diversity by maintaining the variation of genes within species.

Value (1.3) 1: Respect the natural genetic diversity.

Objective (1.3) 1a: Genetic diversity will be maintained on the landscape.

Indicator (1.3) 1a.1: Mean Patch Size (MPS) (ha).

<p>Target (1.3) 1a.1.1: The MPS (ha) for 2009 will not fall below the MPS forecasts for each reporting unit.</p>	<p>Acceptable variance: MPS will not fall below 15% of the area of the 2009 MPS forecast for the FMA area and the Peace, Puskwaskau and Main parcels</p>
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Status: Meets

The reporting of this target was completed in 2009 and the next scheduled reporting period is 2019. In the mean time, Canfor and its FMAC are working on developing a new SFMP and associated VOITS. Information in regards to this target remains the same as reported in the 2009 APMR.

Mean Patch Size (MPS), together with patch size distribution in various seral stage⁸ classes, provides an insight into the level of fragmentation of the forestland. Forest patches are created by natural disturbance (wind, fire, pests etc.) and through harvesting activities. Over an entire rotation, forest management activities can alter the distribution and size of patches by fragmenting the landscape beyond the limits of natural variability. Many of the landscape level bird studies report mean patch size to be an effective indicator of incidence and reproductive output (Edenius and Sjoberg 1997; Roberts and Norment 1999).

The MPS results reflect implementation of the DFMP Healthy Pine Strategy (HPS) amendment. All MPS results are within the acceptable variance as compared to the updated forecast for the 2005 SFMP.

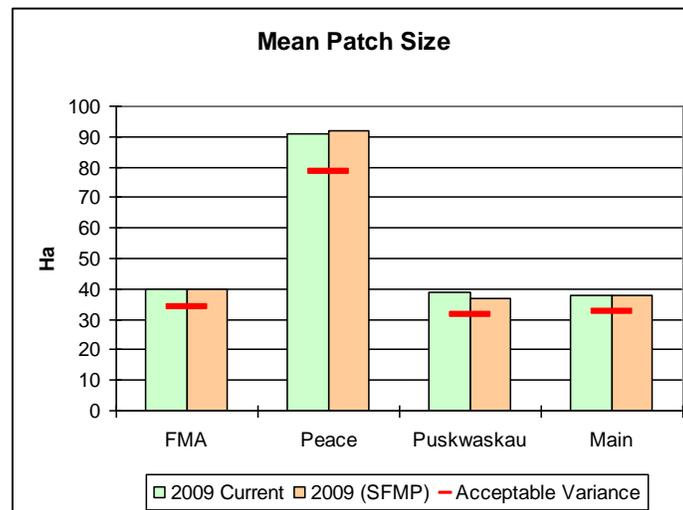


Figure 4. MPS Forecast for each FMA Parcel

⁸ Seral stage: Series of plant community conditions that develop during ecological succession from bare ground to the potential plant community capable of existing on a site where stand replacement begins and the secondary successional process starts again.

Indicator (1.3) 1a.2: Mean Nearest Neighbor Distance (MNND) (m).

<p>Target (1.3) 1a.2.1: The MNND for 2009 will not exceed the MNND forecasts.</p>	<p>Acceptable variance: MNND will not exceed +15% of the 2009 forecast for the FMA area and the Peace, Puskwaskau and Main parcels.</p>
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Status: Meets

The reporting of this target was completed in 2009 and the next scheduled reporting period is 2019. In the mean time, Canfor and its FMAC are working on developing a new SFMP and associated VOITS. Information in regards to this target remains the same as reported in the 2009 APMR.

Mean Nearest Neighbor Distance (MNND) describes the proximity of forest patches, thus providing a quantitative measure of connectivity (Schumaker, 1996; With, 1999). Connectivity is a complementary measure of the degree to which forest patches can be considered joined together on the basis of a minimum acceptable separation distance. The connectivity (distance) of habitat patches is extremely important for large animals such as moose and caribou, two of the indicator species on the FMA area.

The MNND results reflect implementation of the DFMP Healthy Pine Strategy (HPS) amendment. All MNND results are within the acceptable variance as compared to the updated forecasts for the 2005 SFMP.

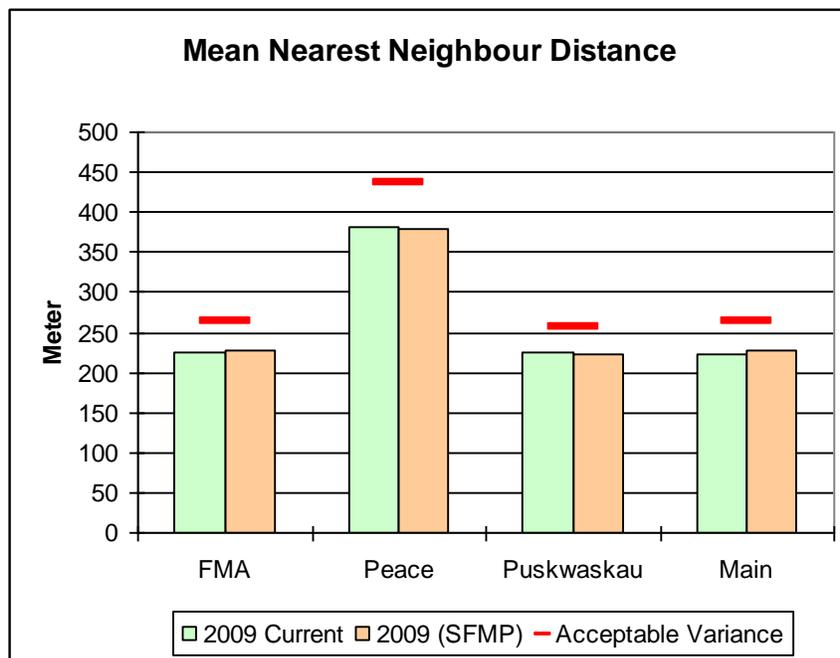


Figure 5. MNND Forecast for each FMA Parcel

Indicator (1.3) 1a.3: Area Weighted Mean Shape Index (AWMSI).

<p>Target (1.3) 1a.3.1: The AWMSI for 2009 will not fall below the AWMSI forecast.</p>	<p>Acceptable variance: AWMSI will not decrease by –15% of the 2009 forecast for the FMA area and the Peace, Puskwaskau and Main parcels.</p>
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Status: Meets

The reporting of this target was completed in 2009 and the next scheduled reporting period is 2019. In the mean time, Canfor and its FMAC are working on developing a new SFMP and associated VOITS. Information in regards to this target remains the same as reported in the 2009 APMR.

Area-Weighted Mean Shape Index (AWMSI) provides a measure of patch shape complexity based on the perimeter-to-area ratio. The complexity of patch shapes in combination with the area of the shapes can influence many ecological processes. Small mammal migration, woody plant colonization and animal foraging strategies are influenced by patch shape. Many ecological effects attributed to the complexity of shape are actually related to “edge effects. In addition, shape influences the operability and economics of forest harvesting. For example, elongated harvest areas require more road construction than compact harvest areas and thus are more costly. Planned harvest areas are generally simple in shape and are usually somewhat rectangular. Where this is the case, the lack of measured complexity can be compensated operationally by retaining single trees or patches near harvest area boundaries and by establishing minor boundary changes in the field to create more edges relative to area.

The AWMSI results reflect implementation of the DFMP Healthy Pine Strategy (HPS) amendment. All AWMSI results are within the acceptable variance as compared to the updated forecasts for the 2005 SFMP.

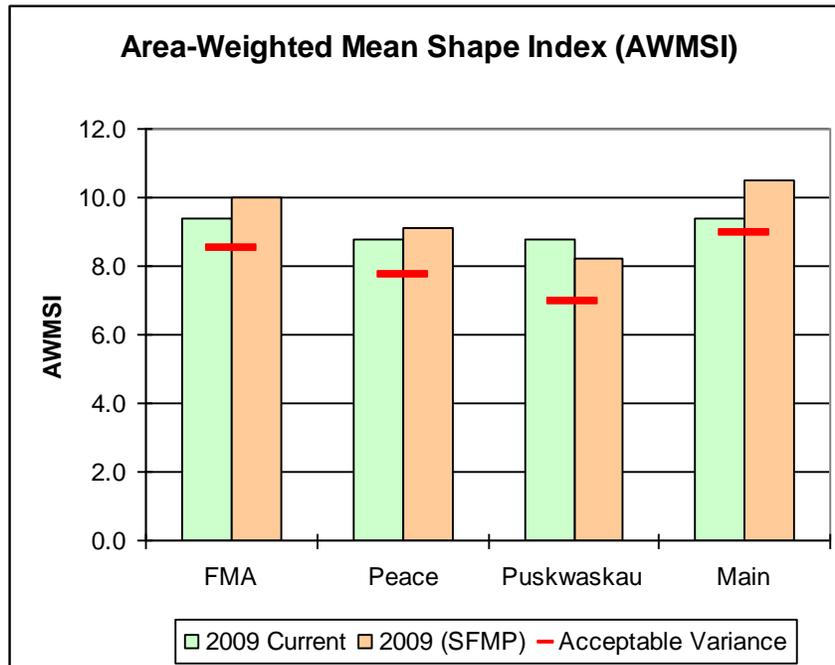


Figure 6. AWMSI Forecast for each FMA Parcel

Indicator (1.3) 1a.4: Percentage of total area by patch size class.

Target (1.3) 1a.4.1:

100% of the total area by patch size class will meet the 2009 projections.

Acceptable variance:

±10% of the 2009 forecast.

Status: Meets

The reporting of this target was completed in 2009 and the next scheduled reporting period is 2019. In the mean time, Canfor and its FMAC are working on developing a new SFMP and associated VOITS. Information in regards to this target remains the same as reported in the 2009 APMR.

Patch size distributions were derived for the Boreal Forest and Foothills Natural regions based on theoretical fire-return intervals (ORM, 2000). Targets for the Boreal Forest Natural region were derived from measured patch size classes of four 20-year periods of unmanaged forests (Delong and Tanner, 1996); while targets for the Foothills Natural region were based on the distribution of patch sizes in historical pre-suppression air photos of the Foothills Model Forest in Hinton, Alberta (Andison, 1997).

The patch size results reflect implementation of the DFMP Healthy Pine Strategy (HPS) amendment. Patch sizes are within the acceptable variance as compared to the updated forecasts for the 2005 SFMP.

