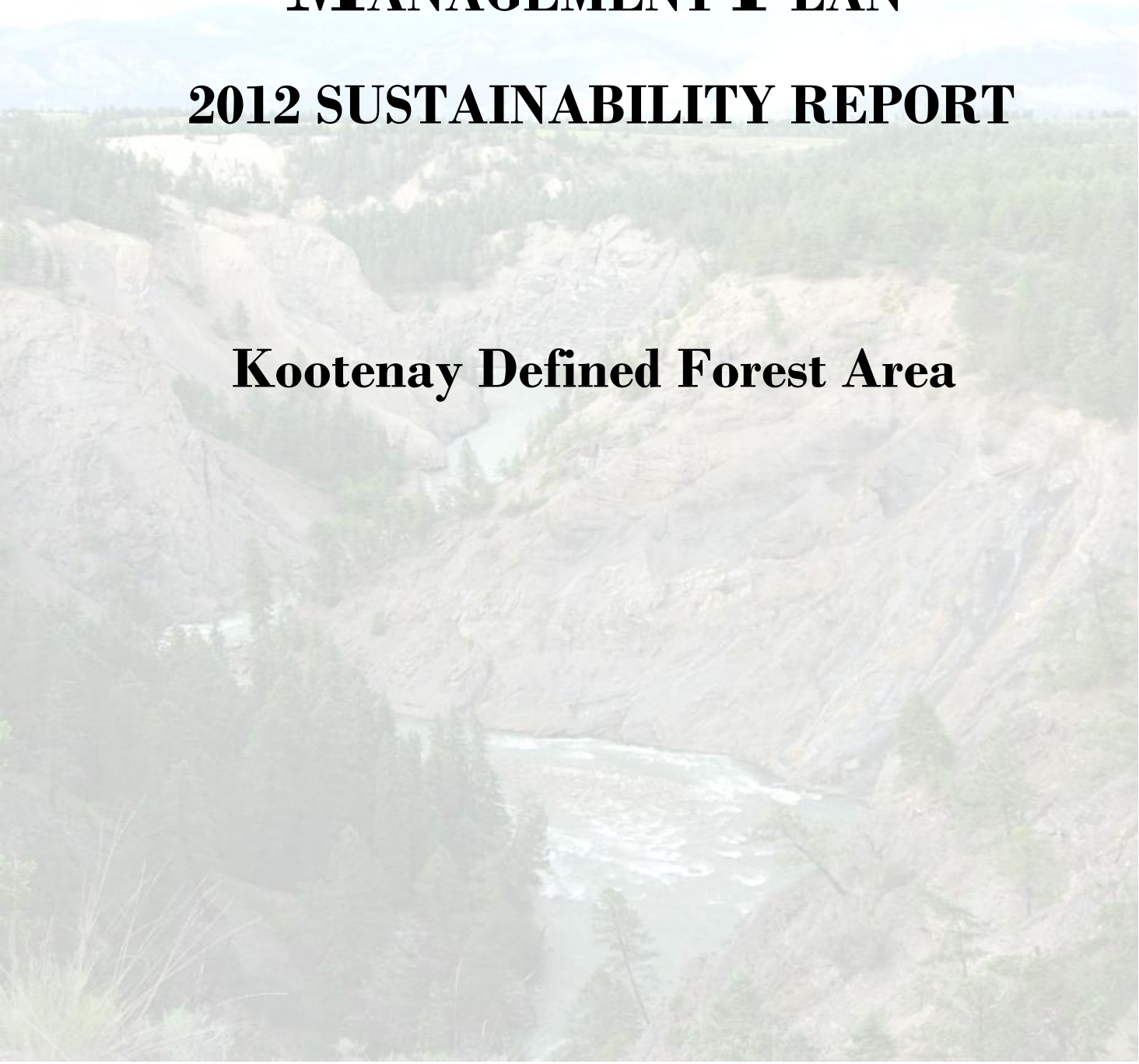
Sustainable Forest Management Plan

2012 SUSTAINABILITY REPORT



Kootenay Defined Forest Area

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Executive Summary

This is the eighth annual report of the Sustainable Forest Management Plan for the Kootenay defined forest area (DFA). Canfor acquired Tembec's forest licenses and sawmills in March 2012 and the FSC certificate was transferred shortly after the acquisition was finalized. This report summarizes the progress and performance made by Canfor to achieve the results within the Kootenay DFA Sustainable Forest Management Plan (SFMP). The Canfor Kootenay DFA is certified under the Forest Stewardship Council (FSC) BC 2005 standard. Canfor's Radium DFA is currently certified under the CSA standard and a project to amalgamate the two SFMP's will be completed by 2014.

Each of the three main value areas – ecological, economic and social - has a suite of associated measures and targets. The following table summarizes Canfor's overall achievements of meeting the assigned targets. Some of the targets from the Tembec era, such as company financial performance and environmental and social funding, are not metrics which Canfor tracks and have been identified to be replaced with appropriate targets during the SFMP amalgamation. Many of the social indicators which are trending towards the target are related to the on-going negotiations to finalize the Relationship Protocol and Engagement and Benefits Agreement between Canfor and the Ktunaxa Nation Council. This report provides information which demonstrates Canfor's performance relative to the indicators.

2012 Annual Report Summary

Classification	***Ecological***	***Economic***	***Social***
Number of Targets Met	**24**	***14***	**16**
Number of Targets – trending towards target	**3**	**-**	**5**
Target no longer applicable. To be revised in new SFMP	**-**	**6**	**-**
Number of Targets Not Met	**-**	**-**	**-**
Total	**27**	**20**	**21**

Introduction

The *Sustainable Forest Management Framework* developed by Canfor is based upon a set of local *criteria, indicators, measures and targets*; initially developed in 2003 from a review of other national and internationally recognized frameworks of sustainable forest management. A corresponding set of strategies in the company's Sustainable Forest Management Plan (SFMP) specify how Canfor will achieve those goals throughout their Kootenay DFA.

The Criteria[1], Indicators[2] and strategies described in the SFMP are consistent with the company's environmental program and are intended to satisfy many aspects of the company's Forest Stewardship Council (FSC) forest management certification to the BC Regional Standard[3].

Canfor's Sustainability Report (SR) is a companion document to the current SFMP and is an important aspect of the long-term evaluation, assessment and monitoring of the SFMP's effectiveness. As part of the continuous improvement and Adaptive Management principle, it is a critical part of the feedback loop in the Sustainable Forest Management Framework and process.

The Sustainability Report presents information about the company's Forest Management Group (FMG), operations in the Kootenay Region in three broad categories – *environmental, economic and social*. The statistical information and commentary is intended to report on the status of the goals in the SFMP.

Achievements in the report are based on operations since the Canfor acquisition of Tembec in March 2012. The SFMP is currently being amalgamated with the SFMP for the Radium Defined Forest Area (DFA) so the Kootenay region will operate under one SFMP. Some of the indicators in this report have previously been identified for removal and some are noted as being modified due to Tembec specific criteria (i.e. economic viability related to Earnings before interest, taxes, depreciation, and amortization EBITDA, scholarships, etc).

Sustainable Forest Management Framework

The company's Sustainable Forest Management Framework uses a *Criteria and Indicator* approach to achieve its forest management objectives. Initially Criteria are established for *Ecological, Social, and Economic* values, and several key Indicators identified for each criterion. For each indictor a measurable target is also established. Assuming suitable indicators have been chosen for each criterion, and an appropriate cost-effective means to measure the value has been established - planned measurements can be made and compiled for analysis.

Canfor's *Sustainable Forest Management Plan (SFMP)* contains the full set of local Criteria, Indicators, Measures and Targets. The current SFMP (September 2005) outlines the strategies that will be implemented, and an approach for monitoring each target. Minor modifications have been made to the Local Criteria and Indicators over the years and the current version is available upon request.

Often in forestry the measurements and frequency of information collected will vary depending upon what is being collected, and why. As Canfor implements, achieves and reports on the targets set out it will be possible to evaluate the suitability of each measure toward meeting the desired outcome. From this information, Canfor will be able to determine appropriate and necessary changes to the SFMP, and applicable operational practices. In a practicable sense, it is Canfor's intention to establish longer-term (five year) trends/data and information with regard to the established indicators and strategies. This will provide useful guidance for periodic plan revisions and perhaps changes to the criteria, indicators and measures of sustainability.

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[1] *Criteria – are broad management statements that can be demonstrated through the repeated, long-term measurement of associated indicators.*

[2] *Indicators – are used to help assess the success of meeting the sustainable forest management criteria and are periodically monitored to assess their suitability to represent the intent of the criteria.*

[3] *FSC BC Regional Standard, October 2005*

Focused and Public Review

An important goal of this report is to document and inform our managers and resource staff on our progress toward meeting the sustainable forest management goals. Ongoing improvements to Canfor's forest management practices also rely upon informed advice and participation from a wide range of interests, as well as directly affected parties with regard to our forest activities. As such our FMG staff seek input on an ongoing basis; both formally and informally through numerous processes. Each year this report is made available for comments and stakeholder input, through our various advisory and consultation process.

Revisions to the Plans

As Canfor implements, achieves and reports on the targets set out – it will be possible to evaluate the suitability of each measure toward meeting the desired outcome. From this information, the company will be able to determine appropriate and necessary changes to the SFMP, and applicable operational practices.[4] Canfor's Radium DFA operates under a separate SFMP. An amalgamation of the two SFMP's began in the spring of 2013 and will continue through the Fall and Winter 2013/14. It will include public participation and input into the plan. The SFMP will meet or exceed the FSC BC Standard.

Kootenay Forest Management Units

In March 2012, Canfor acquired Tembec's major forest licenses in the Kootenay region. Canfor's primary forest tenures in the East Kootenay were FSC certified in the fall of 2007, and their corresponding forest area descriptions are detailed in the appendices of the Sustainable Forest Management Plan. The Radium license, FL A18979, is not part of the FSC certificate. Although it underwent a pre-scoping audit in 2012, it will not become certified under FSC this year. Over the past several years however, an assortment of additional non-renewable and minor licences have been issued to Canfor by the province. In some cases Canfor manages these tenures on behalf of their owner, such as a First Nation business or organization. Often these minor tenures are not included in the SFMP nor are they within the scope of Canfor's FSC Forest Management certification. The 'management unit' (MU5) descriptions in this report are based on the provincial government licenses and tenures. Using this approach, allows for our reporting of the results for all Canfor's forest management units/tenures, irrespective of being 'certified' or not.

Table 1: Forest Management Group (FMG) Administrative Organization (since 2012)

Timber Supply Area (TSA)	Major Tenures Licences
Tree Farm Licence 14	**TFL 14**
Invermere TSA	**FL A18978** **FL A18979**
Kootenay Lake TSA	**FL A20212**
Cranbrook TSA	**FL A19040**
Private Lands	**Tembec Managed Forest 27**
Private Lands	**Managed Forest 72**

[4] *See also the Adaptive Management and Monitoring section*
[5] *Management Unit is the term used by FSC to describe the area of the forest that is certified.*

Table 2: Forest Management Units (Tenures /Licences) for Kootenay FMG (2012)

Kootenay FMG	Timber Supply Area (TSA)	FSC Certified
Major Tenures		
TFL 14	TFL 14	Yes
FL A19040	Cranbrook TSA	Yes
FL A20212	Kootenay Lake TSA	Yes
FL A18978	Invermere TSA	Yes
FL A18979	Invermere TSA	No
Managed Forest 72	Private Lands	Yes
Managed Forest 27	Tembec Private Lands	No
Minor Tenures		
NRFL A86246 Lower Kootenay Band	Kootenay Lake TSA	Yes
NRFL A86450 Skookumchuk Pasture	Invermere TSA	No
NRFL A81788 Rouse Pasture	Cranbrook TSA	No
NRFL A81369 Nupqu Inv	Invermere TSA	Yes
NRFL A81368 Kinbasket Dev Corp	Cranbrook TSA	Yes
NRFL A82929 NUPQU	Cranbrook TSA	Yes
NRFL A88226 Tobacco Plains	Cranbrook TSA	Yes
NRFL A82928 Tobacco Plains	Cranbrook TSA	Yes
	Federal Dominion Coal Block Lands	No
New Minor Tenures in 2012		
N/A		

Management Units that have received FSC Forest Management Certificates include TFL 14, FL A18978, FL A19040, FL A20212, and Managed Forest (MF) 72. In 2009 these areas were all Re-certified under one FSC Forest Management Certificate SW-FM/CoC-001348 which is valid from October29, 2009 to October 28, 2014. Some of the Minor (NRFL) volume based tenures were also included in the “certified area”.

Local Criteria for Sustainable Forest Management

The primary aspects deemed necessary for a sustainable forestry program are described as Criteria, and organized by their *three* broad values – *Ecological, Social, and Economic*. The eleven (11) Criteria identified by Canfor's Kootenay Forest Resource Management/Operations are expressed below:

Ecological Values

Criterion 1: Biological richness and its associated values are sustained

Criterion 2: Productivity of forests and associated soil resources are sustained

Criterion 3: Forest ecosystem contributions to global carbon cycles are sustained

Criterion 4: Water quality and quantity is sustained

Economic Values

Criterion 5: Sustained economic benefits are generated by the forest industry

Criterion 6: Sustained economic opportunities for non-timber forest resources

Criterion 7: Sustained economic benefits and contribution to the local communities

Social Values

Criterion 8: Forest Management decisions are informed by a wide range of ecological, social, and economical values, including Aboriginal people's interests

Criterion 9: Forest management sustains ongoing opportunities for a range of quality of life benefits

Criterion 10: Long term and mutually beneficial relationships are established with local First Nation Communities

Criterion 11: Forest management activities and operations shall respect all national and local laws and corporate administrative requirements

Indicator Performance and Results

To help further assess and evaluate each Criterion the framework uses a number of Indicators to represent a more specific aspect of that value. Canfor has developed twenty-three (23) Indicators of sustainability. The full Criteria, Indicators, Measures and Targets are available upon request.

Describing the results or current condition of these Indicators (status and progress) is the primary focus of this report.

Ecological Values

Criterion 1: Biological richness and its associated values are sustained

Indicator 1.1: **Ecologically distinct habitat types are represented in an unmanaged state to sustain lesser known species and ecological function.**

Representation and Protected Areas

Measurable 1.1.1: Develop and implement strategies for rare, uncommon and under-represented ecosystem types in the East Kootenay Conservation Program area (EKCP).

Targets:	**Results**
a) Rare ecosystem clusters (< 1000 ha): Reserve from harvest.	**Target Achieved every year since 2006**
b) Small and less Represented Uncommon ecosystem clusters (< 2000 ha and with < 50 % in NHLB). Reserve from harvest.	**Target Achieved every year since 2006**
c) Uncommon ecosystem clusters (> 2000 ha and < 8500 ha). Develop strategies to improve representation in NHLB (stand structure and reserves).	**Target Achieved since 2006**
d) Ecosystem clusters with low and moderate representation: Develop strategies to improve representation (stand structure and reserves).	**Target Achieved since 2006**

Supporting Evidence:

Operational Trends Canfor (previously Tembec) has incorporated the Ecological Representation Strategy into every cutting permit developed in the DFA since 2006. This involves either reserving or removing from the block areas of rare and small and less represented ecosystem clusters, and prioritizing uncommon ecosystems and those with low and moderate representation for stand structure and reserve patches. A section on Ecosystem Representation is included in the Site Plan template used for every block to ensure that the strategy is consulted and followed during plan development.

In 2012, the GIS overlay analysis indicated that 7 blocks contained rare ecosystems within their gross area. These blocks were checked, and in each case the rare ecosystem was Group 19 (sub-hydric MS, or MSdk-07) and this ecosystem was placed in a riparian reserve or Wildlife Tree Patch.

Strategic Trends, Canfor incorporated representation into their spatial Old Growth Management Area (OGMA) selection by prioritizing rare, uncommon, and low and moderate representation ecosystems for OGMA placement (see Neal 2005, Forsite 2006). Rare, uncommon, and less represented groups with low and moderate representation were also included in the original HCVF identification, and are also being included in the 2013 HCVF update. Whether or not these strategies improve the representation of the low and moderate representation ecosystems will be tested with the re-running of the representation analysis, expected in 2014 (see below).

Adaptive Management

1. The strategies appear to be working at an operational level, and have been implemented at a strategic level. In order to test if our strategies are working at a strategic level, the representation analysis needs to be re-run. This is complicated by the fact that, since the representation analysis was completed in 2004, a new PEM has been completed for the Cranbrook TSA, and the BEC in portions of the Cranbrook and Invermere TSAs have been revised or are undergoing revision. A new representation analysis will be run once the BEC and PEM for the Cranbrook TSA has been finalized.
2. The targets and strategies for rare, uncommon and under-represented ecosystem types will be revised, based on more recent information, in 2013.

Measurable 1.1.2: The percentage of area in protected reserves, by BEC variant and by certified MU (licence).

Target:	**Results**
For each of Canfor's areas under FSC certification, the percentage of protected areas by BEC variant meets the requirements in Table P 6-1 of the FSC-BC standards.	**Target Achieved since 2006, with consideration of HCVFs in the IDFdm2 and PPdh**

Supporting Evidence

In 2012, the protected area analysis that was originally conducted in 2006 was repeated for Canfor's operating areas in the Cranbrook and Kootenay Lake TSAs (as well as MF27, which is excluded from the following discussion). This included the portions of the operating area that were gained in 2010. Although the methodology was slightly different (still meeting FSC requirements), results were similar to the 2006 results: protected area targets were met or exceeded in all BEC variants with the exception of the IDFdm2 (- 11 %) and the PPdh (-10 %).

For TFL 14 and the Invermere TSA, the 2006 analysis is still being used (a new version will be re-run once the new BEC has been finalized for the Rocky Mountain District). This analysis showed that, for the DFA in the Invermere TSA, deficits also occurred in the IDFdm2 (- 8%) and the PPdh (-17%). In TFL 14, deficits occurred in the ICHmk1 (-1 %) and ICHmw1 (-7 %).

Within the deficit BEC variants identified for TFL 14, a project was carried out that identified and mapped additional protected reserves up to the target numbers. The reserves identified were also checked in the field. The project resulted in an additional 32.4 ha of reserves identified in the ICHmk1, and an additional 134.2 ha of reserves identified in the ICHmw1. The project report provides full details, including photos and mapping of the new reserves (Protected Reserves field Assessment and Mapping for ICHmk1 and mw1 BEC zones, by Woody Forest Management Ltd, March 2007).

In the remainder of the DFA, deficits occurred in the two BEC variants which have been identified as being the furthest from historic conditions, and which require ecosystem restoration to restore their conservation value and habitat for threatened and endangered species. Simply identifying areas to protect from logging as part of a protected reserves network will not achieve the ecological goals for these ecosystems, because, on most sites, the ingrown trees and trees that have encroached onto grasslands/Open Forest need to be removed to restore the site. Thus, to meet this requirement and make up the deficits, areas with the highest potential high conservation values were identified through the HCVF project, and where recommended by the Ecosystem Restoration Steering Committee, work is being undertaken to restore these ecosystems through harvesting followed by prescribed burning.

Thus, Canfor's strategy to meet the protected area requirements in the IDF and the PP is to use HCVF areas to make up the deficit. In all TSAs, when HCVF areas are considered, a surplus is present for the IDFdm2 and PPdh. The HCVF areas are already mapped, and have written management strategies to maintain and restore the conservation values within them. The management strategies are a combination of reserves on sensitive sites (i.e., riparian areas, Great Blue Heron colonies), and restoration treatments. The applicable HCVFs are:

Table 3: HCVFs in Kootenay DFA

Invermere TSA	Cranbrook TSA
2114 - Skookumchuck Prairie	3127 – Fussee Lake
2115 - Reid-Echo lakes	3128 – Englishman Creek
2125 – Westside Columbia Lake	3139 – Kiakho Lakes
2126 – East Side Columbia Lake	3152 – Saugum Lake
2128 – Findlay Mouth	

In 2012, Canfor harvesting occurred within HCVFs 2114 and 3128. Over the past 5 years, over 1500 ha have been treated in one area of the trench (Ta-Ta Creek area).

