2017 Annual Report
Sustainable Forest Management Plan
Canfor Kootenay Operations

Canadian Forest Products Ltd.
Kootenay Operations

October 2018

Executive Summary

Canfor's Kootenay Operations are certified with three Sustainable Forest Management Certification schemes. The Radium Forest License (FL A18979) is currently certified under the CSA Standard (Z8098-08). The Wynndel Forest License (FL A20214) in Creston is certified under the Sustainable Forestry Initiative (SFI) and is not included in this report. The rest of Canfor's Kootenay Operating Area is certified under the Forest Stewardship Council (FSC) BC 2005 Standard.

This is the third Annual Report of Canfor East Kootenay Region Sustainable Forest Management Plan (SFMP. This report summarizes the progress and performance made by Canfor to achieve the results within the East Kootenay DFA Sustainable Forest Management Plan (SFMP). In last year's report, several indicators were listed as "Variable" when they could have been listed as "Achieved", "Pending" or "Not met". The results in this report follow the three categories.

Each of the four main value areas – ecological, economic, social, and Indigenous People – has a suite of associated measures and targets. This report provides information that demonstrates Canfor's performance relative to the indicators. The following table summarizes Canfor's overall achievements of meeting the assigned targets.

Table 1: Indicator Summary

Classification	Ecological	Economic Social	First Nations
Number of Targets Achieved	21	14	5
Number of Targets Pending	2	0	0
No Change from Current Condition in SFMP	3	0	0
Number of Targets Not Met	3	0	0
Total	29	14	5

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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 and updated periodically. A corresponding set of strategies in the company's Sustainable Forest Management Plan (SFMP) specify how Canfor will achieve those goals throughout their Kootenay Defined Forest Area (DFA, please refer to Section 3.0 of the SFMP for a detailed description). The Criteria[1], Indicators[2] and strategies described in the SFMP are consistent with the company's environmental program and are intended to satisfy many aspects of the 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. The Wyndell license (FL A20214) is not included in these results.

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 four broad categories – First Nations, environmental, economic and social. The statistical information and commentary are 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 CSA, SFI 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 indictor a measurable target is also established. Assuming suitable indicators have been chosen for each criterion, and an appropriate cost-effective means to measure the value has been established - planned measurements can be made and compiled for analysis. The *Sustainable Forest Management Plan: Canfor Kootenay Operations* (December 2017) 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, 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, where necessary, changes to the criteria, indicators and measures of sustainability.

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

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

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 seeks 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 completed the acquisition of Wyndell Box and Lumber in April 2016. 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 certified. Wyndell holds SFI certification. 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' (MU[3]) descriptions in this report are based on the provincial government licenses and tenures. Using this approach allows for Annual reporting of the results for all Canfor's forest management units/tenures, regardless of being 'certified' or not.

Table 1: Forest Management Group (FMG) Administrative Organization (since 2016)

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
Kootenay Lake TSA	FL A20214	SFI

Table 2: Forest Management Units (Tenures /Licences) for Kootenay FMG (2017)

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	?Aq'am	Cranbrook TSA	FSC
RFL A91309	Lower Kootenay Band	Kootenay Lake TSA	FSC
RFL A91310	Shuswap Indian Band	Invermere TSA	CSA
K1W	Ktunaxa Nation Council	Federal Dominion Coal – Block Lands	No

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[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 Standard, 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 Standard.

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

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 (Non-Harvestable Land base) 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 HCVFs 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 2017 and 31 December 2017. 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 with representation below target levels were harvested, thus achieving the target for uncommon ecosystems.

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, 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. There are several HCVFs that overlap with these common ecosystems and have ecosystem restoration as their management strategy. The amount of overlap between these common ecosystem types and HCVFs has been 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 found in Appendix I.

In addition, one common ecosystem group (Group 4, Circum-mesic ICHdw/dm) 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 BGC variant and management unit, within the DFA	12 – 24%	Achieved, with consideration of HCVFs in the IDFdm2 and PPdh

The specific targets for each BGC/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 5 and Table 6 below provide a summary of the results and the actions taken to address any deficits that exist. This indicator is only specific to the FSC Standard.

Deficits relative to targets were primarily found within the lowest elevation BGC 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 BEC variants that have ecosystem restoration as their management strategy, in 2016 the deficits were examined relative to HCVF amounts. The area of HCVFs in these BEC variants was much greater than the deficit area; details are found in Appendix II.

Table 5: Summary of results of Protected Areas Analysis and Actions

Management Unit (MU)	Total BEC Variants/ Ecological units in MU	No. BEC variants where target not achieved by reserves alone	BEC variants 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

Changes in this indicator occur gradually in most BEC variants, due to the large area of the unit relative to the small amount harvested each year in that unit. 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 2017, GIS overlay analysis indicated 38 blocks had some amount of harvesting above the operability line, ranging from 0.01 ha to 91.5 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. In addition, no harvesting or road building above the

operability line occurred on any unique or ecologically sensitive sites, including rare and uncommon ecosystem groups, caribou habitat, and whitebark pine leading stands (Impact on special values, Table 6).

The protected reserves analysis will be run within two years of the legal adoption of new mapping of BEC variants.

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 2007-2017 on special values?
			2017	2007-2016		
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	3	229	48,863	No
	MSdk	8,984	4	57	8,923	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	366	223	54,904	No
	ICHmk	8,282	13	54	8,219	No
	IDFdm2	861	0	0	861	No
	MSdk	9329	10	78	9,242	No
A19040 and A20212 *(includes A80321, K1W)*	ESSFdk	66,321	39	1063	65,305	No
	ESSFdm	22,968	31	110	22,828	No
	ESSFwm	20,717	0	24	20,693	No
	MSdk1/2	8,965	39	439	8,496	No
	ICHdm	9,772	0	173	9,599	No
	ICHdw1	1,491	0	20	1,471	No
	ICHmk1	3,392	4	110	3,278	No
	IDFdm2	11,684	0	17	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 2014-2017 only*

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)	Trend to be evaluated in 2020

Current patch size distributions by Ecosection and License are available in the 2015 Annual Report, with further information available in the 2016 SFMP. In general, current condition (determined in 2015) indicates that:

- In NDT2, there are too many small patches (< 40 ha) and not enough patches between 40-80 ha. Very large patches (250+ ha) are within target.

- In NDT3, there are either too many patches < 40 and 40-250 ha, or these size of patches are within targets (depending on the ecosection). 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 (80-250, 250+).

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, where there are specific targets for percent distribution of patch size (Table 7).

Table 7: Target Patch Size Distributions for the NDTs in Canfor's DFA

NDT2		NDT3		NDT4	
Patch size (ha)	Target Percentage Range	Patch size (ha)	Target Percentage Range	Patch size (ha)	Target Percentage Range
<40	30-40	<40	15-25	<40	30-40
40-80	30-40	40-250	20-40	40-80	30-40
80-250	20-40	250-1000	30-50	80-250	20-30
250+	0-5	1000+	10-20	250+	5-15

Patch size distributions are currently being recalculated over the entire DFA, as several Ecosections were impacted by the 2017 and 2018 wildfires (Crown of the Continent, Flathead Valley, and Southern Park Ranges). This analysis is being conducted as per the Patch Size Distribution Strategy which states that patch size distributions will be re-calculated if a major natural disturbance event occurs that impacts patch size distributions. Management of patch size distribution will be revised should new analysis show a trend away from targets, and an update will be presented in the 2018 Annual Report. This indicator is applicable to both CSA and FSC.

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 – Trend to be evaluated in 2020

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.

This indicator will be reported out on a 5-year basis, based on calculations done by the Woodlands Information Management (WIM) team using VRI data updated with the Reporting Silviculture Updates and Land Status Tracking System (RESULTS). WIM has a standardized code for this calculation that they follow (available from the WIM team or GIS Analyst). Reporting on a more frequent basis is not necessary because the indicator will change very slowly due to the large scale of the analysis (licence-wide) and the relatively small changes that occur each year in each category. The current (as of September 2016) percent distribution of forest type across the DFA by major licence is shown in Table 9.

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

All five licences are dominated by conifer stands, and there are small percentages of broadleaf and mixedwood stands. Over the next five years, no significant declines in the total amount of broadwood or mixedwood types are expected to occur as Canfor does not target hardwoods for harvest.