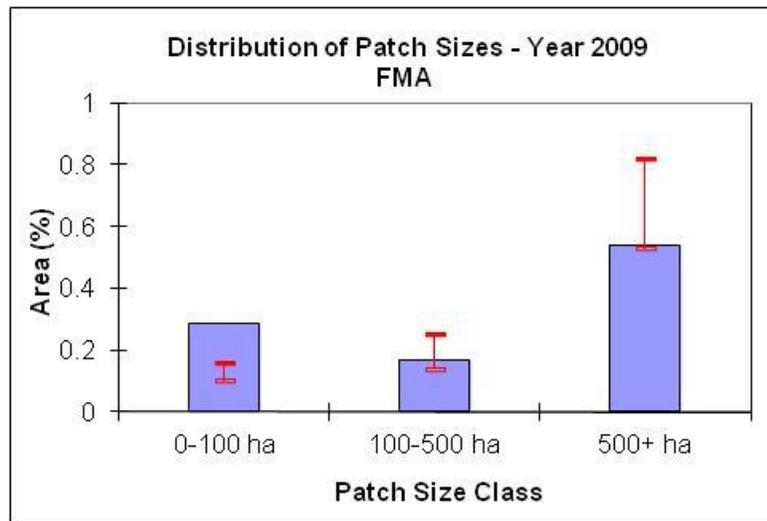


Figure 7. FMA Patch Size Forecast

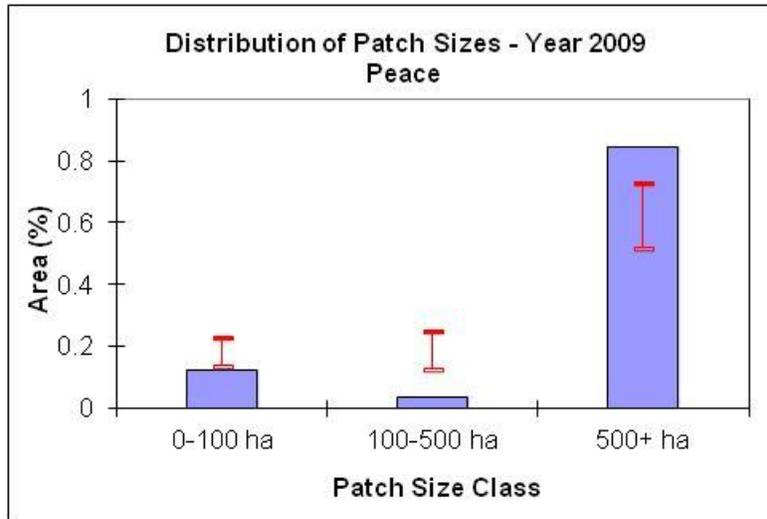


Figure 8. Peace Patch Size Forecast

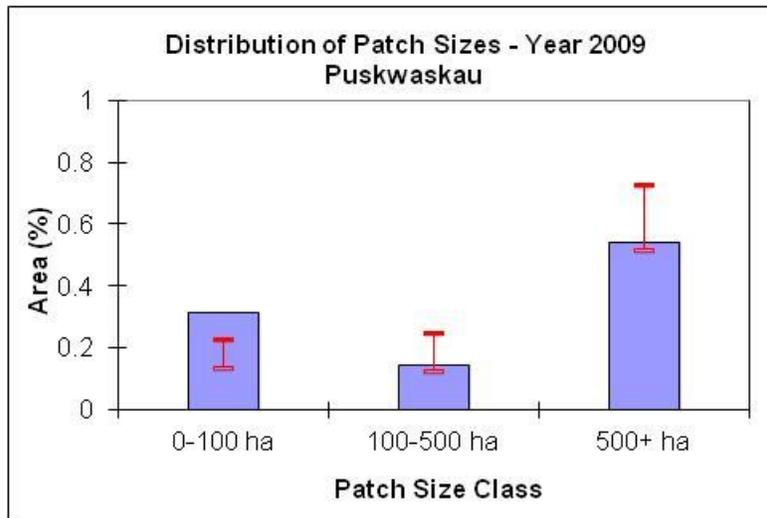


Figure 9. Puskwaskau Patch Size Forecast

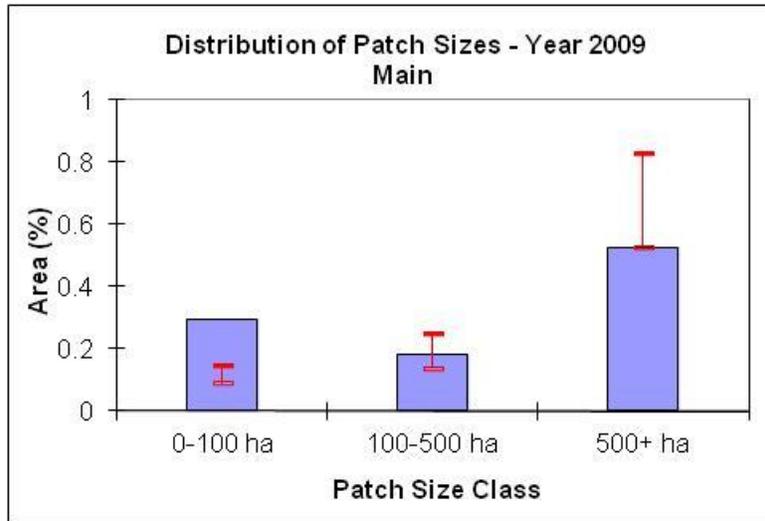


Figure 10. Main Patch Size Forecast

Indicator (1.3) 1a.5: Percentage of area planted with genetically improved stock.

Target (1.3) 1a.5.1: A maximum of 70% of area is planted with genetically improved stock accumulated annually.	Acceptable variance: Zero.
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Status: Meets

Canfor began planting genetically improved lodgepole pine stock on the FMA area in 2002. In 2004, white spruce genetic stock became available and has been planted on the FMA area since that time. In order to maintain sufficient genetic diversity on the FMA, the proportion of genetically improved stock that is planted is controlled. Table 11 indicates that since 2002, the accumulated percent of area planted with genetically improved stock is well within the target.

Table 11. Area Planted with Genetically Improved Stock

Year	Total Area Planted (cumulative) (ha)	Total Area Planted with Genetically Improved Stock (cumulative) (ha)	% Area Planted with Genetically Improved Stock
2002	2541	252	10%
2003	5643	460	8%
2004	8529	1295	15%
2005	11525	2639	23%
2006	14343	4097	29%
2007	17166	5423	32%
2008	19239	6806	35%
2009	21343	8150	38%
2010	24047	9456	39%
2011	26760	11166	42%

Indicator (1.3) 1a.6: Percentage of grass seed mix that contains restricted and noxious weeds.

Target (1.3) 1a.6.1:

100% of utilized grass seed mix will not contain restricted or noxious weeds as identified in the Weed Control Act annually.

Acceptable variance:

Zero

Status: Meets

Seed purity is confirmed prior to seeding by reviewing the “Certificate of Seed Analysis” provided by the seed seller. All seed used in reclamation, deactivation, erosion control and new road construction in 2011 was free of restricted or noxious weed seeds.

Objective (1.3) 1b: Conditions that support genetic diversity of species will be maintained.

Indicator (1.3) 1b.1: Percentage of seeds collected and seedlings planted in accordance with the “*Forest Genetics Resource Management and Conservation Standard (FGRM)*” (ASRD, 2009)*.

Target (1.3) 1b.1.1:

100% of seeds collected and seedlings planted annually will be in accordance with “*Forest Genetics Resource Management and Conservation Standard*”.

Acceptable variance:

Zero

Status: Meets

On May 1, 2009, ASRD released a new version of STIA and renamed it “Forest Genetics Resource Management and Conservation Standard (FGRM). (ASRD, 2009). This change has also been updated in the 2010 AMPR.

No wild seed was collected in 2011. Of the 3.13 million seedlings planted on the FMA area in 2011, no seedlings were planted outside FGRM guidelines.

Critical Element (1.4): Protected Areas & Sites of Special Biological Significance

Respect protected areas identified through government processes. Identify sites of biological significance within the FMA and implement management strategies appropriate to their long-term maintenance.

Value (1.4) 1: Identified protected areas and sites that have special biological significance.

Objective (1.4) 1a: The natural states and processes to maintain protected areas and sites that have special biological significances will be conserved.

Indicator (1.4) 1a.1: Percentage of significant wildlife mineral licks conserved.

Target (1.4) 1a.1.1:

100% of significant wildlife mineral licks will be conserved annually.

Acceptable variance:

Zero.

Status: Meets

Canfor FMA 9900037 Operating Ground Rules (ASRD 2008) require 100 meter buffers to be established and not harvested on identified “natural” mineral licks.

In 2011, 5 significant “natural” mineral licks were identified, buffered in the field and mapped to ensure harvesting will not occur within them.

Table 12. Natural Mineral Licks Buffered

Year	Mineral Licks
2003 and previous years	60
2004	16
2005	15
2006	8
2007	4
2008	2
2009	7
2010	7
2011	5
Total	124

Indicator (1.4) 1a.2: Percentage of identified protected area and special biological significant sites that are conserved.

Target (1.4) 1a.2.1:

100% of identified protected areas and special biological significant sites will be conserved annually.

Acceptable variance:

Zero.

Status: Meets

Spatial analysis in 2011 of the Dunvegan West Wildland Provincial Park, Parabolic Sand Dunes, watercourse buffers, wildlife mineral licks, trumpeter swan buffers, and historical resources confirmed that none of the sites were impacted by timber harvesting. (Table 13)

Table 13. Protected Areas and Sites of Special Biological Significance

Classification	Identifier	2007 Area (ha)	2008 Area (ha)	2009 Area (ha)	2010 Area (ha)	2011 Area (ha)	% FMA area
Protected areas	Dunvegan West Wildland Provincial Park	4,471	4,471	4,471	4,471	4,471	0.7%
Areas of Special Biological	Parabolic sand dunes ¹	6,114	6,114	6,114	6,114	6,114	0.9%
	Watercourse buffers ²	39,355	39,264	39,226	39,210	39,119	6.0%
	Wildlife mineral licks	299	300	326	335	340	0.1%
	Trumpeter swan buffers ³	5,170	5,170	5,170	5,892	5,892	0.9%
	Historical resources ⁴	70 Sites	75 Sites	95 Sites	116 sites	124 sites	NA
	subtotal	50,938	50,848	50,836	51,551	51,465	7.8%
	Total	55,409	55,319	55,307	56,022	55,936	8.5%

Notes:

FMA area is 649,160 ha

1. Parabolic sand dunes - area was incorrectly reported in the SFMP (2006) due to a typo. (6141 vs 6114)

2. Watercourse Buffers are adjusted annually to account for the variability of buffers used and not used from the DFMP - see indicator (1.2) 1a.7.1 for explanation.

3. Swan buffer areas include water body areas. Received new swan buffer files from SRD in 2010.

4. All sites will be mapped and 'protected' as prescribed by a certified archaeologist. To date, less than 1 ha has been prescribed into "buffers" (15m X 100m buffer on one site on an edge of a harvest opening). The majority of 'protection' of identified sites has been via other methods e.g. winter logging.

4. Criterion 2: Maintenance and Enhancement of Forest Ecosystem Condition and Productivity

Conserve forest ecosystem condition and productivity by maintaining the health, vitality, and rates of biological production.

Critical Element (2.1): Forest Ecosystem Resilience

Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.

Value (2.1) 1: Healthy forest ecosystem.

Objective (2.1) 1a: Factors that lead to forest ecosystem health will be identified and maintained.

Indicator (2.1) 1a.1: Percentage of identified prescribed insect and disease areas scheduled for treatment.

<p>Target (2.1) 1a.1.1: 100% of the identified prescribed insect and disease treatments will be scheduled for treatment annually.</p>	<p>Acceptable variance: Zero</p>
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Status: Meets

Mountain pine beetle (MPB) continues to be the only forest insect or disease that requires treatment on the FMA. The MPB presence is in all timber supply compartments.

In the 2010 timber year, Canfor confirmed MPB presence in harvest areas representing 2645 ha, or 98.6% of the total harvest. This confirms that Canfor is continuing to pursue MPB infested blocks as a priority.

Canfor continues to work with Alberta Sustainable Resource Development to coordinate our efforts in suppressing this forest pest.

Value (2.1) 1: Healthy forest ecosystem.

Objective (2.1) 1a: Factors that lead to forest ecosystem health will be identified and maintained.

Indicator (2.1) 1a.2: Percent of annual harvest area within Mountain Pine Beetle (MPB) pine susceptible stands as defined in the Detailed Forest Management plan, Healthy Pine Strategy amendment.

<p>Target (2.1) 1a.2.1: 90% of the annual harvest area is within MPB pine susceptible stands beginning in the 2009 timber year.</p>	<p>Acceptable variance: 80% of the annual harvest area is within MPB pine susceptible stands beginning in the 2009 timber year.</p>
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Status: Does not meet

In the 2010 timber year, 2,681 ha were harvested, of which 68% was within MPB susceptible and infested stands. To avoid isolating merchantable non-pine stands, it was necessary to harvest these stands in conjunction with the MPB strategy. This was the primary reason why this target was not met. The future focus is still to prioritize harvesting MPB susceptible and infested stands.

Value (2.1) 2: Ecosystem resilience.

Objective (2.1) 2a: Processes that promote ecosystem resilience will be identified and maintained.

Indicator (2.1) 2a.1: Percentage of harvest areas meeting the regeneration standards as confirmed by the completion of an establishment survey.

<p>Target (2.1) 2a.1.1: 100% of harvest areas meet the required regeneration standards as confirmed by completion of establishment surveys, measured on a 5-yr. rolling average.</p>	<p>Acceptable variance: Minimum of 90% of the harvested areas will meet the regeneration standards on a 5-year rolling average.</p>
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Status: Meets

2009 was the first year that Regeneration Standards of Alberta (RSA) for establishment surveys (ASRD 2009a) were implemented on Canfor's FMA.

Under the direction of the Alberta government, RSA will provide a direct link between actual regeneration performance and growth and yield projection models used in the determination of annual allowable cut. This regulated survey change allows Canfor to assess blocks aerially, with ground verification, to determine if they meet establishment standards.

In 2011, two years worth of establishment surveys were completed and is represented in the following table.

