

2015 Annual Report

Sustainable Forest Management Plan

Canfor Kootenay Operations



Canadian Forest Products Ltd.
Kootenay Operations



December 2016

2015 Annual Report – Canfor Kootenay Operations

Executive Summary

Canfor's East Kootenay Operations is certified with two Sustainable Forest Management Certification schemes. The Radium Forest License is currently certified under the CSA Standard (Z8098-08). The rest of Canfor's East Kootenay Operating Area is certified under the Forest Stewardship Council (FSC) BC 2005 Standard. A project to amalgamate the two SFMP's was be completed in 2016.

This is the first Annual Report of the NEW 2016 Sustainable Forest Management Plan (SFMP) for the Canfor's East Kootenay Region. This report summarizes the progress and performance made by Canfor to achieve the results within the East Kootenay DFA Sustainable Forest Management Plan (SFMP).

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. This report provides information that demonstrates Canfor's performance relative to the indicators.

<i>Classification</i>	<i>Ecological</i>	<i>Economic</i>	<i>Social</i>
<i>Number of Targets Achieved</i>	<i>17</i>	<i>8</i>	<i>11</i>
<i>Number of Targets Pending</i>	<i>6</i>	<i>-</i>	<i>-</i>
<i>Number of Targets Variable</i>	<i>6</i>	<i>-</i>	<i>-</i>
<i>First Year Target – N/A</i>	<i>2</i>		
<i>Number of Targets Not Met</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Total</i>	<i>31</i>	<i>8</i>	<i>11</i>

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1.0 Introduction

Canfor's Sustainable Forest Management is based upon a set of local criteria, indicators, measures and targets; initially developed in 2003 from a review of 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 Criteria¹, Indicators² and strategies described in the SFMP are consistent with the company's environmental program and are intended to satisfy many aspects of the Canfor's Forest Stewardship Council (FSC) forest management certification to the BC Regional Standard and Canadian Standards Association (CSA) Sustainable Forest Management Requirements and Guidance.

Canfor's Annual Report (AR) 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 Annual Report presents information about Canfor'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.

Many of the larger wood products customers require that a forest company have Sustainable Forestry Initiative (SFI), Canadian Standards Association (CSA) or Forest Stewardship Council (FSC) third party certification for their woodlands operations. Canfor in the East Kootenay maintains both CSA and FSC.

SFM Framework

Canfor'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 indicator 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. The *Sustainable Forest Management Plan: Canfor Kootenay Operations* contains the full set of local Criteria, Indicators, Measures and Targets. The current SFMP 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.

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.

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Focused and Public Review

An important goal of the Annual Report is to document and inform our managers and resource staff on our progress toward meeting the sustainable forest management goals. On-going 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 on-going 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 including being posted to the Canfor corporate website.

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 beginning in the fall of 2004. Canfor’s Radium license, FL A18979, is CSA certificate. In addition, over the past several years, an assortment of additional non-renewable, 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 Forest Management certifications. The ‘management unit’ (MU³) descriptions in this report are based on the provincial government licenses and tenures. Using this approach, allows for 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 2013)

Timber Supply Area (TSA)	Major Tenures Licences	Certified
Tree Farm Licence 14	TFL 14	FSC
Invermere TSA	FL A18978	FSC
Invermere TSA	FL A18979	CSA
Kootenay Lake TSA	FL A20212	FSC
Cranbrook TSA	FL A19040	FSC

Table 2: Forest Management Units (Tenures /Licences) for Kootenay FMG (2013)

Minor Tenures		Timber Supply Area (TSA)	Certified
NRFL A86246	Lower Kootenay Band	Kootenay Lake TSA	FSC
NRFL A86450	Skookumchuk Pasture	Invermere TSA	No
NRFL A84741	Rouse Pasture	Cranbrook TSA	No
NRFL A81369	Nupqu Inv	Invermere TSA	FSC
NRFL A81368	Kinbasket Dev Corp	Cranbrook TSA	FSC
NRFL A82929	NUPQU	Cranbrook TSA	FSC
NRFL A88226	Tobacco Plains	Cranbrook TSA	FSC
NRFL A82928	Tobacco Plains	Cranbrook TSA	FSC
RFL A91306	Aqu’am	Cranbrook TSA	FSC
RFL A91309	Lower Kootenay Band	Kootenay Lake TSA	FSC
RFL 91310	Shuswap Indian Band	Invermere TSA	CSA
		Federal Dominion Coal – Block Lands	No

³ Management Unit is the term used by FSC to describe the area of the forest that is certified.

2.0 Strategic Level

The strategic level for SFM establishes broad management objectives or sustainability criteria over as large an area as possible over a long time frame (from 100 to 300 years). At this level, the overall strategy for the DFA is defined.

The Canadian Council of Forest Ministers (CCFM) Criteria and Indicators (C&I) and the Forest Stewardship Council FSC-BC Standards guided the development of the SFM Criteria and Indicators that were used as a starting point for the original SFM Plan (2004). The current SFMP aligns with CSA Z809-08 standard, Canfor core indicators and FSC-BC October 2005. Even though the C&I numbering structure follows the CSA Standard, many of the locally developed Indicators address the specific requirements of the FSC-BC 2005.

The establishment of Criteria, Elements, Indicators and Targets is undertaken at the strategic level. They can be used both to gauge the sustainability of strategic alternatives and assess broad trade-offs. Elicitation and consideration of stakeholder and public views on the indicators and targets, and the priorities amongst them, are an important component of this level. The information and strategies developed at the strategic level are used to guide the tactical and operational level activities.

A summary listing of locally important Criteria, Elements, and Indicators for the Ecological (Table 3), Economic and Social (Table 4) Values are provided below.

Table 3: Kootenay DFA Criteria, Element & Indicators – Ecological Values

C1. Biological Diversity
1.1 Ecosystem Diversity
1.1.1a – Ecosystem Representation
1.1.1b (1.4.1a) – Protected Reserves
1.1.1c – Patch Size Distribution by Natural Disturbance Type
1.1.2 – Distribution of Forest Type
1.1.3a (4.1.1) – Old and Mature Forest Retention
1.1.3b – Seral and Structural Stages Relative to RNV
1.1.3c – Interior Forest Habitat
1.1.4.a – Green Tree and Snag Retention
1.1.4b – Landscape Unit Wildlife Tree Patch Retention
1.1.4c – High Value Snags
1.1.5 – Riparian Management
1.2 & 1.3 Species & Genetic Diversity
1.2.1 – Species of Management Concern – Habitat Protection
1.2.2 – Species of Management Concern – Habitat Suitability
1.2.3a/1.3.1a (4.1.3) – Tree Seed
1.2.3b/1.3.1b – Natural Regeneration
1.2.3c/1.3.1c (2.1.3, 4.1.4) – Mix of Species Planted
1.2.4 – Managing for Species Diversity during Tree Thinning
1.4 Protected Areas & Sites
1.4.1a (1.1.1b) – Protected Reserves
1.4.1b – Sites of Biological Significance
1.4.1c – High Conservation Value Forests
1.4.2 (6.1.3) – Protection Of Identified Sacred And Culturally Important Sites
C2. Ecosystem Condition & Productivity
2.1 Forest Ecosystem Resilience
2.1.1 (4.1.2) – Reforestation Success
2.1.2 – Invasive Plants
2.1.3 (1.2.3c/1.3.1c, 4.1.4) – Mix of Species Planted

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2.2 Forest Ecosystem Productivity
2.2.1a (4.2.1) – Permanent Access Structures
2.2.1b – Landslides
2.2.1c (4.2.1)– Land Conversion
2.2.2 (5.1.1a) – Volume Harvested Vs. Allocated
C3. Soil & Water
3.1 Soil Quality & Quantity
3.1.1 – Detrimental Soil Disturbance
3.1.2 – Coarse Woody Debris
3.2 Water Quality & Quantity
3.2.1a – Sensitive Watersheds
3.2.1b – Stream Crossing Sedimentation Control
C4. Role of Global Ecological Cycles
4.1 Carbon Uptake and Storage
4.1.1 (1.1.3a)– Retention of Existing Old Forest
4.1.2 (2.1.1) – Reforestation Success
4.1.3 (1.2.3a/1.3.1a) – Tree Seed
4.1.4 – Climate Change Adaptation
4.2 Forest Land Conversion
4.2.1 (2.2.1a) – Permanent Access Structures
4.2.2 (2.2.1c) – Land Conversion

Table 4: Kootenay DFA Criteria, Element & Indicators – Economic & Social Values

C5. Economic & Social Benefits
5.1 Timber & Non-Timber Benefits
5.1.1a (2.2.2) – Volume Harvested Vs. Allocated
5.1.1b – Non-Timber Benefits
5.1.1c – Overlapping Tenures
5.2 Communities & Sustainability
5.2.1a – Investment In Local Communities – Local Procurement
5.2.1b – Investment In Local Communities – Sponsorships, Donations and Scholarships
5.2.2 – Environmental & Safety Training
5.2.3 – Direct & Indirect Employment
5.2.4 – Level of Aboriginal Participation in the Forest Economy
C6. Society’s Responsibility
6.1 Aboriginal & Treaty Rights
6.1.1 – Aboriginal Awareness Training
6.1.2 (6.4.3) – Aboriginal Understanding of the Plans
6.1.3 (1.4.2) – Level of Management &/or Protection – Aboriginal Culturally Important Sites, Practices & Activities
6.2 Aboriginal Forest Values, Knowledge & Uses
6.2.1 – Evidence of Understanding and Use of Aboriginal Knowledge
6.3 Forest Community Well-Being & Resilience
6.3.1 – Primary And By-Products
6.3.2 & 6.3.3 – Certified Safety Program
6.4 Fair & Effective Decision-Making
6.4.1 – PAG Satisfaction
6.4.2 – Educational Opportunities – Information/Training
6.4.3 (6.1.2) – Aboriginal Understanding of the Plans
6.5 Information for Decision-Making
6.5.1 – Educational Opportunity
6.5.2 – SFM Monitoring Report Public

Criterion 1 – Biological Diversity

Element 1.1 – Ecosystem Diversity

Indicator 1.1.1a – Ecosystem Representation

Indicator Statement	Target (Variance)	Results
Representation of ecosystem groups across the DFA	- Rare Ecosystems – Reserve (0 ha with harvest or roads)	Achieved
	- Uncommon ecosystems – Reserve and/or retain high levels of structural retention for those ecosystems below target levels	Achieved
	- Common ecosystems – Maintain at least 25% of each ecosystem in the NHLB or under an ecosystem restoration or High Conservation Value Forest management regime.	Achieved – Five of eight ecosystems have >25% in NHLB; the two of the three below 25% have HCVPs designated within them up to target levels. Group 4 will be re-assessed against targets after representation analysis re-done

The results for this indicator for rare and uncommon ecosystems are based on data from cutblocks harvested (Harvest Complete) between 1 January 2015 and 31 December 2015. GIS overlay analysis indicated that no blocks contained rare ecosystems within their net area (the area of the block that is harvested, not including reserves), thus achieving the target for rare ecosystems. A list of rare ecosystems can be found in Table 32 in the SFMP, under the Ecosystem Representation Indicator (1.1.1a).

No uncommon ecosystems below target levels were harvested, thus achieving the target for uncommon ecosystems. Two uncommon ecosystems (Nos. 17 and 18) that are above target levels were mapped in the net area of four blocks, totalling 12.4 ha. It is likely that these are mapping errors associated with the predictive ecosystem mapping (PEM) since these ecosystems are wet and very rarely harvested, and pre harvest assessments did not indicate the presence of uncommon ecosystem types. These blocks have been flagged for monitoring under the HCVP Effectiveness monitoring program and will be checked in 2016.

Two of the three common ecosystems that are below the NHLB target of 25% include the BEC variants which have been identified as those being the furthest from historic conditions (Groups 1 and 3), 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, trees have encroached and ingrown onto the grasslands and Open Forest within them and must be removed to restore the ecological function of the site. The management strategies for the HCVPs in these ecosystems focus on ecosystem restoration. There are several HCVPs that contain these common ecosystems, and have ecosystem restoration as their

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management strategy. The amount of overlap between these common ecosystem types and HCVFs was calculated and compared against the amounts to be added to NHLB, harvested under Ecosystem Management, or HCVF Management to meet targets as listed in Table 37 of the SFMP. The area of HCVFs in common ecosystem types was much greater than the target amount; details of this analysis are available from the Senior Forest Scientist.