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

Forest License	Forest Type and Age Class	BEC zone						
		ESSF	ICH	IDF	IMA*	MS	PP	Grand Total
A18978	0 - 10 Years	3%	17%	9%	0%	8%	13%	16477
	11 - 30 Years	11%	14%	19%	0%	22%	11%	43329
	Conifer 31 - 90 Years	9%	28%	19%	0%	23%	23%	44064
	Conifer >90 Years	33%	29%	27%	0%	36%	24%	98569
	Mixed 31 - 90 Years	0%	2%	2%	0%	1%	1%	1484
	Mixed > 90 Years	0%	1%	0%	0%	0%	0%	541
	Deciduous 31 - 90 Years	0%	0%	1%	0%	1%	0%	876
	Deciduous > 90 Years	0%	0%	0%	0%	0%	0%	116
	Non-Forest	1%	0%	1%	0%	0%	1%	3061

Forest License	Forest Type and Age Class	BEC zone						
		ESSF	ICH	IDF	IMA*	MS	PP	Grand Total
	Non-Productive (Natural)	42%	6%	11%	100%	6%	21%	95341
	Roads	1%	3%	2%	0%	2%	2%	3712
	Landings	0%	1%	0%	0%	0%	0%	523
	Water	0%	0%	9%	0%	1%	4%	4796
A18979	0 - 10 Years	1%	6%	4%	0%	10%	0%	12505
	11 - 30 Years	5%	15%	15%	0%	19%	0%	30998
	Conifer 31 - 90 Years	7%	18%	17%	0%	19%	0%	37051
	Conifer >90 Years	37%	49%	29%	0%	42%	0%	119054
	Mixed 31 - 90 Years	0%	1%	1%	0%	0%	0%	1009
	Mixed > 90 Years	0%	0%	1%	0%	1%	0%	910
	Deciduous 31 - 90 Years	0%	1%	1%	0%	0%	0%	661
	Deciduous > 90 Years	0%	0%	1%	0%	0%	0%	413
	Non-Forest	0%	0%	2%	0%	0%	0%	1408
	Non-Productive (Natural)	49%	6%	21%	100%	6%	0%	162544
	Roads	0%	2%	2%	0%	2%	0%	3304
	Landings	0%	0%	0%	0%	0%	0%	20
	Water	0%	2%	7%	0%	1%	0%	4588
A19040	0 - 10 Years	2%	7%	8%	0%	8%	23%	33921
	11 - 30 Years	5%	11%	16%	0%	13%	14%	57634
	Conifer 31 - 90 Years	21%	39%	22%	0%	41%	10%	194600
	Conifer >90 Years	24%	27%	38%	0%	25%	27%	189221
	Mixed 31 - 90 Years	0%	3%	1%	0%	1%	0%	5058
	Mixed > 90 Years	0%	1%	1%	0%	1%	1%	2065
	Deciduous 31 - 90 Years	0%	1%	0%	0%	0%	0%	1475
	Deciduous > 90 Years	0%	1%	0%	0%	0%	0%	859
	Non-Forest	0%	0%	2%	0%	0%	6%	3762
	Non-Productive (Natural)	48%	6%	10%	100%	7%	14%	259711
	Roads	0%	2%	2%	0%	2%	2%	6860
	Landings	0%	0%	0%	0%	0%	0%	1149
	Water	0%	2%	1%	0%	1%	3%	4739
A20212	0 - 10 Years	2%	8%	0%	0%	0%	0%	6112
	11 - 30 Years	9%	10%	0%	0%	0%	0%	10542
	Conifer 31 - 90 Years	41%	49%	0%	0%	0%	0%	49917
	Conifer >90 Years	39%	27%	0%	0%	0%	0%	34775
	Mixed 31 - 90 Years	0%	1%	0%	0%	0%	0%	769
	Mixed > 90 Years	0%	0%	0%	0%	0%	0%	295
	Deciduous 31 - 90 Years	0%	0%	0%	0%	0%	0%	192
	Deciduous > 90 Years	0%	0%	0%	0%	0%	0%	229
	Non-Forest	1%	1%	0%	0%	0%	0%	1077
	Non-Productive (Natural)	7%	1%	0%	0%	0%	0%	3489
	Roads	1%	2%	0%	0%	0%	0%	1286
	Landings	0%	0%	0%	0%	0%	0%	186
	Water	0%	0%	0%	0%	0%	0%	151
TFL14	0 - 10 Years	6%	13%	21%	0%	29%	0%	15451
	11 - 30 Years	3%	24%	10%	0%	14%	0%	8455
	Conifer 31 - 90 Years	3%	11%	34%	0%	16%	0%	11338
	Conifer >90 Years	20%	44%	14%	0%	27%	0%	32426
	Mixed 31 - 90 Years	0%	1%	9%	0%	1%	0%	1398
	Mixed > 90 Years	0%	1%	3%	0%	1%	0%	551
	Deciduous 31 - 90 Years	0%	0%	0%	0%	0%	0%	7
	Deciduous > 90 Years	0%	0%	0%	0%	0%	0%	46

Forest License	Forest Type and Age Class	BEC zone						
		ESSF	ICH	IDF	IMA*	MS	PP	Grand Total
	Non-Forest	0%	0%	0%	0%	0%	0%	45
	Non-Productive (Natural)	67%	0%	6%	100%	9%	0%	78463
	Roads	1%	4%	3%	0%	3%	0%	1930
	Landings	0%	1%	0%	0%	1%	0%	307
	Water	0%	0%	1%	0%	0%	0%	180

IMA stands for "Interior Mountain-heather Alpine"

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

Indicator Statement	Target (Variance)	Results
Amounts of old and mature stands by landscape unit and BEC variant	a) Full compliance with the mature and old targets as defined in the Kootenay Boundary Higher Level Plan Order (KBHLPO)	Pending – Achieved for Cranbrook and Invermere TSAs, analysis underway for Kootenay Lake TSA and TFL14.
	b) Spatial identification of stands to meet KBHLPO targets (no more than -0.3% variance)	Not met – 86% of LU BEC combinations in the Cranbrook and Invermere TSA fully spatially allocated. Analysis underway for TFL14 and Kootenay Lake TSA.

The area of forest currently present in identified Old Growth Management Areas (OGMAs) and Mature Management Areas (MMAs) relative to targets specified in the Kootenay Boundary Higher Level Plan Order (2002) has been assessed for the Invermere and Cranbrook TSAs; analysis is ongoing for the Kootenay Lake TSA and TFL14. For the Cranbrook and Invermere TSAs sufficient spatial OGMAs and MMAs have been deployed for the majority (86%) of Landscape Unit BEC Variant combinations to meet KBHLPO targets. Where spatial OGMAs and MMAs are insufficient, a surplus of unharvested Old-growth or Mature stands within the Crown Forested Land Base exists to meet targets, thus meeting legal requirements. Six BEC Variant – LU combinations within the Cranbrook TSA have spatial OGMA/MMA deficits with less than 5 ha each and require recruitment from younger age classes. Sufficient Mature/Old Growth has been lacking in these LU/BEC combinations since OGMAs were first identified. Deployment of additional OGMAs and MMAs will take place after the legal adoption of BEC Version 11 for old and mature seral targets and the corresponding amendments to KBHLPO have been made, since OGMA and MMA targets will change with the new BEC mapping.

A similar analysis of OGMA and MMAs relative to targets is currently being conducted for the Kootenay Lake TSA and TFL14, and results will be presented in the 2018 Annual report.

In addition, OGMA and MMA areas that were impacted by the 2017 fires and have subsequently been logged are in the process of being replaced. Canfor has a detailed OGMA/MMA replacement SWP that ensures that any time a portion of an OGMA or MMA is harvested that it is replaced with an equal or better OGMA/MMA of similar or greater size.

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

Indicator Statement	Target (Variance)	Results
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	Achieved

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.

It is important to note that the model did not incorporate any effects of climate change. Future climate trends are expected to differ from historic and current ones in that fires and insect pest outbreaks 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 SFMP for a discussion). Although the model projects a trend toward more old forests than existed historically, it is expected that effects of climate change will lead to an increase in disturbed areas and consequently higher amounts of early seral stands on the landscape. Thus, at this point in time, no changes to current management in order to try and increase the amount of early seral stages are being contemplated.

Figures and tables illustrating these conclusions are provided in the SFMP and in the report on the model (Appendix to SFMP). The model will be re-run in the years following the release of TSR IV, and trends will be re-evaluated. Further discussion for this indicator is available in the SFMP.

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 – second year for this indicator. To be reported in 2020.