Table 14. Establishment Survey Results

Stocking Status	Area of Surveys (Ha)	% SR
NSR ¹	91	1%
Regeneration Standard Met ²	14,956	99%
Total	15,047	
<p>Establishment surveys -for the purpose of this report, data is combined for all establishment surveys completed on the FMA area from the blocks surveyed in the last 5 years to obtain a rolling average (coniferous, mixedwood and deciduous).</p>		
<p>¹ NSR - not satisfactorily restocked - harvested area surveyed did not meet the requirements of the establishment survey. Only surveys completed within the regulated 4-8 years were considered to determine achievement of the target. For example, if a conifer block was surveyed as NSR in year 6, was retreated in year 7, and then resurveyed in year 10 as SR, the hectares were still attributed to this NSR category even though the survey is valid at year 10. The purpose of the target is try to achieve SR status on all hectares harvested by year 8.</p>		
<p>² Regeneration Standard Met- The regeneration standard can be met by achieving one of the following status: SR - Satisfactorily Restocked - meets all requirements of the establishment survey. RTD- Retreatment Complete- status that is applied for those openings that are NSR, but have subsequently been re-treated and are awaiting a performance survey. [November 2008-ASRD (October 2008 ARIS Industry Workshop Clarifications)]</p>		

Indicator (2.1) 2a.2: Percentage of harvest areas meeting the regeneration standards as confirmed by completion of a performance survey.

<p>Target (2.1) 2a.2.1: 100% of harvest areas meet the required regeneration standards as confirmed by completion of performance surveys, measured on a 5-year rolling average.</p>	<p>Acceptable variance: Harvest areas obtaining skid clearance between March 1, 1991 and April 30, 2001, for harvest areas passing performance surveys is a minimum of 85%; Harvest areas obtaining skid clearance after April 30, 2001 for harvest areas passing performance surveys is a minimum of 95%.</p>
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Status: Meets

2009 was the first year that Regeneration Standards of Alberta (RSA) for performance surveys (ASRD 2009b) were implemented on Canfor's FMA. Blocks harvested after 1995 will be reported based on the new RSA, which measures blocks for Mean Annual Increment (MAI) performance.

As of 2010, Canfor has surveyed four years worth of blocks (1995 to 1998 blocks). Compilation of the survey data has proven that 100% of harvest areas exceed the RSA performance survey standards on a four year rolling average.

No performance surveys were required to be conducted on the FMA in 2011.

Critical Element (2.2): Forest Ecosystem Productivity

Conserve ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species.

Value (2.2) 1: Sustained forest ecosystem productivity.

Objective (2.2) 1a: Ecosystem conditions that sustain productivity will be identified and maintained.

Indicator (2.2) 1a.1: Percentage of productive areas, adjacent to proposed harvest boundaries, impacted by windfall that receives a silviculture prescription annually.

Target (2.2) 1a.1.1:

100% of the productive areas, adjacent to proposed harvest area boundaries, impacted by windfall receive a silviculture prescription annually.

Acceptable variance:

Zero

Status: Meets

No significant windfall events were recorded that required silviculture prescriptions in 2011.

Indicator (2.2) 1a.2: Percentage of reforestation of temporary “in block” roads used for extraction of timber.

Target (2.2) 1a.2.1:

100% of temporary “in block” roads used for extraction of timber will be reforested within 18 months after the end of the timber year of harvest.

Acceptable variance:

Zero for the percentage of roads reforested.
Timing of reforestation is +10 months.

Status: Meets

For areas harvested during the 2009 timber year, temporary “in block” roads were planted within eighteen months on 93% of the harvested areas.

Canfor has improved its overall performance in meeting this target since 2004 as indicated in Table 15, however in 2009, six blocks had piles that were either not burned or incompletely burned, therefore preventing completion of “in block” road planting in 2011. These blocks are planned for road planting summer 2012.

Table 15. Percentage of “In-Block” Roads Planted Within 18 Months

Timber Year	# Harvest Areas	"In Block" Roads within Harvest Areas Planted Within 18 Months (%)	"In Block" Roads within Harvest Areas Planted 19-28 Months (%)	"In Block" Roads within Harvest Areas Planted after 28 Months (%)
2004	114	21%	74%	5%
2005	69	55%	44%	1%
2006	32	97%	3%	0%
2007	9	89%	11%	0%
2008	55	100%	0%	0%
2009	81	93%	7%	0%

Indicator (2.2) 1a.3: Percentage of tasks outlined in the approved Growth and Yield Monitoring Plan (GYMP) completed on schedule.

Target (2.2) 1a.3.1:

100% of tasks outlined in the approved Growth and Yield Monitoring Plan are completed on schedule.

Acceptable variance:

A variance of + 6 months is acceptable on the implementation of the schedule of tasks outlined in the approved growth and yield monitoring plan.

Status: Meets

The purpose of the Growth and Yield Monitoring Plan is to utilize the data derived from field measurements of established plots and other samples to establish future annual allowable cut⁹ calculations and validation of present yield¹⁰ predictions and reforestation performance. The growth and yield programs are critical to the development of DFMPs. A list of growth and yield programs is identified in the SFMP.

The following activities occurred in 2011:

- Re-measurement of 99 permanent sample plots;
- Establishment of 10 post harvest regenerated stand plots;
- Re-measurement of 48 post harvest regenerated stand plots;
- Adherence to the requirements of the Forest Genetics Resource Management and Conservation Standard (FGRM) (ASRD, 2009) by tagging, numbering and recording all genetically improved trees during installation of new growth and yield monitoring plots;
- Active membership in the Foothills Growth and Yield Association and the Western Boreal Growth and Yield Association; and
- Participation in the establishment of a provincial Growth and Yield Projection System.

⁹ Annual Allowable Cut: the volume of wood (m³) that can be harvested in one year from any area of forest under a sustained yield management regime.

¹⁰ Yield: the volume of wood that can be removed that is equal to growth within the total forest.

5. Criterion 3: Conservation of Soil and Water Resources

Conserve soil and water resources by maintaining their quantity and quality in forest ecosystems.

Critical Element (3.1): Soil Quality and Quantity

Conserve soil resources by maintaining soil quality and quantity.

Value (3.1) 1a: Soil productivity.

Objective (3.1) 1a: Soil productivity will be maintained or enhanced.

Indicator (3.1) 1a.1: Site Index¹¹

Target (3.1) 1a.1.1:

Average accumulated post harvest site index will not be less than average pre harvest site index (with reporting commencing in 2008).

Acceptable variance:

90% confidence interval on the average difference between pre and post-harvest site indices must include zero or indicate that the post-harvest site indices are significantly greater than the pre-harvest site indices.

Status: Meets

The status of this target is now complete. This target was reported as meets in the 2008 APMR. Information remains the same as reported in 2008 APMR.

Site index is a common measure of the overall productivity of forested ecosystems (inferred through tree growth). The measurement of tree growth is directly related to the productivity of the site. Consequently, tree growth is a general indication of the overall site productivity.

In June 2008, Canfor completed a *Regenerated Stand Productivity In North Central Alberta Report 2 Canadian Forest Products Forest Management Area* (Canfor 2008) in conjunction with Weyerhaeuser and Alberta Newsprint Company that was approved by ASRD on June 24, 2008. After adjustment, the overall average site index change from pre to post harvest indicated a 15% increase in site index (see Table 16). These results indicate that average site index for each of the three (3) major FMA species is higher on artificially regenerated sites than on naturally regenerated sites.

¹¹ Site index: A measure of forest site productivity expressed as the average height of the tallest trees in the stand at a defined index age. Common Index ages are 40, 50, 70, 75, and 100 years. This is usually expressed as the predicted height for a specific tree species at a given breast height age.

Table 16. 2003 DFMP Weighted Average Site Index Assumptions Compared with the Results of the Regenerated Stand Productivity (RSP) Project.

Species	Natural Subregion	Area (ha)	2003 DFMP Site Index	RSP Project Site Index	Difference (m)	Change (%)
AW	Boreal Mixedwood	17,665	17.7	21	3.6	20%
	Lower Foothills	21,198	17.7	20	2.6	14%
	Upper Foothills	2,318	17.7	20	1.8	10%
PL	Boreal Mixedwood	11,368	16.6	21	4.7	28%
	Lower Foothills	29,470	16.4	19	2.7	16%
	Upper Foothills	35,140	14.9	18	2.9	19%
SW	Boreal Mixedwood	32,321	16.5	18	1.0	6%
	Lower Foothills	34,803	16	18	2.3	14%
	Upper Foothills	9,800	15.1	18	3.3	22%
Total		194,084	16.5	19	2.4	15%

Value (3.1) 2: Soil quantity

Objective (3.1) 2a: Soil erosion will be minimized.

Indicator (3.1) 2a.1: Number of slumping events caused by road construction.

<p>Target (3.1) 2a.1.1: Zero major slumping events annually caused by road construction.</p>	<p>Acceptable variance: Zero</p>
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Status: Meets

Mass wasting within the FMA area is classified according to the area of soil impacted. The three (3) categories are:

- Road grade cut failures ≤ 100 m² and
- Minor slumps affecting ≤ 2500 m² and
- Major slumps affecting >2500 m².

Inspections confirmed there were no new major slumps caused by road construction in 2011. Table 17 lists the minor slumps / road grade cut failures that were identified or inspected in 2010/2011.

Table 17. Slumps / Road Grade Cut Failures Inspected in 2010/2011

Road	Legal Description	GENUS Station	Date of Original Slump	Size (m ²)	2010/2011 Inspection
Norris Road (LOC 971399)	TWP 59 RGE 5 W6M	14+444	2000	250	Wet + seeping water to ditchline. Movement limited, continue to monitor.
Norris Road (LOC 971399)	TWP 59 RGE 5 W6M	15+430	2001	200	Some additional movement noted. No immediate concerns to the water values nearby. Inspected with P.Eng.
Ridge Road (LOC 030770)	TWP 60 RGE 4 W6M	7+659	2004	300	Some additional vegetation establishing, minor settling continuing.
Waskahigan Mainline (LOC 1292)	TWP 64 RGE 1 W6M	0+506	2004	200	No new cracking. Vegetation established, no erosion concerns. Continue to monitor.
Bolton Main (LOC 033475)	TWP 59 RGE 4 W6M	0+100 to 1+100	2005	100	Further movement is limited. Monitor
Bolton Main (LOC 033475)	TWP 59 RGE 4 W6M	2+000	2005	250	No further movement noted. Monitor
Canfor Mainline (LOC 1774)	TWP 67 RGE 4 W6M	50+958	2010	200	Geo-Tech Engineer provided recommendations in a report based on a field visit in May 2011. The three recommendations were as follows: > Move the road alignment approximately 4.0 m into the uphill side of the road. > Continue monitoring and conduct maintenance. > Place concrete barriers as a safety precaution for road users. Concrete barriers were placed during the summer months and maintenance involved filling the upslope side of the road ditch partiall to widen the driving surface. An application for funding to move the road grade has been submitted for work in 2012.
			2011		No data to report

Indicator (3.1) 2a.2: Number of slumping events due to harvesting activities.

Target (3.1) 2a.2.1:

Zero slumping events annually due to harvesting activities.

Acceptable variance:

1 slump ≤ 100 m² annually.

Status: Meets

Ground surveys conducted in 2011 indicated that harvesting related activities caused one slump within 39 block boundaries with a total estimated disturbed area of 66.6 m². In addition to ground based monitoring and inspections, aerial flights are conducted for various operational activities throughout the year which incorporate visual confirmation of the presence or lack of presence of slumping events within harvest areas. These flights resulted in no evidence of slumping this past season.

Indicator (3.1) 2a.3: Number of significant erosion events¹² related to silviculture, harvesting, and road activities.

Target (3.1) 2a.3.1: Zero significant erosion events related to silviculture, harvesting, and road activities annually.	Acceptable variance: Less than 5 events per year.
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Status: Meets

Canfor conducts annual inspections on License of Occupation (LOC) roads. Erosion events on these LOC roads are tracked and reported under “Objective (3.2) 1a: Water quality will be conserved”. There are a number of crossings that have been identified as having the potential to be a risk for a significant erosion event. Refer to Objective (3.2) 1a and the target for further details.

Other secondary roads, in-block and between block roads (S and R roads), as well as harvesting, road construction and silviculture operations were inspected and monitored throughout the year. In addition to ground based monitoring and inspections, helicopter overview flights are conducted for blocks and roads to determine the presence of surface erosion or mass wasting and to evaluate the status of debris disposal and reforestation activities. Two significant erosion events occurring within previously harvest boundaries were identified and remediated resulting from these inspections in 2011.

Indicator (3.1) 2a.4: The number of blocks that require prompt road deactivation.