In addition, one common ecosystem group (Group 4) requires an additional 730 ha to be added to NHLB, harvested under Ecosystem Management, or HCVF Management to meet targets as listed in Table 37 of the SFMP. Estimates for actual vs. target areas for this group will be calculated after the new BECs are finalized and the representation analysis has been redone.

Indicator 1.1.1b (1.4.1a) – Protected Reserves

Indicator Statement	Target (Variance)	Results
Percent of area in protected reserves, by BEC variant and management unit, within the DFA	12 – 24%	Target achieved, with consideration of HCVFs in the IDFdm2 and PPdh

The specific targets for each BEC/ecological unit within each Licence unit are shown in Tables 39-42 of the SFMP, together with the surpluses and deficits relative to the targets. Table 6 below provides a summary of the results and the actions taken to address any deficits that exist. This indicator is only relevant to FSC.

Deficits relative to targets were primarily found within the lowest elevation BEC variants; the PPdh2 and IDFdm2. In these ecosystems, restoration, rather than protection, is often required in order to maintain native species and ecological processes. This is because of the change in fire regimes since European settlement, and the resultant increase in tree ingrowth and encroachment onto grasslands and open forests (See SFMP Section 4.3 The Range of Natural Variability) for more detail). Thus, a key strategy for meeting protected area targets in these variants is the application of ecosystem restoration logging (following the Best Management Practices for Ecosystem Restoration), followed by prescribed burning, rather than setting areas aside as protected reserves. Since there are many HCVFs in these BECs that have ecosystem restoration as their management strategy, the deficits were examined relative to HCVF amounts. The area of HCVFs in these BECs was much greater than the deficit area; details are available from the Senior Forest Scientist.

Table 5: Summary of results of Protected Areas

Management Unit (MU)	Total BEC Variants/ Ecological units in MU	No. BECs where target not achieved by reserves alone	BECs below target	Actions taken to address deficits
TFL 14	9	2	ICHwm1, ICHmk1	Additional reserves established to meet target levels
A18978	8	2	IDFdm2, PPdh2	HCVFs designated in these BECs to meet target levels
A18979	22	2	IDFdm2, MSdk2	IDFdm2 – HCVFs designated to target level, MSdk – additional reserves established to meet target
A19040/ A20212	18	2	IDFdm2, PPdh2	HCVFs designated to meet target levels

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Changes in this indicator occur gradually in most BECs, due to the large area of the BEC relative to the small amount harvested each year in that BEC. Thus, this analysis is re-done every 10 years, or within 2 years of a new TSR being completed. Until the new analysis is completed, the amount of harvesting in the inoperable area is being tracked. Since the inoperable is treated as a reserve in the analysis, harvesting within it depletes the area of reserves and could cause some BEC units to fall below target. For further explanation, see Indicator 1.1.1b in the SFMP.

In 2015, GIS overlay analysis indicated 29 blocks had some amount of harvesting above the operability line, ranging from 0.01 ha to 76.04 ha. All variants in which harvesting occurred above the operability line had large surpluses of protected reserves (Table 6), meaning that the small amount of activity that occurred did not create any deficits with respect to targets.

Table 6: Harvesting Above Operability Line or on Unique/Ecologically Sensitive Sites

License Management Unit	BEC variant ¹	Surplus Reserves ² (ha)	Area (ha) impacted by harvesting		Current Reserves (Surplus minus harvest-to-date)	Impact 2007-2015 on special values?
			2015	2007-2015		
TFL 14	ESSFdk	1,822	0	16	1,805	No
	ESSFwm	5,033	0	2	5,031	No
A18978 (includes MF72, A81369)	ESSFdk	49,080	15	214	48,866	No
	MSdk	8,984	0	57	8,927	No
	ICHmk	289	0	10	279	No
	IDFdm2	1,401*	0	3	1,399	No
	ESSFdku	23,531	0	5	23,526	No
A18979** (includes A90310)	ESSFdk	55,455	38	94	55,361	No
	ICHmk	8,282	4	17	8,265	No
	IDFdm2	861	0	0	861	No
	MSdk	9329	1	77	9,252	No
A19040 and A20212 (includes A80321, K1W)	ESSFdk	66,321	86	924	65,397	No
	ESSFdm	22,968	0	108	22,860	No
	ESSFwm	20,717	0	24	20,693	No
	MSdk1/2	8,965	9	383	8,582	No
	ICHdm	9,772	0	171	9,601	No
	ICHdw1	1,491	0	20	1,471	No
	ICHmk1	3,392	0	110	3,282	No
	IDFdm2	11,684	7	10	11,674	No

¹ BEC variants not included in this table that are known to occur within the areas have not been impacted by harvesting.

² Surplus reserves come from 2006 data for TFL 14 and A18978, and from 2012 data for A19040 and A20212

*Considering HCVF as reserves, as per the Protected Areas report.

**Area impacted by harvesting for 2014-2015 only

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Indicator 1.1.1c – Patch Size Distribution

Indicator Statement	Target (Variance)	Results
Patch size distribution by Natural Disturbance Type (NDT), within Ecosections	Trend towards patch size distribution targets as defined in the Biodiversity Guidebook (Table 21), by Natural Disturbance Type (NDT) within Ecosections, over the mid-term (20-50 yrs)	Variable

The variance of the current patch size distribution from target distributions for each ecosection in the DFA is shown in Table 7, based on data up to and including 2015. Trends are difficult to discern because of the high variability among ecosections, but it is apparent that:

- In NDT2, there are too many small patches (< 40 ha) and not enough patches between 40-80 ha. Very large patches are within target.
- In NDT3, there are either too many patches < 40 and 40-250 ha, or these size of patches are within targets. There are typically too few patches in the larger size classes of 250-1000 and > 1000.
- In NDT4, there are too few patches in the 40-80 ha size class and a trend towards too many patches in the larger size classes.

Patch size distributions are relatively slow to change through time, however, it is forecasted that patch size distributions will trend towards targets over the mid-term through implementation of the Patch Size Distribution Strategy. Patch size distributions will be recalculated in 2020, or earlier if a major natural disturbance event occurs that impacts patch size distributions. This indicator is applicable to both CSA and FSC.

Table 7: Current patch size distributions and variance from target distributions for Ecosections in the DFA¹

Ecosection		License	Size class (ha) (target %)			
#	Name		% Composition			
NDT2						
			<40 <i>(30-40%)</i>	40-80 <i>(30-40%)</i>	80-250 <i>(20-40%)</i>	250+ <i>(0-5%)</i>
10	Upper Columbia Valley – TFL14	TFL 14	26.6	28.2	45.2	
12	Eastern Purcell Mountains – TFL14	TFL 14	78.4	13.9	7.7	
16	Southern Purcell Mountains – Cranbrook	A19040	46.0	14.6	39.3	0.0
NDT3						
			< 40 <i>(15-25%)</i>	40-250 <i>(20-40%)</i>	250-1000 <i>(30-50%)</i>	1000+ <i>(10-20%)</i>
1	Flathead Valley/ Crown of Continent	A19040	25.9	36.5	2.8	34.8
2	Mid-Elk Valley	A19040	28.8	24.5	5.9	40.8
3	Upper Elk Valley	A19040	24.7	42.5	32.8	0.0
4	Southern Park Ranges – South	A19040	36.6	40.4	22.9	0.0

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Ecosection		License	Size class (ha) (target %)			
#	Name		% Composition			
5	Southern Park Ranges – Central	A18978 / A18979	25.0	31.8	16.7	26.5
6	Southern Park Ranges – North	A18979	33.5	31.8	27.9	6.8
7	East Kootenay Trench – South	A19040	49.1	36.5	14.4	0.0
8	East Kootenay Trench – North	A18978	17.9	38.6	43.4	
9	MacGillivray Range	A19040	19.7	33.0	19.3	27.9
10	Upper Columbia Valley – TFL14	TFL 14	17.0	41.1	20.5	21.4
12	Eastern Purcell Mountains – TFL14	TFL 14	29.9	70.1	0.0	0.0
13	Eastern Purcell Mountains – North	A19040	59.4	40.6	0.0	0.0
14	Eastern Purcell Mountains – Central	A18978 / A18979	23.8	48.4	27.8	0.0
15	Eastern Purcell Mountains – South	A19040	24.7	46.6	28.8	0.0
16	Southern Purcell Mountains – Cranbrook	A19040	31.3	61.0	7.7	0.0
17	South Purcell Mountains – Kootenay Lake	A20212	24.5	47.1	28.4	0.0
NDT4						
			<40 (30-40%)	40-80 (30-40%)	80-250 (20-30%)	250+ (5-15%)
5	Southern Park Ranges – Central	A18978 / A18979	36.7	10.1	53.2	0.0
7	East Kootenay Trench – South	A19040	22.5	12.7	26.1	38.7
8	East Kootenay Trench – North	A18978	28.8	19.9	21.4	29.9
9	MacGillivray Range	A19040	35.0	12.6	31.5	20.9
10	Upper Columbia Valley – TFL14	TFL 14	42.1	11.7	46.2	
14	Eastern Purcell Mountains – Central	A18978 / A18979	52.6	47.4	0.0	0.0
15	Eastern Purcell Mountains – South	A19040	21.5	14.4	35.5	28.6

¹ Cell colour represents variance from target where Orange: Very Low $\geq 10\%$ below target, Yellow: Low $< 10\%$ below target, Green: Within target, Turquoise: High $< 20\%$ above target, Blue: Very High $\geq 20\%$ above target. The different cut-offs between Low/ Very Low, and High/ Very High were because of the unequal possibility of going below the target versus going above the target.

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Indicator 1.1.2 – Distribution of Forest Type

Indicator Statement	Target (Variance)	Results
Percent distribution of forest type across the DFA	No significant decline (> 10% of the total amount) in broadleaf or mixedwood types by BEC zone, over a 10-year period	N/A – first year indicator assessed.

The area under analysis included the entire landbase in the DFA, excluding private land, provincial parks, and woodlots. The broad forest types are defined in Table 8, further information for which is found in the current SFMP. Estimates for percent composition are derived from a combination of the BC Land Cover Classification Scheme (subset of the VRI data), BEC, and harvest data. The current (as of September 2016) distribution of forest type across the DFA by major licence is shown in Figure 1, with Table 9 listing the percentages.

Table 8: Definitions of broad forest types

Forest Type	Description
0 – 10 Years	Recently disturbed areas, either from harvesting or natural disturbance (i.e. fires more than 3 years old). Too early in succession to classify confidently as mixedwood, deciduous or conifer leading.
11 – 30 Years	
Conifer*	Percent composition conifer is at least 75%
Mixed*	Neither deciduous nor conifer has percent composition greater than 75%
Deciduous*	Percent composition deciduous is at least 75%
Non-Forest	Vegetated areas with than 10% tree cover, predominantly grassland areas
Non-Productive (Natural)	Areas that do not fall into the other broad categories; also includes alpine BECs, avalanche paths, naturally non-vegetated areas
Roads and Landing	Temp constructed roads, spur roads, FSRs, gravel mainlines, paved roads, and landings
Water	Areas classified by the VRI as water

* Further broken into two age classes: 31-90 years, >90 years

All five licences are dominated by conifer stands, and there are small percentages of broadleaf and mixedwood stands. The distribution of broad forest types will be re-calculated annually; no significant declines in the total amount of broadwood or mixedwood types are expected to occur.