Current condition for 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. This indicator is slow to change over time because relatively few OGMAs and MMAs are changed each year; consequently, median patch size will be re-calculated in 2020.

Recently, spatial changes to OGMAs and MMAs were primarily for re-allocation of OGMAs from proposed harvest areas to other areas and ensuring targets were maintained throughout this process. In all cases, the "Old and Mature Forest Replacement SWP" was followed, which indicates that replacement stands must be "of similar or greater area, and at least 2 ha in size alone or when combing with an adjacent

OGMA if one exists", and that when choosing a replacement OGMA, to "…try to add on to existing OGMAs or riparian reserves to make them larger, rather than making small isolated patches.".

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 is presented in the SFMP.

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

Ecosection	NDT3		NDT4	
Forest License	**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
McGillivary 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**

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 12)	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 1). Over the past nine years, including 2017, all blocks in Canfor's FSC certified areas have met the green tree retention targets (Table12). 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. A High Value Snag SWP and target have been developed to assist with this goal.

Table 12: Percentage of blocks meeting green tree and snag retention targets in FSC certified areas between 2009 and 2017

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
2017[2]	**100%**	**90%**	**100%**	**82**
2016[2]	100%	75%	100%	72
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*

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	Achieved

Targets for Wildlife tree patch retention have been determined through analyses conducted by Forsite as part of Forest Stewardship Plan submissions over the past decade. The analysis is a two-step process that first uses current BEC linework and the methodology outlined in the Landscape Unit Planning Guide to determine the % Wildlife Tree Retention (WTR) required for each BEC/LU combination. The second step involves determining the amount of forest in the Non-Timber Harvest Landbase (THLB) that is contributing to WTR and comparing these amounts to WTR targets, and results on three possible scenarios for a given LU-BEC variant (Table 13).

Table 13: Possible Scenarios from LU-BEC Variant WTR analysis

Scenario	Required Retention in the THLB
1. Retention level in Non-THLB is above target and spacing was adequate to ensure no THLB was outside the buffered area.	This unit does not need any WTR implemented during cutblock development.
2. Retention level in Non-THLB is above target but there is THLB area that does not meet the spacing requirement (outside the buffered area).	This unit needs WTR implemented in the identified areas so that appropriate spacing is achieved. There is no specific percent requirement for the THLB but patches implemented for spacing should be at least 0.25 ha in size.
3. Retention level in Non-THLB is below target and there is THLB area that does not meet the spacing requirement (outside the buffered area).	This unit needs WTR implemented in the identified areas to both achieve spacing and target levels. A percent retention in the THLB is specified and spacing is to be considered during implementation.

Within Canfor's East Kootenay DFA, nearly all LU/BEC combinations fall under Scenario 1 or 2, meaning they have enough area within the Crown Forested Landbase (CFLB) that is not expected to be harvested (e.g. Riparian areas, unstable terrain, Parks and Ecological Reserves), and is therefore contributing to WTR targets. Only a handful of LU-BEC variant combinations fall under Scenario 3, and consequently have percent targets for Wildlife Tree Patch Retention.

Table 14 presents the amount of WTR within the THLB for those LU-BEC-variants with percent targets for WTR, where harvesting occurred in 2017. In 2017, all BEC/LU combinations with a requirement for wildlife tree retention within the THLB met or exceeded targets for retention.

Table 14: BEC-LUs harvested in 2017 with targets for THLB retention within WTPs

LU No	LU Name	BEC	n blocks	Total Gross Block Area (ha)	Total WTP Area (ha)	Total Area (ha) of WTP in THLB	% WTP in THLB	TARGET**	VARIANCE FROM TARGET
K03‡	Hawkins Creek	ESSFdm	1	134.9	7.17	7.17	6.76%	6.60%	+0.16%
K03	Hawkins Creek	ICHdm	1	114.1	15.35	10.34	9.06%	4.30%	+4.76%
C34	Jaffray - Baynes Lake	IDFdm	5	474.4	32.02	18.59	3.92%	3.10%	+0.82%
I12‡	Doctor/Fir	IDFdm	2	167.2	54.64	31.27	18.70%	3.00%	+15.70%
C37	Linklater - Englishman	IDFdm	4	285.1	32.53	25.24	8.85%	1.90%	+6.95%
C09	Yahk River	ICHdm	1	130	11.68	6.81	5.24%	0.70%	+4.54%
K05	Kid Creek	ICHdm	2	77.2	9.34	8.21	10.63%	0.50%	+10.13%

- *As per FSP wording, a year is considered 1 April - 31 March*
- **Target amount of THLB to be retained in Wildlife Tree Patches, further information available from Forsite reports*
- ‡*Includes dispersed retention*

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;	a) 5% improvement annually in the average	a) Achieved
b) The average percentage of protected High Value snags	b) Minimum 65%	b) Achieved

Analysis for this indicator differs slightly from the way that it was calculated for Current Condition in the SMFP (Table 15). 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 15: Changes to current condition calculations for High Value Snags

Indicator	SFMP Current Condition	2016 Reporting Year onwards	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	HV Snags that are either within the Gross Block Area of *any* block (i.e. Proposed, Available, Stagnant, WIP, Permitted, Partial Harvest, Harvested blocks) OR are outside the Gross Block area of any block	HV Snags that are either within the Gross Block Area of a block *harvested* 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.

Current condition for the two indicator statements for High Value Snags (HVS) is presented in Table 16 and Table 17. The density of identified snags within the gross block area of a harvested block (Indicator Statement a) increased from 0.964 HVS/ 100 ha (2013 – 2014) to 1.80 HVS/ 100 ha (2017, Table 16), representing an 87% increase.

Overall BEC groupings the average percent protected is 87% (Table 17). A notable exception was the ICH dry, in which the percent protection was only 67%. Additional emphasis will be placed on blocks in this zone for the upcoming years, in order to increase the percentage of HVS protected.

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. It is also expected that the average percentage of High Value snags retained outside net harvest areas will continue to be maintained above the target 65%.

Table 16: Density (stems/100 ha) of all identified High Value snags within gross block areas (harvested), by BEC zone grouping

	Year harvested	BEC					Total
		ESSF	ICH dry	ICH moist	IDF/PP	MSdk	
Area harvested (ha)	2013-2014	3968.2	874.3	1125.9	4130.3	6850.4	17010.5
	2015	1803.2	1298.1	789.2	933.4	2081.6	6905.5
	2016	2426.2	1323.9	684.3	606.9	807.7	5849
	2017	1558.5	498.1	309.5	1801.3	1553.2	5720.5
n HVS	2013-2014	3	7	31	84	39	164
	2015	3	7	31	84	39	164
	2016	5	11	20	23	7	66
	2017	2	11	4	47	39	103
Average density (HVS/100 ha)	2013-2014	0.08	0.80	2.75	2.03	0.57	0.96
	2015	0.02	0.54	3.93	9.00	1.87	2.37
	2016	0.21	0.83	3.65	1.81	0.87	1.12
	2017	0.13	2.21	1.29	2.61	2.51	1.80

Table 17: Average percentage of High Value snags protected, by BEC grouping

	n HVS*	n HVS protected**	% Protected
ESSF‡	16	15	94%
ICH dry‡‡	15	10	67%
ICH moist	59	56	95%
IDF/PP‡‡	162	152	85%
MSdk	75	67	89%
Total	344	300	**87%**

* 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
‡ ESSF dry and ESSF moist are grouped together due to small sample size for ESSF moist (n=1).

Indicator 1.1.5 – Riparian Management

Indicator Statement	Target (Variance)	Results
a) Riparian Reserves and Management Zones planned in accordance with Canfor's Integrated Riparian Assessment.	0 non-conformances	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 *FRPA* legal minimums on each stream, lake and wetland	0 non-conformances	Achieved

Canfor did not have any incidents in 2017 reported on riparian reserves not being planned to meet the Integrated Riparian Assessment process (no ITS incidents). 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 – 2016).

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.