Target (3.1) 2a.4.1: 100% of the blocks that have temporary roads will be permanently deactivated within 6 months after usage is complete.	Acceptable variance: Zero.
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Status: Meets

Table 18 indicates the number of blocks in the 2010 timber year which were accessed by temporary roads. Of the 95 harvested blocks, 95 required deactivation and were all completed within 6 months.

Table 18. Temporary Roads Deactivation – 2010 Timber Year

	Total Harvest Units	# of Harvest Units that required Permanent Deactivation	Harvest Units with Reclamation Completed within 6 months of Last Activity	Harvest Units with Reclamation Not Completed within 6 months of Last Activity
# of Harvest Units Containing Temporary Roads	95	95	95	0
Percent			100%	0%

¹² Significant erosion event: erosion events where sediment is transported directly into a watercourse

Objective (3.1) 2b: Soil will be conserved on site.

Indicator (3.1) 2b.1: Percentage of soil disturbance prescriptions that conform to Section 9.0.3 of the *Operating Ground Rules*.

Target (3.1) 2b.1.1:

100% of prescriptions created throughout the year conform to Section 9.0.3 of the *Operating Ground Rules*.

Acceptable variance:

Zero

Status: Meets

For the 2010 timber year, prescriptions for 18 planned harvest units exceeded the allowable ground disturbance as outlined in *Canfor FMA 9900037 Operating Ground Rules*, however all 18 harvest units were addressed either through Final Harvest Plan or Annual Operating Plan submissions, and received government approval.

Indicator (3.1) 2b.2: Percentage of harvest areas that do not exceed the soil disturbance prescriptions.

Target (3.1) 2b.2.1:

100% of harvest areas do not exceed the soil disturbance prescriptions annually.

Acceptable variance:

≥90% of the harvest areas does not exceed the soil disturbance prescriptions.

Status: Does not meet

Soil disturbance prescriptions are developed during the planning phase. When harvest areas and roads are located in the field, the area planned for roads within the harvest area is determined and documented in the Final Harvest Plan (FHP). Once harvesting is complete, the actual area disturbed by roads is determined and compared to the FHP prescription.

For the 2010 timber year, 65.2% of harvest areas did not exceed the soil disturbance prescriptions. This equates to 62 of the 95 cutblocks harvested. Although this does not meet the target, in perspective, the sum of all road areas exceeding the soil disturbance prescription equals 2.5 hectares compared to the total area harvested of 2681 hectares. Table 19 demonstrates that of the 33 cutblocks that exceeded the disturbance prescription, 23 of the cutblocks had less than or equal to 0.5% area disturbance. The overall soil disturbance will be mitigated through implementation of prompt reforestation practices on block roads as indicated in target “(2.2) 1a.2 100% of temporary “in block” roads used for extraction of timber will be reforested within 18 months after the end of the timber year of harvest.”

Reasons for the variances included reductions to block area and constructing additional roads to address operational issues. Adoption of LIDAR imagery for block layout will improve the quality of the plans and reduce the number of changes at the operations stage.

Table 19. Soil Disturbance Prescriptions Compared to Actual

Block ID	Harvested Area (ha)	Road Area			Road Allowance		
		Planned (ha)	Actual (ha)	Variance (ha)	Planned (%)	Actual (%)	Variance (%)
E622835	12.0	0.5	0.6	0.046	4.2	4.6	0.4
G150337	9.9	0.3	0.4	0.160	2.6	4.2	1.6
G150415	43.6	1.8	1.9	0.152	4.1	4.4	0.4
G222666	9.3	0.3	0.3	0.006	2.9	2.9	0.1
G233188	7.5	0.3	0.3	0.006	3.6	3.6	0.1
G321073	4.1	0.4	0.5	0.082	9.1	11.7	2.6
R431477	16.7	0.7	0.8	0.106	2.7	4.7	1.9
R431536	32.5	1.1	1.2	0.020	3.5	3.6	0.1
R431592	3.9	0.2	0.2	0.018	5.1	5.5	0.4
R431680	32.5	0.9	1.0	0.170	2.7	3.2	0.5
R432211	11.1	0.4	0.4	0.048	3.4	3.9	0.4
S061771	20.8	0.7	0.7	0.029	3.2	3.3	0.1
S062176	23.3	0.5	0.6	0.127	2.2	2.7	0.5
S141388	30.3	1.0	0.9	-0.136	1.8	2.8	1.1
S142453	52.5	1.3	2.0	0.677	2.0	3.7	1.7
S142641	42.2	2.0	1.6	-0.351	2.2	3.9	1.6
S192226	4.0	0.2	0.2	0.011	5.2	5.5	0.3
S192941	14.4	0.8	0.8	0.027	5.7	5.9	0.2
S221275	18.9	0.4	0.4	0.016	1.9	2.0	0.1
S230548	33.0	1.3	1.5	0.240	3.9	4.7	0.7
S230569	11.5	0.4	0.5	0.092	3.2	4.0	0.8
S230665	19.8	0.9	1.0	0.102	4.7	5.2	0.5
S230824	8.7	0.4	0.4	0.005	4.4	4.5	0.1
S231066	6.3	0.2	0.3	0.064	3.5	4.5	1.0
S231664	19.1	0.7	0.8	0.068	3.7	4.1	0.4
S231699	35.0	1.3	1.4	0.055	3.8	4.0	0.2
S231789	7.4	0.3	0.3	0.034	4.2	4.7	0.5
S232051	13.2	0.5	0.8	0.271	3.7	5.7	2.1
S232084	18.7	0.6	0.7	0.084	3.1	3.5	0.4
S250256	12.4	0.6	0.6	0.045	4.6	5.0	0.4
S250367	70.3	3.0	3.1	0.096	3.9	4.4	0.5
S273057	11.9	0.6	0.6	0.010	5.2	5.3	0.1
S273493	49.3	2.2	2.2	0.081	4.4	4.5	0.2
Total	706.3			2.5			

Critical Element (3.2): Water Quality and Quantity

Conserve water resources by maintaining water quality and quantity.

Value (3.2) 1: Water Quality.

Objective (3.2) 1a: Water quality will be conserved.

Indicator (3.2) 1a.1: The percentage of surveyed stream crossings identified with “High” and “Very High” Water Quality Concern Rating (WQCR) on forestry roads for which the participants are responsible.

Target (3.2) 1a.1.1:

Less than 10% of surveyed stream crossings on forestry roads will have a “High” and “Very High” WQCR annually.

Acceptable variance:

For 2009 < 17.5% in the ‘High’ or ‘Very High’ category.

Status: Does not meet

The WQCR has been replaced with methodology prescribed in the Foothills Stream Crossing Program (FSCP) as of 2010. In 2011, Canfor officially joined the Foothills Stream Crossing Program which was initiated in 2005. The mandate of this collaborative industry association is to monitor and improve the status of stream crossings, develop and oversee the implementation of new ideas for stream crossing management in Alberta, and improve the environmental record of participating companies and organizations. The FSCP assessment process provides information needed to minimize the negative effects roads may have on water quality, fish habitat, fish migration and public safety.

The 2011 field season brought a one in a one hundred year flood to one of the major watersheds on the DFA, the Simonette River. Although, some works were completed prior to the flood, only emergency repairs were addressed during the remainder of the season. To date, 130 crossings out of a total of 680 have been assessed using the FSCP. The plan is to have all crossings inspected by the end of the field season in 2015. Table 20 details the data from the 2010-2011 FSCP assessment that occurred on the FMA as well as updates the High Risk percentages for 2011.

Table 20. Summary of 2010-2011 FSCP Results in the FMA Area

FMA Op Unit	Total Sample	2010						2010 Total	2011						2011 Total
		HIGH		MEDIUM		LOW			HIGH		MEDIUM		LOW		
		#	%	#	%	#	%		#	%	#	%	#	%	
DN	56							41	38%	10	9%	5	5%	56	
DS	1									1	1%			1	
E8	33	11	48%	7	30%	2	9%	20	5	5%	8	7%		13	
ES	1								1	1%				1	
Smoky	39	1	4%	2	9%			3	14	13%	20	19%	2	2%	36
Grand Total	130	12	52%	9	39%	2	9%	23	61	57%	39	36%	7	7%	107

Under the previous program (WQCR – Water Quality Concern Rating) between 2005 and 2010, 26 crossings received remediation, which resulted in 18 crossings being removed from the High or Very High categories. Individual scores at the remaining crossings improved, but not enough to drop below the High category ranking. Further improvement at several crossings is likely to occur as re-vegetation of bare soil areas occurs and re-inspection will be done within five years.

Results continue to indicate that road surfaces are a significant sediment source at crossings. Non-erodible material (gravel with no fines) was applied to the road surfaces at over 40 crossings across the FMA in 2010. The application of gravel reduced the surface area of erodible material at the crossings, and therefore reduced the sediment source. While this produced significant improvement at many sites, few locations have dropped from the high categories. Monitoring and reassessment is planned for 2012.

Indicator (3.2) 1a.2: The percentage of crossings that receive the required remedial action.

<p>Target (3.2) 1a.2.1: 100% of crossings receive remedial action as identified in the Road Management Plan annually.</p>	<p>Acceptable variance: Minimum of 90% of crossings receive remedial action.</p>
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Status: Does not meet

The 2011 Crossing Maintenance activities include:

- Install, repair, replace, cleaning, add riprap, substructure repairs, and assessment for erosion / sediment control.

Table 21 details the number of completed activities in 2011.

Table 21. Crossing Remedial Actions Planned and Completed in 2011

Maintenance Activity	Number Planned	Number Completed	Percentage Completed
Crossing Maintenance	19	14	74%

Indicator (3.2) 1a.3: The number of non-compliance incidents related to riparian zone standards.

<p>Target (3.2) 1a.3.1: Zero non-compliance incidents related to riparian zone standards annually.</p>	<p>Acceptable variance: Zero</p>
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Status: Does not meet

There were two non-compliance incidents in 2011 related to riparian zone standards resulting from harvesting activities. In one instance, a temporary stream crossing was not adequately removed following harvesting. In the other instance, a feller buncher encroached on a riparian buffer. Both incidents have been addressed with action plans.

In July 2011, the results of the Herbicide “outside treatment area” (OTA) flight of the 2010 program found no evidence of excursions of herbicide treatment into riparian areas.

Value (3.2) 2: Water Quantity.

Objective (3.2) 2a: Water quantity will be maintained.

Indicator (3.2) 2a.1: Percentage of sampled watersheds that are in conformance with the average water yield increase limit indicated in *Canfor FMA 9900037 Operating Ground Rules* (ASRD, 2008).

<p>Target (3.2) 2a.1.1: 100% of sampled watersheds are in conformance with the annual average water yield increase limit of 15% as indicated in the Operating Ground Rules.</p>	<p>Acceptable variance: Total forest cover removal within a defined watershed will not cause an increase in annual average water yield of greater than 20% for a minimum of 10 of the highest Equivalent Clearcut Area (ECA) watersheds in the FMA area.</p>
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Status: Meets

Water yield percentages have been calculated using areas harvested up to the end of the 2010 timber year in the ten watersheds with the highest ECA percentages. Results shown in Table 22 indicate there were no water yield increases above 15 percent in these watersheds.

Table 22. Average Water Yield Increase (%) for the 10 Highest ECA Watersheds

Sampled Watershed	2010 Timber Year (10 Highest ECA %) ¹	Average Water Yield Increase (%)
7658	22.0%	5.4%
3523	17.0%	3.0%
696	23.4%	6.9%
4877	18.1%	5.2%
1775	6.8%	0.6%
670	20.0%	6.5%
2057	12.7%	2.8%
10003	22.1%	6.3%
6306	20.4%	7.1%
3957	16.7%	4.4%
¹ Calculations based on Silins Method		

6. Criterion 4: Forest Ecosystem Contributions to Global and Ecological Cycles

Maintain forest conditions and management activities that contribute to the health of global ecological cycles.

Critical Element (4.1): Carbon Uptake and Storage

Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.

Value (4.1) 1: Local contribution of carbon uptake and storage.

Objective (4.1) 1a: Carbon uptake and storage (i.e. carbon balance) will be maintained.

Indicator (4.1) 1a.1: Percentage of harvested areas reforested.

Target (4.1) 1a.1.1: 100% of harvest areas are reforested within 18 months after the end of the timber year in which it was harvested.	Acceptable variance: +3 months.
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All areas harvested during the 2009 timber year were planted within 18 months of harvest.