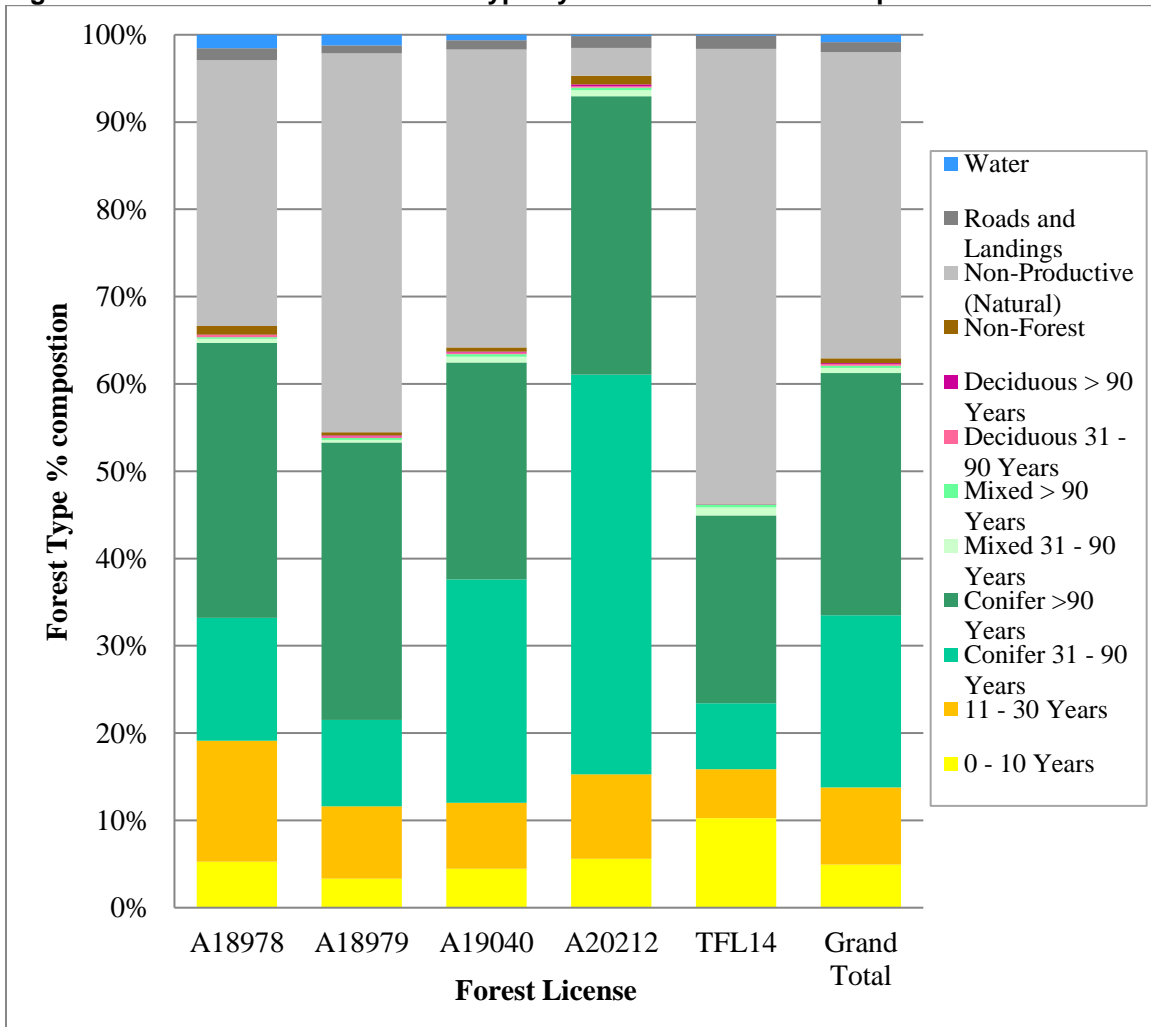
Table 9: Percent distribution of broad type by Forest License as of September 2016

Forest type and age class	Forest License					Grand Total
	A18978	A18979	A19040	A20212	TFL14	
0 - 10 Years	5.27%	3.34%	4.46%	5.61%	10.26%	4.95%
11 - 30 Years	13.85%	8.28%	7.57%	9.67%	5.61%	8.84%
Conifer 31 - 90 Years	14.08%	9.89%	25.57%	45.79%	7.53%	19.73%
Conifer >90 Years	31.50%	31.79%	24.86%	31.90%	21.53%	27.75%
Mixed 31 - 90 Years	0.47%	0.27%	0.66%	0.71%	0.93%	0.57%
Mixed > 90 Years	0.17%	0.24%	0.27%	0.27%	0.37%	0.26%
Deciduous 31 - 90 Years	0.28%	0.18%	0.19%	0.18%	0.00%	0.19%

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Forest type and age class	Forest License					Grand Total
	A18978	A18979	A19040	A20212	TFL14	
Deciduous > 90 Years	0.04%	0.11%	0.11%	0.21%	0.03%	0.10%
Non-Forest	0.98%	0.38%	0.49%	0.99%	0.03%	0.55%
Non-Productive (Natural)	30.47%	43.41%	34.13%	3.20%	52.10%	35.10%
Roads and Landings	1.35%	0.89%	1.05%	1.35%	1.49%	1.13%
Water	1.53%	1.23%	0.62%	0.14%	0.12%	0.85%
Grand Total Area (ha)	312,890	374,465	761,055	109,021	150,599	1,708,030

Figure 1: Distribution of broad forest type by Forest License as of September 2016



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Indicator 1.1.3a (4.1.1) – Old and Mature Forest Retention

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Amounts of old and mature stands by landscape unit and BEC variant	Full compliance with the mature and old targets as defined in the Kootenay Boundary Higher Level Plan and spatial identification of stands to meet these targets (+0.3% of the target)	Pending

The percentages of old and mature forest currently on the landscape in designated OGMAs and MMAs is presently being calculated and results are forecast to be available at the time of audit. Once results are available, plans will be developed to address any deficits. This indicator is relevant to both CSA and FSA.

Indicator 1.1.3b – Seral and Structural Stages Relative to the Range of Natural Variability

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Area of old, mature and early seral stands, by ecosystem (BEC subzone) grouping, for current and future time periods relative to the Range of Natural Variability	To be compatible with (either within or moving towards) the Range of Natural Variability	Variable

This indicator is assessed through a model which compares the area of each seral stage to that expected under historic disturbance regimes, and which is expected over the next 250 years under current harvest practices (TSR III). A detailed description of the model and its assumptions is provided in the SFMP under this indicator. This indicator is relevant to both CSA and FSC.

Results of the model showed that:

- For most ecosystem types (BEC groupings), the amount of early seral stands and mature stands are currently below historic amounts, and,
- The amounts of mid- and old seral stands are currently above or similar to historic amounts.
- Under current management, 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.

The model did not incorporate any effects of climate change, because TSR III did not incorporate changes in fire regimes associated with climate change. Future climate trends are expected to differ from historic and current ones in that fires are projected to increase in frequency and severity as the climate warms and summers become hotter and drier (see Indicator 4.1.4 – Climate Change Adaptation in the current SFMP for a discussion).

Due to this, a conservative approach to managing old forest is warranted. Amounts of old forest projected through time under this model may not be accurate if the amount of forest burned by wildfire increases dramatically in the future.

Figures and tables illustrating these conclusions are provided in the SFMP and in the report on the model (available from the Senior Forest Scientist). The model will be re-run in the years following the release of TSR IV. Further discussion for this indicator is available in the 2016 SFMP.

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Indicator 1.1.3c – Interior Forest Habitat

Indicator Statement	Target (Variance)	Results
Median patch size of Old Growth and Mature Management Areas, by NDT and ecosection	Median patch size is maintained or increases through time	N/A – first year for this indicator

The median patch size of Old Growth Management Areas (OGMAs) and Mature Management Areas (MMAs) is shown in Table 10. Of note is that the medians in most ecosections, with the exception of the Southern Purcell Kootenay Lake, are relatively small. Since this is the first year this indicator was calculated, no calculations of changes through time are possible. Median patch size will be re-calculated in 2020. This variable changes slowly because relatively few OGMAs and MMAs are changed each year. Through continued implementation of the Interior Forest Habitat Strategy, we expect the median patch size of old and mature management areas to remain stable or increase over this time period. Further discussion on this indicator and size class distributions of the OGMA and MMAs in each ecosection are presented in the SFMP.

Table 10: Median OGMA/MMA polygon size by ecosection in the DFA

Forest Licence	NDT3		NDT4	
Ecosection	Median size	n polygons	Median size	n polygons
TFL14				
Upper Columbia Valley – TFL14	5.80	193	5.47	118
Eastern Purcell Mountains – TFL14	6.43	289	-	0
A18979				
Southern Park Ranges – North	5.07	973	5.47	19
Upper Columbia Valley – Radium	4.34	365	3.56	264
A18978				
East Kootenay Trench – North	4.83	417	4.35	188
Shared A18978/A18979				
Southern Park Ranges – Central	4.74	929	9.95	11
Eastern Purcell Mountains – Central	5.81	745	6.37	42
A19040				
Southern Purcell Mountains – Cranbrook	7.66	296	6.06	6
Southern Park Ranges – South	8.34	448	5.91	23
McGillivray Range	7.77	1000	5.97	73
East Kootenay Trench – South	8.76	137	8.63	233
Mid Elk Valley	8.97	257	6.95	9
Upper Elk Valley	6.69	682	3.42	1
Flathead Valley/ Crown of the Continent	6.94	918	2.95	3
Eastern Purcell Mountains – North	5.27	574	5.53	19
Eastern Purcell Mountains – South	8.16	162	6.20	18
A20212				
Southern Purcell Mountains – Kootenay Lake	64.02	59	-	0
Total	6.15	8444	5.30	1027

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Indicator 1.1.4a – Green Tree and Snag Retention

Indicator Statement	Target (Variance)	Results
Density (stems/ha) of dominant and co-dominant green trees and snags (standing dead trees) on each cutblock or cutblock area (gross block area)	All blocks or block areas to exceed the densities specified in FSC-BC Indicator 6.3.9 for each Natural Disturbance Type (NDT) and Biogeoclimatic zone combination (Table 11)	Achieved

Table 11: FSC-BC Indicator 6.3.9 minimum retention levels of dominant and co-dominant trees within each cutblock area (>200 m wide or 100 ha in aggregate)

NDT	NDT 1		NDT 2		NDT 3		NDT 4	
BEC	ESSF	Other	ESSF	other	ESSF	other	PP	other
Green Tree and Snag target (sph)	12	8	15	10	12	8	4	8
Snag target (sph)	3	2	3.75	2.5	3	2	1	2

This indicator only pertains to FSC Certified licenses (Table 2). Over the past seven years, including 2015, all blocks in Canfor’s FSC certified areas have met the green tree retention targets (Table 12). However, not all blocks met the snag retention targets over this time period unless stubs (man-made snags, demonstrated to have wildlife value) were counted. Due to the large no-harvest buffers required around most snags by WorkSafe BC (minimum 1.5 tree lengths in diameter), not all snags can be retained within cutblocks and have the block still make an economic harvest unit. Thus, stubs help fill this gap. At the layout stage the focus is still on retaining the highest value wildlife trees (snags) in safe reserve patches.

Table 12: Percentage of blocks meeting green tree and snag retention targets in FSC certified areas between 2009 and 2015

Year	Percent of Blocks meeting Green Tree Retention Targets	Percent of Blocks meeting Snag Retention Targets when Stubs are not included	Percent of Blocks meeting Snag Retention Targets when Stubs are included ¹	Total number of blocks on FSC certified areas
2015 ²	100%	76%	100%	85
2014 ²	100%	80%	100%	109
2013	100%	75%	100%	132
2012	100%	70%	100%	103/67 ³
2011	100%	75%	n/a	164/129 ³
2010	100%	n/a ⁴	n/a	137
2009	100%	n/a ⁴	n/a	65

¹ Stubs were not consistently prescribed in all Site Plans in years prior to 2012

² Analysis done using the total number of harvested blocks in that calendar year, rather than CP approved blocks.

³ The total number of approved blocks in FSC certified areas/ the number of approved blocks in FSC certified areas with the target densities of snags present in the pre-harvest stands (used in snag retention calculation).

⁴ Snag retention not measured separately from green tree retention in this year

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Indicator 1.1.4b – Landscape Unit Wildlife Tree Patch Retention

Indicator Statement	Target (Variance)	Results
Percent of Wildlife Tree Patches retained across the DFA, by Landscape Unit and BEC variant	Varies by BEC/Landscape Unit combination, as specified in the Forest Stewardship Plan	Variable – Nearly all LU/BEC combinations met targets at last calculation.