Testing the Assumptions

Because the inoperable land base (as defined by the current operability line) was included as a protected reserve in the above analysis, it is important to monitor the amount of cutting occurring within the inoperable forest, to see if in fact it is treated as a reserve. The results for 2012 and the past 6 years are summarized in Table 4. This table shows that harvesting and road building does occur above the operability line, particularly in the ESSFdk. However, all variants in which harvesting or road-building occurred above the operability line had large surpluses of protected reserves, so that the small amount of activity that occurred did not create any deficits with respect to Table P6.1 in the FSC Standards.

The variant which previously was the exception, the ICHdw1 in Cranbrook and Kootenay Lake, now has a surplus with the new analysis. Since a new methodology was used in the 2012 analysis, it is impossible to tell whether more reserves have been designated over the past 6 years to make up the deficit, or if the change in methodology was responsible. A combination of both is suspected.

Rare and small and less represented ecosystem groups, caribou habitat, and whitebark pine leading stands have been identified as unique or ecologically sensitive sites. Over the past 6 years no harvesting or road building above the operability line occurred on any of these sites (Table 4).

Adaptive Management

Activities above the operability line will continue to be monitored in order to ensure that surpluses of reserves are not depleted. The Protected Area analysis will be re-run for all areas when revisions to the BEC and PEM mapping are completed and a new version of the BEC is formally adopted (expected in 2014).

Table 4: Harvesting Above Operability Line or Unique/Ecologically Sensitive Site[6]

Area (ha) impacted by harvesting and road-building						
	BEC variant	**2012[1]**	**2007-2012 total**	**Surplus Reserves[2] (ha)**	**Current Reserves (2006 Surplus minus 2007-2012 impacts)**	**Impact 2007-2012 on special values?**
TFL 14	ESSFdk	0.0	14.6	1,822	1,807	No
	ESSFwm	0.0	2.1	5,033	5,031	No
A18978*	ESSFdk	40.3	120.8	49,080	48959	No
	MSdk	0	39.0	8,984	8,945	No
	ICHmk	0	1.6	289	287	No
	IDFdm2	0	2.0	1,401***	1,399	No
	ESSFdku	1.8	1.8	23,531	23,530	No
A19040 and A20212**	ESSFdk1/2	181.8	716.5	48,934	48,218	No
	ESSFdkw	2.9	5.1	17,387	17,382	No
	ESSFdm	16.3	108.3	22,968	22,860	No
	ESSFwm	0.4	23.6	20,717	20,693	No
	MSdk1/2	49.1	295	8,965	8,670	No
	ICHdm	85.5	169.7	9,772	9,602	No
	ICHdw1	0.0	20.0	1,491	1,471	No
	ICHmk4	1.6	101.3	3,392	3,291	No
	IDFdm2	0.0	0.0	11,684	11,684	No

[1] harvesting only for 2012, no road building
[2] surplus reserves come from 2066 data for TFL 14 and A18978 and from 2012 data for A19040 and A20212
* includes MF72 and A81369
** includes A80321, K1W
***considering the HCVF as reserves, as per the Protected Areas report.

[6] *BEC variants not included in this table that are known to occur within the areas have not been impacted by harvested.*

Indicator 1.2: The amount, distribution and heterogeneity of habitat elements and landscape structures important to sustain biological richness are maintained.

High-value Snags and Green-tree Retention

Measurable 1.2.1: Number of snags > 20 cm dbh on the CFLB at 0, 20, 50, 100, 150, 200, 250 years.

Target	Results
An average of > 10 snags/ha on the CFLB at 0, 20, 50, 100, 150, 200, 250 years.	**Target achieved**

Supporting Evidence

Results from this measurable have not changed since 2007, and details can be found in the 2007 Sustainability Report. The best modelling results available show the numbers of snags are above the target of 10 large snags/ha at every time point on the DFA in the Invermere TSA (see the Stand Structure RNV model; Davis et al. 2005). Results are not available for the other management units, but in the absence of other data will be assumed to be similar.

This measurable will likely be dropped from the new SFMP, or changed such that it is only measured when a new TSR is completed.

Canfor currently has several operational strategies for retaining and recruiting snags both within cut-block areas and within reserves. Although these are at a much smaller scale than this measurable, continuing implementation of these strategies (e.g., snag retention, high value snag program, CWD retention, riparian, representation, WTP and OGMA retention) should help to maintain or gradually increase snag densities at landscape scales.

Measurable 1.2.2: The number of high value (> 20 cm dbh) snags/ha per cut-block (gross area).

Target	Results
An average of 3 high value snags will be left per ha of gross cut-block area for cut-blocks located in ecosystem groupings with low or moderate ecological representation (all but ESSF).	**Dropped**

This target was dropped in 2011 and replaced with measureable 1.2.2.a) below, because it did not make sense to have 2 very similar measurables, one applying to the average numbers of snags per cutblock (the old measureable 1.2.2), and the other applying to every cutblock or group of blocks in the same permit (the new measureable required by the FSC-BC standard). In addition, a High Value Snag tracking program has been developed to focus attention on retaining the biologically most valuable snags.

Measurable 1.2.2a: Density (Stems/ha) of dominant and co-dominant green trees and snags.

<table>
<tr><th>Target</th><th>Results</th></tr>
<tr><td>In all cut-blocks or cutblock areas > 200 m wide, the density of green trees and snags exceeds the following minimum numbers, of which 25 % are snags where available
<table>
<tr><th colspan="2">NDT 1</th><th colspan="2">NDT 2</th><th colspan="2">NDT 3</th><th colspan="2">NDT 4</th></tr>
<tr><td>ESSF</td><td>Other</td><td>ESSF</td><td>other</td><td>ESSF</td><td>other</td><td>PP</td><td>other</td></tr>
<tr><td>12</td><td>8</td><td>15</td><td>10</td><td>12</td><td>8</td><td>4</td><td>8</td></tr>
</table></td><td>Target Achieved for Green Trees and Snags but not for Snags alone</td></tr>
</table>

Supporting Evidence

All of the 103 blocks approved during the reporting period on FSC certified areas met the targets for green-tree retention. Most blocks met the targets within the block itself, considering both wildlife tree patches and riparian reserves and single tree retention, and some met the targets when averaged with nearby blocks in the same cutting permit/Natural Disturbance Type. A summery list is available from the Forest Scientist; detailed records on each block are kept in the block files.

To calculate these numbers, Canfor used the Wildlife Tree Patch (WTP)/Riparian Reserve Zone (RRZ) Tracking Form, which contains data on the number of live stems and snags within WTP and RRZ by diameter class, together with the prescribed leave tree densities for each block to these numbers. The WTP/RRZ form also contains check-boxes for applicable biodiversity features such as nests, dens, old growth features, etc. with the intention of encouraging patch placement in the highest biodiversity value areas.

Snag targets are 25 % of the green tree and snag targets, and so range from 1-4 per ha, depending on BEC/NDT. Just under half (46 %) of the 103 blocks met the snag targets. However, 36 of the blocks that did not meet the snag targets did not have the target numbers of snags available in the pre-harvest stand (based on cruise data). Thus, of the blocks that had the required amount of snags pre-harvest, 70 % met the targets and 30 % did not, which is similar to the amounts in 2011 (75 % did and 25 % did not). It is important to recognize that most snags are considered danger trees by WorkSafe BC, and must be felled unless a reserve patch of diameter 1.5 times the height of the snag is retained around it. If a patch this size was retained around every snag, many planned blocks would become uneconomical to harvest.

Further, the snag targets in FSC refer only to the total number of snags of any diameter, and do not consider the biological usefulness of these snags. For example, a block with 50 snags/ha of 15 cm dbh lodgepole pine would meet the target, while a block with 2 snags per ha of 70 cm western larch would not meet the target. Yet, the latter is of much higher value biologically for many species.

To address the snag deficiency, a high value snag monitoring program (pre and post-harvest monitoring) was piloted on TFL 14 in 2010. Layout crews were instructed to record the UTM co-ordinates and characteristics of very high value snags (defined as dead or dying trees > 40 cm dbh and > 5 m tall larch, Douglas-fir, Ponderosa Pine or Cedar, or > 30 cm dbh aspen or cottonwood, and with wildlife signs like cavities, loose bark, or scratches), and to place as many of these in WTP or remove them from the blocks as practicable. The intention was to create a spatial layer from the locations, and determine the percentage of very high value snags reserved from harvest through a GIS overlap, followed up with field work. The program appeared to be viable, so in 2011 field cards were printed and distributed to all layout and planning personnel. To date information on over 400 high value snags has been collected. A formal field and GIS

monitoring program is planned for 2013 to assess the percentage of snags protected in reserves or otherwise. Informal analysis of the data from 2009 through September 2012 (n=250) indicated that a minimum of 34 % of the high value snags that were recorded were retained within reserves or outside block boundaries. More than this may be actually retained in the blocks, since in Open Forest and Open Range blocks, some snags may be left without patches if the operators are working in protected cabs on conventional (not cable) ground (ROPS and FOPS). A field program is underway in 2013 to assess how many high value snags are actually retained post-harvest.

Coarse Woody Debris (CWD)

Measurable 1.2.3: Volume of coarse woody debris on the CFLB at 0, 20, 50, 100, 150, 200 and 250 years.

Target	Results
No significant declines in CWD volume on the CFLB through time.	**Target Achieved**

Supporting Evidence

Results for this measurable have not changed since 2007, and a detailed discussion can be found in the 2007 Sustainability Report. The best modelling currently available (Davis et al. 2005) shows that, at the broad scale, Canfor is achieving this target in the DFA within the Invermere TSA. Modelling results are not available for any other licences, but in the absence of any information to the contrary are assumed to be similar.

This measurable will likely be dropped from the new SFMP, or changed such that it is only measured when a new TSR is completed and new modelling can be done.

Measurable 1.2.4: Average annual volume of coarse woody debris in stands immediately following harvest, by BEC zone and leading species.

Target	Results
By BEC and stand type, presented in Figure 1 – Figure 8.	**Variable – most within target ranges but some too high and one too low.**

Supporting Evidence

In 2012 a detailed analysis of all the pre and post-harvest CWD collected by Tembec from 2002 through 2011 was completed. This analysis included 520 blocks sampled pre-harvest, and 627 blocks sampled post-harvest. Pre and post-harvest data were compared to each other, and also to the targets for post-harvest CWD retention which were set in 2002. Comparisons were made within BEC subzones, by leading species, and for categories with at least 10 stands in them. Rigorous statistics have not yet been done on these data, and results are shown in order to provide broad trends only. In 2013 the data will be analyzed and written up in a brief report. An analysis of pre-post comparisons by block will be included in this analysis.

Results are shown in Figure 1 – **Error! Reference source not found.**Figure 8. In all BEC ariants but one (ESSFwm), total post-harvest volumes of CWD appear lower than pre-harvest volumes. Given the high variability seen in the data, these differences are likely not statistically significant, but they are consistent among BECs and stand types and could be biologically significant. However, in all cases the post-harvest volumes were well above those considered to

be critical for soil structure and nutrient levels (roughly 10 m^3/ha). Differences were greatest in the ICH variants and the ESSFdk.

Differences in post-harvest vs. pre-harvest volumes were also evident for large diameter (> 30 cm diameter) CWD, but only in some BEC variants. Although it was expected that large CWD would be lower in harvested blocks, this was not consistently the case. In some categories such as the MSdk (both Pl and FdLw), the ESSFdk Pl and ESSFdm PL, there was slightly more large CWD post-harvest than pre-harvest. However the reserve was true for the ICH and ESSFdk SeBl stands. Large CWD could be greater in FdLw and Pl stands with a component of Fd and/or Lw post-harvest because these stands typically have little large CWD pre-harvest, but sometimes contain some remnant large diameter snags. If these are not patched out in reserves, they are typically stubbed, and the top portion left in the block. This would increase the volume of large CWD in the stand. Conversely, older SeBl stands often have considerable large CWD, much of which gets crushed during the logging process, and thus post-harvest volumes are less than pre-harvest ones.

Comparison of the pre-harvest data with the post-harvest targets shows that, in some cases, the targets were actually higher than the average pre-harvest volumes (e.g., ESSFdk and wm, Pl leading), and the upper limit was higher than one standard deviation above the mean (e.g., MSdk Fd/Lw leading stands), suggesting the targets are too high. The targets were proposed 10 years ago, based on limited data, and need to be updated, or a new approach taken.

For all figures below, the original post-harvest CWD target ranges are shown in dashed red lines, the upper range of the target is at 150 m3/ha. Error bars represent one standard deviation from the mean. Sample size (number of blocks) in parenthesis behind each treatment type.

Figure 1: Comparison of pre- and post-harvest CWD volumes for blocks in the MSdk (Pl leading stands)

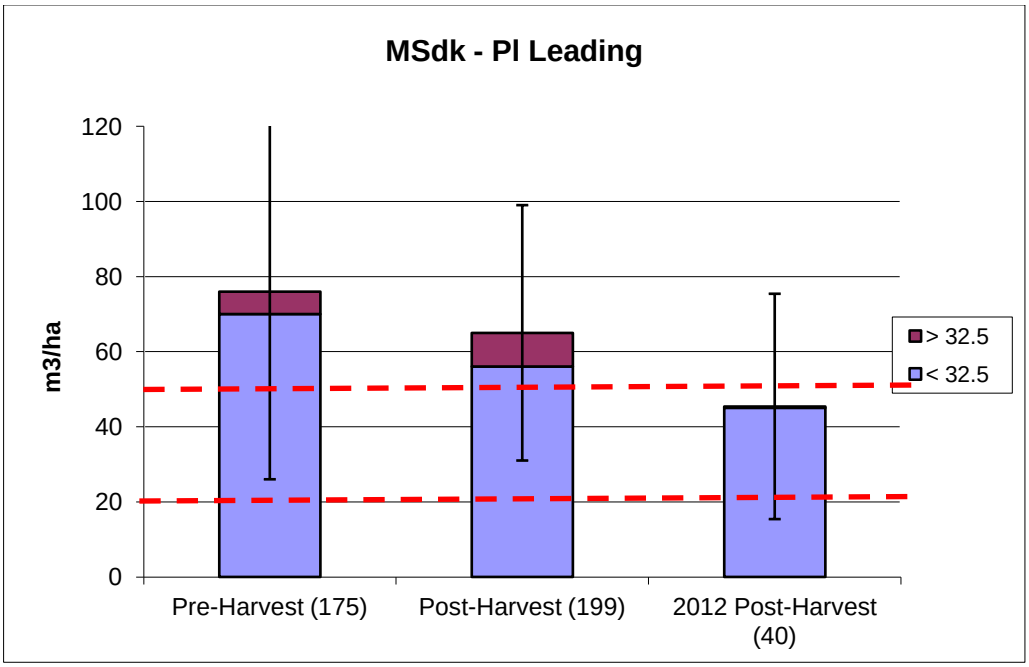


Figure 2: Comparison of pre- and post-harvest CWD volumes for blocks in the MSdk (Fd or Lw leading stands)

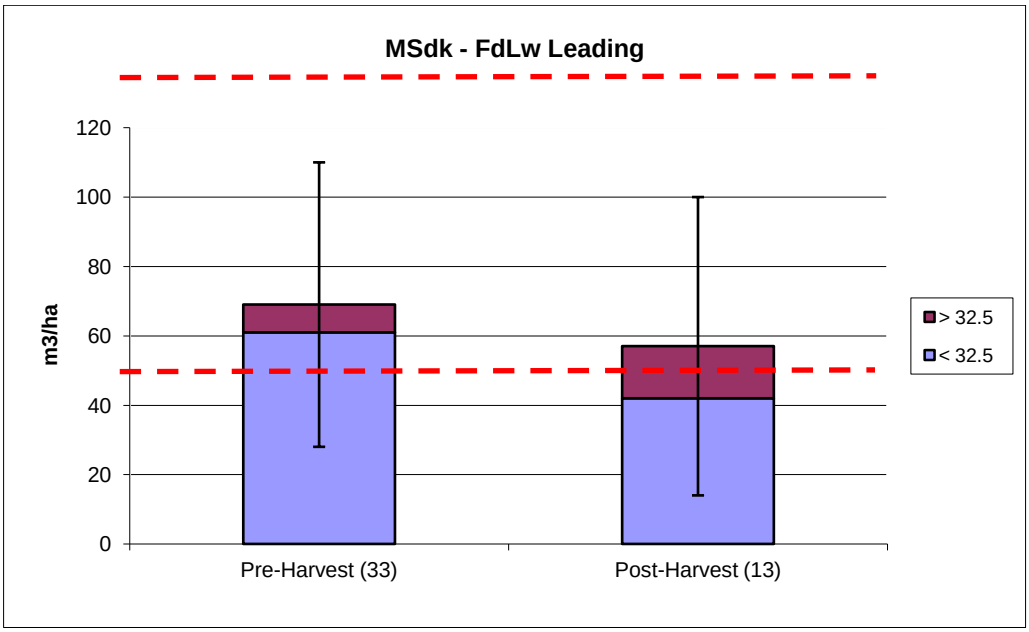


Figure 3: Comparison of pre- and post-harvest CWD volumes for blocks in the ICHdw

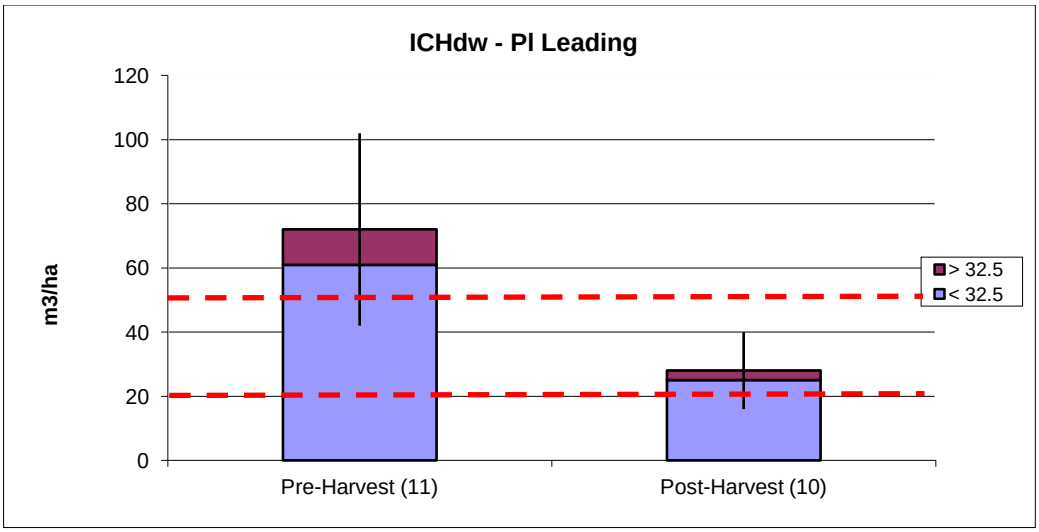
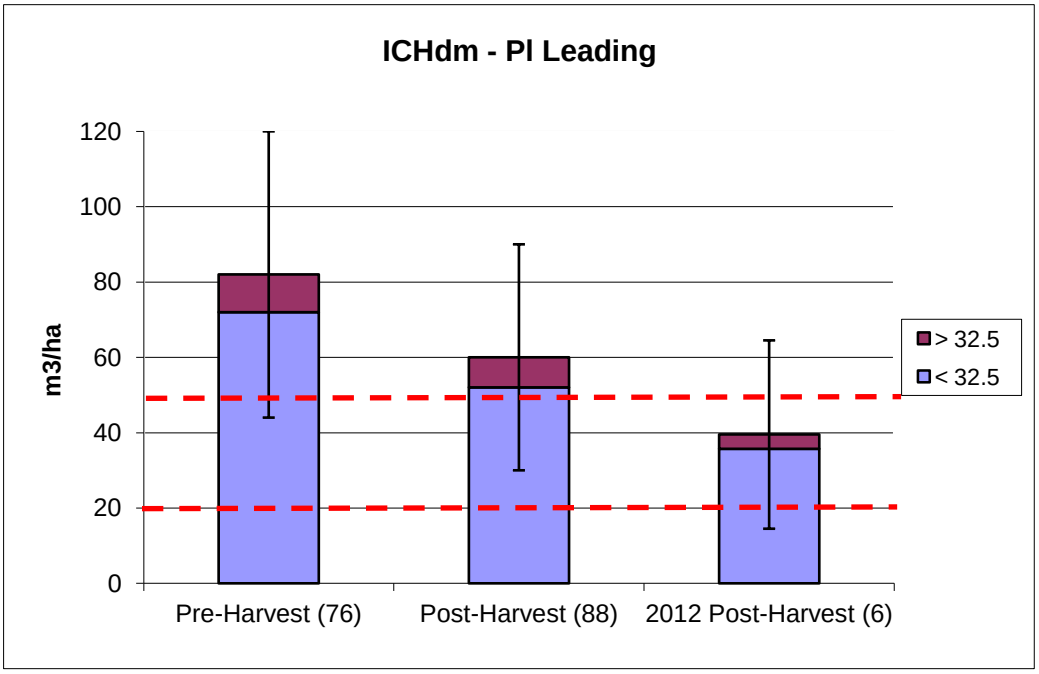


Figure 4: Comparison of pre- and post-harvest CWD volumes for blocks in the ICHdm



Stand types for both BECs were Pl leading stands, as this was the only stand type with enough sample sizes in it to analyze.