Table 23. Harvested Areas Reforested Within 18 Months

Timber Year	# of Harvest Areas	# of Harvest Areas Reforested Within 18 Months	Percentage Reforested Within 18 Months
2002	127	127	100%
2003	126	126	100%
2004	83	76	92%
2005	100	100	100%
2006	32	32	100%
2007	67	67	100%
2008	78	78	100%
2009	86	86	100%

Indicator (4.1) 1a.2: Percentage of productive areas > 4 hectares impacted by fires that are regenerated.

Target (4.1) 1a.2.1: Reforest 100% of the productive areas > 4 hectares impacted by fire within 24 months.	Acceptable variance: Reforest at least 90% of productive areas > 4 hectares impacted by fire within 24 months.
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Status: Meets

There were no fires greater than 4 hectares on the FMA in 2010 or 2011.

Critical Element (4.2): Forest Land Conversion

Protect forestlands from deforestation or conversion to non-forests.

Value (4.2) 1: Sustainable yield of timber.

Objective (4.2) 1a: A natural range of tree species will reforest every hectare that is harvested.

Indicator (4.2) 1a.1: Percentage of the harvested area sufficiently restocked by yield group.

Target (4.2) 1a.1.1:

100% of the harvested area sufficiently restocked by yield group accumulated annually beginning in 2000.

Acceptable variance:

+/- 10% of harvested areas (accumulated annually) will be sufficiently restocked by yield group.

Status: Does not meet

Canfor made a commitment within the DFMP to compare planned versus actual reforestation by yield group accumulated annually, beginning in 2000. Table 24 represents regeneration data for applicable yield groups for the period 2000 to 2011, inclusive. Of the 9 yield groups listed; yield groups 2, 8, 9, and 12 are within the acceptable variance of 10 percent, and yield groups 3, 11, 14, 16 and 17 do not meet the acceptable variance. Yield group 11 has improved slightly from 16% reported in 2010 APMR to 11.2% reported this year.

The SBPL/SBSW yield group (14) continues to be challenging as black spruce is typically planted on the lower, wetter sites as a separate unit. Black spruce will grow in association with pine or spruce, but planting is generally done on a site-specific basis. As more area is harvested and regenerated in each yield group, the variance percentages will decline. Silviculture staff will continue to work on strategies to align yield groups within acceptable variances.

The division's emphasis on the harvesting of lodgepole pine dominated stands under the Healthy Pine Strategy will delay implementation of strategies to correct imbalances in yield groups 3, 16 and 17.

Table 24. Balancing Yield Groups within FMA Area

	2 AW	3 AWSW	8 PL	9 PLAW/A WPL	11 PLSW/SW PL	12 SB	14 SBPL or SBSW	16 SW	17 SWAW	TOTAL
Regenerated Yield Group (AVI) Ha	5,059.5	1,327.5	10,604.7	1,020.8	1,652.4	1,702.1	1,229.0	6,574.5	2,761.7	31,932.1
Treated Regenerated Yield Group Ha	4,905.6	978.4	11,285.9	1,076.4	1,466.9	1,673.7	520.3	7,830.4	2,194.6	31,932.1
Percent Difference	-3.0%	-26.3%	6.4%	5.4%	-11.2%	-1.7%	-57.7%	19.1%	-20.5%	0.00%

Objective (4.2) 1b: The utilization of merchantable wood will be maximized.

Indicator (4.2) 1b.1: Percentage of harvested merchantable wood (conifer and deciduous) left on site.

Target (4.2) 1b.1.1:

To leave less than 1% conifer and 1% deciduous harvested merchantable wood on site annually.

Acceptable variance:

Zero

Status: Meets

Previous surveys of merchantable wood left on harvested cut blocks have indicated that Canfor's waste (over and above the utilization standard and crossing drain that are accounted for in the above) is less than 0.5% merchantable volume. Since harvesting systems and practices have not changed, it is reasonable to assume that the waste levels have and should remain similar.

Indicator (4.2) 1b.2: Percentage of dispositions where merchantable industrial salvage (m³) is utilized on an annual basis.

<p>Target (4.2) 1b.2.1: 100% of the dispositions where merchantable industrial salvage wood from permanent land withdrawals is utilized on an annual basis.</p>	<p>Acceptable variance: At least 90% of dispositions where merchantable volume is harvested as a result of permanent land withdrawals.</p>
--	---

Status: Meets

Coniferous Salvage Wood

Each request from industrial users for land withdrawal received by Canfor is reviewed and, if approved, a Coniferous Timber Salvage Commitment form is signed for each withdrawal. Disposition holders must notify Canfor when salvaged timber is ready to haul. The *Logs Production Module* of Canfor's forestry system and an Access database are used to track a number of salvage components to ensure that all available coniferous salvage wood is hauled to the mill site. As shown in Table 25, 100% of the merchantable coniferous industrial salvage reported to Canfor in 2010 and 2011 was hauled to the mill site.

Deciduous Salvage Wood

Deciduous salvage wood within Canfor's FMA area has been allocated by ASRD to Ainsworth Engineered Ltd., and Tolko Industries. At this time, Tolko's High Prairie mill is closed and is not accepting deliveries of deciduous salvage wood. Tolko has authorized Canfor to sign Deciduous Timber Salvage Commitment waivers on Tolko's behalf. In an effort to ensure full utilization of deciduous salvage wood within Canfor's FMA area, Canfor advises each industrial operator that Ainsworth Lumber is willing to purchase the salvage located in Tolko's operating area.

Table 25. Coniferous Merchantable Industrial Salvage Wood

Timber Year						
	2006	2007	2008	2009	2010	2011
# of Dispositions Coniferous Salvage Available	101	93	80	14	38	47
# of Dispositions Coniferous Salvaged	101	93	80	14	38	47
Amount of Coniferous Salvage Wood (m ³)	17,986	22,110	16,043	3,427	7,737	14,184
Percent of # Dispositions where Salvage Available Delivered to Mill	100%	100%	100%	100%	100%	100%

Value (4.2) 2: Forests on the landbase.

Objective (4.2) 2a: Forests will be maintained on the landbase.

Indicator (4.2) 2a.1: Density (lineal km/km²) of open (non-reclaimed) roads.

Target (4.2) 2a.1.1:

To have no more than 0.6 lineal km/km² in open (non-reclaimed) roads over a 5-year period, for each FMA parcel (Peace, Puskwaskau, and Main).

Acceptable variance:

Maximum of 0.7 km/ km² for the Peace, Puskwaskau and Main parcels.

Status: Meets

There was a decrease in open road density in the Puskwaskau of 0.04 km/km², an increase in the Peace of 0.09 km/km² and no change in the Main in 2011. The overall road density for the FMA remained the same. All road densities reported in Figures 11-14 are below the acceptable variance. The Peace area road density increased as a result of the inclusion of a portion of the Peace FMA area in the Dunvegan West Wildland Provincial Park. Collaboration with individual oil and gas companies on future road development is continuing to minimize the amount of new road constructed and increase the rehabilitation of abandoned roads that are not required for future access. An example of this is the development of a *Berland Smoky Integrated Access Plan* by the Foothills Landscape Management Forum (FLMF) whose membership includes both forestry and energy sector members. The Berland Smoky plan identifies existing and future main road corridors and prescribes deactivation and reclamation requirements for all temporary access. This plan was endorsed by ASRD on June 23, 2006, followed by distribution of an information letter on July 11, 2008. A second phase of the project includes preparation of a secondary road access plan. The primary objective of these plans is to reduce the anthropogenic footprint on the area over time.