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

Evaluation of this indicator relies on confirming operational plans contain information for habitat management. Evaluation of this indicator also relies on Canfor's Incident Tracking System (ITS), which is Canfor's system for tracking incidents related to forest management (such as operational plans not being followed). In 2017, no incidents were reported into ITS where operational plans were not followed. Table 18 shows that 83 blocks harvested in 2017 contained habitat for Species of Management Concern. Of those 83 blocks, 82 had operational plans that prescribed management strategies for species of management concern. Information regarding the block that failed to include management strategies is detailed below:

FL A19040 CP 592 Block EFH0038: The Net Area to Reforest (NAR) for this block overlapped 1.78 ha with Gillette's Checkerspot WHAs #4-226 and #4-237 (0.54 ha and 1.24 ha respectively) but did not prescribe winter harvest, as required in the legal Order. Consequently, this incident was entered into ITS and reported to the Ministry of Environment, and a root cause analysis was undertaken to determine follow up actions to avoid a reoccurrence. Follow up actions included updating Canfor's SFMP Planning and Permitting Checklist, updating Canfor's harvest scheduling program (Forest Ops) to include timing restrictions for Gillette's Checkerspot, emphasizing SoMC at Annual Preworks, and reviewing all

unharvested cutblocks to ensure that any cutblocks that overlap with WHAs with a timing restriction have the timing restriction identified in the Site plan and that the timing restriction is scheduled in Forest Ops.

Table 18: Number of blocks harvested in 2017 following SWPs for SoMC when block overlaps with habitat for SoMC

License	Habitat Type	n blocks with overlap with habitat for SoMC	n blocks with management strategies prescribed
A18978	Rank 4/5 Migratory Bird Habitat*	2	2
	Ungulate Winter Range	6	6
A18979	Rank 4/5 Migratory Bird Habitat*	9	9
	Ungulate Winter Range	13	13
A19040	Rank 4/5 Migratory Bird Habitat*	7	7
	Ungulate Winter Range	34	34
	Wildlife Habitat Areas	5	4
	Critical Habitat	1	1
A20212	Rank 4/5 Migratory Bird Habitat*	1	1
	Wildlife Habitat Area	1	1
A91306	Ungulate Winter Range	2	2
TFL14	Rank 4/5 Migratory Bird Habitat*	2	2
	Total	**83**	**82**
	Total Percent		**99%**

*Only includes Site Plans signed in 2017. The Migratory bird SWP was adopted in mid-2016, thus Site Plans signed prior to this date do not contain explicit measures to manage for migratory birds, and the remainder of 2016 was considered a transition period to the new SWP.

Indicator 1.2.2 – Species of Management Concern – Habitat Suitability

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

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 were modelled in TSR IV. Government finalized these reports in late 2017. The available models require further refinement with Predictive Ecosystem Mapping to be applicable at the watershed and stand level, which Canfor will investigate in 2018. Results of the investigation will be reported in the 2018 Annual Report.

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

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

For 2017 planting, Canfor is within the 5% variance with the percent of trees planted outside of the *Chief Forester's Standards for Seed Use*: 2.25% Cranbrook TSA, 0.69% Invermere TSA and 3.80% for Kootenay Lake TSA as demonstrated in the Infoview Seed Transfer Compliance reports. Not using select seed where it is available is included in the percent above.

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

Current condition for the percentage of stands with a portion of their inventory coming from natural regeneration is slightly higher than the target (Table 19); however, targets were chosen to reflect a balance between site productivity objectives and maintaining genetic and species diversity.

Table 19: Natural Regeneration within 2017 Free-Growing cutblocks

Strata	n	Area (ha)	Percent of Total	
			Strata	Area
Surveyed for Free-Growing in 2017	581	7240	100%	100%
With some natural regeneration	572	7179	**98%**	**99%**
With >60% natural regeneration	406	5754	**70%**	**79%**

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 2017, a total of 6412.14 ha were planted and 95.0% were planted with more than one species.

Indicator 1.2.4a – Managing for Species Diversity during Tree Thinning

Indicator Statement	Target (Variance)	Results
Percentage of maximum density spaced hectares with species diversity maintained or enhanced	100% (-10%)	Not applicable – no spacing activities conducted

In 2017, Canfor did not complete juvenile spacing activities, thus, this indicator is not applicable.

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

Indicator 1.4.1a (1.1.1b) – 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

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

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)	Not met – 92% ● Avalanche path without adequate buffer ● Mineral lick with no timing restriction prescribed. Actions in place to prevent reoccurrence

Twenty-four blocks were harvested in 2017 that overlapped with Sites of Biological Significance (referred to as "SBS", Table 20), two of which did not follow the appropriate management strategies as per the SWP. Information regarding the block that failed to include management strategies is detailed below:

FL A18978 CP 358 Block BLA0002: BLA0002 is adjacent to an unmapped (i.e. no spatial information in Resources) avalanche path, that would be considered "High-Value" due to the high percentage of herbs within the path. As such, it required a minimum 100 m forested buffer on both sides of the slide path, however, only a portion of the block has a forested buffer adjacent to the path. A root cause investigation found that layout was completed during the Tembec acquisition, and layout staff were unaware of avalanche management requirements, and consequently only buffered a portion of the slide path. Follow up actions to

prevent reoccurrence included emphasizing avalanche path management during Field Operations Spring training 2018, a memo sent to Permitting, Planning, and Field operations staff detailing the incident, and reiterating management requirements.

FL A19040 CP 721 Block RED0006: RED0006 contains a mountain goat mineral lick that was identified prior to 2012. This lick was protected in a patch that meets recommendations for buffer size (>100 m, incorporate trails), but the Site Plan does not prescribe the recommended timing restriction for the block (avoid harvest between May 1st and July 31st). This block was harvested outside the recommended timing restriction; however, an opportunity for improvement exists in relation to prescribing timing restrictions exists. Follow up actions to prevent reoccurrence included a review of all blocks that overlap with Sites of Biological significance to ensure that Site Plans contain timing restrictions and discussing timing restriction requirements with Permitting staff.

In order to improve tracking of wildlife features a field card was developed in early 2018 that allows field staff to better capture information about features when they are encountered, and also lists what resources are available to manage for features when they are encountered. The field card was released at Spring training in 2018 and is available both as a fillable iPad form, and as a paper form.

Table 20: Number and percentage of blocks following SWPs for Sites of Biological Significance (SBS) for blocks harvested in 2017 that overlap with an SBS

License	Site of Biological Significance	n blocks with overlap	n blocks with management strategies prescribed
A18978	Avalanche Paths (Moderate or High)	1	0
A18979	Avalanche Paths (Moderate or High)	8	8
A19040	Avalanche Paths (Moderate or High)	5	5
	Carnivore Den	2	2
	Mineral Lick	1	0
	Stick Nest	4	4
A20212	Carnivore Den	1	1
TFL14	Avalanche Paths (Moderate or High)	2	2
Total	**24**	**22 (92%)**	

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% (±5%)	Achieved (97%)

Analysis for this indicator focused on an in-depth review of Site Plans for blocks harvested in 2017 that overlap with HCVFs. (Table 21). Appropriate HVCF Management strategies for applicable values were included in Site Plans for 97% of all HCVFs with overlap. One block (FL A91309 CP 101 Block KID0032) overlapped slightly (14.9 ha) with Lower Kootenay CCVF 4308, but did not include management strategies for retention of cedar and hemlock veteran trees. Field review of this block indicated that some of these veteran trees (defined as stems >45 cm dbh) were harvested. Follow up with the permitting forester for this block determined that this was an oversight. Consequently, a review of all Permitted unharvested, permitted cutblocks that overlap with HCVFs (including HCV3 and CCVFs) was undertaken to ensure that all contained applicable management strategies.

Table 21: Summary of HCVF management strategy review for cutblocks harvested in 2017 Calendar Year

HCVF Type	License	n blocks	n HCVFs	HCVF Management strategies prescribed
1 or 2	A19040	16	16	16
	A20212*	3	3	3
	TFL14	7	7	7
3	A19040	2	2	2
	A20212*	2	2	2
	TFL14	1	1	1
4	A19040	1	2	2
	A20212*	2	3	2
	TFL14	0	0	0
Total	**30**	**38**	**37**	

Includes FL A91309 Lower Kootenay Renewable Forest License

Canfor is currently partnering with the Ktunaxa Nation (KNC) to train KNC staff to conduct post-harvest assessments of HCVFs (CCVFs in particular). In 2017, Canfor staff and KNC consultants held two days of training with KNC staff, and a work plan was developed, however, due to a KNC staff injury field monitoring was not conducted. The monitoring program has been revived for 2018, and to date, training has been held and four days of field monitoring have been conducted (a total of 5 blocks have been evaluated), with an additional four days of monitoring planned before the end of the field season.

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

Indicator Statement	Target (Variance)	Results
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 Regeneration Delay (RG) and Free-Growing (FG) obligations within the period. As of 2017, RG is achieved within 2.1 years and FG within 12, on average.