Figure 5: Comparison of pre- and post-harvest CWD volumes for blocks in the ESSFdk (Pl leading stands)

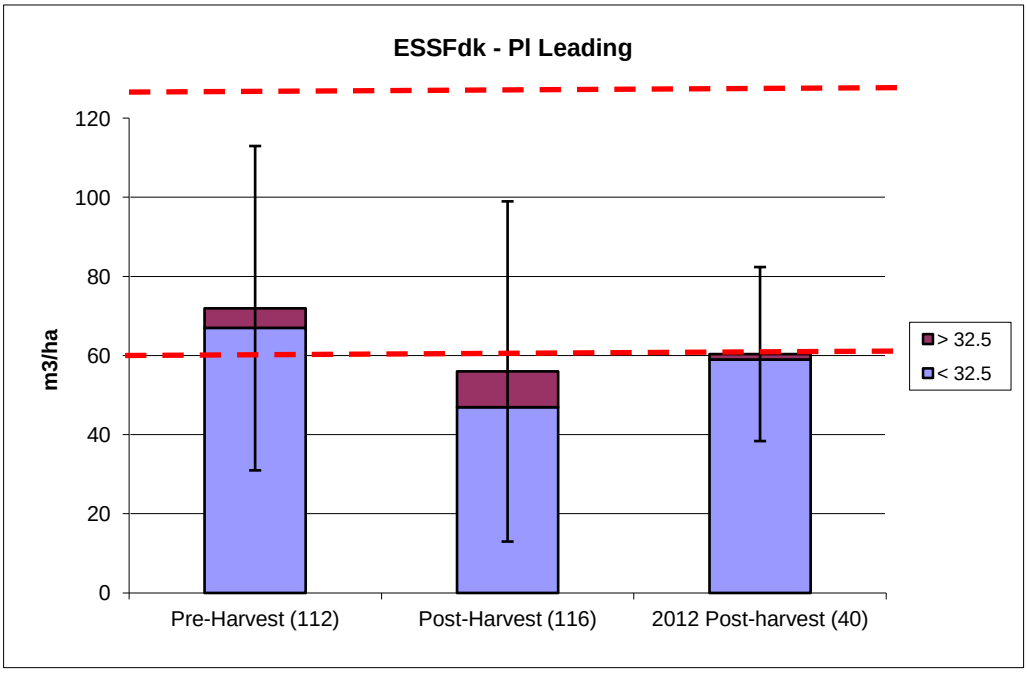


Figure 6: Comparison of pre- and post-harvest CWD volumes for blocks in the ESSFdk (Se or Bl leading stands)

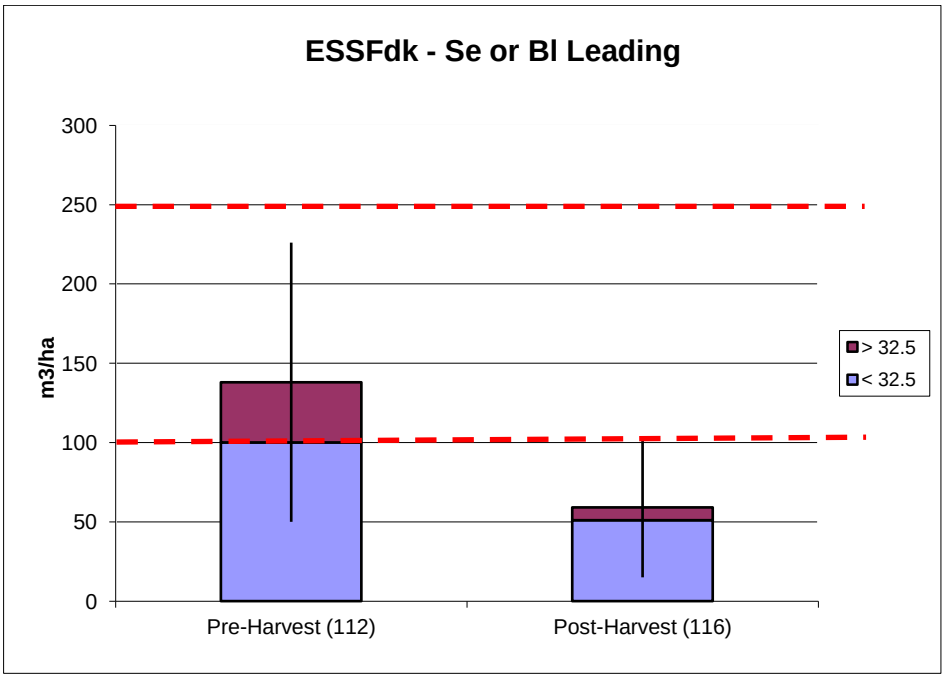


Figure 7: Comparison of pre- and post-harvest CWD volumes for blocks in the ESSFdm (Pl leading stands)

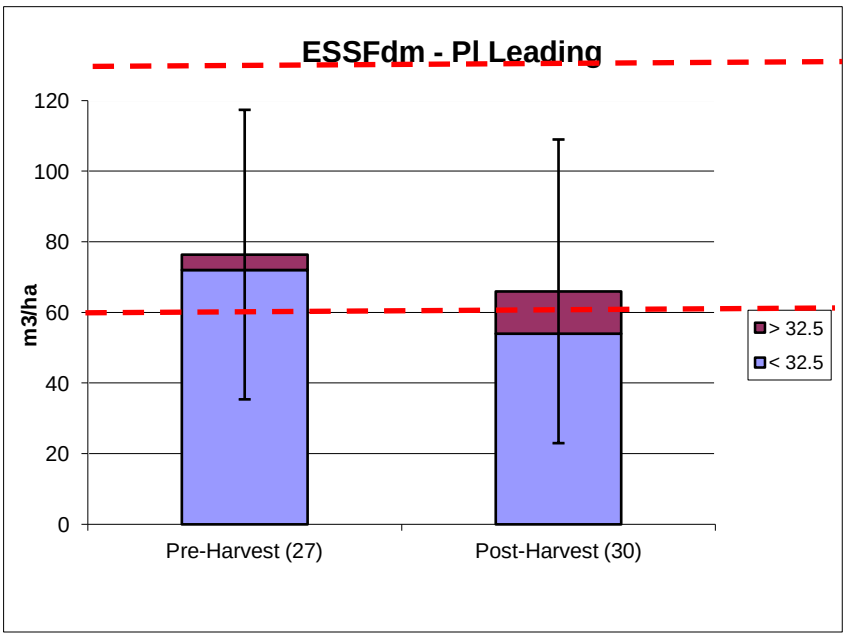
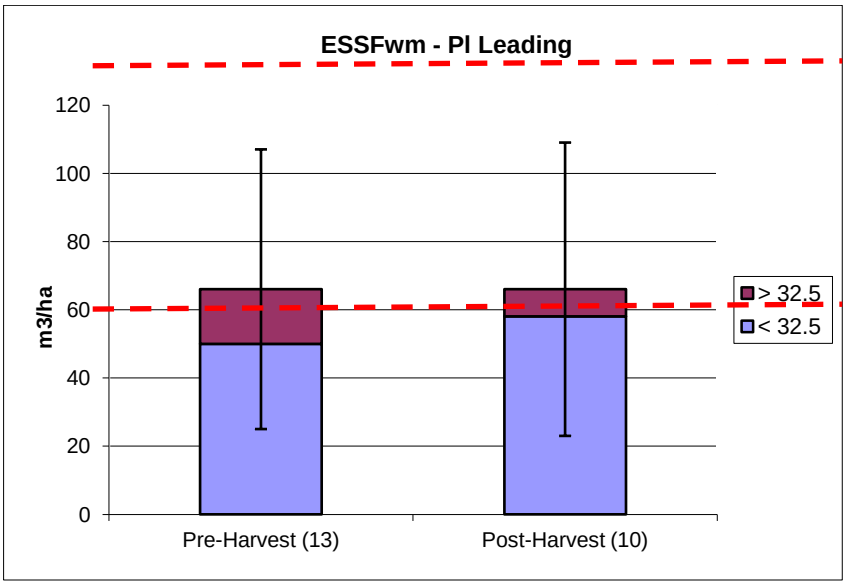


Figure 8: Comparison of pre- and post-harvest CWD volumes for blocks in the ESSFwm (Pl leading stands)



Alternative approaches include:

- Revising the post-harvest targets, based on pre-harvest data and data from natural disturbances.
- Comparisons between average post-harvest CWD volumes and the 'range of natural variability' in CWD in pre-harvest stands.
- Continuing to monitor CWD only in certain stand types (i.e, other than Pl leading)
- Removing the targets by volume, and replacing them with a target number of large logs per ha.

One or more of these approaches will be chosen in 2013 and incorporated into the new SFMP.

<u>2012 CWD Data</u>

Over the past year, pre-harvest assessments were completed in 102 blocks, and post-harvest assessments in 108 cutblocks. The pre-harvest data is being linked into Resources before being analyzed. The focus was on sampling non-Pl dominated blocks, given that the majority of pre-harvest data in the past has come from pine leading stands.

The post-harvest results are shown on Figure 1 – Figure 8 for comparison with previous years data. Total CWD post-harvest volumes were lower in the MS and ICH than in previous years, and large CWD is lower in all BEC zones in which comparisons between 2012 and previous years were possible (BEC combination/stand types in which more than 10 blocks were sampled). This could reflect an actual trend, it could be simply a result of small sample size, it could be that a very high proportion of the 2012 blocks took pulp, or it might be related to the data collection. Interestingly, the blocks on the TFL that were sampled all contained large CWD, while very few of the blocks outside the TFL did. The surveys on the TFL were done by a different person than those on the rest of Canfor's area, and the difference may reflect a difference in application of the field SOP. This possibility will be investigated.

Deciduous Trees

Measurable 1.2.5: The number of cut-blocks with a deciduous component pre-harvest that retain a deciduous component post-harvest.

Target	Results
In ecosystem types with low and moderate representation, 90% of cut-blocks (gross area) with a deciduous component pre-harvest will have a deciduous component post-harvest, including mature and regenerating trees.	**Dropped**

Results

This measurable was dropped in 2007 and will be removed from the new SFMP; see the 2007 Sustainability Report for details. Canfor has a deciduous strategy in the SFMP that requires retention of deciduous trees, with minor exceptions for some knock-down to encourage suckering and regeneration on areas like ungulate winter range. Aspen is not a commercial species for Canfor in south-east BC, and has only been harvested in exceptional circumstances (experimental treatments to improve ungulate habitat on Grave Prairie, for example).

Riparian

Measurable 1.2.6: Riparian ecosystems and all their functions are maintained or restored.

Targets	Results
a) An integrated riparian management assessment is completed for each riparian management unit by 2009, and riparian management is consistent with the results of this assessment.	**Target Achieved**
b) The riparian management regime meets or exceeds the budgets in Table 3, Appendix B of the BC-FSC Standards.	**Target Achieved**

This measurable was chosen in 2007 to replace the original riparian measurable in the 2005:2010 SFMP. It will be incorporated into the revised SFMP

Supporting Evidence

These targets were met in 2009 for all operating areas at the time, and in 2010 for the new operating areas added in February 2010. Canfor now has a complete riparian strategy containing:

1) a detailed review of riparian values in the East Kootenay and their sensitivity to forest management,
2) a literature review on the range of natural variability for riparian ecosystems,
3) a summary of the geomorphologic characteristics of the natural regions within Canfor's operating area in SE BC.
4) Detailed riparian management assessments and management strategies for the 37 riparian management units within Canfor's operating area.

5) A summary, for each riparian management unit, of how the current amount of riparian reserves compare against the FSC-BC targets in Appendix B, Table 3. All riparian management units met or exceeded the specified targets in FSC Appendix B, Table 3, many by substantial amounts.

In 2009 the riparian strategy in the 2005:2010 SFMP was replaced with a new version, to reflect current practice and the results of Canfor's detailed riparian assessments. This strategy outlines the considerations for riparian management, and how monitoring will be completed. It will be incorporated into the 2011:2015 SFMP. The riparian strategy is being implemented in all cutblocks.

In 2012, a riparian workshop for all field crews and Permitting Foresters was given by the Forest Scientist. Riparian values, the FSC approach to riparian, and Canfor's Integrated Riparian Strategy were reviewed and discussed in detail. A field trip to an area currently being laid out followed. Hand-outs were provided. Conversations with field crews several months afterward showed increased understanding of the FSC riparian approach, and pre-harvest walk-throughs of newly laid out blocks are showing better protection of riparian values.

Effectiveness monitoring has been undertaken on riparian areas within HCVFs post-harvest in 2010, 2011, and 2012. Results are summarized in the HCVF Effectiveness Monitoring Report.

Old Seral Stage

Measurable 1.2.7: Area of old seral stands or complex structural classes in each natural disturbance type in each ecoregion, at 20, 50, 100, 200, and 250 years,

Target	Results
Area of old stands or complex structural classes to vary within the range of natural variability through time.	**Target Achieved**

Supporting Evidence

No new evidence is available for this variable in 2012. In April 2009, revisions to the stand structure-fire regime model were completed (Davis 2009). This model represents 5 years of ongoing work by Canfor on a stand structure classification, fire regime research, fire regime modeling, and future forest modelling. This work was undertaken in order to determine what forest conditions were like under historic disturbance regimes (prior to European settlement), and to compare current and future forest conditions to those that existed historically.

The model incorporates best available information from fire history experts on the characteristics of historic fire regimes in the East Kootenay. It incorporates fire severity and the different vulnerability of various tree species to fire, and includes the results of research specifically undertaken in the East Kootenay on mixed-severity fires by Dr. Lori Daniels at UBC. Future forest conditions were modeled using the best approximation of current forest management practices as possible (i.e., including OGMAs, structural retention, etc.), given limitations of the model and input data. The model does incorporate a degree of randomness, but it forces fire return intervals to equal averages determined by fire experts, and is only run for 250 years. Thus, it very likely does not display the full amount of variability that would be seen under natural conditions over a longer time period. It also does not incorporate any changes over time to fire return intervals or severity, as might be seen through climate change for example. The model is not perfect, but will be used at this time to represent the best available information on the stand structure of historic forests.

The model was run for the Cranbrook and Invermere TSAs. Neither the Kootenay Lake TSA nor TFL 14 was included due to the increased cost of bringing these data into the model, at a time when funds were severely limited. However, model results are similar between the Cranbrook

and Invermere TSAs, and so are expected to be similar as well for the forests in TFL 14 and Canfor's portion of the Kootenay Lake TSA, given that these areas are adjacent to the Cranbrook and Invermere TSAs and the ecosystem types are similar to those in the Cranbrook and Invermere TSAs.

Previous runs of the model demonstrated that using natural disturbance type and ecoregion as reporting units resulted in many units with very small areas within them (i.e. < 5000 ha). Units of this size are too small to calculate ranges of variability over, particularly when fires in the East Kootenay can range up to over 20,000 ha in size. Further, these units were not directly comparable with current management units. Thus, the model was run by BEC zone groupings. The measurable will be changed for the new SFMP to reflect this.

In summary, results of the model show that:

- For most ecosystem types (BEC groupings), the amount of early seral stands and mature stands are currently below historic amounts; the amount of mid-seral and old seral stands are currently above or similar to historic amounts.
- Under current management (TSR III), trends in seral stage are toward historic conditions for most ecosystem types and seral stages, except that there is a trend towards more old forests than existed historically. However, in most ecosystems, the range of variability in future amounts of early seral does not overlap that seen historically.

Because stand structure classes were also run, as well as seral stages, some additional information is provided by the model. This shows that:

- The shrub/sapling structural stage is currently below historic conditions for all ecosystem groups. Current management will increase current amounts sharply over the next 50 years, but not quite to levels seen under historic conditions in most cases.
- The small tree class is above that seen historically, but will decline in the future towards historic levels, except in the grassland and IDF.
- For the medium tree class, stands with open and moderate crown closure are currently below historic levels, but will increase in the future toward historic conditions. Stands with high crown closure are currently above historic levels, but will decrease somewhat in the future.
- Trends in the large tree class are similar to those for medium trees.

Historic fire regimes had more fire with a higher proportion of low severity fires. Thus, compared to current conditions, there were more early seral stands, and more stands with open canopy closure and multiple layers.

Thus, the target is met in terms of old seral generally. When old seral is divided by crown closure class, stands with open and moderate crown closure are currently below historic levels, but is expected to trend towards historic levels, and stands with high crown closure are currently above historic levels, but is expected to trend towards historic levels in the future. This model did not incorporate any effects of climate change, however (because the TSR III did not incorporate climate change), and future trends may differ from predicted ones. Given the uncertainty associated with climate change, ensuring a diversity of species and conditions within forested landscapes may be the most effective means of ensuring the future resistance of ecosystems to climate-induced declines in productivity.

Early Seral Stands

Measurable 1.2.8: Area of young stands or early structural classes in each ecoregion, at 20, 50, 100, 200, and 250 years.

Target	Results
Area of young stands or early structural classes to vary within the range of natural variability through time.	**Results trending towards the target**

Results

No new evidence is available for this variable in 2012. Results from the updated fire regime model (Davis 2009) discussed above suggest that the early seral or shrub/sapling structural stage is currently below historic conditions for all ecosystem groups in the Cranbrook and Invermere TSAs. Current management is predicted to increase the amounts sharply over the next 50 years, but not quite to levels seen under historic conditions in most ecosystems.

Thus, the target is not currently being met. However, an analysis of the predicted effects of climate change reveals that the amount of early seral stands in the East Kootenay will likely increase over the next 25-100 years due to increasing fire frequency and severity and increased insect and disease outbreaks associated with climate change. Regeneration of forests in drier areas may be more difficult due to droughts and high temperatures, which may extend the number of years a site is in an early seral stage.

The increase in early seral due to climate change will occur at the same time that logging, under current practice, is projected to sharply increase the amount of early seral stands. Taken together, these two factors could make the amount of early seral stands similar to what was predicted to occur under historic disturbance conditions.

Thus, at this point in time, increasing the amount of logging simply to attempt to make current conditions more similar to historic ones would thus seem unnecessary, and potentially foolhardy. What must also be considered is that the early seral stands created by logging are not identical to those created by wildfire. Even if attempts are made to make them more similar, significant differences in variables such as the number of snags and presence of roads will always exist. Logging high amounts of mature stands, some with high densities of snags, to create early seral stands with few snags, will place snag-dependent species at greater risk than if the mature stands were left un-harvested.