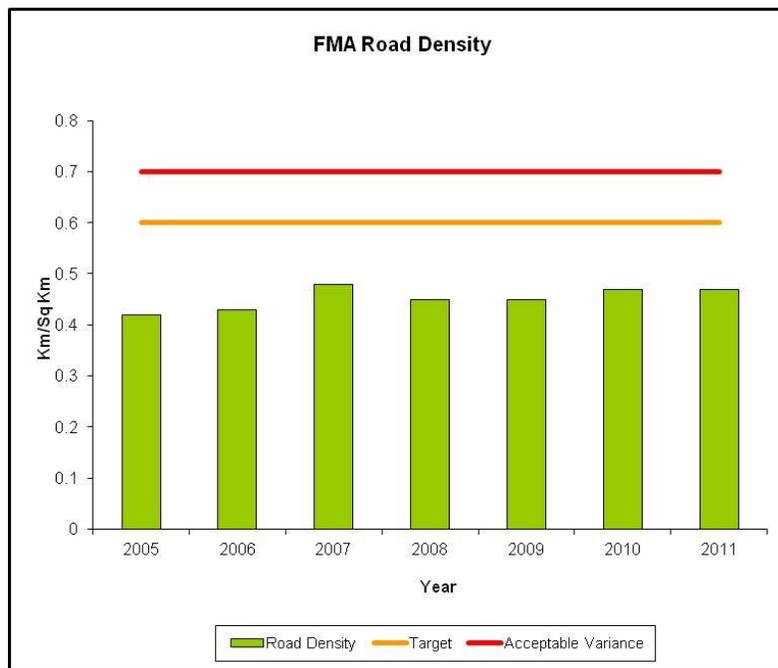


Figure 11. Road Densities within the FMA

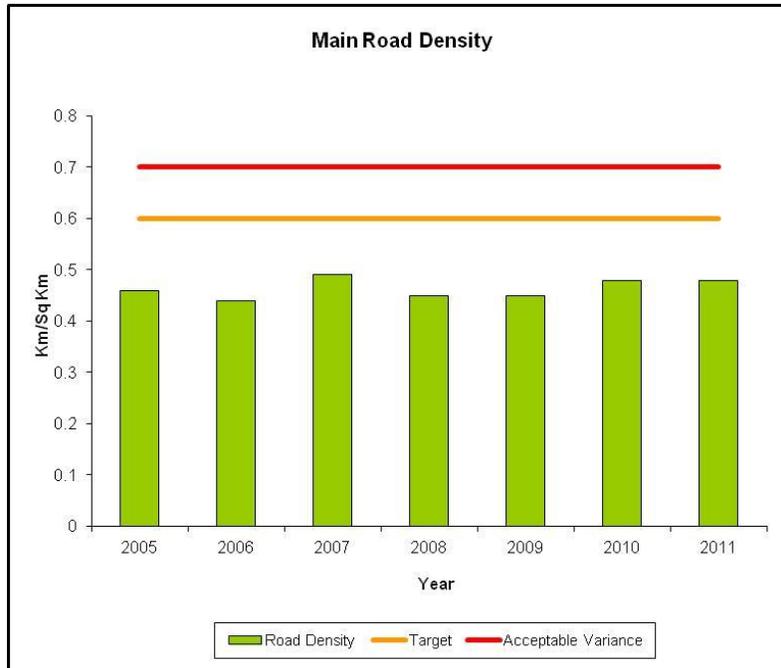


Figure 12. Road Densities within the Main

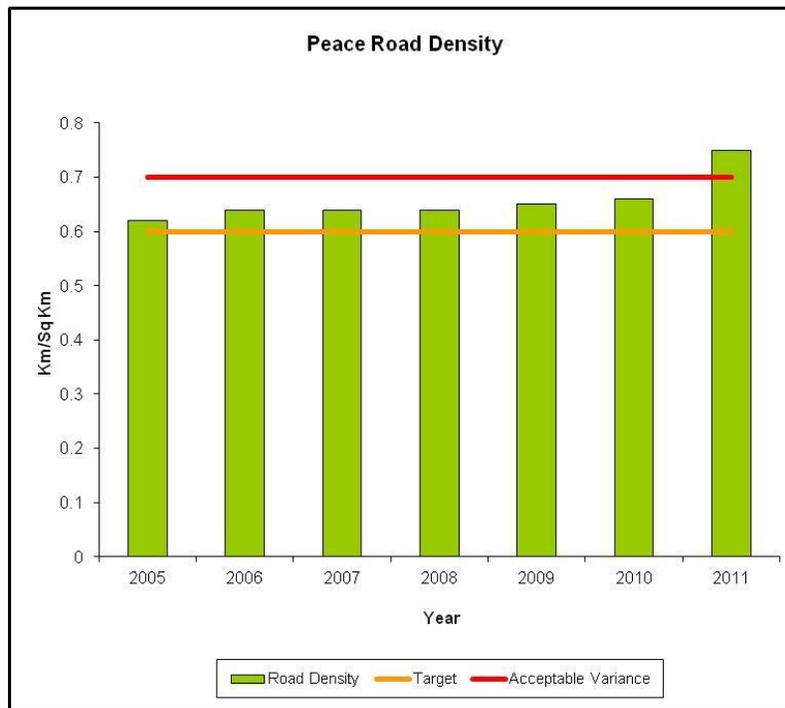


Figure 13. Road Densities within Peace

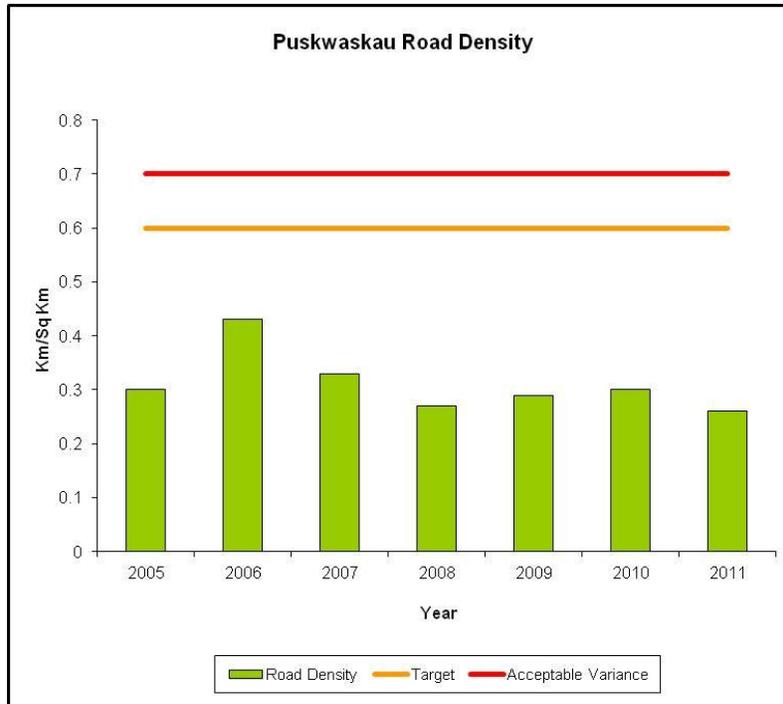


Figure 14. Road Densities within Puskwaskau

Objective (4.2) 2b: Productive lands will be restored to productive status wherever possible.

Indicator (4.2) 2b.1: Percentage of withdrawn areas restored to productive forestland.

<p>Target (4.2) 2b.1.1: 100% of previously withdrawn areas that are suitable candidates for reforestation are restored to productive forestland within 24 months.</p>	<p>Acceptable variance: No less than 90% of suitable candidates reforested within 24 months of when the site is ready for planting.</p>
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Status: Meets

Canfor is working with the energy sector to develop procedures for reclaiming sites in preparation for tree planting. One component of the process will include identification of prescribed time frames for notification of Canfor when a site is ready for treatment.

Table 26 indicates withdrawn areas that have been planted since 2007. In 2011 no new area was reported.

Table 26. Planting of Previously Withdrawn Areas

Year	# of Withdrawn Suitable Areas Available	# of Withdrawn Areas Planted Within 24 Months	# of Withdrawn Areas Planted After 24 Months	% of Withdrawn Areas Planted Within 24 Months	Total % of Withdrawn Areas Planted
2007	3	0	0	0%	0%
2008	9	2	2	22%	44%
2009	1	1	0	100%	100%
2010	0	0	0	0%	0%
2011	0	0	0	0%	0%

7. Criterion 5: Multiple Benefits to Society

Sustain flows of forest benefits for current and future generations by providing multiple goods and services.

Critical Element (5.1) Timber and Non-Timber Benefits

Manage the forest to produce an acceptable and feasible mix of both timber and non-timber benefits.

Value (5.1) 1: Sustainable yield of timber.

Objective (5.1) 1a: Sustainable harvest levels on the FMA area will be maintained.

Indicator (5.1) 1a.1: Long-term harvest levels vs. actual extraction (m³).

Target (5.1) 1a.1.1:

Actual extraction rates (m³) are less than or equal to the long-term harvest level (m³) on a quadrant basis.

Acceptable variance:

Zero.

Status: Meets

The target for this indicator has been reworded to remove the timing condition as it was outdated. The wording for this target is now reflective of managing extraction rates on a quadrant basis which is consistent with Government of Alberta audit protocols.

Tables 27 and 28 demonstrate that the actual coniferous and deciduous timber volumes harvested on the FMA area were below the authorized volumes during quadrant 2 (May 1 2004 to April 30 2008).

The 2009 timber year was the first year of a new quadrant with a new AAC level.

Table 27. Coniferous Harvest Levels

Timber Year	Quadrant	Quadrant Start	Quadrant Ends	Authorized m ³ for 5 yr quadrant	Annual Harvest Level (m ³)	Harvested Current Quadrant (m ³)	Total Quadrant Production	Annual Variance	Total Percent Produced by Quadrant
2004	2	1-May-04	30-Apr-09	3,200,000	640,000	465,950	465,950	-174,050	15%
2005	2	1-May-04	30-Apr-09	3,200,000	640,000	816,133	1,282,083	176,133	40%
2006	2	1-May-04	30-Apr-09	3,200,000	640,000	555,951	1,838,034	-84,049	57%
2007	2	1-May-04	30-Apr-09	3,200,000	640,000	622,961	2,460,995	-17,039	77%
2008	2	1-May-04	30-Apr-09	3,200,000	640,000	600,104	3,061,099	-39,896	96%
2009	3	1-May-09	30-Apr-14	3,575,000	715,000	769,140	769,140	54,140	22%
2010	3	1-May-09	30-Apr-14	3,575,000	715,000	659,278	1,428,418	-55,722	40%

Table 28. Deciduous Harvest Levels

Timber Year	Quadrant	Quadrant Start	Quadrant Ends	Authorized m ³ for 5 yr quadrant	Annual Harvest Level (m ³)	Harvested Current Quadrant (m ³)	Total Quadrant Production	Annual Variance	Total Percent Produced by Quadrant
2004	2	1-May-04	30-Apr-09	1,131,560	226,312	228,629	228,629	2,317	20%
2005	2	1-May-04	30-Apr-09	1,131,560	226,312	172,117	400,746	-54,195	35%
2006	2	1-May-04	30-Apr-09	2,492,696	453,712	188,008	588,754	-265,704	24%
2007	2	1-May-04	30-Apr-09	2,492,696	453,712	213,017	801,771	-240,695	32%
2008	2	1-May-04	30-Apr-09	2,492,696	453,712	244,630	1,046,401	-209,082	42%
2009	3	1-May-09	30-Apr-14	2,781,170	556,234	360,502	360,502	-195,732	13%
2010	3	1-May-09	30-Apr-14	2,781,170	Data Not Currently Available				

Value (5.1) 2: Ongoing non-timber benefits.

Objective (5.1) 2a: Long-term availability of identified non-timber benefits will be maintained.

Indicator (5.1) 2a.1: Number of recreation areas maintained by Canfor.

Target (5.1) 2a.1.1:

Canfor will maintain a minimum of 5 recreation areas for use by the public annually.

Acceptable variance:

Zero.

Status: Meets

Canfor maintains and supports recreational areas (Figure 15) in both its Grande Prairie and Hines Creek operations. Canfor Alberta maintains 4 public recreational areas within the FMA area, and supports 2 recreational sites outside the FMA area:

- MacLeod Flats (formerly Smoky Flats);
- Economy Lake;
- Frying Pan Creek;
- Westview;
- Swan Lake (located outside FMA area, approximately 25 km west of Valleyview); and
- Stoney Lake (located outside FMA area, approximately 30 km northeast of Hines Creek).

A typical site includes camping stalls, picnic tables, firewood, garbage receptacles and pit toilets. MacLeod Flats, Economy Lake and Stoney Lake also have well water which must be boiled before using.

The Swan Lake Recreation Area was maintained by the MD of Greenview with Canfor providing financial support.

Stoney Lake Campsite is located in Canfor's quota area northeast of Hines Creek. This recreation area has 28 overnight sites, a boat launch area, day use area, toilets, and non-potable water supply. An agreement was signed in 2006 with Alberta Tourism, Parks and Recreation whereby Canfor provides a financial contribution and Tourism, Parks and Recreation manages and operates the Stoney Lake site. This agreement continued in 2011.

To promote public use of the FMA recreation areas, Canfor Alberta has produced a pamphlet titled *Canfor Public Recreation Areas* that is available through the Grande Prairie Tourism Association, Muskoseepi Park and Canfor Alberta's Administration Office.

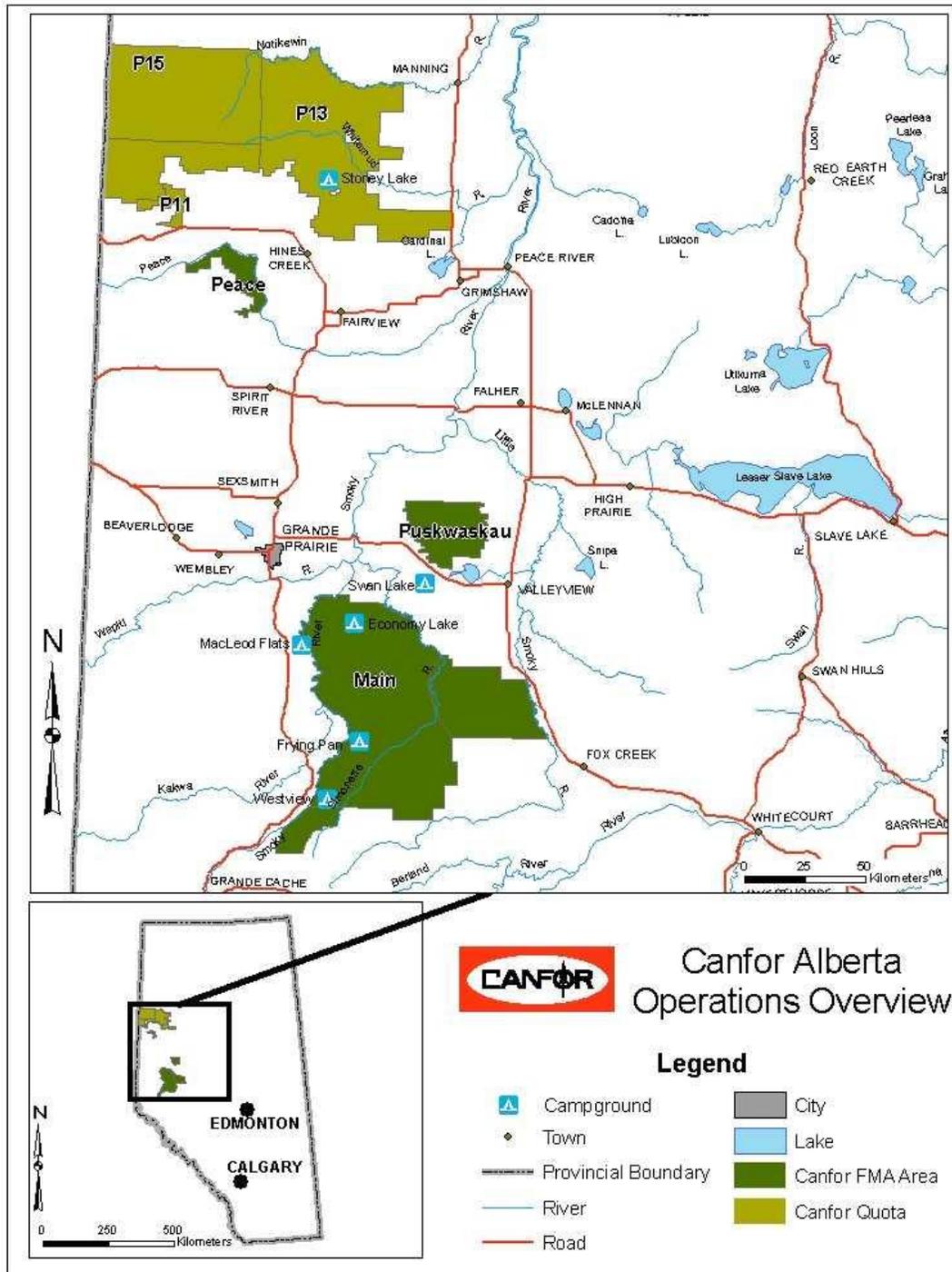


Figure 15. Location of Recreation Areas Managed by Canfor

Indicator (5.1) 2a.2: Percentage of registered trappers contacted that are directly impacted by operations (harvesting, silviculture, and reclamation).