Indicator 2.1.2 – Invasive Plants

Indicator Statement	Target (Variance)	Results
A: Percentage of treatments with no follow-up	0% (10%)	N/A trend to be evaluated in 2017
B: Percentage of infestations that go untreated	0% (10%)	Achieved (0%)

Canfor's process for addressing invasive plants is evolving. Increased focus has been placed on identification of invasive plants during early block development (layout, SFMP Permitting and Planning Checklist). Annual Spring training in 2017 for Canfor Field Operations staff included a half day course on Invasive Plants with the East Kootenay Invasive Species Council. A Standard Work Procedure for Invasive plants was developed in early 2017. It includes procedures for recording invasive plants when they are discovered and lists activities that can be prescribed for management of existing invasive plant sites in cutblocks and roads during harvest activities. These management activities include not disturbing sites where possible, re-vegetating disturbed ground promptly either through grass seeding (where there is no obligation to grow trees, like on roads and landings), or tree-planting (most invasive species are shade-intolerant). The herbicide ClearView™ is used in a handful of locations where grass seeding and/or tree-planting is not likely to be effective. Hand pulling of existing infestations during monitoring visits is also done where it's appropriate.

Currently, areas with invasive plants are generally restricted to roads and along old oil and gas exploration, rights- of-way and near communities. Information about the presence of invasive plants is recorded in Cengea Resources, Canfor's data management system. Spatial locations of infests are recorded using the Invasive Alien Plant Program Application (IAPP), a provincial resource managed by the provincial government; this information is downloaded yearly to Cengea Resources to ensure spatial locations are up to date (the government updates their database in the spring and our update needs to make sure it's done after the new data is loaded).

In 2017, 19 blocks were monitored (24 total, five of which are outside the DFA), four were treated using chemicals and one block was hand-pulled. Grass seeding was done on 156 blocks (157 blocks total, one of which is outside the DFA; this activity includes blocks that did not have invasive plants).

Indicator statement 'A: percentage of treatments with no follow-up': In 2016 12 sites were treated (seven by hand pulling, five with herbicide spray). There were no identified invasive plant sites treated with grass seeding in 2016. Follow up monitoring was done on 11 of the 12 sites in 2017. Harvesting is still not finished in the one block that was not monitored in 2017 (A19040 583 WFH0011); it is scheduled to be finished logging in 2018 and prompt grass seeding is scheduled.

Indicator statement 'B: percentage of infestations that go untreated': All infests being managed by Canfor have been treated in either 2016 or 2017 (with hand pulling, chemicals, or grass seed/tree planting, Table 22). From 2016 monitoring, there were 20 sites visited: five are outside the scope of this report (on Nature Conservancy lands, or on the K1W license), three were declared FG and no further action is required, and two were not found to have weeds. Of the 10 sites remaining that were monitored in 2016, five were treated with herbicide spray, three were hand-pulled, one was grass seeded, and one is being managed with a deactivated road and tree planting (A79141 CP2 BLK28). Depending on when monitoring occurred, treatments took place in either 2016 or 2017.

Table 22: Summary of invasive plant treatments by block in 2017

License	Cutting Permit	Block ID	Treatment
A19040	458	WAS0001	None, declared Free-Growing
		WAS0002	None, declared Free growing
		WAS0003	None, declared Free-growing
	556	JAF0002	Herbicide
		JAF0003	Herbicide
	558	POL0007	Herbicide
	561	JAF0006	Herbicide
	561	JAF0007	Herbicide
	351	PRE0003	Grass seeded
	583	WFH0011	Hand-pulled
	585	WFH0014	None, no weeds
A18979	312	GRA0037	Hand-pulled
	310	PAL0007	Hand-pulled
	341	STE0060	None, no weeds
A79141	002	028	Managed for with road deactivation and tree-planting

Indicator 2.1.3 (1.2.3c, 1.3.1c, 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

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.

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 23: Percent Permanent Access Structures for Landscape Units in the DFA

2017 % PAS for Landscape Units				
> 5	4.1 - 5	3.1- 4	2.1- 3	<2
I25	C08, C30, C36, I16, I18, I20, I23, I25, I26, I29, I30, I33	C01, C02, C04, C06, C11, C16, C20, C21, C24, C25, C27, C29, C32, C34, C38, I05, I06, I07, I09, I15, I21, I22, I24, I27, I28, I32, I36, I38	C05, C07, C09, C10, C17, C18, C19, C22, C23, C31, C33, C37, I02, I03, I04, I08, I10, I11, I12, I13, I14, I17, I19, I34, I35, I37, K02, K03, K05, K06	C13, C14, I01,

Note the I# landscape units are CSA certified not FSC. They area is outside of the DFA.

The results for this indicator remain unchanged although there has been some movement in the lower columns. Only one LU currently exceeds the 5% target, although it is currently within the acceptable variance. Eleven LUs are approaching the 5% target. No new road construction has occurred in LU I25 (CSA DFA) all future planning will follow the PAS strategy as it pertains to LUs 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 2017 there have been two (2) landslides recorded; one along the North ward Mainline. It was caused by saturation of a steep road cutslope. The cutslope failed and blocked the road. A geotechnical engineer was reviewed the site and prescribe mitigative measures. Confirmation that the work was completed properly was provided by the Engineer. The second slide was in Sundown Creek and was caused by an old improperly placed culvert. It was not near water, so crews were sent to clear the debris off the Sundown road and a geotechnical engineer was consulted to identify the cause and prescribe mitigative measures. Mitigative measures were completed and Canfor is considering removal the old road where the incident initiated.

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

There has been no reduction to the DFA in 2017 and not significant land conversion projects were noted. Also See the information provided under Indicator 4.2.2 (2.2.1c) – Land Conversion as it satisfies the requirements for Indicator 2.2.1c.

Indicator 2.2.2 (5.1.1a) – 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

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
Number of blocks where the % detrimental soil disturbance exceeds acceptable limits	0 (4)	Achieved

In 2017 Canfor had three incidents related to excessive soil disturbance in the DFA. Surveys were completed by a trained contractor based on a list of highest-risk blocks: JAF0001, JAF0006 and LIN0013. JAF001 and JAF006 had all disturbed areas grass seeded by helicopter in the fall of 2017. LIN0013 had roads and landings grass seeded however in block disturbance is planned for seeding in spring 2019. The cause of the excessive disturbance in LIN0013 was random skidding do to relatively level slopes. This resulted in more widely dispersed compaction and exposed soils. direction to stick to specific skidding patterns should help avoid this in upcoming flat trench blocks. The excessive disturbance in JAF0006 was identified by Canfor staff. The disturbance was the result of using the new tether system possibly during weather conditions that allowed for excessive disturbance. There was an expectation that the tether system would be a lighter touch and less prone to disturbance than it turned out to be.

Indicator 3.1.2 – Coarse Woody Debris

Indicator Statement	Target (Variance)	Results
Number of large pieces of CWD per ha in harvested cutblocks each year, by BEC zone in each major Forest Licence	The annual median and mean by BEC and License to be at or above the following: ● PP – 1 piece/ha ● IDF – 2 pieces/ha ● MS and ICH, Pl leading stands – 2 pieces/ha ● MS and ICH, non-Pl leading stands – 4 pieces/ha ● ESSF, Pl leading stands – 8 pieces/ha ● ESSF, non-Pl leading stands – 10 pieces/ha NOTE: Targets do not apply to blocks within community-forest interface areas being managed to reduce fire risk.	Not met – Mean and Median below target for 4 out of 21 BEC/Licence groupings (ESSF and IDF)

Overall mean and median large Coarse Woody Debris (CWD) densities for BEC/ Leading species groups improved compared to 2015 and 2016, with 17 out of 24 BEC/groupings achieving density targets (Table 25). Although large CWD density continues to approve, blocks within the IDF and occasionally within the ESSF are below targets for mean and median densities. This has prompted four actions:

1. *Evaluate whether or not pre-harvest large CWD is limiting:* Pre-harvest large CWD data was compiled for 222 cutblocks laid out since 2015, and on average, pre-harvest densities of large CWD

are above 40 pieces per ha in all BEC groupings (Figure 1). In all blocks with post-harvest data collected and pre-harvest data existed (n=17, there was enough pre-harvest CWD to meet targets (though some were only slight above target). Consequently, pre-harvest large CWD does not appear to be the limiting factor, with the possible exception of occasionally in the IDF and PP BEC groupings (sufficient data is lacking to confirm).