Further, our objectives for forests today are different from those before 1850. Management considerations now include carbon sequestration, maintaining an even flow of timber, and maintaining old growth stands and habitat for various species of wildlife. None of these objectives are directly compatible with a highly variable, high frequency disturbance regime.

In order to strive to include natural disturbance characteristics within harvested blocks, an early seral strategy was developed in 2009 and will be incorporated into the new SFMP.

Fragmentation

Measurable 1.2.9: Landscape pattern and fragmentation

Target	Results
Patch size distribution, initial targets as per biodiversity guidebook.	**New methodology being developed, results to be presented in the 2013 SR**

Results

In 2012, a new methodology for patch size analysis was implemented. Previously, Canfor analyzed patch size on an ongoing basis in landscape units scheduled for forest development. Patch size distributions are calculated for early seral stands (< 40 yrs) and compared to the distributions specified in the biodiversity guidebook, by Natural Disturbance Type (NDT) and Landscape Unit. The results of this analysis have been reported in previous annual reports. Results are variable, with some landscape units meeting the specified distributions, others with too many small patches, and others with too many large ones.

However, whether this analysis is meaningful from a biological perspective is questionable. For example, the analysis units that the analysis is being conducted on are too small in order for full patch size distributions to be met within them. Landscape units in the East Kootenay range on the order of roughly 20-70,000 ha. When these units are broken down by NDT, and further with and without Douglas-fir as specified by the Biodiversity Guidebook for patch size distributions in NDT3, the analysis unit for many LUs shrinks significantly in size (< 10,000 ha in many cases). Realistically a full patch size distribution cannot be met within such a small area, particularly for the NDTs in which wildfires were historically very large. For example, a fire of 15,000 ha could burn all of one LU/NDT – leaving it all in one very large early seral patch and making the specified patch size distributions impossible to meet. Patch size distributions are typically generated from multiple natural disturbances over large landscapes, and to be meaningful should also be applied to large landscapes.

From an operational and strategic planning perspective, using the LU/NDT analysis units leads to problems as well. The denominator for calculating the relative patch distribution percentages is the sum of harvested areas (with a small contribution from early seral resulting from wildfire), and not the CFLB which is a constant. The sum of the early seral patch areas changes with every new development as more blocks are added. This makes patch size a moving target, and very difficult to plan for. This is particularly so in LU/NDT's with a small amount of existing early seral, where adding even one new block can change the relative percentages significantly.

Given these, among other issues, Canfor developed and is piloting a more biologically meaningful analysis of patch size distribution, using large ecologically based units such as ecoregions. The results of this trial will be incorporated into a new fragmentation/patch-size strategy, to be presented in the new SFMP. The new methodology and preliminary results are available from the Forest Scientist.

Species at Risk and /or Species of Interest

Indicator 1.3: **Productive populations of selected species or guilds are well distributed throughout the range of their habitat.**

Measurable 1.3.1: Management strategies are developed and implemented for selected species found to be at risk and for species of interest.

Target	Results
Develop and implement strategies for caribou, badger, Flammulated owl, ungulates, grizzly, whitebark pine, northern goshawk, and mountain goat by December 2004.	**Target Achieved since 2004**

Results

This measureable is completely out of data, and will be updated in the next SFMP. Strategies were initially developed in 2004 for mountain caribou, grizzly bear, ungulates (elk, white-tailed deer, mule deer, bighorn sheep, and moose), mountain goat, American badger, northern goshawk, Flammulated owl, and whitebark pine. To capture the full suite of rare, endangered, or species- of-special-concern in forested areas that existed at the time, strategies for white pine, Williamson's sapsucker, bull trout, and westslope cutthroat trout were added in 2005. Since then, Olive-sided Flycatcher and Western Toad have been added to the list of species-at-risk associated with forests in the East Kootenay

These strategies are being implemented in the field; evidence is available from the Permitting Foresters and Field Operations crews working in the areas where these species occur. A set of laminated field cards was developed for planning and field personnel, so that they could identify listed species and other species of interest in the field, and report sightings to the Forest Scientist. In 2009 these cards were updated to incorporate the most recent additions to listed species.

All species strategies will be updated to incorporate new information for inclusion in the new SFMP, and a new target developed, since the original one has been met for several years.

Measurable 1.3.2: Effectiveness monitoring plans are developed for selected indicator species.

Target	Results
Select indicator species for forest management and develop effectiveness monitoring plans for them by December 2006.	**Target Achieved**

Results

Canfor has developed an Effectiveness Monitoring program for High Conservation Value Forest (HCVF) values, which includes species considered high conservation values, such as caribou, badger, Tailed Frog, Williamson's Sapsucker, etc. Thus, rather than developing a separate monitoring program for species under this indicator, species of concern will be monitored under the HCVF Effectiveness Monitoring program. The exception to this will be migratory birds, for which a separate monitoring program is being developed, and northern goshawks, which were monitored by Canfor (Tembec at the time) for 10 years. Neither of these species or species

groups was considered a high conservation value as defined by FSC, but they are considered important to monitor for other reasons.

As Tembec, Canfor monitored breeding birds for many years (for a list of projects see previous Sustainability Reports) and in 2009, completed the East Kootenay Migratory Bird Project, in cooperation with the Canadian Wildlife Service and the University of British Columbia. In this project, all bird species occurring in the East Kootenay were classified according to their monitoring category and habitat class, as developed by Dr. Fred Bunnell. In addition, the focal species for Bird Conservation Region 10 were all evaluated for their amenity to habitat modelling. From these lists, 6 focal species were selected for monitoring, including three species highly associated with early seral stands (Wilson's Warbler, Olive-sided Flycatcher, Warbling Vireo), two that use mature and old forests (Brown Creeper, Townsend's Warbler) and one strongly associated with deciduous trees (Red-naped Sapsucker). Habitat models for these species were developed, and habitat supply for them was modelled under historic, current, and future conditions, using results from the updated historic range of variability stand structure modelling (Davis 2009). Results are summarized in the 2009 Sustainability Report. In order to address the issue of insufficient regional data to better define models, a field-based monitoring framework to assess and refine the current species-habitat models was developed. This framework is intended to be used to implement a field model validation and monitoring program in the coming years, pending available funding.

Northern Goshawk – This year the long-term effectiveness monitoring project for goshawks was completed. A Best Management Practices document was published by FORREX, one scientific paper has been published, and 3 more were submitted for publication in peer-reviewed scientific journals. Results are being incorporated into how Canfor manages around goshawk breeding areas.

Effectiveness monitoring results for the following species can be found in the 2012 HCVF Effectiveness Monitoring Report, available from the Forest Scientist:

- Mountain Caribou
- American Badger
- Tailed Frog
- Williamson's Sapsucker
- Lewis Woodpecker
- Flammulated Owl
- Ungulates (winter range and licks)
- Great Blue Heron
- Gillette's Checkerspot
- Grizzly Bear.
- Coeur D'Alene Salamander

Criterion 2: Productivity of forests and associated soil resources are sustained

Soil Productivity

Indicator 2.1: **Soil productivity is sustained within the timber harvesting land-base.**

Measurable 2.1.1: Percent of the timber harvest land-base (THLB) occupied by permanent access structures.

Target	Results
Less than 7 % of the THLB for the Landscape Unit (or Management Unit)	**Target achieved**

Assessing and documenting the yearly average percent of THLB occupied by permanent access will provide useful information for future Timber Supply Review and analysis. The target is to have less than 7% of the Timber Harvesting Land Base (THLB) occupied by permanent access structures.[7] Data from 2011 was not available with data migration from Tembec's The Forest Manager (TFM) system. Since the data migration was completed, results from 2012 are available and below the thresholds.

Canfor Permitting Foresters are responsible for managing to this target on an ongoing basis, and the percentage of allowable Permanent Access is prescribed in the site plan for each cut-block. Results are dependant upon site-specific conditions such as block size, engineering constraints, existing 'old' permanently degraded structures[8] etc. The prescribed information for each block is maintained in Canfor's Resources system.

One practical concern with using a 'block only summary' occurs when harvesting a higher percentage of small blocks (as in small-scale Mountain Pine Beetle salvage). This is common and can result in higher than an average of 7% permanent access. Rationale for evaluating this measure on the larger Landscape Unit scale accommodates a more reasonable approach in describing the long-term objective of 7% including the planned roads, trails and landings

Using this information, conformance with the target over the larger landscape is calculated by using the average % disturbance weighted by its corresponding block size, and shown in the following Table 5.

Table 5: Yearly Average % of Permanent Access (by Tenure)

Licence (Tenure)	2003	2004	2005	2006	2007	2008	2009	2010	2012
FL A18978	5.3	5.3	4.7	5.2	5.4	5.3	5.3	5.4	5.8
FL A19040	4.5	5.2	5.4	4.8	5.3	4.7	4.9	5.1	5.3
FL A20212	5.7	5.1	6.2	5.0	4.7	7.2	5.4	6.5	5.2
TFL14	4.1	5.0	4.9	4.2	4.1	4.9	4.7	4.2	3.3
MF 27	3.9	3.6	4.5	3.5	4.3	5.1	6.5	5.4	5.1

[7] *The 7 % target is consistent with FSC BC 6.3.14, Canfor's current Forest Stewardship Plan, and Section 36(1) of the Forest Planning and Practices Regulation of British Columbia.*
[8] *Individual blocks may therefore be more or less than 7%*

Licence (Tenure)	2003	2004	2005	2006	2007	2008	2009	2010	2012
MF 72	0	5.3	6.7	8.9	6.3	1.7	n/a[9]	n/a	n/a
NRFL A84742								1.2	n/a
NRFL A80321							6.3	7.3	n/a
NRFL A81788							5.1	n/a	n/a
NRFL A81369									3.8
NRFL A82929									5.1
NRFL A86451									4.4

Table 6: THLB Reductions to account for existing and future roads, trails, and landings

Timber Supply Area	Previous Analysis (TSR 2)	Current % (Year)
Cranbrook TSR 3		5.5 (2004)
Invermere TSR 3		9.1 (2004)
Kootenay Lake TSR 3	7.5	4.2 (2008)
Tree Farm Licence 14		5.0 (2007)
Managed Forest 72		
Managed Forest 27		5.0 (2008)

Measurable 2.1.2: Detrimental site disturbance (disturbance to mineral soil) in each harvested area.

Target	Results
Less than 10% of NAR on non–sensitive soils, and less than 5% NAR on sensitive soils	**Target Achieved**

This measure is intended to meet the indicator at the operational and cut block level and applies to all temporary[10] soil disturbance activities.

Permitting – During the permitting phase, Hazard Assessments for evaluating the site's "sensitivity to soil degrading processes" are used to determine if the site is sensitive, and thereby setting the appropriate limit to potentially detrimental soil disturbance. "On–block" activities such as harvesting and silviculture treatments are planned in a manner to minimise detrimental soil disturbance to the Net Area to be Reforested (NAR) in accordance with the Forest and Range Practices Act of BC.[11]

The information for each block is maintained in Canfor's Resources system. It should be noted that rehabilitation is required for temporary access structures and for certain categories of soil disturbance, unless exempted under the legislation. Temporary access that is rehabilitated is not considered detrimental soil disturbance.

When site preparation is utilized, the site preparation method also takes into consideration the achievement of reforestation objectives with the minimization of soil degradation.

[9] *No cut-blocks were harvested in 2009*
[10] *Temporary roads and trails and includes silviculture activities.*
[11] *Forest Planning and Practices Regulation Section 35 (1)*

Implementation and Monitoring – This measure is verified primarily through ocular estimates after harvesting. A lack of compliance issues indicates that site disturbance in Canfor's harvested areas are consistent with the percentages approved in operational plans.[12]

Measurable 2.1.3: Number of ha lost per year from the THLB due to landslides directly attributable to harvesting or road building.

Target	**Results**
Less than < 10 ha/year (per management unit)	**Target achieved**

The strategy in the current SFMP is intended to safeguard against the likelihood of harvesting and road building activities causing landslide events. As such the operational controls and planning activities described in the SFMP Soil Productivity Strategy, along with other planning assessments are intended to prevent and avoid landslide events from occurring. *Canfor is currently evaluating whether we change this Measure and Target to a procedural type of preventative measure, to ensure that all plans go through the appropriate planning assessments and that it is documented*. This is more applicable with our current procedures, and would be in line with the FSC Standard (6.1.5, 6.5.1, 6.5.2, 6.5.3, 6.5.4) and our legislated requirements.

Current Practice - As part of the operational planning phase reconnaissance level and/or detailed *Terrain Stability assessments and/or hydrologic assessments* provide mapped areas that are rated for their likelihood of landslides.

An objective described in the Environmental Management System (EMS) is to reduce the risk of landslides arising from Canfor road construction, maintenance, and deactivation and/or activities.

The prevention of landslides is also a *practice requirement* described by Forest Planning and Practices Regulation. The Forest Road Regulation also details provisions required to reduce the likelihood of landslides. Canfor planning and operation staff follow the prescribed Regulations during the planning, layout and operation phases of our forestry activities.

The regional *Erosion Control & Maintenance Plan* covers road monitoring and maintenance on a risk assessment basis to identify problems in the field and initiate mitigation work as soon as possible.

Canfor's ITS system *tracks and reports* incidents where there has been a washout or landslide event. The details are available from the roads supervisor. The following is a summary of the number of incidents reported over the reporting years. In most all cases the incident recorded is very small (0.1 to 0.01 hectares).

During 2012 a total of three (3) landslides were reported, all of which were classified as minor, with the most significant located in the Sandown Creek. In early June 2013, there was a significant rain event which caused extensive damage to roads and bridges in the Kootenay region. Approximately over 70 structures were damaged. The roads supervisor is working closely with other stakeholders on repairs which may take over 2 years to complete.

Table 7: Summary of landslide events reported

	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
No of landslide incidents	6	6	14	11	3	5	3	12	3

Nine year average 7 (2004 -12)

[12] *Canfor EMS Standard Operating Procedure for Soil Disturbance Surveys*

Forest Regeneration

Indicator 2.2: **Adequate regeneration on the timber harvesting land-base is assured.**

Measurable 2.2.1: Time required to meet adequate restocking (Regeneration Delay)

Target	Results
Meet the regeneration delay period specified in the site-specific operational plan prepared by a Registered Professional Forester.	**Target achieved**

Measurable 2.2.2: Stocking densities for each area to be regenerated.

Target	Results
Meet the stocking densities as described in the site-specific plans prepared by a Registered Professional Forester	**Target achieved**

Measurable 2.2.3: Species composition for regenerated areas.

Target	Results
Meet the desired species composition as described in the site-specific plan prepared by a Registered Professional Forester.	**Target achieved**

Assessing the success in achieving forest regeneration is important for assuring that a suitable number of ecologically appropriate species are well established on a harvested area, and ensures that targets for future timber supply are being met in a timely and ecologically sustainable manner. It also provides a feedback mechanism for guidelines on the silvicultural treatments the company employs to achieve these results.[13]

There are typically two benchmarks in the reforestation process; the '*satisfactorily regenerated*' stage and the '*free-growing'* stage.

All areas harvested are promptly regenerated with ecologically appropriate species based upon the stocking standards described in BC's Biogeoclimatic Ecosystem Classification system (ecologically appropriate species, densities, health, etc) for the site. Documentation of the time that takes to achieve these two phases is a significant aspect of (input to) the long–term timber supply model and therefore the determination of the harvest level for a management unit.

Detailed block-by-block data for the three measures above are maintained in the companies resources database. The following tables provide a summary of the average time taken to successfully meet the regeneration[14] (Table 8) and free growing (Table 9) benchmarks for all

[13] *See Silviculture strategy in Canfor's current SFMP*

[14] *Registered Professional Foresters prepare all Canfor's site plans. These provide the site-specific requirements to ensure adequate regeneration, in a timely and ecologically appropriate manner. After harvest is complete, the silviculture staff is responsible to ensure the requirements of regeneration are satisfactorily met. The operational plan prepared by a Registered Professional Forester includes stocking standards that specify the maximum number of years required to achieve satisfactory regeneration. By law this includes a minimum stocking density (trees per hectare) and that only ecologically preferred and acceptable species that are included in the densities reported. A cut-block that has met*

harvesting in each licence area (management unit). For 2012, all openings achieved the milestone of successful regeneration within the prescribed time frame.

Table 8: Average Regeneration Delay Period

Tenure or Management Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012
Major Tenures									
TFL 14	2	2	2.5	2.2	2.3	1.9	2.2	2.7	2.3
FL A18978	3	2	2	2.3	2.3	2.5	2.8	3.0	2.76
FL A19040 Columbia	3	3.9	2	2.6	2.2	1.4	3.4	2.8	1.72
FL A19040 Central	3	4	3		2.5	2.9	2.3	3.1	1.72
FL A20212	2	3	3	2.8	2.8	4.0	3.0	2.9	2.5
Managed Forest 72		1	2	3	-	2.3	NNS[15]	NNS[9]	1.4
Other Tenures									
Managed Forest 27	2	1.7	1.5	2.2	1.6	1.8	2.2	2.4	1.44
Community Forest Licence K1W DCB- KKDC			1.0	1.8	2.6	2.6	2.0	NA	NA
NRFL A73554			2.0	2.4 & 3	4.0	4.0	5.3	7.0	NA
NRFL A81787 Airport/Beacon Pasture Trench ER							N/A	NA	NA
NRFL A81788 Canal Pasture Trench ER							N/A	NA	NA
NRFL A34210 MPB Uplift Elko							2.0	NA	NA
NRFL A80321 Lower Kootenay Band								1.0	1.0
NRFL A81369 KKDC Inv								NA	NA
NRFL A81368 Shuswap Indian Band								NA	NA
PRBUS6						4.0		NA	NA

As discussed later in Criteria 3, Indicator 3.1 - Carbon Sequestration, in Table 9 also provides the average number of years that were required to achieve free-growing status[16] in each of Canfor's licence areas (management unit). For the Biogeoclimatic Ecosystems (BEC) in southern British Columbia, the expected time required for a young stand of trees to reach the free growing state can be up to 20 years after the harvesting.

satisfactory regeneration (SR) therefore, also meets the required stocking density and species composition. Achieving this milestone before or within the required timeline (regeneration delay period) specified in the site-specific plan is critical to this measure. This summary used the Standard Unit in each of the site plans as the basic measure or reporting unit.

[15] *NNS - No New Surveys required or done this reporting year*

[16] *This summary used the Standard Unit in each of the site plans as the basic measure or reporting unit.*

Invasive Plants

Indicator 2.3: **Invasive Plant introduction and spread is minimized or reduced within the timber harvesting land-base.**

Measurable 2.3.1: Documented procedure(s) for the identification and reduction or eradication of invasive plants.

Target	Results
A procedure is in place and is implemented	**Target achieved**

Limiting the spread of invasive plants is a recognized indicator of maintaining forest productivity. This indicator is intended to ensure that effective measures are in place to limit the negative ecological, social, and economic impacts associated with exotic or invasive plant species.

In October 2006, the Forest Practice Board of BC Special Investigation Report on Invasive plants stated, "*…there is an increasing need for overall provincial co-ordination of legislation, roles and responsibilities. Clear direction about which invasive species are priorities for treatment, and support for actual on-the-ground delivery of treatment are also necessary to make progress on this important issue*."

The Board's investigation found that forest and range licensees (i.e. Canfor) have no legal obligation to carry out invasive plant inventories or to control existing invasive plants on Crown land. They are required to prevent the spread of invasive plants that may result from their activities; however, there is little guidance provided on how to do so.

The Board recognizes that some progress is being made, but to date the issue has been tackled primarily through voluntary and cooperative discussions among many layers of committees and working groups. "That is an important precursor to effective control and management of invasive plants, but so far has shown only limited results on the ground. Much more needs to be done for effective control of both existing infestations, and spread of invasive plants in BC."

During 2011, Canfor continued limited representation on Directorship of the East Kootenay Invasive Plant Council and invasive plant control was completed on Elko, Cranbrook and Canal Flats Mill sites.