This indicator was demonstrated to be largely met in 2006 when an analysis of where Canfor stood with respect to the WTP requirements in each LU/BEC was conducted by Forsite as part of the Forest Stewardship Plan (see the Supporting Information for the FSP, Wildlife Tree Retention Analysis). Nearly all LU/BEC combinations met the targets for amounts, and those that did not had specific amounts of WTP specified that needed to be retained. These amounts are referred to and WTPs prescribed to meet them by Foresters developing cutblocks in those LU/BECs, such that the targets should have been met by now, 10 years later. This will be tested in 2017 when a new analysis of WTP amounts is run in concert with the new FSP. The wording in the SFMP around the monitoring of this indicator needs to be revised to reflect how it will be monitored. This will be done in 2017, and an amendment issued.

Indicator 1.1.4c – High Value Snags

Indicator Statement	Target (Variance)	Results
a) The density (stems/ha) of all identified High Value snags within gross block areas, all BEC subzones combined; b) The average percentage of High Value snags retained outside net harvest areas, by BEC grouping	a) 5% improvement annually in the average b) Minimum 65%	a) Achieved b) Achieved

Analysis for this indicator differs slightly from the way that it was calculated for Current Condition in the SMFP (Table 13). These changes were made to simplify analysis and to provide a more accurate picture of High Value Snag identification and retention in a given calendar year.

Table 13: Changes to current condition calculations for High Value Snags

Indicator	SFMP Current Condition	2015 Reporting Year	Rationale
Density	Included Partial Harvest blocks in analysis	Only blocks with Harvest complete status included in analysis	Partial harvest blocks can show up in multiple years.
% Protected	Considers HV Snags that are either within the Gross Block Area of <i>any</i> block (i.e. Proposed, Available, Stagnant, WIP, Permitted, Partial Harvest, Harvested blocks) OR are outside the Gross Block area of any block	Considers HV Snags that are either within the Gross Block Area of a block <i>harvested</i> in a specific calendar year (e.g. 2015) OR are outside the Gross Block area of any block (i.e. outside of Proposed, Available, Stagnant, WIP, Permitted, Partial Harvest, Harvested blocks)	Blocks that are not yet harvested may have changes to the linework, possibly leading to fewer or greater HVS protected.

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Current condition for the two indicator statements for High Value Snags (HVS) is presented in Table 14 and Table 15. The density of identified snags within the gross block area of a harvested block (Indicator Statement a) increased from 0.604 HVS/ 100 ha (between 2013 – 2014) to 1.75 HVS/ 100 ha (2015, Table 13), representing a nearly 3 fold increase. This considerable increase can be attributed to two factors:

- Results for 2015 included fewer blocks laid out before the HV Snag tracking program was initiated
- Results for 2013-2014 included larger, older blocks that did not have HV Snags identified (leading to lower overall density of HV Snags).

In all BEC variant groupings, the percent of High Value Snags that were considered protected increased in 2015, and varied from 41.7% in the ICH dry to 100% in ESSF dry.

Through the continued implementation of both the High Value Snag Retention Strategy, as well as the Green Tree and Snag retention strategy, it is expected that the density of identified HVS within the Gross block area of harvested cutblocks will continue to increase, though likely at a lower rate than that observed between 2013/2014 and 2015. It is also expected that the average percentage of High Value snags retained outside net harvest areas, by BEC grouping will continue to be maintained above the target 65%.

Table 14: Density (stems/100 ha) of all identified High Value snags within gross block areas (harvested), all BEC subzones combined

BEC	Area harvested (ha)		n polygons		n HVS		Average density (HVS/100 ha)	
	2013-2014	2015	2013-2014	2015	2013-2014	2015	2013-2014	2015
ESSF dry	3968.2	1803.2	123	56	3	7	0.224	0.466
ICH dry	874.3	1298.1	27	23	7	7	0.865	2.093
ICH moist	1125.9	789.2	51	19	31	34	0.931	3.654
IDF/PP	4130.3	933.4	88	18	84	25	1.240	1.051
MSdk	6850.4	2081.6	213	63	39	87	0.466	2.387
Total	17010.5	6905.5	508	179	164	160	0.604	1.745

Table 15: Average percentage of High Value snags retained outside net harvest areas, by BEC grouping

BEC	n HVS*		n HVS protected**		% Protected	
	2013-2014‡	2015	2013-2014	2015	2013-2014	2015
ESSF dry	14	16	9	16	64.3%	100.0%
ICH dry	44	12	12	5	27.3%	41.7%
ICH moist	40	74	29	55	72.5%	74.3%
IDF/PP	162	77	96	67	59.3%	87.0%
MSdk	82	128	61	100	74.4%	78.1%
Total	342	307	207	211	78.7%	79.2%

* In harvested blocks, or outside the gross block area of any block

** HVS within a WTP of a harvested block, or outside the gross block area of any block, or a Class 2 wildlife tree anywhere within the Gross area of a harvested block

‡HVS within blocks with harvest complete in 2013-2014, or HVS was identified between 2014-2014

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Indicator 1.1.5 – Riparian Management

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
a) Riparian Reserves and Management Zones planned in accordance with Canfor’s Integrated Riparian Assessment.	0 non-compliances	Achieved
b) Within each Riparian Management Unit, the combined Riparian Reserve and Management Zone widths meet the FSC budgets in Table 52 (SFMP), including both <i>FRPA</i> legal minimums on each stream, lake and wetland	0 non-compliances	Achieved

Canfor did not have any Incidents in 2015 reported on riparian reserves not being planned to meet the Integrated Riparian Assessment process. Further information on the detailed field data collected on riparian areas as part of the HCVF Effectiveness Monitoring Program are found in the HCVF Effectiveness monitoring reports (years 2013 – 2015).

The current condition of Canfor’s riparian reserves with respect to the FSC budget is available in the Integrated Riparian Assessments, Volumes 2-9. For each of the 46 Riparian Management Units within the DFA, the required retention amounts for each lake, wetland, and stream class are calculated, together with the amount of retention currently calculated to be present. Surplus and Deficits are presented by feature class, and for the overall unit.

All of the 46 RMUs have a budget surplus when lakes, wetlands, and streams across the unit were considered as a whole. However, in some units particular feature classes are at or near deficit. This is particularly so for lakes and wetlands which are relatively rare on the landscape and thus have small budgets and small surpluses. In addition, these features tend to be located on valley bottoms where historic logging has taken place, much of it without riparian reserves.

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Element 1.2 – Species Diversity & Element 1.3 – Genetic Diversity

Indicator 1.2.1 – Species of Management Concern – Habitat Protection

Indicator Statement	Target (Variance)	Results
Forest management activities conform to operational plans that include the appropriate management strategies from the SWP for blocks containing habitat for species of management concern	100% (5)	Achieved

The first part of this indicator includes determining how many blocks contained habitat for Species of Management Concern, and if the site plans for these blocks contained appropriate management strategies for this habitat. Table 16 shows that 63 blocks harvested in 2015 contained habitat for Species of Management Concern. A review of four blocks that overlapped with Open Forest Ungulate Winter Range found that none met Open Forest objectives for forest cover, and have needed to be planted. Consequently, a more in-depth review of these blocks and other UWR blocks is currently underway. Of the 5 blocks which overlapped the grizzly bear GAR, all prescribed strategies were in line with the SWP.

The second part of this indicator is determining if the strategies in the Site Plans were implemented during operational activities including harvesting and road-building. Each year a subset of harvested cutblocks are assessed under Canfor’s HCVF Effectiveness Monitoring Field program. Results can be found in the HCVF Effectiveness Monitoring reports (available from the Senior Forest Scientist).

Table 16: Number of blocks harvested in 2015 following SWPs for SoMC when block overlaps with habitat for SoMC

Habitat for SoMC	No. blocks with overlap with habitat for SoMC	No. blocks with appropriate management strategies prescribed
Grizzly Bear GAR	5	5
Ungulate Winter Range	57	57*
Critical Habitat	1	1**
Total	63	63

* Two blocks had small slivers in the Net block area, one block does not mention the UWR order, but states an “Open Forest Prescription”, one block was mismapped as UWR, but not explicitly stated as such in the SP.

** This block was harvested prior to publishing of the Federal Recovery Strategy for Rocky Mountain Tailed Frog, and has been flagged for post-harvest assessment.

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Indicator 1.2.2 – Species of Management Concern – Habitat Suitability

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Suitable habitat is provided for key Species of Management Concern	Within one quartile (+ 25%) of the Mean in the Range of Natural Variation	Pending – awaiting TSR IV models



Since this is a new indicator, current condition has not yet been established. Current condition will be the currently available amount of suitable habitat for the key species of management concern that are being modelled in TSR IV. Government has not yet finalized these models. Once they are, results will be written in the Annual Report.

Indicator 1.2.3a & 1.3.1a (4.1.3) – Tree Seed

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage of tree seed used in yearly tree planting program that is consistent with the <i>Chief Foresters' Standards for Seed Use</i>	100% (-5%)	Achieved

For 2015 planting, Canfor is within the 5% variance with the percent of trees planted outside of the *Chief Forester's Standards for Seed Use*: 1.45% Cranbrook TSA, 2.42% TFL 14 and 0.14% on the Invermere TSA as demonstrated in the Infoview Seed Transfer Compliance reports. Not using select seed where it is available is included in the percent above.

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Indicator 1.2.3b & 1.3.1b – Natural Regeneration

Indicator Statement	Target (Variance)	Results
Percentage of stands at free growing that have a component of natural regeneration	100% (-10%)	Achieved
60% of stands have 60% of their total inventory coming from natural regeneration at free growing	60% (-10%)	Achieved

Canfor’s 2015 free growing cutblocks:

2015 FG Surveys- NATURAL REGENERATION SUMMARY				
	Count Strata		% of Total	
	# stata	# Ha	strata	Ha
Surveyed for FG in 2015	796	9750		
# with some natural regeneration	763	9342	96%	96%
# with > 60% natural regen	539	7300	68%	75%

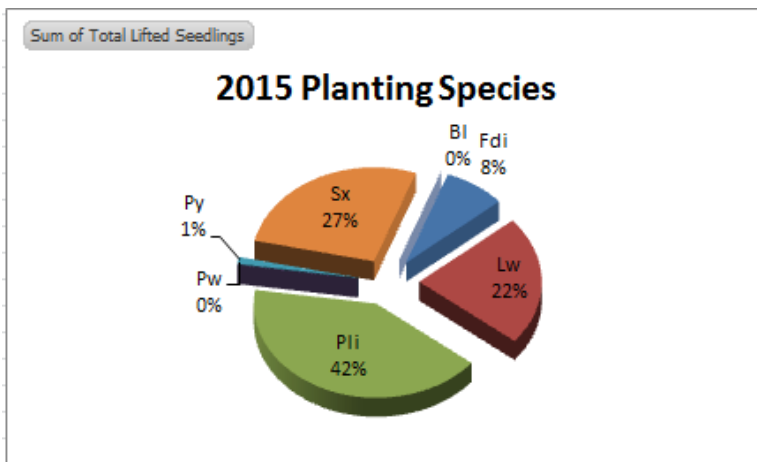
Even though the current condition is significantly higher than the target, the targets were chosen to reflect a balance between site productivity objectives and maintaining genetic and species diversity.

Indicator 1.2.3c, 1.3.1c (2.1.3, 4.1.4) – Mix of Species Planted

Indicator Statement	Target (Variance)	Results
Percentage of hectares planted with more than one species (by year)	100% (-30%)	Achieved

In 2015, a total of 10,060.12 hectares were planted and 94.7 % were planted with more than one species.

Figure 2: Canfor Kootenay 2015 Planting – Species Mix



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Indicator 1.2.4a – Managing for Species Diversity during Tree Thinning

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage of maximum density spaced hectares with species diversity maintained or enhanced	100% (-10%)	Pending

This is a new indicator. 2015 treatments will be summarized once the survey data is collected.

Element 1.4 – Protected Areas and Sites of Special Biological and Cultural Significance

Indicator 1.4.1a (1.1.1b) – Protected Reserves

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percent of area in protected reserves, by BEC variant and management unit, within the DFA	12 – 24%	Target achieved, with consideration of HCVPs in the IDFdm2 and PPdh

See the information provided under Indicator 1.1.1b (1.4.1a) – Protected Reserves as it satisfies the requirements for Indicator 1.4.1a.