Figure 1: Pre-harvest densities of Large CWD over the Kootenay DFA. Error bars are standard error
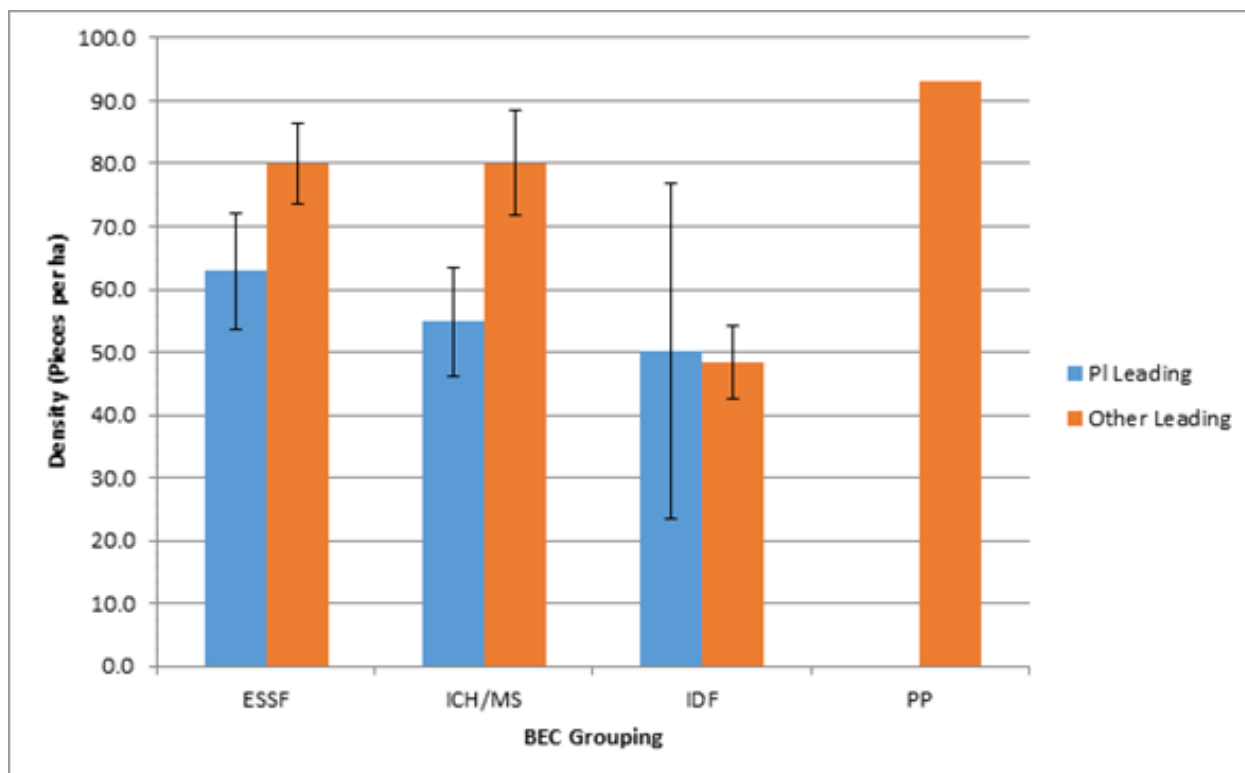
2. *Ensure Site Plans correctly prescribe Post-harvest CWD density targets*: Seventeen blocks had post-harvest assessments conducted that had site plans written after April 2016 (and therefore required density targets). Of those, only 58% of (n=10) blocks had correctly prescribed density targets, meaning that the correct density was prescribed, and the piece size was also included (>20 cm diameter, >10 m long). This prompted a review of Site Plans for unharvested blocks (n=155), of which 153 had correctly prescribed density targets. The failure to prescribe density targets is attributed to the transition between old (volume) and new targets with the adoption of the SFMP. Wording was added to Resources in November 2016 to facilitate the inclusion of large CWD targets, thus, this is no longer considered to be an issue.
3. *Ensure that logging contractors are aware of piece density targets*. This was done at the Spring Contractor training in early 2016, and again in Fall 2018 where leaving large woody debris pieces on site was re-emphasized through discussions with Harvesting Supervisors.
4. *Determine operational constraints to meeting density targets*: This is ongoing and involves discussions with operators to better understand equipment limitations, and site-specific issues (such as topography, stand type, cut specs). This information will be used when evaluating targets for large CWD in general.

In addition to the above actions, in sampling methodology was updated in 2016 to ensure that it was properly capturing site conditions (further discussion of these modifications are available in the 2016 Annual Report).

Table 24: Mean and Median pieces per hectare of CWD >20 cm and 10 m long for blocks harvested in 2017

License	Leading Species	ESSF		MS/ICH		IDF	
		n blocks	Mean / Median	n blocks	Mean / Median	n blocks	Mean / Median
Target	**Non-Pl**	-	10.0	-	4.0	-	2.0
			10.0		4.0		2.0
	Pl	-	8.0	-	2.0	-	2.0
			8.0		2.0		2.0
A18978	Non-Pl	1	23	6	5.0	2	4.8
			-		5.2		4.8
	Pl	2	30.35	1	10.3	0	-
			30.35		-		-
A18979	Non-Pl	1	26.9	4	18.4	0	-
			-		18.5		-
	Pl	1	17.5	1	11.5	0	-
			-		-		-
A19040	Non-Pl	1	41.3	4	12.1	4	1.8
			-		6.0		0.8
	Pl	0	-	3	7.7	0	-
			-		8.3		-
A20212	Non-Pl	1	7.4	0	-	0	-
			-		-		-
	Pl	0	-	1	52.3	0	-
			-		-		-
TFL14	Non-Pl	0	-	0	-	1	0.0
			-		-		-
	Pl	0	-	0	-	0	-
			-		-		-
Grand Total	Non-Pl	4	24.6	14	10.8	7	2.3
			24.9		5.2		0.0
	Pl	3	26.1	6	16.1	0	-
			17.5		9.7		-

*Indicates BEC groupings where resampling occurred, and results updated.

Element 3.2 – Water Quality and Quantity

Indicator 3.2.1a – Sensitive Watersheds

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

In 2017 Canfor completed assessments on the Body creek domestic watershed and the Luxor creek community watershed as well as skelly creek (which is a section of an RAU where significant harvest is taking place). Kid creek HCV3 was assessed where the planned ECA had just passed the 25% threshold. The RAU assessments were finalised and a project to update the RAU assessment after the extensive 2017 fires was initiated. Additionally, assessments of the South Star and Meadowbrook fire interface logging was done do to public concern and the proximity to communities.

Table 25: Hydrological Assessments

Watershed type	Above ECA Threshold	Hydrological Assessment Complete	Assessment Scheduled	No Planned Activity	Assessments Required – Not Yet Scheduled
HCV3	16	14		2	-
CWS	2	2	-	-	-
DWS	14	10	1	3	-
RAU	9	8	1	-	-
Total	39	30		9	0

Indicator 3.2.1b – Stream Crossing Sedimentation Control

Indicator Statement	Target (Variance)	Results
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 2017 there were 2 ITS incidents regarding sedimentation, although neither were from Canfor crossings structures. Both were related to contractors putting logs in creeks. Both were identified by Operations supervisors and dealt with. information regarding these incidents is located in ITS.

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

Indicator Statement	Target (Variance)	Results
Amounts of old and mature stands by landscape unit and BEC variant	a) Full compliance with the mature and old targets as defined in the Kootenay Boundary Higher Level Plan Order (KBHLPO)	Pending – Achieved for Cranbrook and Invermere TSAs, analysis underway for Kootenay Lake TSA and TFL14.
	b) Spatial identification of stands to meet KBHLPO targets (no more than -0.3% variance)	Not met – 86% of LU BEC combinations in the Cranbrook and Invermere TSA fully spatially allocated. Analysis underway for TFL14 and Kootenay Lake TSA.