During 2009, Canfor reviewed and updated the company's Invasive Weed-Standard operating Procedure. The main revision was to update Invasive Weed Reporting information. The SOP is consistent with the documented procedures in place and described in Canfor's Measures section 7.1 of the approved Forest Stewardship Plans (November 2006) and staff continued to follow the procedures in accordance with that document during 2012/13. It is recognized that the current strategy in the SFMP may need to be amended during its planned revision.

Other highlights of the program documentation include:

- Monitoring and reporting of new Invasive Plant infestations.
- Annual Report to Ministry of Environment.
- Annual Spring Training sessions, that include staff, contractors and consultants included identification and reporting of key Invasive Plants.

Training is described further in Measure 7.4.3 of this report. Employee and contractor training requirements are outlined in the Canfor Training and Awareness Procedure document of the EMS

Criterion 3: Forest ecosystem contributions to global carbon cycles are sustained

Carbon Cycles

Indicator 3.1: **Carbon sequestration is maintained through the timely establishment of adequate regeneration and maintenance of free growing stands.**

Measurable 3.1.1: Time required to meet adequate restocking (Regeneration Delay).

Target	Results
Meet the regeneration delay period specified in the site-specific operational plan prepared by a Registered Professional Forester.	**Target achieved**

Measurable 3.1.2: Time required to meet free-growing stands.

Target	Results
Meet the free growing period specified in the site-specific operational plan prepared by a Registered Professional Forester	**Target achieved**

This measurable is based upon the premise that a healthy and vigorously growing forest is one way that a forest manger has within their direct control and day-to-day business activity to sequester carbon. Canfor strongly believes that company-managed forest lands, including representative protected areas and other conservation lands provide an optimum carbon-friendly forest landscape including wildlife habitat, carbon sequestration services and renewable wood products.

In 2008, FPAC in partnership with WWF Canada and several environmental organizations and foundations engaged in a process to understand the forest products carbon cycle. Canfor representatives, from FRM and Environment and Energy Groups receive regular updates on this process and participate in steering this initiative.

Registered Professional Foresters prepare Canfor's site plans, which provide the site-specific requirements to ensure adequate regeneration, in a timely and ecologically appropriate manner. The average number of years to achieve satisfactory regeneration is provided in Table 8.

After this milestone has been achieved, there is also a requirement that the trees are healthy and generally free of competing vegetation (free growing). Free-growing surveys are conducted annually to verify the regenerated stands are free growing, the results of this years surveys are summarized in Table 9. For fiscal 2012, all openings achieved free growing status within the prescribed free growing period.

Table 9: Free-Growing Summary (average years to achieve)

Tenure or Management Unit	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Major Tenures										
TFL 14	10	8	13	12.2	11.5	11.5	-	17.3	11.3	16.0
FL A18978	12	10	13	13.1	11.5	13.0	19.3	15.4	14.9	20.0
FL A19040	12	12	10.4	12.7	11.8	13.8	13.4	13.0	14.0	18.6

Tenure or Management Unit	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Columbia FL A19040 Central	15	12	12	12.1		14.2	13.9	14.4	13.6	
FL A20212	11	11	12	12.9	16	14.2	12.7	13.5	14.1	10.7
Managed Forest 72	16	-	-	-	22.7	19.0	-	24.7	-	12.8
Other Tenures										
Managed Forest 27	10	13	13.3	11	12 (11.1 & 12)	12.8	-	13.8	15.7	37.8
CFPA K1W							-	N/A	-	-
NRFL A73554								N/A	-	-
NRFL A81787 Airport/Beacon Pasture Trench ER							-	n/r	-	-
NRFL A81788 Canal Pasture Trench ER							-	n/r	-	-
NRFL A34210 MPB Uplift Elko								18.8	-	-
NRFL A80321 Lower Kootenay Band							-		-	-
NRFL A81369 KKDC Inv							-		-	-
NRFL A81368 Shuswap Indian Band							-		-	-

"*Forestry is the only industry that is truly carbon positive, meaning it sequesters more greenhouse gases than it emits"*. The Forest Products Association of Canada (FPAC) is the leading voice for the Canadian forest products industry at the national and international levels. As a member, Canfor is a participant in the FPAC Carbon Neutral Initiative www.fpac.ca. and the following http://www.fpac.ca/index.php/en/carbon-neutral-pledge/

Criterion 4: Water quality and quantity is sustained

Hydrology

Indicator 4.1: Water quality and quantity is maintained

Measurable 4.1.1: Qualified registered professionals (QRP) will conduct hydrological risk assessments prior to harvesting, road construction or road deactivation within designated community watersheds; and. make recommendations with respect to planned development activities.

Target	Results
Operational plans will be developed which follow the recommendations of the QRP	**Target achieved**

Water quality and quantity are recognized as important ecosystem services to adequately maintain. As such, prior to harvesting, road construction or road deactivation within a community watershed, a qualified professional will assess the proposed activity for the potential to have a material adverse impact on community watershed quantity of water above an intake, timing of flow or on human health.

Proposed changes

The previous methodology for these assessments (Interior Watershed Assessment Procedures) were described and required by the Forest Practices Code of British Columbia to be completed by a Qualified Professional Hydrologist for all areas designated as 'Community Watersheds'. Since bringing in to force, the Forest and Range Practices Act of British Columbia in 2004, and the new requirement to submit Forest Stewardship Plans for government approval; these requirements have been changed.

Canfor proposed therefore, to update this Measure (4.1.1) and Target to more accurately reflect current and best practices during 2009. The revised Measure and Target proposed is above, and the old version has been removed.

Transition from Forest Practices Code to Forest and Range Practices Act

In British Columbia, under the Forest Practices Code Act (FPC), Interior Watershed Assessment Procedures (IWAPs) were required to be completed by a qualified professional for all areas designated as 'community watersheds', in order to describe existing conditions and identify potential areas within a community watershed that forest management activities may impact.

In British Columbia, in 2004, the FPC was replaced by the 'Forest and Range Practices Act of British Columbia' (FRPA), and the new requirement to submit 'Forest Stewardship Plans' (FSP) for government approval. Under FRPA legislation, the requirement to complete IWAPs was replaced by the requirement to develop a 'Result or Strategy' within the FSP that would ensure planned forest development activities resulted in *'no material adverse impact'* to water quantity and quality.

The Planning Foresters in each regional office are responsible to ensure that assessments required for proposed development in community watersheds are completed by qualified professionals, and that the results of the assessments are incorporated in to proposed development such that no 'material adverse impact' to water quantity and quality will occur. The qualified professional signing the assessment is responsible for the content of the assessment.

Since the inception of the Forest Practices Code Act in1995, Equivalent Clear cut Analysis (ECA) have also been used by Canfor planning staff as an approximate index of the potential impact to watershed level hydrology, due to forest cover removal. Canfor may therefore recommend a new strategy be included in the SFMP related to maintaining a weighted ECA of less than 25%. The strategy would describe the current practice where a hydrological assessment is done where the projected ECA is more than 25%.[17] These changes will be completed as part of the revisions planned for the SFMP and scheduled for 2013/4.

Current Condition

For 2011 hydrological assessments were completed for Etna/Braunagel. During 2012, a hydrological assessment was completed in Englishman Creek in the Kootenay Lake TSA. Another assessment was completed within the Forester Creek community watersheds by a qualified professional; however this area is within the Radium DFA.

[17] *FSC BC Standard 6.5.8 recommends that the forest manager maintain ECA to less than 25% unless recommended otherwise by a publicly available hydrological assessment.*

Measurable 4.1.2: Peak Flow Sensitivity Index (PFSI) is calculated for select watersheds of concern.

Target	Results
Operational plans will follow the recommendations of PFSI analysis as described in Canfor's 'Hydrological Management Strategy' or as provided by a QRP	**Target achieved**

This measurable is intended to ensure that there are plans in place to control erosion and protect water resources.

The '*Peak Flow Sensitivity Indicator' (PFSI)*, developed for Canfor by Apex Geoscience Consultants Ltd. is intended to identify a watershed's relative potential for experiencing harvesting related increases in peak flows. The PFSI approach is based on the premise that the greater the opportunity for de-synchronization of snowmelt runoff the lower the likelihood of peak flow influences from harvesting. Three watershed factors contribute towards the de-synchronization of runoff in a watershed and whether a watershed has the potential to be sensitive to forestry related increases in peak flow. These are:

- the amount of alpine area;
- the average slope gradient; and,
- the distribution of slope aspects.

It is of note that these watershed factors do not change over time and therefore PFSI need only be calculated once for a watershed. *To be valid the determination of PFSI should be limited to watersheds less than 30 km2 (3,000ha*).

Current Condition

During, or prior to, Canfor's fiscal 2008, PFSI calculations were completed for all watersheds (Community, Domestic, or Watersheds of Concern) that meet the criteria of being less than 30 km^2 in area. As additional areas are being contemplated to our operating areas – additional watersheds may require PFSI calculations.

PFSI calculations were completed for Linklater, Chauncey, Englishman, Forster and Hawkins creeks in 2012. In 2011, the variables used for PFSI calculations were refined by Bruce Pope (Canfor) and Kim Greene (Apex Geosciences Consultants Ltd.).

Measurable 4.1.3: Drainage Management Indicator (DMI) used for select watersheds of concern.

Target	Results
DMI to be used as a monitoring tool to maintain high standards of road construction, maintenance and deactivation	**N/A to be Removed**

The *Drainage Management Indicator (DMI)* monitoring tool was never fully developed. Instead, water quality monitoring is being undertaken through the FREP program and direct monitoring of sediments in watercourses. (see the *Effectiveness Monitoring Report* under Water Quality – sedimentation for more detail) This indicator will be replaced through the SFMP amalgamation process.

Riparian Reserves and Management Zones

Measurable 4.1.4: Riparian reserve and management zones adjacent to riparian features.

Target	Results
Riparian buffers (RRZ, RMZ, and MFZ) by riparian management unit will be planned based on Canfor's 'Riparian Management Strategy'	**N/A Removed**

During the 2008 reporting year **this measurable was removed** from the SFMP, because it is now essentially a duplicate of Measurable 1.2.6 (and reported above). As stated in the results for measurable 1.2.6, the riparian measure has now been revised to conform to FSC standards and Canfor's new Integrated Riparian Assessments. This change will be reflected in the next SFMP, which is planned for revision.

Economic Values

Criterion 5: Sustained economic benefits are generated by the forest industry

Economic Viability

Indicator 5.1: **Returns on investment are generated to create positive economic benefit to the region, its people, employees, and shareholders.**

Measurable 5.1.1: Earnings before interest, taxes, depreciation, and amortization (EBITDA)

Target	Results
Meet annual FPG/FRM budgeted target (14%)	**Target no longer applicable. To be revised in new SFMP**

Measurable 5.1.2: Cash Return on Capital Employed (CROCE)

Target	Results
> 15% for the company	**Target no longer applicable. To be revised in new SFMP**

Measurable 5.1.3: Return on Capital Employed (ROCE)

Target	Results
> 10% for the company	**Target no longer applicable. To be revised in new SFMP**

Measurable 5.1.4: Return on Shareholder's Equity

Target	Results
> 14% for the company.	**Target no longer applicable. To be revised in new SFMP**

Continued economic viability is essential to provide the associated social and ecological benefits from Canfor's forest operations. This indicator is intended to assess successful economic aspects and therefore the company's ability to provide continued economic and social benefits including high environmental and safety standards. Canfor assesses its financial performance using indicators different from those that Tembec used therefore it is difficult to relate Canfor's financial performance relative to the targets set by Tembec. New economic indicators are being developed with the SFMP amalgamation. For this year's report, key financial performance indicators for Canfor will be used to analyze its economic viability and generation of economic benefits.

The global economic collapse in late 2008 carried over into 2009 and 2010. Needless to say, this had a devastating effect on the demand for all forest products and resulted in significant declines in pricing. The lumber industry, already suffering from a poor U.S. housing market due to the sub-prime mortgage problems, experienced even more extensive reductions in demand and price as the recession and credit crisis devastated the home building industry. As housing starts dropped below a half million per year in the U.S., a significant repositioning was taking place in the supply chain.

Due to the very poor business climate and unacceptable financial results, Tembec took unprecedented steps to reduce costs and working capital. As a result, there were significant operation curtailments, substantial layoffs, and significant downsizing to Tembec's BC Operations. These changes were necessary to improve the financial results overall.

Since the finalization of the acquisition, there have been significant improvements in the Company's financial performance which has had direct regional benefits. Canfor intends to invest approximately $70 million in sawmill upgrades to improve their efficiency and make them top performing mills able to continue operations through any future market down turns. Canfor invested $34 million in Radium and over a $1 million in Canal Flats with an additional $35 million scheduled for Elko upgrades. Improving lumber markets have resulted in significantly higher dimensional lumber pricing. Canfor's financial performance from 2011 to 2012 has been significant and projections are that that trend will continue.

The following highlights are taken from Canfor's 2012 Financial Report and summarize the results for the reporting year January 1, 2012 – December 31, 2012.

Figure 9: Financial Highlights from 2012

FINANCIAL HIGHLIGHTS

	2012	2011
Sales and income (millions of dollars)		
Sales	$ 2,714.1	$ 2,421.4
Operating income	$ 76.9	$ 11.9
Net income	$ 41.4	$ 10.8
Net income (loss) attributable to equity shareholders of the Company	$ 32.1	$ (56.6)
Per common share (dollars)		
Net income (loss) attributable to equity shareholders of the Company	$ 0.22	$ (0.40)
Book value	$ 7.78	$ 7.90
Share price		
High	$ 17.17	$ 15.48
Low	$ 10.14	$ 8.80
Close – December 31	$ 16.58	$ 10.65
Financial position (millions of dollars)		
Working capital	$ 166.1	$ 195.4
Total assets	$ 2,487.9	$ 2,401.6
Net debt	$ 325.8	$ 210.1
Common shareholders' equity	$ 1,110.9	$ 1,127.3
Additional information [1]		
Return on invested capital	3.7%	(3.4)%
Return on common shareholders' equity	2.9%	(4.8)%
Ratio of current assets to current liabilities	1.3 : 1	1.5 : 1
Ratio of net debt to capitalization	20%	13%
Operating income before amortization (millions of dollars)	$ 264.1	$ 181.2
Operating income before amortization margin	9.7%	7.5%
Capital expenditures (millions of dollars)	$ 199.8	$ 312.3

(1) See Definitions of Selected Financial Terms on page 88.

In 2012, Canfor net income was $41.4 million which was a fourfold increase from the previous year. Canfor's return on capital employed (ROCE) was 19.3% ($32.1M/$166.1M) while the return on shareholder equity was 2.9 % which is up from -4.8% the previous year.

Figure 10: 2012 Quarterly Financial Information

2012 SELECTED QUARTERLY FINANCIAL INFORMATION

(unaudited)	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Year
Sales and income (millions of dollars)					
Sales	$ 607.6	$ 700.9	$ 683.8	$ 721.8	$ 2,714.1
Manufacturing and product costs	429.6	465.2	459.7	465.7	1,820.2
Freight and other distribution costs	122.4	133.0	123.3	125.0	503.7
Export taxes	11.2	13.9	10.6	9.8	45.5
Amortization	45.1	46.0	45.7	50.4	187.2
Asset impairments	-	-	-	0.8	0.8
Restructuring, mill closure and severance costs	4.8	1.9	7.0	4.8	18.5
Selling and administration costs	16.0	14.9	15.2	15.2	61.3
Operating income (loss)	(21.5)	26.0	22.3	50.1	76.9
Finance expense, net	(6.2)	(6.2)	(5.8)	(6.5)	(24.7)
Foreign exchange gain (loss) on long-term debt and investments, net	4.0	(3.8)	6.5	(2.0)	4.7
Gain (loss) on derivative financial instruments	7.4	(6.3)	6.8	(8.7)	(0.8)
Other income (expense), net	(0.2)	2.6	(2.6)	(0.2)	(0.4)
Net income (loss) before income taxes	(16.5)	12.3	27.2	32.7	55.7
Income tax recovery (expense)	5.6	(5.3)	(6.5)	(8.1)	(14.3)
Net income (loss)	$ (10.9)	$ 7.0	$ 20.7	$ 24.6	$ 41.4
Net income (loss) attributable to:					
Equity shareholders of the Company	$ (16.2)	$ 4.5	$ 22.2	$ 21.6	$ 32.1
Non-controlling interests	5.3	2.5	(1.5)	3.0	9.3
	$ (10.9)	$ 7.0	$ 20.7	$ 24.6	$ 41.4
Net income (loss) per common share: (dollars)					
Attributable to equity shareholders of the Company – Basic and diluted	$ (0.11)	$ 0.03	$ 0.16	$ 0.15	$ 0.22
Cash generated from (used in) (millions of dollars)					
Operating activities	$ (55.2)	$ 119.1	$ 33.9	$ 33.4	$ 131.2
Financing activities					
Long-term debt	50.1	-	-	-	50.1
Other	86.9	(92.6)	(4.4)	2.0	(8.1)
	137.0	(92.6)	(4.4)	2.0	42.0
Investing activities					
Property, plant, equipment (net of Green Transformation Program proceeds from Federal Government)	(45.7)	(43.3)	(44.1)	(47.0)	(180.1)
Acquisition of Tembec assets	(64.9)	(0.7)	-	-	(65.6)
Other	8.6	14.8	1.5	4.0	28.9
	(102.0)	(29.2)	(42.6)	(43.0)	(216.8)
Decrease in cash and cash equivalents	$ (20.2)	$ (2.7)	$ (13.1)	$ (7.6)	$ (43.6)

Certain previously published figures have been reclassified to conform to the current presentation.

Figure 11: Five Year Financial Comparison

FIVE-YEAR COMPARATIVE REVIEW

	International Financial Reporting Standards			Previous Canadian GAAP	
(unaudited)	2012	2011	2010	2009	2008
Sales and income (millions of dollars)					
Sales	$ 2,714.1	$ 2,421.4	$ 2,430.4	$ 2,075.8	$ 2,559.6
Manufacturing and product costs	1,820.2	1,627.5	1,514.3	1,584.9	1,901.1
Freight and other distribution costs	503.7	467.9	428.0	410.4	476.2
Export taxes	45.5	39.9	40.0	48.7	55.1
Amortization	187.2	169.3	167.7	155.3	171.2
Asset impairments	0.8	9.2	-	-	-
Restructuring, mill closure and severance costs	18.5	38.3	32.4	29.9	53.5
Selling and administration costs	61.3	57.4	61.3	57.0	60.6
Operating income (loss)	76.9	11.9	186.7	(210.4)	(158.1)
Finance expense, net	(24.7)	(26.0)	(26.8)	(29.3)	(25.4)
Foreign exchange gain (loss) on long-term debt and investments, net	4.7	(5.0)	14.7	50.4	(100.3)
Gain (loss) on derivative financial instruments	(0.8)	3.5	0.1	24.4	(88.5)
Gain on sale of mill property	-	-	-	44.6	-
North Central Plywoods mill fire, net	-	-	-	(3.0)	57.9
Prince George Pulp and Paper mill fire, net	-	-	-	-	8.2
Asset impairments	-	-	-	-	(169.6)
Other income (expense), net	(0.4)	5.9	8.1	(11.4)	12.7
Net income (loss) before income taxes	55.7	(9.7)	182.8	(134.7)	(463.1)
Income tax recovery (expense)	(14.3)	20.5	(9.5)	71.9	141.9
Net income (loss)	$ 41.4	$ 10.8	$ 173.3	$ (62.8)	$ (321.2)
Net income (loss) attributable to:					
Equity shareholders of the Company	$ 32.1	$ (56.6)	$ 81.4	$ (70.5)	$ (345.2)
Non-controlling interests	9.3	67.4	91.9	7.7	24.0
	$ 41.4	$ 10.8	$ 173.3	$ (62.8)	$ (321.2)
Per common share (dollars)					
Net income (loss) attributable to equity shareholders of the Company - Basic and diluted	$ 0.22	$ (0.40)	$ 0.57	$ (0.50)	$ (2.42)
Book value per share at year end	$ 7.78	$ 7.90	$ 8.56	$ 9.73	$ 10.48
Balance Sheet (millions of dollars)					
Working capital, net	$ 166.1	$ 195.4	$ 408.3	$ 443.3	$ 531.4
Property, plant and equipment	1,081.7	1,139.2	1,049.1	1,066.3	1,176.2
Timber licenses	554.6	530.1	546.7	610.3	622.3
Goodwill and other intangibles	80.4	83.0	84.5	90.1	108.6
Long term investments and other	44.6	62.8	89.1	76.9	102.8
Deferred income taxes, net	39.7	18.1	9.4	-	-
Deferred charges and other assets	-	-	-	117.1	110.2
Net assets	$ 1,967.1	$ 2,028.6	$ 2,187.1	$ 2,404.0	$ 2,651.5
Long term debt	$ 100.0	$ 188.1	$ 235.6	$ 333.3	$ 428.7
Retirement benefit obligations	314.5	298.3	272.2	132.2	127.0
Deferred reforestation obligations	78.4	65.0	60.6	60.3	63.1
Other long-term liabilities	13.6	13.8	17.5	17.3	18.7
Deferred income taxes, net	150.8	103.3	131.2	200.8	242.4
Non-controlling interests	198.9	232.8	249.5	273.3	276.8
Equity attributable to shareholders of the Company	1,110.9	1,127.3	1,220.5	1,386.8	1,494.8
	$ 1,967.1	$ 2,028.6	$ 2,187.1	$ 2,404.0	$ 2,651.5
Additions to property, plant, equipment and timber licenses	$ [illegible]	$ 112.3	$ 142.2	$ 59.0	$ 80.2

Overall company performance for each quarter and the year can also be found on Canfor's corporate web site www.Canfor.com.