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Indicator 1.4.1b – Sites of Biological Significance

Indicator Statement	Target (Variance)	Results
Forest management activities conform to operational plans that include the appropriate management strategies from the SWP for blocks containing sites of biological significance	100% (0)	Variable – 30% of blocks did not incorporate appropriate timing restrictions

Current condition data for the 2015 calendar year are currently being compiled. Preliminary analyses of blocks that overlap with Sites of Biological Significance indicate that seven out of ten blocks followed the appropriate SWP (Table 17). The three blocks that failed to follow the appropriate SWP had adequate protection for the wildlife feature itself, but did not incorporate the recommended timing restrictions from the SWP into their site plan (September 1 – November 30 for wallows, and early April to early August). Based on these results, Canfor will clarify the SWP regarding timing restrictions for wallows and emphasize this during spring training. Additionally, one block needed a field check to confirm that the SBS (a bear den) was adequately protected, as it was unclear from the site plan and harvest plan map alone. This block was assessed under Canfor’s HCVF Effectiveness Monitoring 2016 Field program, and the bear den was determined to be protected; detailed results will be presented in the 2016 Effectiveness Monitoring report (available early 2017).

Table 17: Number and percentage of blocks following SWPs for SBS for blocks harvested in 2015 that overlap with an SBS

Site of Biological Significance	n blocks with SBS within Gross Block area	SWP followed	% meeting target
Rare ecosystems	0	n/a	n/a
Red and Blue listed plant communities	0	n/a	n/a
Hot or thermal springs	0	n/a	n/a
Ephemeral ponds	0	n/a	n/a
Stick nests	4	3	75%
Great Blue Heron rookeries	0	n/a	n/a
Bear den	1	1	100%
Wallow	5	3	50%
Ungulate lick	0	n/a	n/a
High and Moderate value avalanche paths	0	n/a	n/a
Bat maternity roosts and hibernaculum	0	n/a	n/a
Total	10	7	70%

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Indicator 1.4.1c – High Conservation Value Forests

Indicator Statement	Target (Variance)	Results
Forest management activities conform to operational plans that include the appropriate HCVF management strategies	100% ($\pm 5\%$)	Variable – management strategies fully or partially met in each license between 2013 – 2015. See HCVF Effectiveness monitoring reports for further detail.

To date, results for HCVF Effectiveness Monitoring is available for a total of 126 harvested cutblocks (not all of which overlap with HCVFs); 63 in 2013, 57 in 2014, and 6 in 2015. Site plans were compared to the HCVF management strategies to determine if they contained forestry management strategies consistent with the HCVF strategies, and cutblocks were visited in the field to determine if the Site Plans were followed and the HCVF values were maintained or enhanced, Table 18 summarizes results by year. Results for 2013-2015 are discussed below. Field Monitoring in 2016 is currently underway and to date, 26 blocks have been assessed, and a further 14 blocks are scheduled for monitoring.

Table 18: Summary of HCVF Monitoring Results 2013 – 2015

Category	2013		2014		2015	
	n	%	n	%	n	%
Blocks assessed in HCVFs/CCVFs	44	-	44	-	5	-
HCVF Objectives included in SP						
All	37	84%	37	84%	4	80%
Some	5	11%	2	5%	1	20%
None	2	5%	5	11%	0	0%
Objectives met in-block						
All	26	59%	31	70%	3	60%
Partially	18	41%	13	30%	2	40%
None	0	0%	0	0%	0	0%

For the 2013 and 2014 monitoring years, 84% of the Site Plans for blocks in HCVFs contained forestry management strategies addressing all the points in the HCVF management strategies, and the majority of the remainder contained strategies for most of the points in the strategies. Only 2 of the blocks assessed in 2013 and 5 of the blocks assessed in 2014 had Site Plans in which the HCVF management objectives were not specifically referred to (this does not mean the value were not protected on the ground however). However, all but one of these blocks was on the non-FSC Radium licence (A19879) and the omissions resulted from the fact that the Site Plans were written before the HCVFs were fully implemented on that licence.

In 2015, the site plans for four of the six blocks evaluated indicated that the block overlapped with an HCVF, and contained management strategies for these HCVFs. The one SP that did not reference an HCVF had supporting documentation indicating that the block did overlap with an CCVF, and which management strategies would be applied. In addition, one block stated that it overlapped with a CCVF (in addition to an HCVF), but failed to list specific management strategies. Although not included in the SP, activities that would maintain specific CCVF values (e.g. block was broadcast burned to promote regen, live residuals were retained to provide shade, there was no mechanical site prep which can damage rootstock, and huckleberry plants will not be brushed out during silviculture operations) were carried out on the block. However, the lack of specificity in the SP for blocks that overlap with CCVFs has highlighted a need for further effort to balance cultural sensitivities (i.e. the need to keep aspects of cultural values confidential), and

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management of those values on the ground. Updates to the management strategies for CCVFs is currently underway, and will work to address this need.

Achievement of HCVF Objectives improved from 2013 to 2014; in 2014 HCVF objectives were considered to be fully met by the assessors on 70% and partially met on 30% of blocks, whereas in 2013 they were fully met on 59% and partially on 41% of blocks. Partial meeting of the objectives meant that most but not all of the objectives were achieved, for example, in some of the blocks in the grizzly bear HCWFs, CWD amounts and screening from roads with understory trees were well done, but trails were not reclaimed immediately following harvest as per the Site Plan, and/or the blocks were harvested in spring, when the management objectives discourage harvesting outside the spring period unless absolutely necessary. In 2015, management objectives were fully met in four of the five blocks (80%) that prescribed specific management strategies, and partially met in one block (where management strategies related to Grizzly bear habitat objectives were not achieved, specifically, skid trails adjacent to roads, and ineffective visual buffers were present in some areas of the block).

The monitoring recognized good practices that contribute to maintaining or enhancing the conservation values within HCWFs. Areas where good practices were noted were the inclusion of ecological values within Wildlife Tree Patches, including High Value Snags, and the protection of these WTPs by harvesting. For example, 130 Wildlife Tree Patches were visited in the field in 2014 and 2015, and 95% of these were deemed to possess “moderate” or “high” ecological values such as High Value Snags, raptor nests, carnivore dens, streams, seeps, vernal pools, ungulate licks or wallows, patches of deciduous trees, old growth patches, etc.. There were no trespasses into these WTPs during harvesting.

The monitoring also identified some specific opportunities for improvement. These included:

- Reclamation of in-block trails,
- Field layout of Non-Classified Drainages (NCDs, or discontinuous small streams) and wet areas within blocks,
- Consideration of riparian management zones adjacent to the riparian reserves, in order to reduce blowdown, especially adjacent to narrow reserve zones.
- Retaining large, non-merchantable pieces of CWD within the block, rather than taking them to roadside or landings.

In 2014 a specific focus was placed on stream classification, and measuring the widths of riparian buffers compared to the widths prescribed in the site plans. Results showed that all but one of the 124 streams was classified correctly, and that buffer widths were equal to or greater than the prescribed widths in all places measured for 92% of the streams (n=85 streams, 89% if streams with post-harvest flood events are included) If the four cases are removed in which ribbons were hung on slope breaks which at one point were slightly closer to the stream than the prescribed width, the percentage of buffers meeting prescribed widths was 96.5% Three of the cases in which streams did reportedly not meet prescribed widths were in the same block, 714-YAK0009. This block will be re-visited in 2016 for follow-up to determine if measurements were correct and if sediment control work on those streams is required.

In 2015, all streams were classified correctly, and no trespassing occurred within reserve areas. In addition, seven out of eight streams met the prescribed widths prescribed in the SP, with one S6 stream with a prescription for a 10 m buffer having a buffer of 7 m in some areas. Monitoring in 2016 will continue to assess riparian areas and other HCWF values, and will focus on reporting on overall trends in management by Forest License (made possible as a result of the larger sample size compared to 2015).

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More details are available in the HCVF Field Effectiveness Monitoring reports for each year.

In addition to these reports, reporting of HCVF values is also done at a strategic level, which includes information on values such as species-at-risk, water quality monitoring, and other monitoring projects that Canfor and other organizations undertake. Details can be found in the annual HCVF Strategic Effectiveness Monitoring reports, available from the Forest Scientist.



Indicator 1.4.2 (6.1.3) – Protection of Identified Sacred and Culturally Important Sites

Indicator Statement	Target (Variance)	Results
Forest management activities conform with operational plans which include management strategies to manage and protect Aboriginal culturally important sites, practices and activities	100% compliance with operational plans (0)	Achieved



See the information provided under Indicator 6.1.3 (1.4.2) – Level of Management and/or Protection for Aboriginal Culturally Important Sites, Practices and Activities as it satisfies the requirements for Indicator 1.4.2.

Criterion 2 – Ecosystem Condition and Productivity

Element 2.1 – Forest Ecosystem Resilience

Indicator 2.1.1 (4.1.2) – Reforestation Success

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage of blocks that achieve regeneration delay (RG) within the regen delay period	100%	Achieved
Percentage of blocks that achieve free growing within the free growing (FG) period	100%	Achieved

Within the DFA, 100% of cutblocks have met RG and FG obligations within the period. As of 2015, RG is achieved within 3 years and FG within 16, on average.

Indicator 2.1.2 – Invasive Plants

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage increase of occurrence of invasive plants due to forest management activities	0% (10%)	Pending

Identification of invasive plants is occurring during site plan development. The areas with invasive plants are primarily along old oil and gas exploration, rights of way and near communities.

Information about the presence of invasive plants is recorded in the forest management database (Cengea Resources). Spatial locations of infests are recorded using the Invasive Alien Plant Program Application (IAPP), a provincial resource managed by the provincial government. 20 blocks have been harvested with invasive plants identified. Nine blocks are from 2013, seven from 2014, 2 from 2015, and 2 from 2016. Three additional blocks are scheduled for harvest in 2016 and another two in 2017. Although post-harvest activities also identify the presence of invasive plants, detailed assessments are not well documented. Going forward with the implementation of the Invasive Plant Strategy will ensure the necessary information is collected to evaluate the current status.

Indicator 2.1.3 (1.2.3c, 1.3.1c, 4.1.4) – Mix of Species Planted

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage of hectares planted with more than one species (by year)	100% (-30%)	Achieved

See the information provided under Indicator 1.2.3c, 1.3.1c (2.1.3, 4.1.4) – Mix of Species Planted as it satisfies the requirements for Indicator 2.1.3.

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Element 2.2 – Forest Ecosystem Productivity

Indicator 2.2.1a (4.2.1) – Permanent Access Structures

Indicator Statement	Target (Variance)	Results
Percent of operable landbase converted to permanent access structures through forest management activities	5% or less per LU (+2%)	Achieved

Table 19: Percent PAS for Landscape Units in the DFA

2015 % PAS for Landscape Units				
> 5	4.1 - 5	3.1- 4	2.1- 3	<2
I25	C08, C30, C36, I16, I18, I23, I25, I26, I29, I30, I33	C01, C02, C04, C06, C11, C20, C21, C24, C25, C27, C29, C32, C34, C38, I07, I09, I15, I20, I21, I22, I24, I27, I28, I32, I36	C05, C07, C09, C10, C16, C17, C18, C19, C22, C23, C31, C33, C37, I02, I03, I04, I05, I06, I08, I10, I11, I12, I13, I14, I17, I19, I35, I37, I38, K02, K03, K05	C13, C14, I01, I34, K06

Only 1 LU currently exceeds the 5% target, although it is currently within the acceptable variance. 11 LU's are approaching the 5% target. No new harvest has occurred in LU I25 (CSA DFA) all future planning will follow the PAS strategy as it pertains to LU's over the indicator target.

Indicator 2.2.1b – Landslides

Indicator Statement	Target (Variance)	Results
Number of recordable landslides resulting from Canfor's forestry operations on permitted roads or cutblocks	0 (4)	Achieved

In 2015 there have been zero (0) landslides recorded. So far in 2016 there was 1 landslide recorded in the back end of the Goat river drainage.

Indicator 2.2.1c (4.2.2) – Land Conversion

Indicator Statement	Target (Variance)	Results
Percent of DFA converted to non-forest land use through forest management activities not including roads, landings and other infrastructure directly related to forest management	Less than 5% reduction of DFA annually	Achieved

See the information provided under Indicator 4.2.2 (2.2.1c) – Land Conversion as it satisfies the requirements for Indicator 2.2.1c.