<p>Target (5.1) 2a.2.1: 100% of registered trappers directly impacted by harvesting, silviculture, and reclamation operations are contacted as specified in the <i>Trappers Consultation and Notification Program</i> annually.</p>	<p>Acceptable variance: Zero, provided that Canfor and registered trappers make reasonable provisions that allow effective consultation and/ or notification.</p>
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Status: Does not meet

The *Trappers Consultation and Notification Program* (Canfor, 2009) provides direction to Canfor supervisors regarding consultation with aboriginal and non-aboriginal trappers and notification to registered trapline holders.

During the 2010 timber year, 100% of known trappers who were potentially impacted by Canfor activities were consulted during the planning phase, or notified of activities prior to the harvesting and silviculture stages. Harvesting and reclamation activities occurred within the boundaries of twelve registered traplines, with four notifications occurring less than 20 days prior to the start of operations but greater than the regulated 10 days. Silviculture activities occurred within the boundaries of 21 registered traplines with notification occurring by registered mail on June 2, 2010 prior to commencement of herbicide application during the first week of August. Of the 21 trappers notified, 2 requested additional information about the herbicide program.

Table 29. Harvesting Trapper Notification

Area	# of Trappers Impacted	Trapper Notifications less than 30 Days	Success Rate
Harvesting	12	8	67%
Silviculture	21	21	100%

Indicator (5.1) 2a.3: Percentage of outfitters potentially affected by operations within the FMA area are informed of the 5-year harvest sequence.

<p>Target (5.1) 2a.3.1: 100% of outfitters potentially affected by operations within the FMA area will be supplied a 5-year General Development Plan map annually.</p>	<p>Acceptable variance: Zero</p>
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Status: Does not meet

Outfitters were not mailed a 2011 5-year General Development Plan map. To date, Canfor has not received any requests or feedback from previous correspondence sent. The only timber supply compartment where harvesting occurred, that was not previously identified to outfitters, was Economy North.

Critical Element (5.2): Communities and Sustainability

Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and to participate in their use and management.

Value (5.2) 1: A range of benefits to local communities.

Objective (5.2) 1a: Local communities and contractors will have the opportunity to share in benefits such as jobs, contracts and services.

Indicator (5.2) 1a.1: Percentage of dollars paid for local vs. non-local contract services.

Target (5.2) 1a.1.1:

Over a rolling 5-year period, a minimum of 75% of dollars paid for contract services will be expended locally.

Acceptable variance:

Zero.

Status: Meets

Table 30 indicates the local versus non-local contract service dollars expended by Canfor Alberta since 2006. During the five year period from 2007 to 2011, 88 percent of the dollars paid by Canfor Alberta for contract services was expended locally.

Table 30. Local Versus Non-local Contract Services Expenditures

Contribution	2006	2007	2008	2009	2010	2011
Local Contract Services (\$ millions)	53.7	31.2	34.4	31.3	34.9	34.2
Non-Local Contract Services (\$ millions)	6.6	5.9	5.875	3.4	5.0	4.1
subtotal	60.3	37.1	40.2	34.7	39.9	38.4
% Local Contract Services (5 year rolling avg.)	89%	87%	87%	87%	87%	88%

Objective (5.2) 1b: The forests will be accessible to the public for social and cultural benefits.

Indicator (5.2) 1b.1: Percentage of identified social and cultural benefits that occur in the FMA area.

Target (5.2) 1b.1.1:

Maintain 100% of identified social and cultural benefits that occur on the FMA area annually.

Acceptable variance:

Zero.

Status: Meets

On January 18th, 2006 Canfor's Forest Management Advisory Committee reviewed a list of identified social and cultural benefits prepared by Canfor and provided additional information to the company. In 2011, the social and cultural benefits indicated in Table 31 were available and accessible by the public.

Canfor does not restrict public access within the FMA area with the exception of areas where ASRD applies legal restrictions; for example - ASRD restricts vehicle traffic on some roads by requiring the installation and maintenance of gates as a means of protecting caribou and grizzly bear populations.

Table 31. Social and Cultural Benefits Identified in the FMA Area

Benefit	Availability of Benefit in 2011
Recreational	
Hunting/fishing	X
Camping/picnicking/social gathering	X
ATV'ing/snowmobiling	X
Walking/hiking/jogging/mountain biking/skiing	X
Horseback/trail riding	X
Boating/canoeing/kayaking/rafting	X
Sight seeing/wildlife watching/nature watching	X
Nature photography/painting	X
Berry picking/plant and rock collecting	X
Firewood/poles/other wood collecting	X
Non-recreational	
Trapping/outfitting/guiding	X
Working	X
Studying/researching	X
Small business timber harvesting	X
Cultural (includes Aboriginal)	
Traditional hunting/fishing/trapping/gathering	X
Traditional plants	X
Spiritual gatherings/activities	X
Teepee poles	X
Percent Available	100%

Critical Element (5.3): Fair Distribution of Benefits and Costs

Promote the fair distribution of timber and non-timber benefits and costs.

Value (5.3) 1: Fair distribution of benefits and costs will be ensured across communities.

Objective (5.3) 1a: A fair distribution of benefits and costs will be ensured across all communities and contractors in the local area.

Indicator (5.3) 1a.1: Percentage of economic contributions to local communities.

Target (5.3) 1a.1.1: Annual economic contributions to local communities will be a minimum of 80% of the 5-year rolling average.	Acceptable variance: Zero
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Status: Meets

Canfor contributes to the local economy in the form of wages and benefits, property taxes, contract services, purchases of goods and services, and community donations. In 2011, Canfor’s contribution to local communities was \$57.4 million. Table 32 indicates this represents 95.8 percent of the 5 year rolling average (2007-2011).

Table 32. Contributions to Local Communities

Contribution (millions \$)	2007	2008	2009	2010	2011
Wages and Benefits	15.5	14.3	16.30	17.8	15.9
Property Taxes	0.9	0.9	1.00	1.0	1.1
Local Contract Services	31.2	34.4	31.28	34.9	34.2
Supplies	6	5.7	5.30	6.1	6.2
Community Donations	0.1	0.0	0.02	0.0	0.0
Total	53.7	55.3	53.901	59.9	57.4
Local Contribution (5-Year Rolling Average)	26.2	37.2	48.0	60.0	56.1
% Within the 5-Year Rolling Average	348.2%	211.3%	144.8%	124.9%	95.8%

Indicator (5.3) 1a.2: Percentage of coniferous timber available for local use.

<p>Target (5.3) 1a.2.1: 0.5% of the coniferous AAC is made available for local use and for local residents as per FMA 9900037 annually.</p>	<p>Acceptable variance: Not to exceed the annual allocation of 0.5% of the approved coniferous AAC in any given quadrant.</p>
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Status: Meets

In accordance with Section 8(2)(d) of the Forest Management Agreement (GOA, 1999), 0.5% of the Annual Allowable Cut AAC (3,152 m³) is made available for “local use in construction and maintenance of public works by any local authority, municipality, county, the Crown in the Right of Alberta or Canada and for local residents.” These programs are administered through ASRD and are subject to government regulation.

Canfor and ASRD work cooperatively to identify areas for this program. The value depicted in Table 33 corresponds to the year that that volume was permitted (issued) by ASRD. The volume permitted is not always the volume that is actually harvested. Due to the nature of the local timber permit system, local loggers report volume harvested to the crown when it is sawn and sold, which could be up to 5 years later.

A new cut control period began in the 2009 timber year.

Due to poor markets and demand, there were no permits issued by ASRD in the 2010 timber year.

Table 33. Volume of Permits Issued within the FMA Area

Quadrant	Timber Year Issued	Volume (m3)
1	2009	250
	2010	0
5 year Quadrant		17,875
% Production of AAC		1.40%

Indicator (5.3) 1a.3: Volume of coniferous timber made available for local use.

<p>Target (5.3) 1a.3.1: 10,000 m³ of the coniferous AAC is made available annually for Community Timber Use (CTU) program.</p>	<p>Acceptable variance: Not to exceed the total annual allocation of 10,000 m³ in any given timber season.</p>
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Status: Meets

In accordance with Section 8(2)(e) of the FMA (Canfor, 1999), the Minister reserves the right to issue coniferous timber dispositions to provide up to 10,000 m³ available for a Community Timber Use (CTU) Program. The 2004 harvest season was the first year that ASRD requested that the 10,000 cubic meter volume be made available. The proposed volumes for the CTU Program are included in Canfor’s Annual Operating Plan.

Since 2004, coniferous volumes have been made available by ASRD, via competitive bid, to any interested party, typically local sawmills, loggers or forest products companies. For the 2010 timber year, the required amount of CTU volume was made available by Canfor, but was not requested by ASRD due to poor market demand.

8. Criterion 6: Accepting Society’s Responsibility for Sustainable Development

Society’s responsibility for sustainable forest management requires that fair, effective forest management decisions are made.

Critical Element (6.1): Aboriginal and Treaty Rights

Recognize and respect Aboriginal and treaty rights.

Value (6.1) 1: Understand and respect Aboriginal and treaty rights.

Objective (6.1) 1a: Infringement of Aboriginal and treaty rights will be avoided.

Indicator (6.1) 1a.1: Percent conformance to Sustainable Forest Management elements pertinent to the protection of aboriginal and treaty rights.

<p>Target (6.1) 1a.1.1: 100% conformance to SFMP targets of Element (1.2) Species Diversity and Element (3.2) Water Quality and Quantity annually.</p>	<p>Acceptable variance: 80% conformance to the acceptable variances of SFMP targets related to species diversity, and water quality and quantity.</p>
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Status: Does not meet

Elements (1.2) and (3.2) include twelve targets related to the management of species diversity, water quality and water quantity. Maintenance and protection of those resources provides defacto protection for aboriginal and treaty rights.

Assessment of one of the twelve related targets was postponed pending evaluation of potential methods to ascertain species diversity on the FMA. An appropriate indicator and methodology will be incorporated in the new SFMP, scheduled for completion in the 1st quarter of 2012.

Two targets that were not met in 2011 involved the management of erosion potential and/or stream crossing structures on existing roads. Remediation work on a number of stream crossings that have been assessed as having high potential for erosion was carried out in 2011 but the erosion potential will not decrease measurably until seeded vegetation cover is sufficient. In addition some planned remediation work was delayed or postponed as a result of the significant flood event in July 2011. One other target was also not met due to the occurrence of two harvesting non-compliance incidents relating to riparian management.

Eight of the eleven reported targets that are related to Target (6.1) 1a.1.1 (73%) were met in 2011. Following is a summary of results:

➤ Critical Element (1.2) Species Diversity:

- Target (1.2) 1a.1.1: Maintenance of habitat suitability rating
 - Results: Pending
- Target (1.2) 1a.2.1: Management of Equivalent Clearcut Area (ECA) in bull trout watersheds
 - Results: Meets
- Target (1.2) 1a.3.1: Management of forest seral condition in caribou habitat area and maintenance of buffers adjacent to trumpeter swan lakes
 - Results: Meets
- Target (1.2) 1a.4.1: Rare plant identification training for Canfor staff
 - Results: Meets
- Target (1.2) 1a.5.1: Participation in biodiversity monitoring program(s)
 - Results: Meets
- Target (1.2) 1a.6.1: Retention of coarse woody debris
 - Results: Meets
- Target (1.2) 1a.7.1: Establishment of planned watercourse buffers
 - Results: Meets
- Target (1.2) 1a.8.1: Management of structure retention
 - Results: Meets

➤ Critical Element (3.2) Water Quality and Quantity

- Target (3.2) 1a.1.1: Management of Water Quality Concern Rating on stream crossings
 - Results: Does not meet
- Target (3.2) 1a.2.1: Remedial action for stream crossings
 - Results: Does not meet
- Target (3.2) 1a.3.1: Compliance with riparian zones standards
 - Results: Does not meet

- Target (3.2) 2a.1.1: Conformance to water yield increase limits
 - Results: Meets

Critical Element (6.2): Respect for Aboriginal Forest Values, Knowledge, and Uses

Respect traditional Aboriginal forest values and uses identified through the Aboriginal consultation process.

Value (6.2) 1: Understand and respect treaty and Aboriginal special needs.

Objective (6.2) 1a: Early and effective consultation with Aboriginal peoples will be provided.

Indicator (6.2) 1a.1: Number of opportunities for early and effective consultation with Aboriginal peoples.