In the 2011 sustainability report, it was noted that Tembec's "*results remain below the company's targets for economic sustainability.*" The financial results from 2012 for Canfor demonstrate the company is profitable and investing in the long-term economic sustainability of the region. The trend in financial performance is projected to continue to improve as the mill upgrades improve manufacturing costs and the overall lumber market recovers.

Cost Competitiveness

Indicator 5.2: Delivered wood costs to the designated primary break down facilities are competitive with other interior BC sawmills.

Measurable 5.2.1: Delivered log costs for Canfor's BC Division

Target	Results
To meet annual budgeted Cash Cost targets	**Target met**

The Forest Management Group's Kootenay regional financial performance is ultimately measured on delivered log costs. This measurable is critical to sustaining the continued long-term social and economic well-being of the company, its shareholders, the forest workers and local communities. Performance in meeting the Total Cash Cost of the logs produced is available in internal cost statement reports.

Due to the competitive nature of the forest products industry these results are confidential, and not reported in this document.

Measurable 5.2.2: Competitiveness of timber harvesting operations.

Target	Results
The average value of all stands is greater than overall average delivered log cost	**Target met**

Preparing a margin analysis as described by the target –seemed a reasonable approach to this measure, however in practice, the ultimate profitability for the company must also include the milling and conversion to an end product such as chips, sawdust and lumber. Margin analysis is not used anymore and a more practical approach to this measure was required.

Canfor has set a goal of having top quartile performing mills. The company closely tracks delivered log and conversion costs. Canfor's Kootenay operations are very competitive to other Interior mills however that financial information is sensitive. Performance in meeting Net Delivered Cost of logs produced is analyzed by mill and is available in internal reports. Due to the competitive nature of the forest products industry, these results are confidential and not reported in this report.

A proposed new target – Competitiveness of timber harvesting operations – is planned to be included in the next SFMP and a target[18] for the variance will also be set for the revised SFMP.

[18] *Considering competitive advantages/disadvantages perform at least as well as southern interior operators on an annualized and normalized basis. The results will be discussion relative to the success of the target and perhaps some commentary on items that are potentially causing an un-level playing field*

Even Fibre Flow

Indicator 5.3: Fibre flow is planned and managed to provide continued economic benefits.

Measurable 5.3.1: Even flow (volume) of timber harvested annually based on TSR and cut-control requirements.

Target	Results
Operational and management practices result in meeting annual delivery targets and balance to 100% for the appropriate "cut-control" period	**Target met**

An "even flow" of fibre products from the forest provides economic and social stability to the local communities, workers as well as the company. As a requirement of our forest tenures there is a legal obligation to balance the harvesting levels to meet the five-year budgets of *Cut Control* (Forest Act Regulation). Flexibility in achieving this requirement is required to deal with unforeseen circumstances such as forest health (Mountain Pine Beetle), forest fires, and volatile log, lumber, chip, and pulp market conditions.

Cut-Control

The company is continually faced with balancing the individual Management Unit's harvest levels in context of *the overall* fibre requirements from all management units within their Kootenay forest operations and mill facilities. The detailed cut control information for all Licences managed by Canfor in accordance with the regulatory requirements is filed in the Regional offices. A summary is provided in Table 10, and is based on the calendar year (January 1 – December 31).

Table 10: Cut Control Performance (% of AAC) for the Calendar Year

Timber Supply Area	Licence	2008	2009	2010	2011	2012
TFL	TFL14	95	87	108	92	61
Cranbrook TSA	A19040	101	66	87	96	154
	A88226	0	0	0	73	101
	A82928	0	0	0	0	231
	A82929	0	0	0	0	503
	A81787	220	2	0	0	0
Invermere TSA	A18978	84	68	94	151	80
	A81367	0	50	104	345	0
	A81368	0	0	0	425	75
	A81369	0	0	0	167	161
Kootenay Lake TSA	A20212	78	52	126	171	96
	A80321	69	99	259	0	0
Managed Forest 72	Private land	17	13	0	0	0

Measurable 5.3.2: Revenues and payments made to the appropriate federal / provincial / regional / municipal governments and contractors as a result of timber harvesting.

Target	Results
Current and timely payment of revenues to government, contractors, employees', and independent contractors	**Target met**

This measurable is intended to affirm the contributions made by the company in carrying out their day to day business activities of harvesting and growing the forests. Payments to the government are used to fund the government's health, education, transportation and social service programs.

Canfor internal records confirm that current and timely payments were made to government, employees and contractors.

Canfor has met the requirements of this target: timely and full payment of all revenues to government, contractors, employees' and independent contractors.

Criterion 6: Sustained economic opportunities for marketed non-timber forest resources

Non-Timber Resources

Indicator 6.1**: The capacity and the diversity for marketed non-timber resources.**

Measurable 6.1.1: The number and variety of marketed non-timber resource operations/businesses that exist in the management unit.

Target	Results
No record of opportunities decreasing as a result of forest activities	**Target met**

Measurable 6.1.2: Documented rationale for how other marketed non-timber resources have been incorporated into forest planning.

Target	Results
100% of plans have documented rationale for considering marketed non-timber resources	**Target met**

This Criteria's, measures and targets are intended to encourage the continued capacity of the forests multiple (non-timber) products and services in an economically viable manner.

Progress, toward the development of baseline data, or an economically viable process to evaluate this indicator has not been pursued due to limited resource (staffing and capital) capacity. The challenge initially, is to understand or clarify the interpretation of *"marketed, non-timber values"*. Typically activities associated with these values are not registered nor licensed (i.e. wild mushroom picking) yet they do occasionally operate as independent business

enterprises within the forest. There are marketable products gathered in the forest, and generally there are no formal mechanisms to inform forest licence holders of their existence or activity.

In the interim, Canfor continues to record how planning considerations for these activities are dealt with when they become known to our planners.[19] This is done during the site–specific planning phase of Canfor's operations, following the strategies outlined in the SFMP and operational site plans if the values are recognized. Verification of our performance and results are typically noted during annual audits and other participation and communication venues – described in the Criteria 8 Indicator 8.1 – Public Participation process.

In this reporting year (and previous), there is no knowledge that opportunities have decreased due to the company's forestry operations.

As funding opportunities are identified and resources are available, future Sustainability Reports may find more tangible reporting mechanisms for this indicator. As an example, in a draft report on the future of Canada's forests, April 3, 2008, — Canada's federal and provincial forest ministers said, "the lumber and paper industry must also … look into using trees for non-timber products such as biochemicals… and consider how to use some of its forest as carbon sinks that can offset greenhouse gas emissions by capturing and storing carbon dioxide from the air."

Criterion 7: Sustained economic benefits and contribution to the local communities

Local Goods and Services

Indicator 7.1: Procurement of goods and services from local suppliers and communities.

Measurable 7.1.1: Documented procedure for procurement of local goods and services that includes seeking the optimum or "highest and best" value for goods and services.

Target	Results
Procedure and records in place	**Target met**

Measurable 7.1.2: Percentage of procured goods and services that are from local sources.

Target	Results
High level of procurement from local suppliers	**Target met**

Local sources for goods and services are identified according to the policy and strategy outlined in the SFMP, however as a result of definitions and requirements of the FSC standard, additional tracking and reporting procedures were developed in 2006 (revised in 2008, and continue to the present date). With changes to the accounting systems since the acquisition, total sales in the Kootenay Region were prorated based on total harvest volumes within the DFA versus the volume harvested in the Radium DFA.

[19] *See also the reference to the Ktunaxa Cultural and Conservation Value Project*

The results indicate a significant increase in both total dollars spent on local purchases and contractor payments. The percent reductions may be attributable to both vendors and harvesting contractors who supply goods and services to the Kootenay region but have home addresses outside the region although the goods and services are sourced in Kootenays. Several harvesting and hauling contractors were in the process of moving to the Kootenay region during this reporting period so they are deemed non-local for this reporting period. Goods which are purchased locally although their main billing office is not within the region, may also present a percentage reduction in local versus non-local although the goods and services are sourced locally.

Table 11: Summary of Purchases and Contracting from local Business

Local Purchases / Contracts	2007	2008	2009	2010	2011	2012
(1) Purchased Goods/services	$2,959,096	$3,512,198	$2,044,555	$1,929,186	$1,139,348	$2,099,739
			69.29%	50.19%	68.9%[20]	48.4 %
(2) Contractor Payments			$33,479,686	$53,665,951	$58,422,797	$75,279,314
			100%	100%	100%	88.5%
Total dollars (1)+(2)			**$35,524,241**	**$55,595,137**	**$54,805,299**	**$77,379,053**

Log Sales, Purchases and Trades

Indicator 7.2: **Forests are managed so as to produce a range of timber products and services that contribute to the diversification of the local economy.**[21]

Measurable 7.2.1: Demonstrated co-operation exists with forest-dependent businesses, forest users, and the local community to strengthen and diversity the forest's contribution to the local economy.

Target	Results
Documented examples of optimal end use	**Target met**

Measurable 7.2.2: Local and/or value-added processing.

Target	Results
No reduction in local business opportunities as a result of Canfor's operations	**Target met**

The economic sustainability of Canfor's 'woodlands' (FMG) operations rely upon optimizing and balancing the end-use of the forest products between the local processing facilities and prevailing markets. Evaluating the opportunities between supplying the company-owned processing facilities, and those of our competitors or partners, with the spot-market fibre supply and demand is a primary role of the Fibre Procurement Manager.

[20] *18.00% is over-head (utility bills, property taxes insurance and permits etc,).*
[21] *FSC BC 5.2*

Securing wood fibre from private and public lands for the company's divisional mills is additional to Canfor's own tenured supply. The development of long-term relationships with suppliers is therefore necessary to ensure a long-term fibre procurement supply. The Log Purchase and Residual Fibre Coordinator has a direct responsibility for maximizing the value to the Forest Resource Management (FMG) group by marketing products to local and non-local operators from the forest resource. Local operators are considered to be any operator within the Kootenay Columbia and East/Central operating regions – and extend into areas such as Alberta. In 2012, log purchases for Canfor were lower than historic levels based on demand and higher market prices from vendors within and outside the region. This also reduced the total number of vendors.

Amalgamating these two functions in to one authority enabled the company to seek an optimal value of forest products throughout the production cycle, while satisfying its own mill requirements. Emerging end-use opportunities for fibre were evaluated in 2008 resulting in increased utilization through the **Short-Fibre Programme**. This program consists primarily of log chips and hog fuel. This trend is continued in 2011 as demand for these products remained strong.

Historical data indicates a small percentage of the logs harvested from Canfor's tenures and private lands are sold and/or traded to non-Canfor operators. However Canfor does make logs available for purchase through direct personal contact with the Fibre Procurement Manager. Logs are made available to both large and small local operators as well as non-local operators when a local market is not available.

In 2012, there was a substantial increase in minor products represented by cedar sales. There was also an increased amount of building logs, oversize sawlogs and pole sales. As the Kootenay division transitioned to cut to length (CTL), there was a decrease in the amount of sawlogs while increase in CTL sales. Post wood sales decreased as there was a higher demand for pulp wood which saw a significant increase.

Table 12 and Table 13 illustrate the types of products that are bought or sold as well as the varying number of purchase/sale vendors the company dealt with since 2005. The detailed vendors and client information is on file at the Cranbrook Office.

Table 12: Log Sale and Purchases Summary by End-Product (m3)

	2008	2009	2010	2011	2012
Log Purchase Volumes (m3)					
Pulp	17,421	39,274	28,903	58,478	10,803
Saw logs CTL	8,454	2,148	4,004	5,313	63,607
Saw logs	162,069	124.573	295,383	219,839	53,126
TOTAL	**187,944**	**165,995**	**328,290**	**283,630**	**127,536**
Log Sale Volumes (m3)					
Firewood	236	752	622	798	117
Minor Products	2,556	166	0	71	545
Poles	1,168	884	1,106	2,167	3,482
Post-wood	1,851	229	10,960	9,240	4,789
Pulp-wood	72	59,164	1,304	1,908	0
Pulp-wood (converted to chips for Canfor pulp mill)			102,963	140,846	241,262

	2008	2009	2010	2011	2012
Saw logs	47,778	7,628	39,840	30,403	10,114
Building Saw Logs	0	0	162	40	478
Cut to Length Saw logs	9,679	194	0	0	4,791
Oversize Saw logs	5,594	1,524	1,443	2,348	2,505
Peeler Saw logs	1,214	0	0	0	0
TOTAL	**70,148**	**70,541**	**158,400**	**187,821**	**268,093**

Table 13: Total number of sales and purchase clients

	2008	2009	2010	2011	2012
Log Purchase Clients	23	27	39	44	27
Log Sales Clients	50	45	43	34	23

Social Responsibility

Indicator 7.3**: Funds made available to the community to promote health, education, culture and recreation.**

Measurable 7.3.1: Local (Tembec) Environmental Fund

Target	Results
Budget set at 0.05/m3 of crown licence volume	**Target to be removed in SFMP**

Measurable 7.3.2: Community Fund

Target	Results
Make the annual budgeted amount available	**Target met**

Measurable 7.3.3: Scholarship Fund

Target	Results
Make the annual budgeted amount available	**Target to be revised in SFMP**

Community Program

In 2005,[22] the Company (formerly Tembec) donated more than $2 million in support of local projects such as recreational/cultural facilities and events, sports, scholarship programs, medical facilities, and a wide range of causes in response to the needs and appeals of charitable and community organizations. The various funding commitments and donations are based upon 1% of pre-tax profits in support of the health, recreation, education and culture within the local communities.

Due to extremely challenging financial circumstances much of these contributions were suspended by Tembec during 2006 fiscal and have continued through 2011. In accordance with company policy funds were not allocated, as the company must be profitable in order to contribute to the fund. Tembec has not made any community funding available since 2005.

Canfor's Sponsorship & Donations program funds charitable organizations that deliver innovative community programs focusing on:

- Youth and Education
- Community Enhancement
- Forestry and Environment
- Amateur Sports
- Health and Wellness

Table 14: Summary of Environmental and Community Fund Requests (Tembec)

	2005		2006		2007		2008 to 2011	
	Budget	**Allocated**	**Budget**	**Allocated**	**Budget**	**Allocated**	**Budget**	**Allocated**
Environmental Fund	n/a	$ 69, 618	$62, 500	$0	$72,600	$0	0	$0
Number of Projects		13		0		0	0	0
Community Fund	$180,500		$180,500		$180,500	$10,000	$0	$0

Sponsorship and Donations

Canfor's Sponsorship & Donations program donated $8,400 to the Kootenay region from March to December of 2012. This included donations to a variety of local youth sports teams, the Christmas Bureau, local food banks, and the public library in Radium Hot Springs, among others. This indicator will be revised in the SFMP amalgamation to reflect Canfor's funding programs.

Scholarship Funds

Tembec had two Scholarship Programs available to Grade 12 and Aboriginal students who were continuing their education primarily in post-secondary studies. In 2009 the program was suspended due to poor economic circumstances and remains suspended. No new recipients were granted scholarships; however the company did continue to honour the existing multi-year awards and payments to existing recipients. Canfor did not have scholarships in place in the Kootenay Region at the point that the school year ended for your reporting period, as the acquisition happened only a few months prior to the end of the 2011/12 school year.

Subsequently, the company established a provincial scope scholarship program for the 2012/13 school year, which allows high schools in our operating communities to award up to 4 scholarships of $500 for students entering forestry studies or an industry-related trades program. Canfor also established the Bentley-Prentice award, which provides six, regionally-designated scholarships of up to $5,000 for children of Canfor employees entering forestry or trades related

[22] *2004-2005 Annual Report to the shareholders*

studies. One of these awards was made to a student from the Kootenay region but that was at the end of the 2012/13 school year and not for the current reporting period.

Canfor also has scholarship programs with the forestry programs of BC's universities, totaling approximately $100,000 annually. These scholarships are administered and awarded by the universities, and are not regionally targeted. Finally, Canfor has a scholarship program with the New Relationship Trust Foundation, which provides $10,000 per year for First Nations students from Canfor's operating areas entering forestry or trades studies. This allocation is not regionally targeted, so students that receive scholarships through the program could come from any of Canfor's BC operations.

Employment and Training

Indicator 7.4: Local people are provided employment, training and advancement opportunity.

Measurable 7.4.1: Documented procedure for employment.

Target	Results
Procedure is in place and implemented	**Target met**

Measurable 7.4.2: The % of local residents employed. (% of employees are locally based; % of contractors are locally based)

Target	Results
High level of local employees and contractors	**Target met**

Measurable 7.4.3: Training opportunities are provided to employees and contractors.

Target	Results
Maintain current programs	**Target met**

Local Employment Levels

The following provides the current status of ***local*** staff, union, and contractors for Canfor Kootenay operations, in a revised format that reflects the regional perspective of our operations and to meet Canfor's FSC Certification. This section has been revised from previous years Sustainability Reports. Revisions may be made to make the results of this section more meaningful to the communities within or adjacent to the forest management areas.

Staff & Union

As required in the annual SmartWood Assessments, Table 15 represents the total direct employment that includes full-time (staff), hourly (union) and part-time/seasonal staff, in Canfor's East Kootenay Operations. Beginning in 2010 all staff (100%) employed by FMG are considered to be from the local region and the description between staff and hourly has been further refined.

In 2012, there was an increase in employment levels in the region. Two field operations crews were hired to conduct planning and permitting work. Note, pulp mill staff are no longer included as the pulp mill was not part of the Canfor acquisition.