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Indicator 2.2.2 (5.1.1a) – Volume Harvested Vs. Allocated

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percent of volume harvested compared to allocated harvest level	100% over the legislated cut control period for Canfor’s major replaceable forest licenses in the Kootenay region (+/-10%)	Achieved



See the information provided under Indicator 5.1.1a (2.2.2) – Volume Harvested Vs. Allocated as it satisfies the requirements for Indicator 2.2.2.

Criterion 3 – Soil and Water

Element 3.1 – Soil Quality and Quantity

Indicator 3.1.1 – Detrimental Soil Disturbance

Indicator Statement	Target (Variance)	Results
Percent of site NAR with detrimental soil disturbance resulting from forestry activities	5% or less on sensitive soils (Temporarily +5%) 10% or less on regular soils (Temporarily +5%) 25% or less in roadside harvest areas	Achieved

In 2015 Canfor has had 2 ITS incidents related to excessive soil disturbance in the Kootenay area. Both were identified through the internal surveying of highest-risk blocks. One incident is related to the roadside harvest area, and the other is related to the in block disturbance. More detailed assessment and rehabilitation work occurred in the fall 2015 and both incidents are entered in Canfor's incident tracking system. Actions have been completed and the incidents have been closed.

Indicator 3.1.2 – Coarse Woody Debris



Indicator Statement	Target (Variance)	Results
<p>Number of large pieces of CWD per ha in harvested cutblocks each year, by BEC zone in each major Forest Licence</p>	<p>The annual median and mean by BEC and License to be at or above the following:</p> <ul style="list-style-type: none"> • PP – 1 piece/ha • IDF – 2 pieces/ha • MS and ICH, PI leading stands – 2 pieces/ha • MS and ICH, non-PI leading stands – 4 pieces/ha • ESSF, PI leading stands – 8 pieces/ha • ESSF, non-PI leading stands – 10 pieces/ha <p>NOTE: Targets do not apply to blocks within community-forest interface areas being managed to reduce fire risk.</p>	<p>Variable – Target met for TFL 14, A20212; select BEC variants below target for A18978, A18979, A19040</p>

Results from blocks harvested in 2015 (Table 20) indicate that three licences (A18978, A18979, and A19040) had BEC zones with CWD densities below target levels, with either the median density below target, or both the median and the mean below target. Both the TFL14 and A20212 met or exceeded target densities for all BEC zone groupings. When all licenses are combined, all BEC zones met the targets for mean large CWD density, and all BEC zones except the ESSF met targets for median density (both PI leading and non-PI leading stands median densities were below target).

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The transition from volume-based targets to density based targets has been slow, and likely contributed to below target densities for some licenses. Instructions to Permitting Foresters, for all new blocks, to have wording in Site Plans reflect the new targets were only given in late 2015, coinciding with finalization of the current SFMP. Consequently, many of the blocks harvested in 2015 had the previous volume-based CWD targets in their Site Plans. Spring Training in 2016 reiterated the change from volume based to density based targets to Field staff and Contractors, and going forward, we expect that Large CWD densities will increase as more blocks are harvested with designated density targets written into the Site Plan.

Table 20: Median and Mean pieces per hectare of CWD >20 cm and 10 m long for blocks harvested in 2015

License	Leading Species	ESSF		IDF		MS/ICH	
		n blocks	Mean Median	n blocks	Mean Median	n blocks	Mean Median
Target	Non-PI	n/a	10.0 10.0	n/a	2.0 2.0	n/a	4.0 4.0
	PI	n/a	8.0 8.0	n/a	2.0 2.0	n/a	2.0 2.0
A18978	Non-PI	3	13.3 16.9	2	0.0 0.0	5	3.8 0.0
	PI	3	2.9 3.7	1	0.0 n/a	4	7.6 3.9
A18979	Non-PI	4	13.1 4.0	7	16.1 16.1	9	13.2 12.2
	PI	5	20.5 9.1	0	- -	5	19.8 21.1
A19040	Non-PI	0	-	1	0.0 n/a	0	
	PI	5	0.8 0.0	0	-	29	6.8 4.4
A20212*	Non-PI	0	-	0	-	0	
	PI	1	15.7 n/a	0	-	13	4.2 3.8
TFL14	Non-PI	0	-	0	-	8	19.9 17.8
	PI	5	29.7 15.8	4	12.6 14.7	1	15.4 n/a
Grand Total	Non-PI	7	13.2 8.0	10	11.25 7.6	22	13.5 10.4
	PI	19	14.7 5.0	5	10.0 14.1	52	7.6 4.9

* Includes A86246

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Element 3.2 – Water Quality and Quantity

Indicator 3.2.1a – Sensitive Watersheds

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percent of Sensitive Watersheds, where forest development is planned, above ECA thresholds that have had further assessment by a qualified professional	100% (-10%)	Achieved

Table 21: Hydrological Assessments

	Above ECA Threshold	Hydrological Assessment Complete	Assessment Scheduled	No Planned Activity	Assessments Required – Not Yet Scheduled
HCV3	15	12		3	-
CWS	2	2	-	-	-
DWS	14	8	-	6	-
Total	40	22	9	9	0

Indicator 3.2.1b – Stream Crossing Sedimentation Control

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Number of drainage structures on Canfor’s permitted roads identified as having a high risk of significant sedimentation that are not remediated within 1 year of identification	0 (3)	Achieved

In 2015 there have been 4 ITS incidents regarding sedimentation from drainage structures into high-risk streams. All have been remediated. ITS actions are complete and the incidents have been closed.

Criterion 4 – Role in Global Ecological Cycles

Element 4.1 – Carbon Uptake and Storage

Indicator 4.1.1 (1.1.3a) – Old and Mature Forest Retention

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentages of old and mature stands by landscape unit and BEC variant	Full compliance with the mature and old targets as defined in the Kootenay Boundary Higher Level Plan and spatial identification of stands to meet these targets (\pm 0.3% of the target).	Pending

See the information provided under Indicator 1.1.3a (4.1.1) – Old and Mature Forest Retention as it satisfies the requirements for Indicator 4.1.1.



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Indicator 4.1.2 (2.1.1) – Reforestation Success

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage of blocks that achieve regeneration delay (RG) within the regen delay period	100%	Achieved
Percentage of blocks that achieve free growing within the free growing (FG) period	100%	Achieved

See the information provided under Indicator 2.1.1 (4.1.2) – Reforestation Success as it satisfies the requirements for Indicator 4.1.2.



Indicator 4.1.3 (1.2.3a & 1.3.1a) – Tree Seed

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Percentage of tree seed used in yearly tree planting program that is consistent with the <i>Chief Foresters' Standards for Seed Use</i>	100% (-5%)	Achieved



See the information provided under Indicator 1.2.3a & 1.3.1a (4.1.3) – Tree Seed as it satisfies the requirements for Indicator 4.1.3.

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Indicator 4.1.4 – Climate Change Adaptation

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
a) Annual meeting to review: possible effects of climate change, new information available, results of monitoring other indicators/strategies (from the perspective of climate change) and determine if changes are needed for SFMP	Annual Meeting	Pending – Nov. 30, 2016
b) Implement climate change stocking standards into regeneration plans	Within 1 year of approval of FSP climate change stocking standards	Pending – KLFD – 2017 RMFD – 2018
c) Percent of cutblocks (by area) reforested with mixed species at free growing	100% (-30%)	Achieved

- a) New information to address climate change impacts has already been incorporated into other strategies, indicators and targets. An example is changes to seed transfer legislation, which has been updated to incorporate government climate change adaptation research and has become current standard practice (refer to Silviculture Strategy and Tree Seed Indicator for more information).

Some impacts are currently addressed as they happen – for example: wildfires, increasing fall/winter rain, increasing forest health issues. These immediate effects require plans to be adaptable. Some impacts of climate change are so broad and result from so many variables that it is difficult to quantify or be certain in any one year but instead will take several years of data and trend analysis.

- b) New stocking standards incorporating changes in climate are currently being developed by FLNRO.
- c) For 2015 FG surveys, mixed species reforestation occurred on 100% of survey units.

Element 4.2 – Forest Land Conversion

Indicator 4.2.1 (2.2.1a) – Permanent Access Structures

Indicator Statement	Target (Variance)	Results
Percent of operable landbase converted to permanent access structures through forest management activities	5% or less per LU (+2%)	Achieved



See the information provided under Indicator 2.2.1a (4.2.1) – Permanent Access Structures as it satisfies the requirements for Indicator 4.2.1.

Indicator 4.2.2 (2.2.1c) – Land Conversion

Indicator Statement	Target (Variance)	Results
Percent of DFA converted to non-forest land use through forest management activities not including roads, landings and other infrastructure directly related to forest management	Less than 5% reduction of DFA annually	Achieved

In 2015, no land was converted to non-forest land use through forest management activities not including roads, landings and other infrastructure directly related to forest management.

Table 22: Current FSC Certified DFA – by TSA

Area	Cranbrook	Invermere	Kootenay Lake	TFL 14	Total
Total Certified Area (ha)*	729,758	198,390	109,854	TSA	1,188,335

Table 23: Pro-rated FSC AAC resulting from Excision

Year	ha's	AAC (m3/yr)	m3/ha/yr
2013	1,194,301	1,013,214	0.84837407
2014	1,188,335	1,008,153	
2015	1,188,335	1,008,153	

Criterion 5 – Economic and Social Benefits

Element 5.1 – Timber and Non-timber Benefits

Indicator 5.1.1a (2.2.2) – Volume Harvested Vs. Allocated

Indicator Statement	Target (Variance)	Results
Percent of volume harvested compared to allocated harvest level	100% over the legislated cut control period for Canfor’s major replaceable forest licenses in the Kootenay region (+/-10%)	Achieved



In 2015, the overall harvest for the entire region in 2015 was 109.4% which meets the target (see Table 24). The percent of volume harvested compared to allocated harvest level for the year were; FL A18978 (106.7%), A19040 (77.2%), A18979 (159.4%), A20212 (142.0%) and TFL 14 (118.4%). Currently, the Invermere and Cranbrook Timber Supply Areas (TSA’s) are in the process of a new Timber Supply Review (TSR) with a determination expected in 2016.

Two First Nations Non-replaceable forest licenses’ had volume attributed from Canfor’s major forest licenses (FL) to “top-up” those FN licenses to realize their maximum potential and economic benefit for First Nations. One FN NRFL had 21,372 m3 harvested in 2015.

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Table 24: Harvest Results – 2015

License	AAC by license (m3)	2015 (m3)	% of AAC
FLA 19040 (Cranbrook)	477,652	368,924	77.24%
FLA 18978 (Canal Flats)	220,668	235,547	106.74%
FLA 20212 (Creston)	99,081	140,703	142.01%
TFL 14 (Parson)	180,000	213,083	118.38%
FLA 18979	221,005	352,206	159.37%
Total	1,198,406	1,310,463	109.35%

Indicator 5.1.1b – Identified Non-Timber Forest Benefits

Indicator Statement	Target (Variance)	Results
Number of incidences of documented concerns about non-timber forest benefits (NTFB) brought forward, where the NTFB strategy was not followed	0 incidents (0)	Achieved

In 2015 there were zero incidences of concerns brought forward where Canfor's strategy to deal with public concerns was not followed.



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Indicator 5.1.1c – Overlapping Tenures

Indicator Statement	Target (Variance)	Results
Number of incidences of documented concerns related to overlapping tenures brought forward, where the Overlapping Tenures Strategy was not followed	0 incidences (0)	Achieved

In 2015 there were zero incidences of concerns brought forward by overlapping tenure holders where Canfor’s strategy to deal with their concerns was not followed.

Element 5.2 – Communities and Sustainability

Indicator 5.2.1a – Local Procurement of Goods & Services

Indicator Statement	Target (Variance)	Results
Maintain a high percentage of procured goods and services that are from local sources	>= 70% of FMG dollars spent in local communities; 5-year rolling average (-10%)	Achieved

Based on the 5-year average information available for Radium (Figure 3), the 5-year average percent spend for local goods and services is 91% and the target has been met. There was a significant decrease in 2011 figures that is due to the Radium mill curtailment and temporary closures of the Canal Flats and Elko mills. With data from the first full year following the Tembec acquisition, the percent local spend with the entire region has average 93% since 2013 as seen in Figure 4. The current condition for local expenditures is provided in the following figures.