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.
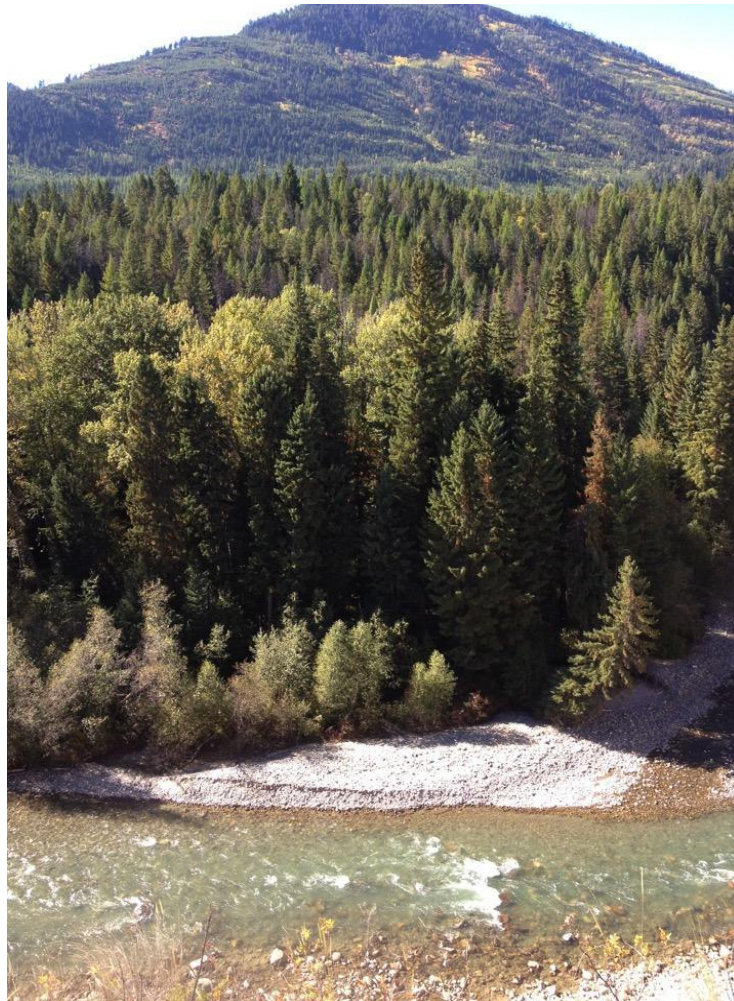
Indicator 4.1.2 (2.1.1) – Reforestation Success

Indicator Statement	Target (Variance)	Results
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

Indicator Statement	Target (Variance)	Results
Percentage of tree seed used in yearly tree planting program that is consistent with the *Chief Foresters' Standards for Seed Use*	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.

Indicator 4.1.4 – Climate Change Adaptation

Indicator Statement	Target (Variance)	Results
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 the SFMP.	Annual Meeting	Achieved
b) Implement climate change stocking standards into regeneration plans	Within 1 year of approval of FSP climate change stocking standards	Achieved
c) Percent of cutblocks (by area) reforested with mixed species at free growing	100% (-30%)	Achieved

a) The annual climate change meeting was held in Cranbrook on 15 January 2018. Topics covered included Hydrological mapping (currently being applied in the Palliser, White River, Wigwam, and Flathead watersheds), climate-based seed transfer, changes to stocking standards, weather changes (fall decking, sort yards), invasive plants, and wet weather shutdown procedures. Currently, no changes to the SFMP are planned. Minutes from the meeting are available in the Climate Change section of the 2018 FSC Audit Evidence Binder.

b) New stocking standards have recently been developed by MFLNRORD for both the Rocky Mountain and Kootenay Lake Forest Districts. These stocking standards take into account the best available information on ecosystems (updated Biogeoclimatic mapping), climate change science (climate envelopes) as well as comments from licensees (including Canfor). Canfor continues to use these default stocking standards. Additionally, within the default stocking standards there is latitude to plant species that are more adapted to drier climates (e.g. plant more ponderosa pine and Douglas-fir, and less spruce); which is done by Canfor on a regular basis.

The Kootenay division is in the process of transitioning to implementing the Climate Based Seed Transfer program (CBST website), which is a program that matches seed sources (seedlots) to climatically suitable planting sites, and is one of the ministry's climate change adaptation policies. The CBST program will be a legal requirement in the future, until such a date, the Kootenay division will continue to apply it on a trial basis.

c) Refer to 1.2.3c for information on this indicator.

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 2017, 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 26 and Table 27).

Table 26: 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 27: Pro-rated FSC AAC resulting from Excision

Year	ha's	AAC (m3/yr)	m3/ha/yr
2013	1,194,301	1,013,214	0.85
2014	1,188,335	1,008,153	0.00
2015	1,188,335	1,008,153	0.00
2016	1,188,335	1,008,153	0.00
2017	1,188,335	1,008,153	0.00

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 2017, the overall harvest for the entire region was 90.02% which meets the target (Table 28). The percent of volume harvested compared to allocated harvest level for the year were; FL A18978 (50.6%), A19040 (93.0%), A18979 (117.3%), A20212 (66.16%) and TFL 14 (110.2%). The Invermere and Cranbrook TSR's were completed and announced in the summer of 2017. Each TSA will see a reduction in AAC's. The reduction in the Invermere TSA is approximately 17% for the first 5 years, then it will step down again. The Cranbrook TSA also saw a reduction but not to the same magnitude as Invermere.

Canfor relies on its purchase wood program to supply additional fibre to its manufacturing facilities. Although harvesting below its quota levels, the company can ensure its Kootenay facilities can operate using purchased wood.

Table 28: Harvest Results – 2017

License	AAC by license (m3)	2017 (m3)	% of AAC
FLA 19040 (Cranbrook)	477,652	444,042	92.96%
FLA 18978 (Canal Flats)	220,668	111,668	50.60%
FLA 20212 (Creston)	99,081	65,453	66.06%
TFL 14 (Parson)	180,000	198,411	110.23%
FLA 18979	221,005	259,219	117.29%
Total	**1,198,406**	**1,078,793**	**90.02%**

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 2017 there were zero incidences of concerns brought forward where Canfor's strategy to deal with public concerns was not followed.

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 2017 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 2), the 5-year average percent spend for local goods and services is 91% and the target has been met. There was as significant decline in 2016 and it appears as though stumpage was included in the calculation by mistake. Canfor continues to purchase fibre from Alberta which is also showing an increase in spend for fibre acquisition outside the Kootenay Region and reducing the total local spend. Regardless, Canfor continues to spend an extremely high percent of its woodlands budget in the local Kootenay economy which was over $117 million dollars into the local economy from woodland operations in 2017.

Figure 2: Percent Local Spend in Kootenay Region by DFA
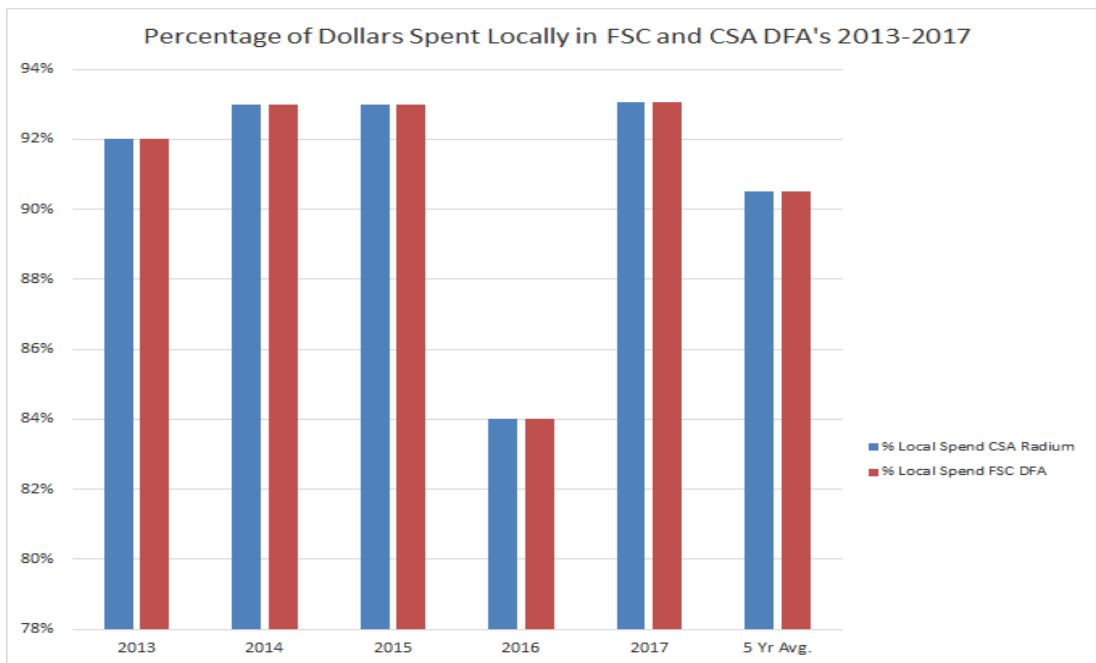
Indicator 5.2.1b – Corporate Sponsorships, Donations and Scholarships

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 2017 reporting year, a total of 19 donations or sponsorships were given within Kootenay communities for a total of $80,142, which approximately triples the 2016 amount. The target was achieved in 2017.