Table 15: Canfor Employee Summary

Group/ Division	2009[23]		2010		2011		2012	
	Male/ Female	**Total**	Male/ Female	**Total**	Male/ Female	**Total**	Male/ Female	**Total**
FMG Staff	30/6	36	26/6	32	25/7	32	35/5	40
FMG Staff part-time	31/6	37	1	1	0/1	1	-	-
FMG Hourly	-	-	29/1	30	-	-	25/0	25
WP Staff	432/33	465	22/4	26	35/9	43	50/12	62
WP Hourly	-	-	314/18	332	-	-	464/37	501
FMG Cbk Office	-	-	22/23	45	11/19	30	Incl above	-
Pulp Staff	240/27	267	57/12	69	-	-	n/a	n/a
Pulp Hourly			242/26	268	-	-	n/a	n/a
Total	**733/72**	**805**	**712/91**	**803**	**46/28**	**106**	**574/54**	**628**

NB: The pulp mill was not part of Canfor acquisition therefore staff are not included

Contractor Employment

Using the contractor pensions and other benefit payment schedules that Canfor makes to their logging, hauling, and consulting firms, the following levels of indirect employment can be estimated. Generally, employment levels remained relatively the same with minor reductions in some of the operational activities. Consultants increased with the higher level of planning and permitting work following the acquisition. This period included the acquisition period and much of the operational activities were reduced to facilitate the transition. Total levels are expected to increase next year as operations, planning and permitting are operating at full capacity.

Table 16: Annual Summary of Canfor Contract Employment

	2008	2009	2010	2011	2012
Loggers		130	133	136	128
Haulers		55	55	54	51
Road Builders		32	31	36	33
Consulting		40	30	34	44
Total	**347**	**257**	**249**	**260**	**256**

Training

The mandatory training requirements are determined by analyzing the following internal/external resources:

- Legislatively mandated training
- FMG OHS Management Review
- Incident Pareto analysis
- Hazard and Risk Assessment
- Review of audits conducted

[23] *Information provided by T Kirk and reported in 2008. Information as per August 2009*

The FMG Training Matrix is the outcome of this analysis and will be used to identify initial and ongoing training needs. The FMG Safety Coordinator in conjunction with the FMGSC will review the Training Matrix annually. Supervisors are responsible for ensuring that all employees under their direct supervision have completed all required mandatory training. Supervisors must address deficiencies in a timely manner.

The site OHS Committee is responsible for setting up the annual orientation and training program to ensure employees are able to acquire the necessary training. Mandatory training requirements will usually be met during an annual orientation and training program in the spring of every year. Seasonal employees will be trained, and existing employees will be able to renew their competencies. Additional on the job training requirements will be identified based on records, statistics, trends, and FMGSC recommendations.

Employees are encouraged to identify training needs and personal development opportunities with their supervisors and include them in their Personal Development Plans (PDPs). PDP reviews should be scheduled every 2-3 months.

Currently it is felt that the training provided to forest workers in the Kootenay FMG is adequate to ensure proper implementation of the SFMP and EMS programs, including Occupational Health and Safety and WorkSafe legislation and procedures.

A summary from the annual training is available in from reports in the Eclipse system. The Eclipse system manages and documents the training, describes the different training requirements for each job position. A minimum requirement level of training for a job position and the type of hazard rating associated to the position are considered in determining mandatory training requirements for employees and contractors.

At a minimum, the annual mandatory training requirement includes EMS, WHMIS and Safety Awareness training classes for all FRM staff, contractors/consultants and their employees. All hourly and salaried staff are required to complete an annual review of all SWPs' (Standard Work Procedures), SWPs' (Safe Work Procedures) and JSBs' (Job Safety Breakdown) procedures related to their job position.

Social Values

Criterion 8: Forest Management decisions are informed by a wide range of ecological, social, and economical values, including Aboriginal people's interests

Communication and Public Participation

Indicator 8.1: Public participation processes designed to inform and respond to the interests of directly affected parties.

Measurable 8.1.1: Various advisory or consultation processes (at multi-levels) within the companies operations are established and functioning.

Target	Results
Appropriate mechanism or forums are established where required in response to the directly affected parties	**Target met**

Measurable 8.1.2: Applicable and relevant information is made available to directly affected parties.

Target	Results
Relevant non-confidential information is made available to directly affected parties.[24]	**Target met**

Measurable 8.1.3: Documented results of how plans have been informed by the concerns raised by directly affected parties during established consultation forums and/or mechanisms.

Target	Results
Affected plans include rationale and documented changes as a result of the input by directly affected parties	**Target met**

Measurable 8.1.4: Establishment and maintenance of an effective dispute resolution mechanism at various decision- making levels specific to the various forums that may be established.

Target	Results
All public participation processes have a recognised dispute resolution mechanism that considers jurisdictional authority and the associated balancing of the social, economic, and environmental aspects	**Target met Removed**

The practice of sustainable forest management is founded upon open communication and public participation with all interested and/or directly affected parties. As such, qualified professional, scientific, academic, traditional, social, economic, and environmental interest groups, organizations, agencies and individuals inform virtually all aspects of our practices (planning, implementation and monitoring phases). FMG offices and staff have an open door philosophy to meet with local and regional interests and with other forest users in order to take their needs and concerns into consideration when drawing up our forestry plans.

Special Circumstance/Issue or Voluntary Processes – When warranted, specific and more formal consultation processes are formed to deal with a specific local issue. One example is Canfor's established a joint consultation process with the Ktunaxa Nation and their member communities in respect of forest planning issues, other examples of the specific advisory or consultation process and committees include:

Canfor/ Ktunaxa Joint Management Advisory Committee (JMAC), Elk Valley Integrated Task Force, Kimberly Nature Park, Moyie Residents, Sheep Creek Residents, Access Management Committees (SRMIMP), HCVF Technical and advisory Group, Ktunaxa Nation HCVF, Kootenay Spatial Data Partnership, VRI Advisory Group, Ecosystem Restoration Steering Committee, Lower Kootenay Lake Forestry Consultation Form, Interface Fire and Forest Management Committee-Kimberley, Yahk Co-ordinated Range Management Committee, Friends of Lois Creek Ski Trails….etc

[24] *May require specific reference to the operational Pre-Harvest Notification Procedures in the revised SFMP*

Regulatory Processes – Operational plans submitted to government for approval, such as the Forest Stewardship Plans, also undergo an advertised public and stakeholder review. Canfor maintains a separate referral list of known stakeholders and interest groups who receive personal letters of invitation to review the operational plans and other documents such as the SFMP, FSP and FSC annual assessment notification. Stakeholders and communications are entered into Canfor's Creating Opportunities for Public Involvement (COPI) database.

Results – All input and comments received through the various public participation process and the relevant responses, are documented and maintained by the Regional staff.

Documentation – of the results and /or how changes to the plans have accommodated the stakeholder and input is documented in the appropriate section of each plan, or on record in the regional offices (typically on the "block files"). In many instances this includes an explanation of the rationale behind certain planning decisions that have been made.

Dispute Resolution – Canfor's public participation strategy seeks meaningful, informed, scientifically sound and culturally appropriate participation from all relevant parties. This strategy also ensures that a dispute resolution process is in place and effective should there be concerns with the rationale presented in planning decisions. During the 2012 fiscal year our FRM staff did not encounter any situations that required the dispute resolution mechanism.[25] Controversial decisions are sometimes made however, within the Company's EMS program an additional process is available for receiving, responding, and tracking public input and providing information on forestry operations. This system includes the tracking and resolving of disputes.

Criterion 9: Forest management sustains ongoing opportunities for a range of quality of life benefits

Recreation

Indicator 9.1: Recreational opportunities are considered and incorporated in planning documents, in an ecologically appropriate manner.

Measurable 9.1.1: Compliance with appropriate regulations and guidelines

Target	Results
100% compliance	**Target met**

Measurable 9.1.2: Documented rationale regarding how recreational values were considered in operational plans prepared by a Registered Professional Forester.

Target	Results
All operational plans have documented rationale with respect to recreational values	**Target met**

Consideration of non-timber values such as recreation is an integral part of the company's social responsibility to the public, particularly as approximately 95% of the commercial forests in BC are publicly owned. To ensure that forest management planning considers the recreational values –

[25] *Source ITS Database.*

Results and Strategies[26] have been developed in Canfor's approved *Forest Stewardship Plan* and are consistent with those in the SFMP. Each site plan, signed by a Registered Professional Forester, documents the considerations to accommodate the recreational values for the proposed harvesting area. These Site Plans are on file in each of the regional offices in site-specific detail.

In specific instances as described above (Indicator 8.1) public participation or advisory processes are also used to inform forest planning and operations of exceptional recreational values. All Operational site plans will have considered recreational values and are 100% compliant with appropriate regulations and guidelines.

Visual Quality

Indicator 9.2: Visual qualities are considered and incorporated in planning documents, in an ecologically appropriate manner.

Measurable 9.2.1: Compliance with the appropriate regulations and guidelines.

Target	Results
100% Compliance	**Target met**

Measurable 9.2.2: Documented rationale regarding how visual quality values have been considered in the operational plans prepared by a Registered Professional Forester.

Target	Results
All plans have documented rationale with respect to visual quality values	**Target met**

Consideration of non-timber values such as visual quality (viewscape) are integral to the company's social responsibility to the public, particularly as approximately 95% of the commercial forests in BC are publicly owned. To ensure that forest management planning considers the visual quality values - *Results and Strategies*[27] have been developed in Canfor's approved *Forest Stewardship Plan* and are consistent with the strategies of the SFMP. Each site plan, signed by a Registered Professional Forester, documents the considerations to accommodate the visual qualities of the proposed harvesting area. These Site Plans are on file in each of the regional offices in site-specific detail.

In specific instances as described above (Indicator 8.1) public participation or advisory processes are also used to inform forest planning and operations when required. All Operational site plans will have considered visual quality values and are 100% compliant with appropriate regulations and guidelines where appropriate.

[26] *Results and Strategies as described under the Forest and Range Practices Act of BC*
[27] *Results and Strategies as described under the Forest and Range Practices Act of BC*

High Conservation Value Forests

Indicator 9.3: **Forest management activities respect the associated attributes of unique or significant ecological, social, cultural, or spiritually important places or features.**

Measurable 9.3.1: A collaborative process is in place to identify and provide measures to maintain or enhance high conservation forest values.

Targets	Results
a) High Conservation Value Forests (HCVF) are identified for the Management Unit.	**Target Achieved for all but HCV4 for TFL 14**
b) Management strategies are developed and implemented[28] for identified HCVFs.	**Target Achieved**
c) Legislated decision makers approve Canfor's plans which are submitted to government – and which are consistent with the strategies developed for identified HCVF in b).	**Target Achieved**

High Conservation Value Forests (HCVF) are those forest areas or attributes which include unique or significant ecological, social, cultural, or spiritually important places or features. In the BC Standard they are defined in four categories:

1. *Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance*
2. *Forest areas that are in or contain rare, threatened or endangered ecosystems.*
3. *Forest areas that provide basic services of nature in critical situations (i.e. watershed protection, erosion control).*
4. *Forest areas fundamental to meeting basic needs of local communities (i.e. subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic, or religious significance identified in co-operation with such local communities).*

Targets a and b – HCVF Identification and Management Strategies

HCVF areas have been defined for each licence/TFL through a collaborative process involving representatives from environmental groups, government, and industry. The process is complete for Categories 1, 2 and 3, and is now nearly complete to include the Ktunaxa's perspective (Category 4; See Table 17 for completion dates and timelines). Management strategies have also been completed for HCVF Categories 1-3 for each management unit (including the new areas) and are complete for the completed assessments in Category 4. Cutting permits containing blocks within HCVFs, whose site plans reflect the management strategies for that HCVF, are being approved by the Ministry. Full details on the HCVF process and documents for each licence

[28] *Minor change added in 2009.*

are found in the HCVF Annual Monitoring Reports. The maps, assessment documents, and management strategies are available from the Forest Scientist.

The HCVFs are updated annually to reflect changes in legislation (e.g., the Caribou GAR in 2009, and the Grizzly Bear GAR in 2010), the additional Wildlife Habitat Areas (WHAs) that are added by the Ministry of Forests, Lands, and Natural Resource Operations in most years, any High Conservation Values that Canfor has become aware of since the original assessment was done (e.g., Bull Trout Redds in the Flathead River in 2009), and changes to the operating area (e.g., addition of Upper Bull, Mather and Oke Creeks in 2010).

In 2012, a formal review process was begun to revisit the original assessments for each area and update them as a whole. The process is expected to be complete for HCV 1 and 2 in 2014. HCV 3 will be started in 2013.

An Effectiveness Monitoring Program for HCVFs was completed in 2010. Implementation is occurring in stages, with full implementation planned for 2015. For details see the HCVF Effectiveness Monitoring Program and the HCVF Effectiveness Monitoring Report for 2012. Both reports are available from the Forest Scientist.

Table 17: High Conservation Value Forest Assessment Program Timetable

Mgt Unit	HCV (1-3) Identified	HCV 1-3 Management Strategies Completed	KNC Cultural & Conservation Values (HCV4) Identified	HCVF 4 Management Strategies Completed	Annual Status Monitoring	Effectiveness Monitoring
TFL 14	2003, 2004	2006	Process to begin in 2013	Process to begin in 2013	Began in 2005	Began in 2009
FL A18978 MF72	2005, 2006	2007	Completed in 2012	Completed in 2012	Began in 2007	Began in 2009
FL A19040	2006	2007	Completed in 2012	Completed in 2012	Began in 2007	Began in 2009
FLA20212	2006	2007	2008 for Lower Kootenay Band, completed in 2012 for St. Mary's Aquisqnuk	2008 for Lower Kootenay Band, completed in 2012 for St. Mary's Aquisqnuk	Began in 2007	Began in 2009

Target c) Compatibility with the Regulator

Operational Plan Approvals from Government Agencies

To date operational plans that require approval by the Ministry of Forests such as the Forest Stewardship Plan (FSP – approved November 15, 2006) are consistent with the management strategies outlined in Canfor's HCVF areas and the Sustainable Forest Management Plan.[29]

Timber Supply

During 2007 a Timber Supply Analysis for TFL 14 was carried out whereby detailed accounting and a comprehensive analysis that incorporated the Sustainable Forest Management Plan and HCVF management practices were considered. The Timber Supply Data Information Package and Analysis were both accepted by government, and a new AAC determination was made by the Deputy Chief Forester, BC Ministry of Forest and Range in July 2008 that accepted the FSC Forest Management scenario.

[29] *The SFMP differs from the legislated planning requirements, in that it is a voluntarily prepared plan to meet our sustainable forest management framework and does not undergo government approval.*

Ktunaxa Canfor Consultation Process and Matrix

In September 2006 Tembec and the Ktunaxa Nation Lands and Resources Sector completed their Relationship Protocol (RP) which included a consultation process document which describes how the two parties engage in matters of common interest related to forest planning and development activities. The document is confidential, however a summary was provided to the Ministry of Forest and Range (February 2007) in order to support government's acceptance that our forest planning documents have satisfactorily met the first nation consultation requirements of our jointly developed process. To date this government has accepted this procedure and occasionally additional site-specific information is provided to government decision makers during the approval stages of Canfor's permits.

The RP was not transferred with the acquisition however Canfor and the KNC have agreed to operate under the spirit and intent of the document while negotiations on a new RP are underway. It is the intent of both parties to enter into a new agreement.

Other resource users

Canfor's operational plans that require approval by the Ministry of Forests are consistent with the management strategies outlined in our HCVF areas. We have however found that other resource users are often issued permission from government to operate within these areas. In response to this issue, it was decided during 2007, that any referrals from other tenure holders or applicants (i.e., mineral exploration, range, etc.) that are provided to Canfor, would be responded to in a manner that requests consideration of the HCVFs and their associated management strategies.

Canfor staff continued efforts to inform these tenure holders of our HCVF areas and management strategies (since 2008), and have encouraged them to respect the conservation values within them. This concept was added to the HCVF strategy and will be incorporated in the SFMP revision planned for this coming year. Statements regarding actions that have been taken with respect to other tenure holders have also been documented in the HCVF annual reports for specific HCVFs.

Criterion 10: Long term and mutually beneficial relationships are established with local First Nation Communities

Aboriginal Relationships

Indicator 10.1: Processes are in place with local First Nation to address communications, commercial relationships, employment, training and cultural awareness.

Measurable 10.1.1: A Protocol Agreement with local First Nation is in place that describes the working relationship between the company and the local First Nation; based upon mutual recognition and respect of each other's interests.

Target	Results
Ktunaxa/Canfor Working Protocol Agreement signed and implemented.	**Protocol in negotiations – anticipate completion Fall 2013**

During 2010 the Ktunaxa Nation Council and Canfor renegotiated their original agreements (the Working Protocol and Consultation and Accommodation Agreement – July 2004 – extended to 2010). The replacement "Relationship Protocol" and "Engagement and Benefits Agreement" were approved by both parties November 9, 2010.

The RP and EBA were not transferred to Canfor with the acquisition as Tembec needed to maintain those agreements with the KNC as they retained their pulp mill at Skookumchuck. Canfor and the KNC agreed to continue to operate under the spirit and intent of the RP and EBA until new agreements can be reached between the parties. Both the KNC and Canfor recognize the importance of a continued strong relationship.

Measurable 10.1.2: Forest management planning incorporates and seeks to accommodate local First Nation interests and values at the administrative, strategic, and operational planning levels.

Target	Results
A functional Joint Management Advisory Committee (JMAC) as identified in the Consultation and Accommodation Agreement.	**Pending completion of RP and EBA negotiations**

The Canfor/KNC *Joint Management Advisory Committee* will meet quarterly in fulfilling its mandate of implementing the Consultation and Accommodation Agreement. The JMAC will reconvene as soon as the RP and EBA are signed by Canfor and the KNC. To ensure economic and employment opportunities are maximized prior to the signing, the Employment and Procurement sub-committee reconvened and has been active since the acquisition.

The consultation sub-committee completed their joint *Consultation Process and Matrix* document in 2006, which received approval by KNC Chief's Council. Implementation of the process began prior to the final document approval, and in 2007 a summary was provided to the Ministry of Forests. Implementation records are maintained by the Planning Staff. Canfor and the KNC agree to operate under the spirit and intent of the consultation matrix until the RP and EBA negotiations are completed.

Economic/Employment Opportunities

Measurable 10.1.3: The level of First Nation employment, contracting, business activities and delivery of goods and services in support of the Canfor's core business.

Target	Results
Progress and continual improvement toward the strategies and targets as identified in the JMAC subcommittee.	**Pending completion of RP and EBA negotiations**

To ensure economic and employment opportunities are maximized prior to the signing, the Employment and Procurement sub-committee reconvened and has been active since the acquisition. Ongoing results are presented in the following tables.

Forest Tenures primarily in the form of Non Replaceable Forest Licences have been awarded (by the provincial government) to various Ktunaxa business entities over the past few years. As a means to assist these business in the management of their forest licences Canfor has entered into various Operating Agreements. The following table highlights the various tenures awarded to Ktunaxa entities and which Canfor has a form of operating agreement.