Target (6.2) 1a.1.1:

To annually provide a range of opportunities for early and effective consultation with Aboriginal peoples who have indicated interest in activities on the FMA area.

Acceptable variance:

Opportunity for meaningful consultation on General Development plans must be provided to members of the Sturgeon Lake Cree Nation, Horse Lake First Nation, Zone 6 Métis Nation of Alberta and the Aseniwuche Winewak Nation of Canada annually.

Status: Meets

Consultation with Aboriginal communities regarding Canfor's activities on the FMA is carried out in conformance with the recently approved *Alberta First Nations Consultation Guidelines on Land Management and Resource Development* (GOA, 2006).

Canfor maintains contact through its consultation processes with Sturgeon Lake Cree Nation (SLCN), Horse Lake First Nation (HLFN), the Aseniwuche Winewak Nation of Canada (AWN) and Zone 6 Métis Nation of Alberta.

Canfor retains a record of all meetings and actions related to First Nations communication in the *Creating Opportunities for Public Involvement* database maintained by Canfor Alberta staff.

Following is a summary of communication between Canfor and local First Nations during the 2011 calendar year:

Horse Lake First Nation (HLFN)

- In January – phone calls made to discuss Forest management plan information sharing with HLFN. Meeting set up for May 3rd at HLFN reserve.
- In April – General Development Plan (GDP) information sharing package containing harvest plan maps and vegetation management program information and maps were sent to HLFN.

- In April - email received to reschedule the May 3rd meeting.
 - Workshop date invitation received for June 6th to discuss Canfor FMP and GDP.
 - Canfor called for follow-up information to prepare, but no return call received.
 - Workshop was cancelled.
- In June/July - Canfor continues to follow up with HLFN.

Sturgeon Lake Cree Nation (SLCN)

- In January – phone calls made to discuss Forest management plan information sharing with SLCN. Messages left. This continued until June. Have not heard back from SLCN.
- In March – discussions with SLCN about obtaining salvage wood from their Hwy 43 construction.
- In April – General Development Plan (GDP) information sharing package containing harvest plan maps and vegetation management program information and maps were sent to SLCN
- In June – SLCN called regarding our GDP package and said they would call us back sometime. No further calls received. .
- SLCN continues to be on the list as a representative on Canfor's Forest Management Advisory Committee.

Aseniwuche Winewak Nation of Canada (AWN)

- In January – management plan team had a meeting with AWN to explain management planning process, discuss recent caribou management commitments and discuss Canfor's vegetation management program. Open invitation to Canfor's FMAC meeting was extended as well. Past minutes of FMAC as well as SFMP were sent to AWN.
- In February – vegetation management program overview maps were sent to AWN as requested at the January meeting.
- In February – response received that the elders requested a field trip to view herbicide operations.
 - During the spray operations in August, Canfor contacted AWN but no one was available.
 - Continued contact attempts in September to arrange for a tour. Each attempt resulted in leaving a message.
 - In November AWN contacted Canfor and the request was changed to having a schedule of herbicide activities posted at AWN office prior to spray occurring. This will be done for 2012.
- In April – sent out GDP information sharing package (with maps) regarding upcoming harvesting plans.
- In May – AWN responded that they had no concerns with harvesting plans as proposed.

Zone 6 Métis Nation of Alberta

- In November – Talked to Metis nation representative at a Forest information open house in GP. Exchanged contact information.
- In December – Metis Nation Zone 6 President wrote to Canfor to request a meeting in 1st quarter of 2012 to discuss Canfor’s projects in their region over the next few years and how Canfor is mitigating the impacts from mountain pine beetle. A meeting will be arranged.
- Zone 6 Métis Nation provides a representative to and is an active participant on Canfor’s Forest Management Advisory Committee.

Objective (6.2) 1b: Special cultural and historic sites will be respected.

Indicator (6.2) 1b.1: Percentage of historic resources that are protected.

Target (6.2) 1b.1.1: 100% conformance to the prescription for historical resources prepared by a certified archaeologist annually.	Acceptable variance: Zero.
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Status: Meets

In 2011, 8 sites of historical significance were identified through field pre-impact assessments conducted by an independent certified archaeologist. All of these sites were delineated from the harvest areas and avoided during operations.

Indicator (6.2) 1b.2: Percentage of known local historical resources that are respected.

Target (6.2) 1b.2.1: 100% of known local historical resources are respected annually.	Acceptable variance: Zero.
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Status: Meets

Known local historical resources are identified through use of the *Heritage Potential Model* that received approval from Alberta Community Development in 2002. This model was updated in the fall of 2006. All 2011 harvest units were screened against the current model by a certified archaeologist to ensure that no harvest operations were planned within the immediate vicinity of known local historical resources.

Critical Element (6.3): Public Participation

Demonstrate that the public participation process is designed and functioning to the satisfaction of the participants.

Value (6.3) 1: Inclusive public process.

Objective (6.3) 1a: Affected and locally interested parties will be involved in the development of the decision-making process through an open, transparent and accountable process.

Indicator (6.3) 1a.1: Percentage conformance to the Forest Management Advisory Committee’s Terms of Reference (FMAC, 2008).

Target (6.3) 1a.1.1: 100% conformance to the FMAC’s Terms of Reference (TOR) annually.	Acceptable variance: Zero.
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Status: Meets

All FMAC activities were conducted in accordance with the TOR in 2011. FMAC was very active in the development of the 2012 Sustainable Forest Management Plan CSA Z809-08 values, objectives, indicators and targets. The next TOR review is scheduled for fourth quarter of 2012.

Indicator (6.3) 1a.2: Number of opportunities for public participation.

Target (6.3) 1a.2.1:	Acceptable variance:
To provide a minimum of 4 types of opportunities for public participation annually.	Zero

Status: Meets

Canfor offered the following opportunities for public involvement during 2011:

1. An active public advisory group (FMAC);
2. A public open house for review of Canfor's GDP and Annual Operating Plan (AOP) November 14th in Grande Prairie;
3. Open houses for review of Canfor's Vegetation Management Plan were held May 16th in Fairview and in Grande Prairie;
4. Annual trapper consultation and notification regarding harvesting and silviculture plans;
5. Public advisory committee field tour October 21st; and
6. Responses to letters and telephone calls to Canfor from the public.

In addition, the Sustainable Forest Management Plan (SFMP), Annual Performance Monitoring Report, 5 year GDP/AOP and DFMP was made available to the public in a variety of locations (at the Canfor Alberta Woodlands office, local libraries, open houses, trade shows, and on www.canfor.com)

Indicator (6.3) 1a.3: Percentage of public inquiries that receive an initial contact.

Target (6.3) 1a.3.1:	Acceptable variance:
To make initial contact to 100% of public inquiries within one month of receipt.	To make initial contact with a minimum of 90% of the public inquiries within one month.

Status: Meets

Canfor received 0 public inquiries in 2011.

Critical Element (6.4): Information for Decision-Making

Provide relevant information to interested parties to support their involvement in the public participation process, and increase knowledge of ecosystem processes and human interactions with forest ecosystems.

Value (6.4) 1: Current scientific, local, and traditional knowledge.

Objective (6.4) 1a: Forest management decisions will be based on scientific, local, and traditional knowledge.

Indicator (6.4) 1a.1: Number of opportunities to enhance scientific, local, and traditional knowledge.

Target (6.4) 1a.1.1: To provide a minimum of 8 different opportunities to enhance knowledge annually.	Acceptable variance: Zero.
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www.canfor.com and at the Canfor Alberta Woodlands office;

2. Public access to the approved 2011, 5 year GDP/AOP was provided at open house(s) and at the Canfor Alberta Woodlands office;
3. Public access to the approved DFMP was provided at local libraries, on www.canfor.com and at the Canfor Alberta Woodland office;
4. Financial and technical support for the Grande Prairie and Area Forest Educator was provided by Canfor and other local forestry companies;
 - In the 2011, the forest educator conducted presentations covering 2480 students.
5. Sponsorship and volunteering for Alberta Forestry Week “Walk Through the Forest”, at which students learn about various forestry topics – a total of 661 students participated;
6. Sponsorship and volunteering for Alberta Forestry Week “Arbor Day” where grade one students learn about the importance of trees – a total of 1,212 students received a tree;
7. Sponsorship of open houses (see (6.3) 1a.2.1 for details); and
8. Presentations at FMAC meetings by Jim Stephenson (Canadian Boreal Forest Agreement-How it Works), Tim Boulton-SRD Forest Management Branch (Review of VOITS from the Forest Management Planning Standard), Mike Russell-SRD Fish and Wildlife (Barred Owl Habitat Modeling) and Craig Johnson-SRD Fish and Wildlife (Integrating Risk for Fish in Forest Management Planning) with Canfor.

Indicator (6.4) 1a.2: Number of active research projects.

Target (6.4) 1a.2.1: To be involved in a minimum of 10 active research projects annually.	Acceptable variance: Zero
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Status: Meets

Research plays an essential role in the successful implementation of sustainable forest management. Research also provides important information used in decision-making regarding the management of forestry operations (i.e. timber harvesting, road construction and maintenance, silviculture, etc.) and forest products manufacturing.

Canfor is involved in research in a variety of ways. Each year, Canfor allocates significant resources to support forest research, forestry education, and projects that enhance the general public’s forestry knowledge. The company also maintains representation on several associations, committees and groups that initiate or support research.

Table 34 indicates that in 2011, Canfor Alberta participated in twelve research projects. Funding levels indicated are for the duration of the project, up to December 31, 2011. These levels fluctuate as active projects are completed and new projects are initiated.

Table 34. Research Projects, Reports and Organizations

Canfor Research Projects	
Project Name	Funding (\$)
Competition Modeling	\$683,586
EMEND Phases 9 - 13	\$1,904,380
Grizzly Bear Health Project	\$91,450
Fire # 7 Reforestation Research	\$15,653
Nordic Trails	\$30,472
Western Boreal Growth and Yield Association	\$291,551
Foothills Growth & Yield Association	\$380,851
MPB Research/Protection	\$52,656
Boreal Forest Research Centre	\$41,259
Foothills Landscape Management Forum	\$125,303
OPTI Grade	\$25,000
LiDar Application Research	\$44,925
Total	\$3,687,087

9. Summary

The status of the 61 targets found throughout this *2011 Annual Performance Monitoring Report* is summarized in Table 35 below.

Table 35. Summary of Performance

Classification	2006	2007	2008	2009	2010	2011
Number of targets "Meets"	36	38	37	50	52	51
Number of targets "Does Not Meet"	12	12	11	6	8	9
Number of targets "Pending"	9	10	12	5	1	1
Total number of CSA Z809-02 targets	60	60	60	61	61	61

Canfor's performance is assessed annually through internal and external audits. Canfor's independent third party audits are performed by KPMG Performance Registrar Inc, who define audit findings in the following categories:

- Good Practice: An Auditor's professional judgment where he/she notes a particular practice that stands out as above the industry norm or is an area where significant improvement over the previous year has been noted and the auditor wishes to recognize the company's efforts.
- Major nonconformities: Are pervasive or critical to the achievement of the SFM Objectives. They must be addressed immediately or certification cannot be achieved/maintained.
- Minor nonconformities: Are isolated incidents that are non-critical to the achievement of SFM Objectives. All nonconformities require the development of a corrective action plan within 30 days of the audit, which must be fully implemented by the operation within 3 months.
- Opportunities for Improvement: Are not nonconformities but are comments on specific areas of the SFM System where improvements could be made.

In 2011, 2 audits of the Canfor Alberta's forestry systems were conducted in the DFA:

- Internal audit of CAN/CSA Z809-02, including PEFC Chain of Custody for the Alberta FMA area and ISO 14001:2004 for the Canfor Alberta Division, with the following findings reported:
 - 1 opportunity for improvement.
- External audits were completed by an independent third party for ISO 14001:2004 as a re-certification audit for all Canfor's woodlands operations, which was successful with a new certificate issued that expires November 16, 2014.
- External audits were completed by an independent third party for CAN/CSA Z809-02, including PEFC Chain of Custody for all Canfor's woodlands operations, with the following findings reported:
 - 4 opportunities for improvement;
 - 1 minor non-conformance; and
 - 0 major non-conformances.

All independent third party audit non-conformance incidents require a corrective action plan to be prepared by Canfor and approved by the registrar. As well, Canfor develops corrective action plans for all non-conformance incidents and opportunities for improvement detected by Canfor during inspections of operations. All incidents and related action plans are recorded in the *Incident Tracking System* database by Canfor woodlands staff.

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