Figure 3: 5 Year average % local spend in Radium DFA

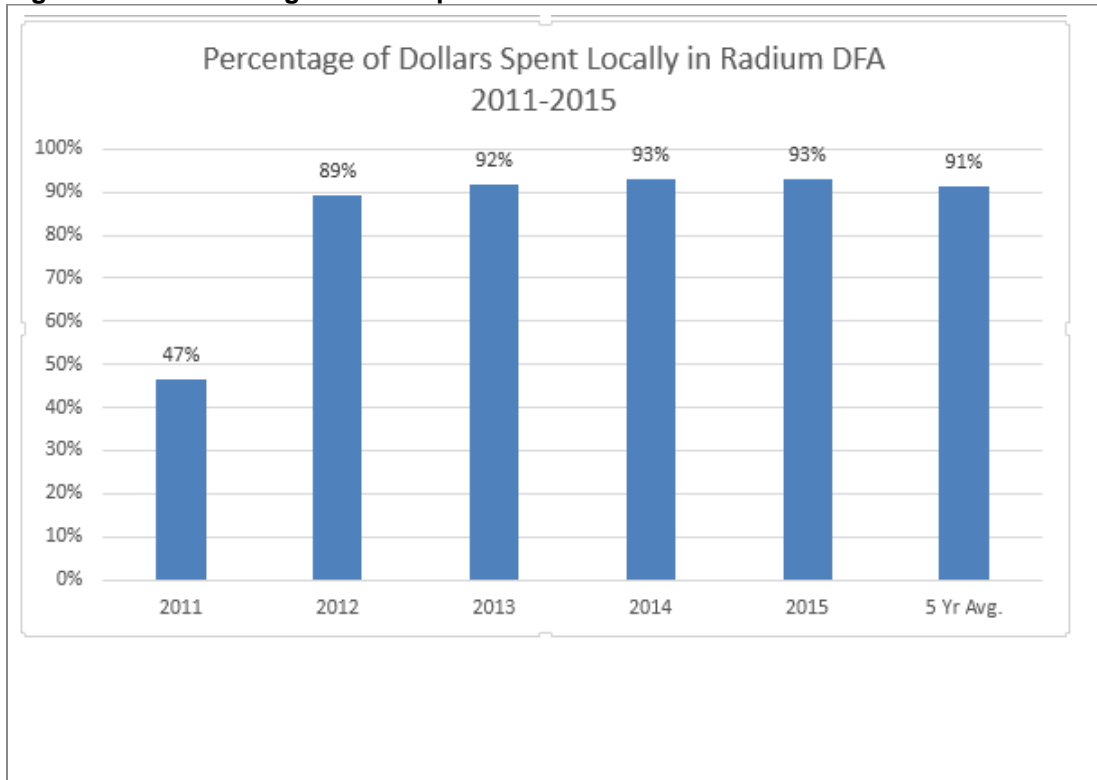
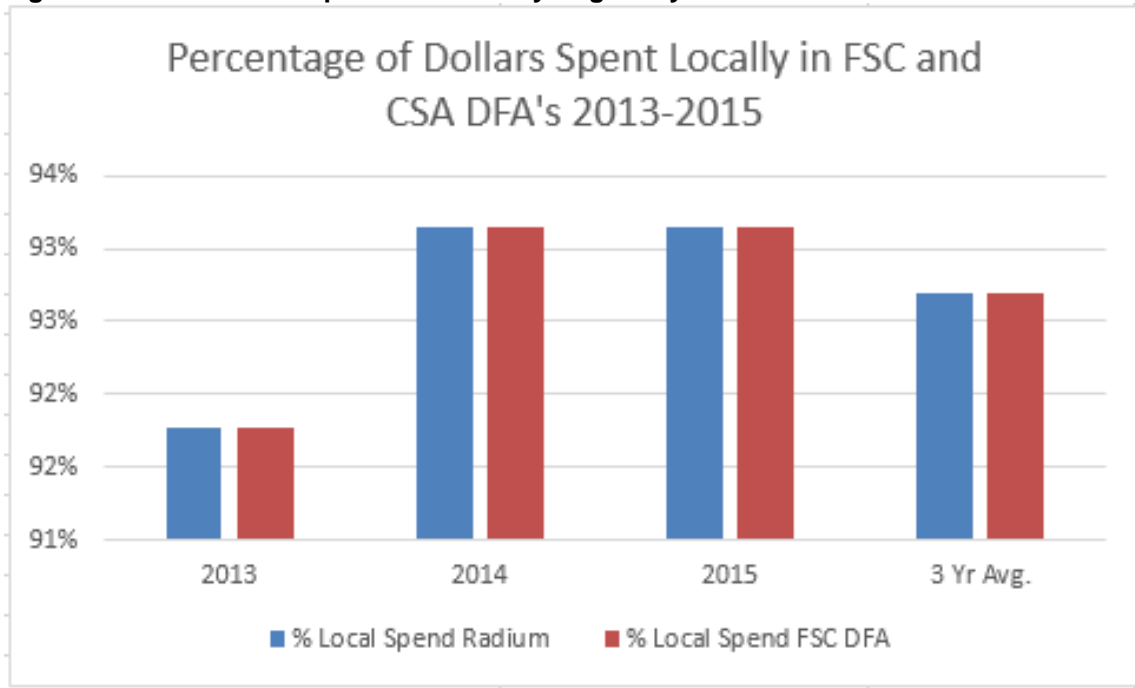


Figure 4: Percent Local Spend in Kootenay Region by DFA



Indicator 5.2.1b – Corporate Sponsorships, Donations and Scholarships

Indicator Statement	Target (Variance)	Results
Number of Corporate donations, scholarships or other sponsorships to local community groups, individuals or events	>= 5 donations and/or sponsorships to regional communities, events or individuals per year (- 1)	Achieved

Based on the 2015 reporting year, a total of 17 donations or sponsorships were given within Kootenay communities at a total of \$36,199, which approximately doubles last year’s amount. The target was achieved in 2015.

Within the Radium DFA, two donations were made to local First Nations and the Food Bank.

Within the remaining region, donations were made to various First Nations communities and their events. Two schools in Cranbrook and Elkford received donations. Several donations were made to sports teams, the local food banks, The Street Angel program and the Boys and Girls Club. Canfor staff also supported the local United Way, The Canadian Cancer Relay for Life and Movember fund raising campaigns.

Donations also include 10 loads of firewood to local First Nations communities, a donation of lumber to the Elko Parks and Rec society for building picnic tables in support of their programs and the Elko mill donated a prize for the best steer competition to the local 4H Club.

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Indicator 5.2.2 – Environmental & Safety Training

Indicator Statement	Target (Variance)	Results
Training in environmental and safety procedures in compliance with company training plans	100% of Canfor Kootenay FMG employees will have required environmental and safety training (-5%)	Achieved

In 2015, there were 44 FMG employees. Training records indicate that by the end of the year, all had completed their training. Several employees' training was set to expire in 2016 and they will have to re-certify and complete annual refresher courses.

Indicator 5.2.3 – Direct & Indirect Employment

Indicator Statement	Target (Variance)	Results
Level of direct and indirect employment	AAC * employment multiplier – 5-year average (+/-10%)	Achieved

Based on the last 5 years harvest levels within the Radium license, the calculated 5-year average employment PY's is 201 persons which is + 21.8% of the target. It should be noted that due to Canfor Radium's shutdown in 2009-2011, these numbers are not reflective of normal operations for that license as several years had no harvesting and then higher annual figures to achieve the cut control. The target is exceeded and trending to lower levels as the annual cut returns to a normal level in the new cut control period.

Figure 5: Radium Employment 2010-2015

FL A18979 Volume harvested					
Year	2011	2012	2013	2014	2015
AAC m ³	221,005	221,005	221,005	221,005	221,005
Cumulative AAC m ³	221,005	442,010	663,015	884,020	1,105,025
Annual harvest m ³	0	96,356	428,222	473,677	352,205
% of AAC	0.00%	43.60%	193.76%	214.33%	159.37%
Cumulative	0	96,356	524,578	998,255	1,350,460
% of cumulative AAC	0.00%	21.80%	79.12%	112.92%	122.21%
Average per year over five years	270,092				
Direct + indirect employment per 1000 m ³	0.745				
Person Year Target	165				
Person Year Calculated	201				

Based on the last 5 years harvest levels within the remaining Kootenay DFA, the calculated 5-year average employment PY's is 818 which is 96.6 % of the target.

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Figure 6: Kootenay DFA Employment

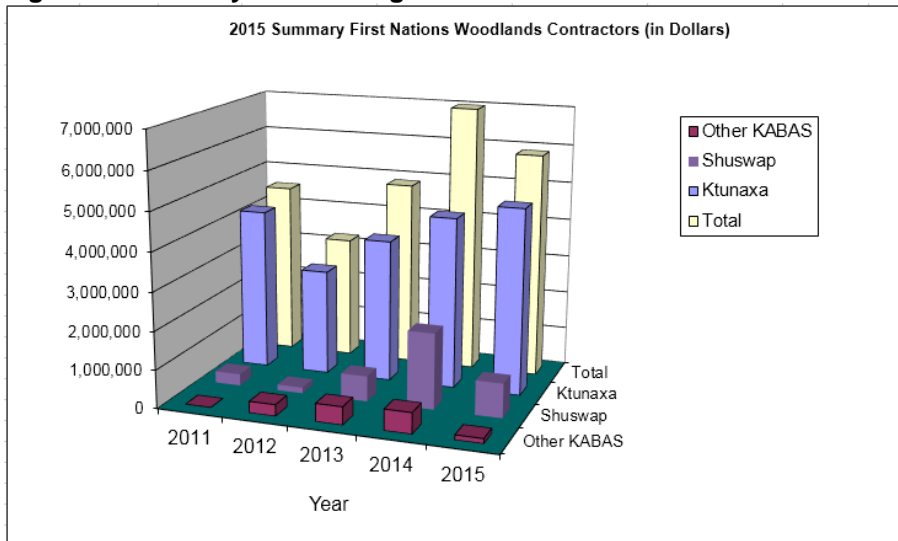
All remaining licenses administered by Canfor FSC DFA - Volume harvested					
Year	2011	2012	2013	2014	2015
AAC m ³	1,021,686	1,025,925	1,025,925	1,020,051	1,020,051
Cumulative AAC m ³	1,021,686	2,047,611	3,073,536	4,093,587	5,113,638
Annual harvest m ³	1,171,524	1,185,876	1,238,985	921,122	958,257
% of AAC	114.67%	115.59%	120.77%	90.30%	93.94%
Cumulative	1,171,524	2,357,400	3,596,385	4,517,507	5,475,764
% of cumulative AAC	114.67%	115.13%	117.01%	110.36%	107.08%
Average per year over five years	1,095,153				
Cranbrook TSA and Kootenay Lake TSA Direct + indirect employment per 1000 m ³	0.95				
Invermere TSA and TFL 14 Direct + indirect employment per 1000 m ³	0.745				
TFL and A18978 total 5 year harvest	1702561				
Cranbrook and KL TSA total 5 year licenses harvest	3773203				
Person Year Target	847				
Person Year Calculated Invermere TSA and TFL	334				
Person Year Calculated Cranbrook and KL TSA	484				
Total Person Years Calculated	818				

Indicator 5.2.4 – Level of Aboriginal Participation in the Forest Economy

Indicator Statement	Target (Variance)	Results
Evidence of Aboriginal participation in the forest economy and efforts to increase the level of participation	Maintain 2013 levels of Aboriginal participation in the forest economy at a minimum and continual improvement towards strategies to increase those levels of participation based on a 3-year average (-10%)	Achieved

The total amount of business between Canfor and Aboriginal vendors and contractors in 2015 exceeded 2013 levels by \$1,025,400. A total of 14 Aboriginal contractors and vendors provided goods and services to Canfor in 2015 versus 12 in 2013.