Table 18: Summary of First Nation Tenures

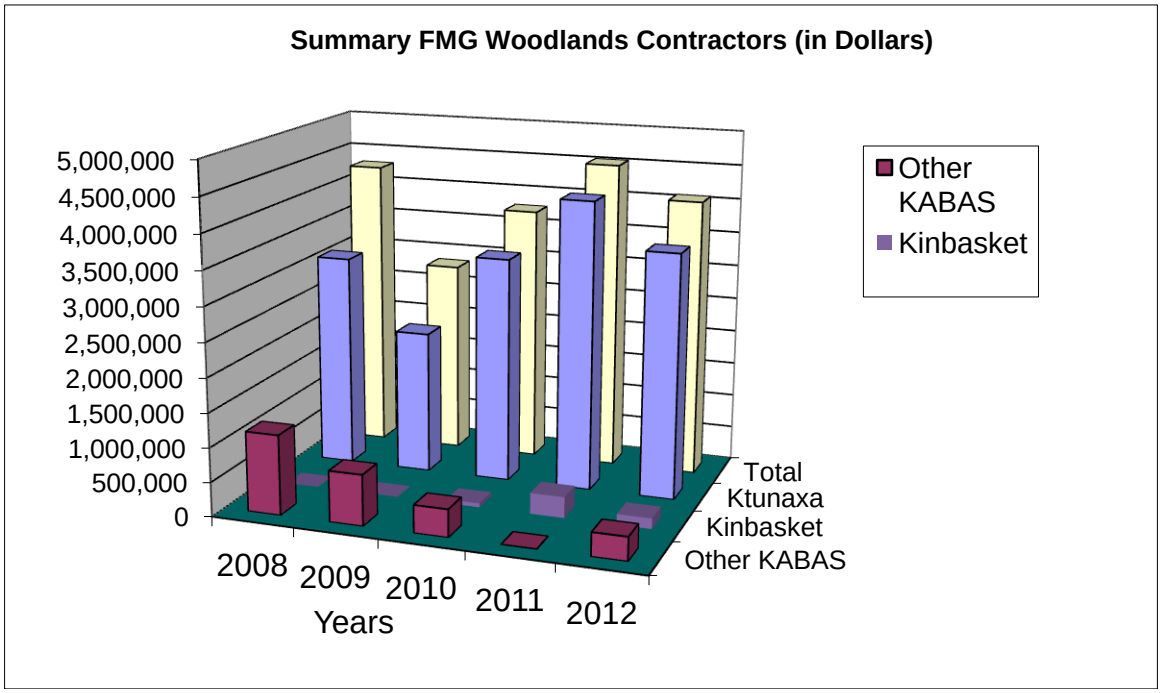
Licence	Owner	Term	AAC / TOTAL Volume (m^3)	Tembec OA[30]
A81369	NUPQU	2007 - 2014	24,873 / 124,365	2007
A82929	NUPQU	2008 - 2012	5,874 / 29370	2010
A88226	Tobacco Plains	2009 – 2013	8,932 / 44,660	2010
A82928	Tobacco Plains	2011 - 2015	4,239 / 21,195	2011

Contracting opportunities include harvesting, hauling, forestry planning, and many other professional services that are required for the FMG operations. Due to significantly curtailed operations in 2009, all of the contracting business community experienced serious reductions in their contracting opportunities with Canfor. The company's expenditures to Ktunaxa and other aboriginal business enterprises are shown in Figure 12.

Nupqu – In addition to the forest tenures, Canfor and Ktunaxa/Kinbasket Development Corporation (KKDC) signed a Letter of Intent in February 2007 that outlined the terms of a cooperative business relationship to which both parties agree in good faith. In 2009, the Ktunaxa/Kinbasket Development Corporation was renamed Nupqu Development Corporation.

Figure 12 shows the dollar values of all contracting by aboriginal and first nation entities within Canfor's FMG operations. There is a minor reduction in the total amount of dollars spent which reflects a slower period of contracting activity in April/May during the transition period from the acquisition and removal of purchases from the pulp mill operation.

Figure 12: Dollar Value of Aboriginal Contracting



[30] *OA – Operating agreement signed with Tembec*

Table 19: Actual Dollar Values for Aboriginal Contracting

	2007	2008	2009	2010	2011	2012
Ktunaxa	3,028,725	3,644,411	2,035,531	3,188,204	4,225,867	3,577,960
Other Aboriginal	828,372	1,001,792	778,172	756,602	305,530	495,278
Total	3,857,097	4,646,203	2,813,703	4,004,806	4,531,197	4,073,238

Goods and Services required to operate all woodland and saw mill operations are obtained by Canfor staff and purchasing staff in the sawmills. The progress made with the joint Canfor/KNC Employment and Procurement sub-committee has resulted in identifying those aboriginal and Ktunaxa businesses that provide some of the needed materials.

Measurable 10.1.4: Promote future employment and development of the local first Nation through education, training and capacity building initiatives.

Target	Results
Utilization of the First Nation Scholarship Program.	**Pending initial awarding**

Target	Results
Progress and continual improvement toward the strategies and targets identified by the parties in the joint committees established by JMAC.	**Work on-going - Pending finalization of RP and EBA negotiations**

Target	Results
Provision of capacity funding based upon on jointly agreed to parameters.	**"Good Faith" payments made until finalization of RP and EBA negotiations**

The Employment and the Procurement (Good and Services) subcommittee resumed work while the RP and EBA negotiations were on-going to identify any opportunities for First nations businesses. Significant work has been made to identify and capitalize on opportunities. The S/C work is on-going and will update targets to achieve.

Aboriginal Scholarship

Canfor has a scholarship program with the New Relationship Trust Foundation, which provides $10,000 per year for First Nations students from Canfor's operating areas entering forestry or trades studies. This allocation is not regionally targeted, so students that receive scholarships through the program could come from any of Canfor's BC operations.

Aboriginal Employment Opportunities

In July 2007, the employment sub-committee of the JMAC, established statistical information on the level of Ktunaxa and other aboriginal employment throughout Canfor's operations. The intention was to establish a benchmark of aboriginal and Ktunaxa employment levels, and use the

information to observe trends and to promote future opportunities. Since the acquisition, Canfor HR staff have worked to identify employees of aboriginal heritage.

In 2009 there were 24 individuals of aboriginal heritage working within the Kootenay operations. Due to the economic downturn, the company significantly curtailed operations and as a result did no hiring. Currently, there are 30 individuals within Canfor's Kootenay operations. This figure dropped since 2011 as individuals at the pulp mill are not part of Canfor. The Employment and Procurement subcommittee continues to meet and discuss aboriginal employment opportunities and have revised their summary reporting table information as shown below.

Table 20: Summary of Aboriginal Employment[31]

Number of Employees							
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Aboriginal	24	29	25	26	54	29	15
Ktunaxa	0	12	11	12	39	14	7
Non-Ktunaxa	14	17	14	14	15	15	8

Capacity funding – a financial component of the joint Canfor KNC agreements was provided every three months to the Ktunaxa Nation in support of their capacity to participate in achieving our mutual objectives. The Capacity Funding – Revenue Sharing annual amount is confidential, and has been in place since July 2004.

Ktunaxa Cultural and Conservation Values

Indicator 10.2: Sites and activities of special significance to First Nations are identified and recognized through an effective collaborative process.

Measurable 10.2.1: An effective Consultation and Accommodation agreement between Canfor and the Ktunaxa is established.

Target	**Results**
Progress toward the development of Consultation Process identified by the parties in the agreement and the JMAC sub-committee	**Target met**

The consultation sub-committee completed their joint *Consultation Process and Matrix* document in 2006, which received approval by KNC Chief's Council. Implementation of the process began prior to the final document approval, and in 2007 a summary was provided to the Ministry of Forests. The Planning Foresters retain all relevant documentation on the block files in support of using the matrix for all harvest planning. It should be noted as well, this process is followed for government approved plans such as the Forest Stewardship Plan (FSP). The government (in November 2006) approved the jointly prepared FSP that included Canfor and the FN tenures.

A significant outcome of utilizing the Matrix was the commitment to the identification of KNC Conservation and Cultural values (HCVF). This process was a FIA funded program and was completed in March 2007. A second project focused on the Lower Kootenay band community's areas of interest was completed in March 2008. This program continued during 2008 in an attempt to engage all remaining KNC communities over the next several years. Progress was slow due to capacity issues of both parties, as of the end of September 2008. A workshop was held at the College of The Rockies May 31, 2010, where a budget document and commitment to continue the project was agreed to.

[31] *The employment numbers have changed in this SR from previous years as there has been a clarification in the tracking of the employment numbers.*

This project (CCVF) has now been completed for Ktunaxa Nation.

As part of our Operating Agreements with various Ktunaxa entities (as outlined in Indicator Measure 3 above) the required Forest Stewardship Plan for Ktunaxa licences are incorporated into Canfor's approved plans. The joint Ktunaxa and Canfor Forest Stewardship Plan was first approved by government in November 2006 and remains in effect.

Criterion 11: Forest management activities and operations shall respect all national and local laws and corporate administrative requirements

Governance and Management Systems

Indicator 11.1**: Management Systems are in place and functioning in a manner that ensures compliance with applicable laws, corporate policy and contractual agreements.**

Measurable 11.1.1: A functioning Environmental Management System that allows for reporting and monitoring by independent third party auditors.

Target	Results
100% compliance of the Environmental Management System	**Target met**

Measurable 11.1.2: A functioning Health and Safety Program (system) that provides for reporting auditing and monitoring.

Target	Results
100% compliance of the OH&S system	**Target met**

Measurable 11.1.3: Compliance and audit records performed by government and other agencies.

Target	Results
100% compliance	**Target met**

Canfor has two (2) primary systems to manage their environmental and occupational health and safety programs in accordance with the law and voluntary agreements. The Environmental Management System (EMS) and Occupational Heath and Safety Program (OH&S) are effective management tools central to the functioning and implementation of Sustainable Forest Management and FSC certification. Specific details and reporting for these management systems are captured within each of the respective systems.

Staff and contractors are regularly informed of changes in legislation and trained on an annual basis to ensure ongoing compliance with regulations.

Compliance to legislation, agreements, and procedures is tracked. All non-conformances identified in audits, or non-conformances with procedures or legislation is investigated and followed up to ensure that preventative measures are instituted.

Occupational Health and Safety (OH&S) - Ensuring the health and safety of employees, contractors, and their families is a long time priority for Canfor. Canfor is committed to providing a safe and healthful working environment for all employees and all others required to provide services at Canfor work sites. An OH&S program is in place and is intended to meet or exceed occupational health and safety regulations. Canfor is a registered "*Safe Certified company*" under the BC Forest Safety Council initiative. The BC Forest Safety Council's mission is "to eliminate all fatalities and serious injuries in the forest sector of British Columbia. Further information can be found at http://www.bcforestsafe.org

Incidents involving staff and contractor safety are dealt with immediately and monitored in detail. Health and Safety incidents are tracked in Canfor's Safety Pages database and incidents are investigated to determine the Root Cause in order to correct any deficiencies identified.

Table 21 and Table 22 provide a breakdown of injuries requiring off site medical treatment, injuries resulting in time loss (worker could not return to work following the incident/accident) or fatalities. The tables are divided into Canfor employees and Canfor Contractors/Consultants.

Table 21: Safety Incident Summary by year (FMG Employees)

Number and Type of Incident	2007	2008	2009	2010	2011	2012
Medical Aid	4	0	1	1	0	0
LTA – Lost Time Accident/s	0	2	0	1	1	0
Fatality	0	0	0	0	0	0

Table 22: Safety Incident Summary by year (FMG Contractors/Consultants)

Number and Type of Incident	2008	2009	2009	2010	2011	2012
Medical Aid	11	2	6	5	3	3
LTA – Lost Time Accident/s	8	8	7	7	9	1
Fatality	0	0	0	1	0	0

Adaptive Management and Monitoring

Canfor's Sustainable Forest Management Plan (2005), Section 2.0 describes the framework and processes involved to achieve the long-term commitments presented in the local Criteria and Indicators of Sustainability. Section 2.5 recognizes that our knowledge of these processes and the format used to describe these aspects of our operations is also relatively new. A fundamental premise to the framework therefore, is that as we gain experience from its implementation our plan, practices, and reporting will require changes and refinement. This notion of change or *continual improvement is referred to as "adaptive management" – as further knowledge is gained, management practices are adapted and improved upon.*

While the concepts introduced by the Sustainable Forest Management Planning framework represent a significant change in the way Canfor describes and reports our traditional business activities, it is also important to recognize that in many cases, Canfor's professional staff have carried out a significant amount of these activities for many years. Using this new paradigm (framework) to describe, document and articulate these activities remains a significant adjustment, as staffing and job descriptions present continuous re-training challenges.

The adaptive management concept has already guided improvements to the company's management practices and management strategies as a result of: monitoring and reporting; new technical or scientific information; new social and economic information; and new information gathered during implementation, public and stakeholder participation processes.

Annual assessments to the FSC BC standard by independent third-party assessment teams has also provided key input toward continued improvement of our forest management, environmental, economic and social performance.

Monitoring Plan

The 2008 year marked a significant milestone in our achievement of Certification to the FSC Standard, as most all of the company's forest management tenures in south eastern British Columbia became certified. Meeting the standard of practice and implementation however has also presented new challenges, particularly in a poor overall economy. In 2009 the planned refinement and implementation of the monitoring plan and strategies were impacted due to staff lay-offs and plant closures. During 2009 therefore there was only the basic or mandatory levels of monitoring carried out.

In 2010 Canfor began to refine their monitoring strategies and plan as part of their preparation and update of the SFMP. A short description of the current status of the various components is presented as follows:

<u>Monitoring Local Criteria Indicators (Measures and Targets)</u>

These represent the foundation or corner stone of the SFMP framework, and development of these began in 2002. The final version was guided by existing laws, policies, protocols and agreements as well as the DRAFT version of the FSC Regional Standard for British Columbia.

Much like the Principles and Criteria of the Forest Stewardship Council (International) which have remained constant since (1995), Canfor's Criteria and Indicators were carefully selected in an attempt to align our BC Forest Management operations with the FSC principles - and not require too many changes. Only slight refinements have been made to the Criteria and Indicators since 2005.

As expected however, modifications to several of the Measures or Targets for the indicators have undergone refinements as a result of monitoring, implementation, and establishment of baseline information.

Each year Canfor's Sustainability Report (SR) documents the changes or adjustments and includes rationale for the proposed changes, including a periodically revised version of SFMP Appendix 8

Amendments to the Sustainable Forest Management Plan (SFMP)

New strategies that have been changed or proposed are presented in Appendix 3 of the annual Sustainability Report, and communicated to operational staff for implementation. Amendments are also filed on the SFMP amendment folders.

Independent Audit and Assessments

The SFMP has been prepared in support of the FSC principles, and the implementation of the strategies is reviewed annually as part of the independent third party assessment (Rainforest Alliance). The detailed Public Summary Report of those assessments is readily available at http://www.rainforest-alliance.org/forestry/certification/transparency/operation-summaries-can

As a result of the RA assessments a significant amendment to the SFMP was made in 2006, with the addition of a Mountain Pine Beetle Management Supplement. In addition the plan was amended (May 2006) by including the Invermere Certified forest area into the "area covered under the plan". Previously this area had been covered by an earlier version of the SFMP. An early seral strategy was revised in 2008, and a new HCVF strategy was proposed for 2009. Appendix 3 summarizes the subsequent changes to the plan.

The company plans to review the entire (SFMP) plan and begin revisions and amalgamate it with the SFMP for the Canfor Radium DFA with completion in 2014. It is expected that Section 6 – Monitoring portion of the plan will require significant changes and alignment with Principle 8 of the FSC standard, as part of this revision.

Measures Monitoring Matrix (SFMP – Appendix 8)

Appendix 8 of the SFMP contains a Monitoring Matrix that is designed to summarize all of the elements identified in the SFMP, including the measures and or strategies. Although each strategy in the SFMP identifies a corresponding monitoring protocol or methodology, Appendix 8 further identifies the scale of analysis, the data sources or management system, quality control, and frequency of the monitoring. This matrix is updated periodically to ensure that those responsible are also identified. Canfor has undergone numerous and significant staff reorganization over the past five years, and updating this component of the matrix is an essential part to ensure continuation of the various monitoring responsibilities.

The updated Appendix 8 is used to demonstrate Canfor's ongoing performance with respect to many criteria identified in Principle 8 – Monitoring of the FSC standard.

Monitoring High Conservation Values

Canfor has been monitoring HCVFs since 2006/07. The HCVF annual reports for each management unit summarize forest management activities within each HCVF conducted that year, as well as basic monitoring activities, such as post-harvest CWD collection and snag retention, together with any research activities. Details are available in the HCVF annual reports. To supplement this program, an effectiveness monitoring plan for HCVFs was developed in 2009, and is now being implemented. This program focuses on rigorous data collection and/or analyses to determine if HCVF values are effectively being maintained. In addition, it should be noted that Canfor has initiated and supported numerous research projects aimed at understanding the habitat requirements of species-at-risk, and has used the results of these studies to develop and implement management guidelines to maintain their habitat.

Other Monitoring and Reports

As indicated in the Monitoring Plan (Section 6.0) of the SFMP, many other reporting requirements are used to track the company's performance on a daily, monthly, quarterly and annual basis.

Appendix 1 – Local Criteria, Indicators, Measures and Targets of Sustainability

In 2008 a revised numbering system was introduced to Canfor's initial set of Local Criteria Indicators, measures and targets. Only minor changes have been made since their original drafting in 2003.

In April 2009, a new draft was completed to account for these minor changes. This Appendix is available on request.

Appendix 2 – SFMP Revision Schedule

(Original Prepared July 2009, revised August 2013)

The Sustainable Forest Management Plan is intended to be implemented and kept up to date. Periodic review and revision has been done on an ongoing basis and the changes documented in each Annual Sustainability Report. Canfor intends to amalgamate the Radium DFA and Kootenay DFA SFMPs so the entire region has one management plan. The process began in 2013 and is intended to be completed 2013/14.

Despite the relatively short (five-year) term of the Plan, the general and strategic direction provided by the SFMP provides sufficient flexibility to accommodate and enable the results of monitoring, new information, changes in legislation to be incorporated on an ongoing basis, as well as respond to changing environmental, social, and economic circumstances.

Revision components are based on the Adaptive Management and Monitoring described, and include the following:

- Annual Monitoring Reports (Sustainability Report, HCVF annual report);
- Annual independent Auditing/Assessment to the FSC Regional Standard for BC;
- Ongoing SFMP Review;
- Focused Stakeholder and Public Review of the Revised Draft SFMP

The following schedule outlines the activities and timelines planned to revise the current SFMP.

FSC Reference	Component/ Activity	Status	Target Dates
_____	Prepare Revision Schedule for various components for Canfor Managers to approve budgets and resources	Completed 2013	June 2012
_____	Develop x-ref matrix – Radium & Tembec CIMT – shows person responsible for IDS writing	_Completed _Feb 2013_	Completed
_____	Develop "templates" for Indicator Data Sheets (IDS)	__Completed April 2013_____	Completed
_____	Review and compile changes to the Local Criteria and Indicators (Measures and Targets) of Sustainability.	_____	September - November 2013
_____	Key staff write IDS, appropriate strategies & monitoring	_____	September - November 2013
	Prepare Revised Draft SFMP for Internal Review		December 2013
_____	Draft SFMP Internal Review Period	_____	December 2013
_____	Focused External Stakeholder Review Period (60 Days)	_____	January – February , 2014
_____	Revise Draft SFMP based upon input and Prepare Final SFMP	_____	March 2014
_____	Chief Forester Approves SFMP for Implementation	_____	March 2014

Appendix 3 – Revisions to SFMP

Periodic revisions to the Sustainable Forest Management Plan are summarized in this section each year. The documentation is also filed on Canfor's computer server and are an integral part of the plan.

2007 – Inclusion of Appendix 2, Management Unit Description for the Invermere Forest Licence A18978 and Managed Forest 72 – Invermere TSA

Purpose: To include the Canal Fats operating area into the "area covered by the plan". The basic information was taken from the first Sustainable Forest Management Plan (SFMP) completed for Kootenay North Region, Forest Licence A18978 and Managed Forest 72, Canal Flats, B.C. September 29, 2004

2007 – Mountain Pine Beetle Operational Plan

Purpose : To outline implementation strategies specific to the management of the Mountain Pine Beetle infestations and the overall strategies in the SFMP.

2008 – Early Seral Strategy

Purpose: To ensure that the spatial extent, temporal longevity, and structural characteristics of the non-tree dominated early seral stages in Canfor's operating area are compatible with natural disturbance regimes and meet the needs of early–seral dependent species and cultural uses.

2009 – Early Seral Strategy

Purpose: To present minor updates to the 2008 Early Seral Strategy.

2009 – Riparian Management Strategy

Purpose: To identify the important attributes of riparian areas and specifies the procedures to be used in developing riparian *reserve zone* and *management zone* strategies for inclusion in *Site Plans / Harvesting Prescriptions*

2009 – HCVF strategy

Purpose: To ensure High Conservation Values are identified, maintained and/or enhanced in Canfor's operating areas throughout the short and long term.

2009 – Appendix 7 – Vertebrate Species List

Purpose: To have an updated list of species and their conservation status on Canfor's operating area. The original list was updated to include Mollusks, Invertebrates, and Plants at risk.