Figure 7: Summary FMG Aboriginal Contractors: 2008 – 2015



Criterion 6 – Society’s Responsibility

Element 6.1 – Aboriginal and Treaty Rights

Indicator 6.1.1 – Aboriginal Awareness Training

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Employees receive Aboriginal awareness training	100% of staff who are required to have aboriginal awareness training as per the staff training matrix. (-10%)	Achieved

In 2015, 100% of required staff has completed Aboriginal Awareness Training.

Indicator 6.1.2 (6.4.3) – Aboriginal Understanding of Plans

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Evidence of best efforts to obtain acceptance of applicable management plans based on Aboriginal communities having a clear understanding of the plans	≥ 3 forms of communication for all applicable management plans (0)	Achieved

Nation or Band	# Plans Shared Annually with Aboriginals	Forms of Communication	Qualitative Information
Ktunaxa Nation (and Bands)	9	Face-to-face meetings, phone calls, field trips, letters and information sharing digital submissions.	Several meetings were held between Canfor and the Nation. Canfor also met directly with Bands. Canfor also met face-to-face with the Manager of KLRA and a general overview of forestry, forest management, certification and license management were reviewed. Meetings were held to review the proposed SFMP and the Nation provided comments on the plan. Additionally, Canfor participated in a Forestry 101 course to increase the knowledge of forest management with Lands and Resource Stewardship Assistants (LRSA’s) from the Bands. The consultation sub-committee meets to discuss plans, emerging issues, review information sharing processes and any other areas of interest to the nation.
Shuswap Indian Band	4	Face-to-face meetings, phone calls, letters and information sharing hard copy submissions.	Several meetings were held with the Shuswap Band’s referrals coordinator, Sierra Stump. Canfor met their referrals coordinator, to discuss information sharing submissions, the new SFMP and to provide update on emerging forest health issues. Discussions began on initiating a process to identify CCVF’s in the Shuswap’s traditional territory.
Adams Lake Indian Band	3	Face-to-face meetings, phone calls, letters and information sharing digital submissions.	ALIB’s claim of traditional territory over northern parts of the Kootenay region has been brought to Canfor’s attention in 2013. The SFMP amendment and fire salvage Twwere also

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Nation or Band	# Plans Shared Annually with Aboriginals	Forms of Communication	Qualitative Information
			referred.
Neskonlith Indian Band	3	Face-to-face meetings, phone calls, letters and information sharing digital submissions.	NIB's claim of traditional territory over northern parts of the Kootenay region has been brought to Canfor's attention after ALIB's claim. The SFMP was referred to NIB as well as fire salvage.

Indicator 6.1.3 (1.4.2) – Level of Management and/or Protection for Aboriginal Culturally Important Sites, Practices and Activities

Indicator Statement	Target (Variance)	Results
Forest management activities conform with operational plans which include management strategies to manage and protect Aboriginal culturally important sites, practices and activities	100% compliance with operational plans (0)	Achieved



No instances of non-conformance with operational plans that include management strategies to manage and protect Aboriginal important sites were reported in the Incident Tracking system. In 2015, 58 archaeological assessments were completed on proposed harvesting blocks within Kootenay Region of which 13 were within the CSA DFA and 45 were in the FSC DFA.

Field trips with the TPIB, Aq'am and LKIB were scheduled to conduct field tours to harvested areas with CCVF management strategies. The field trip with the LKIB was scheduled but there were no attendees for the visits. Additionally, one block in Kidd Cr had all the white pine reserved as per a request from the LKIB as that species is of cultural importance to them for the bark to make sturgeon nose canoes. The field inspections of the Aq'am CCVF's found conformance with the management strategies and resulted in restoration of culturally important plants in one area. The TPIB field tour found opportunities for improvement with management for fur bearing animals that the Band traps. A monitoring program for HCVF's, including CCVF's, is being jointly implemented with the Ktunaxa Nation for implementation in 2016.

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Element 6.2 – Aboriginal Forest Values, Knowledge, and Uses

Indicator 6.2.1 – Evidence of Understanding and Use of Aboriginal Knowledge

Indicator Statement	Target (Variance)	Results
Management strategies, developed through a collaborative process, including traditional knowledge and use, to protect identified Aboriginal and other cultural forest values or sites of spiritual importance	Minimum of 1 process in place with willing Aboriginal communities to identify and manage culturally important resources and values.	Achieved

A process to refer all proposed forest development activities to Ktunaxa Nation and all other bands is established. Submissions to the Nation and other bands follows the process they prefer. A consultation sub-committee is established with the Ktunaxa Nation to meet for face-to-face discussions on forest management. Face-to-face meetings occur on a periodic or as needed basis with the Shuswap band to review proposed forest management activities. The process for completing archaeological assessments adheres to the process as described by the Ktunaxa Nation’s guidelines.

The CCVF process is in place with the Ktunaxa Nation to identify and culturally important sites and develop joint management strategies. A monitoring program is being developed in coordination with the Ktunaxa Nation. Discussions with the Ktunaxa Lands and Resource Agency (KLRA) have begun on updating the LKIB CCVF’s although capacity and other priorities have made it challenging for the Nation to dedicate resources to the update and the process is on-going.

Initial discussions have begun with the Shuswap band to establish CCVF’s within their traditional territory. That process is on-going as the band builds capacity and they get a GIS system in place for referrals and become a repository for culturally significant areas and cultural knowledge.

Face-to-face meetings were held with the Nation and Shuswap to review elements of the SFM plan and incorporate their input.

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Element 6.3 – Forest Community Well-being and Resilience

Indicator 6.3.1 – Primary and By-Products

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Primary and by-products that are bought, sold, or traded with other forest dependent businesses in the local area	Report annually on the total number of vendors (n/a)	Achieved

Since 2013, Canfor maintains over 30 purchase clients, 25 sales clients. In addition has number of trade/purchase agreements in place with Louisiana-Pacific, Woodex, Jemi and Paper Excellence, as well as other smaller manufactures in the east and west Kootenay.



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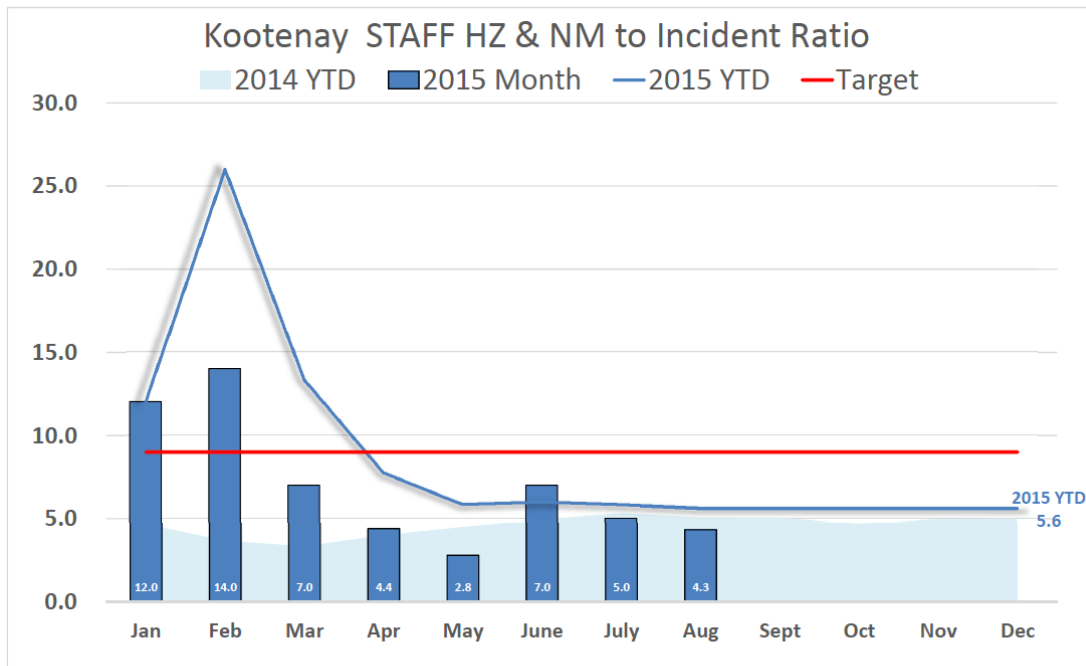
Indicator 6.3.2 & 6.3.3 – Certified Safety Program

Indicator Statement	Target (Variance)	Results
Implementation and maintenance of a certified safety program	100% (0)	Achieved

Canfor maintains a certified safety Program – Occupational Health & Safety Program (May 2016). The program covers topics ranging from relevant legislation to hazard identification, risk assessment and control measures. Canfor regularly refines and improves its safety program – there were 55 improvements that planned to be incorporated into the safety system during 2014. On addition, Canfor provides training related to health and safety to staff and contractors. Contractors are required to be safe-certified by the BC Forest Council.

Canfor’s staff and contractor safety record is above the industry average and the trend is reported as improved compared to prior years.

Figure 8: Kootenay Safety Numbers – 2014/15



Kootenay	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD	Pr YTD
Hazard	4	3	5	11	8	4	8	5	0	0	0	0	48	91
Near Miss	8	11	9	11	6	10	7	8	0	0	0	0	70	7
INCIDENTS														
Prp Damage	0	0	2	2	3	1	2	1	0	0	0	0	11	7
First Aid	0	1	0	2	0	0	1	2	0	0	0	0	6	1
Medical Aid	0	0	0	1	2	1	0	0	0	0	0	0	4	1
Medical Treatment	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lost Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0

9/4/2015

Element 6.4 – Fair and Effective Decision-making

Indicator 6.4.1 – PAG Satisfaction

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
PAG established and maintained according to Terms of Reference (satisfaction survey implemented)	80% satisfaction from surveys (-10%)	Achieved

Only two PAG meetings were held in 2015, with only one resulting in an official satisfaction survey at 92%. The other meeting in 2015 was a field trip in which all attending PAG members verbally indicated overall satisfaction and indicated the desire to have more field trips in the future. PAG satisfaction for the 2014 year was 86% and 85% in 2013.

Indicator 6.4.2 – Educational Opportunities – Information/Training

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Achieved</u>
Number of educational opportunities for information/training that are delivered to the PAG	>= 1/meeting (0)	Achieved

In 2015, there were only two PAG meetings. Educational opportunities were provided to the PAG for each of those meetings. Although the PAG is specific to CSA Certification (A18979) they provide input to Canfor for the entire DFA.

Indicator 6.4.3 (6.1.2) – Aboriginal Understanding of Plans

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Evidence of best efforts to obtain acceptance of applicable management plans based on Aboriginal communities having a clear understanding of the plans	≥ 3 forms of communication for all applicable management plans (0)	Achieved

See the information provided under Indicator 6.1.2 (6.4.3) – Aboriginal Understanding of Plans as it satisfies the requirements for Indicator 6.4.3.

Indicator 6.4.4 – Third Party Verification

<u>Indicator Statement</u>	<u>Target (Variance)</u>	<u>Results</u>
Independent, third party review of the degree of Canfor achievement of meaningful participation	Compliance with external audit	Achieved

This indicator is currently being met, as verified by the valid FSC and CSA certificates for the applicable DFA's during 2015.

Element 6.5 – Information for Decision-Making

Indicator 6.5.1 – Educational Opportunity

Indicator Statement	Target (Variance)	Results
Number of people who took part in an educational opportunity	25 (-10) annually	Achieved

Educational and information sharing opportunities in 2015 include:

- a field tour with PAG and public to look at improving utilization,
- field tours with the public to look at ecosystem restoration activities,
- field tours with First Nation to review CCVF
- mill tour with JMAC
- mail out notifications and general public advertisements on proposed forest development activities.

Indicator 6.5.2 – SFM Monitoring Report

Indicator Statement	Target (Variance)	Results
SFM monitoring report made available to the public	One SFM Annual Report available to public annually via web (N/A)	Achieved

The current (2015) SFMP Annual Report for the entire DFA, addressing both CSA and FSC indicators. All current and historic SFMP Annual Reports are located on Canfor's Website – [Canfor Plans - select Operations of Interest](#).

<p>Preparing Forester</p> <p>Signature and Seal:</p> <p>Date:</p>	<p>“I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the Work”</p>  <p>January 5, 2017</p>
	<p>Grant S. Neville, RPF</p> <p>First Nations and Planning Coordinator</p> <p>Canadian Forest Products Ltd.</p> <p>Forest Management Group</p>