Within the Radium DFA, four donations were made to local First Nations, the Hospice Society, Radium Community Hall construction and the Lake Windermere Rod and Gun big game banquet. .

Within the remaining region, donations were made to various First Nations communities and their events. Canfor staff also supported the local United Way, The Canadian Cancer Relay for Life and Movember fundraising campaigns.

Donations also include 10 loads of firewood to local First Nations communities, a donation of lumber to the Shuswap Indian Band and cash donations to other First Nations communities for National Aboriginal Day celebrations and PowWows.

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 2017, there were 45 FMG employees. Training records indicate that by the end of the year, all had completed their training. Training records are managed through the Eclipse training system.

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 in Both DFA's

Based on the last 5 years harvest levels within the Radium license, the calculated 5-year average employment Person Years (PYs) is 247 persons which is + 150.0% of the target (Table 29: Radium Employment 2013-2017). It should be noted that due to Canfor Radium's shutdown in 2009-2012, harvest levels from 2013-2015 were not reflective of normal operations. To capture full cut control, annual harvest rates were higher during than the AAC but they remained below the 5 year cut control period. After those three years of elevated annual harvest, the annual harvest level has trended back towards normal rates. The target is exceeded and trending to lower levels as the annual cut has returned to normal levels in the 2016 and 2017.

Table 29: Radium Employment 2013-2017

FL A18979 Volume harvested						
Year		2013	2014	2015	2016	2017
AAC m³	221,005	221,005	221,005	221,005	221,005	221,005
Cumulative AAC m³	221,005	221005	442,010	663,015	884,020	1,105,025
Annual harvest m³	221,005	428,222	473,677	352,205	257,573	259,219
% of AAC	100.00%	193.76%	214.33%	159.37%	116.55%	117.29%
Cumulative	221,005	649,227	1,122,904	1,475,109	1,732,682	1,991,901
% of cumulative AAC	100.00%	293.76%	254.04%	222.49%	196.00%	180.26%
Average per year over five years	331,984					
Direct + indirect employment / 1000 m³	0.745					
Person Year Target	165					
Person Year Calculated	247					

Based on the last 5 years harvest levels within the remaining Kootenay DFA, the calculated 5-year average employment PY's is 803 which is 97.3 % of the target slightly up from last year's 92.6 % (Table 30: Kootenay FSC DFA Employment 2013-2017). This level is trending towards 100% of the target however Canfor remains undercut on the FSC DFA licenses.

Table 30: Kootenay FSC DFA Employment 2013-2017

All remaining licenses administered by Canfor FSC DFA - Volume harvested						
Year		2013	2014	2015	2016	2017
AAC m³	1,021,686	1,025,925	1,025,925	1,020,051	1,020,051	1,020,051
Cumulative AAC m³	1,021,686	1,021,686	2,047,611	3,073,536	4,093,587	5,113,638
Annual harvest m³	1,171,524	1,238,985	921,122	958,257	886,813	854,725
% of AAC	114.67%	120.77%	89.78%	93.94%	86.94%	83.79%
Cumulative	1,171,524	1,238,985	2,160,107	3,118,364	4,005,177	4,859,902
% of cumulative AAC	114.67%	121.27%	105.49%	101.46%	97.84%	95.04%
Average per year over five years	1,005,238					
Cranbrook TSA and Kootenay Lake TSA Direct + indirect employment per 1000 m³	0.95					
Invermere TSA and TFL 14 Direct + indirect employment per 1000 m³	0.745					
TFL and A18978 total 5-year harvest	1,889,952					
Cranbrook and KL TSA total 5-year licenses harvest	2,744,073					
Person Year Target	825					
Person Year Calculated Invermere TSA and TFL	282					
Person Year Calculated Cranbrook and KL TSA	521					
Total Person Years Calculated	803					

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 2017 exceeded 2013 levels by $1,854,080 (Figure 3: Summary FMG Aboriginal Contractors: 2013 – 2017). The trend towards greater aboriginal participation in the forest economy remained relatively unchanged from 2017. A total of 16 Aboriginal contractors and vendors provided goods and services to Canfor in 2017 versus 12 in 2013. Several initiatives have been undertaken by the Joint Management and Advisory Committee to increase Aboriginal participation.

Figure 3: Summary FMG Aboriginal Contractors: 2013 – 2017
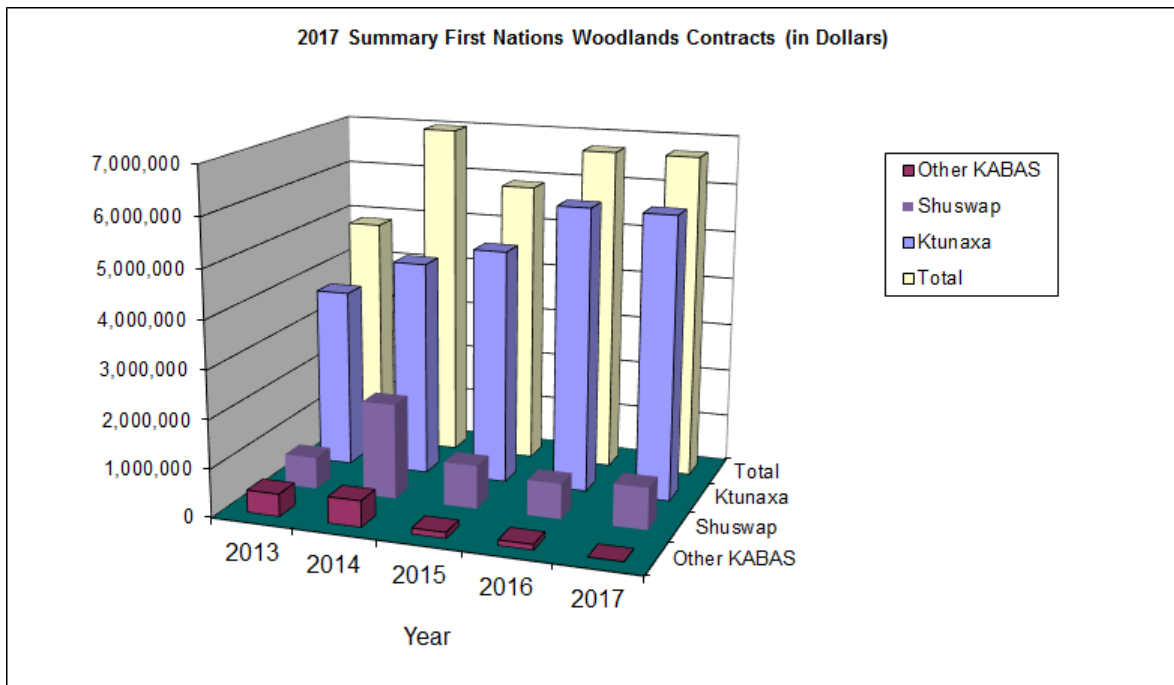
Criterion 6 – Society's Responsibility

Element 6.1 – Aboriginal and Treaty Rights

Indicator 6.1.1 – Aboriginal Awareness Training

Indicator Statement	Target (Variance)	Results
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 2017, 100% of required staff completed Aboriginal Awareness Training.

Indicator 6.1.2 (6.4.3) – Aboriginal Understanding of Plans

Indicator Statement	Target (Variance)	Results
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

Table 31 provides a summary of communications and information shared with Aboriginal communities in 2017.

Table 31: Information sharing and communication types for Aboriginal Communities in 2016

Nation or Band	# Plans Shared Annually with Aboriginals	Forms of Communication	Qualitative Information provided in 2016?
Ktunaxa Nation (and Bands)	15	Face-to-face meetings, phone calls, field trips, letters and information sharing digital submissions.	Canfor met with the Ktunaxa to review the amalgamated Forest Stewardship Plan. Following the fires of 2017, Canfor and the KLRA staff met to review proposed salvage areas. Field trips and heli-flight overview were also completed on the salvage areas. The parties began field monitoring of CCVF's in the Creston area, however and injury to one of the KLRA staff resulted in revising the work plan. CCVF monitoring and updating is expected to begin in 2018. One proposed harvest area fell within an identified CCVF. Canfor and Aqam elders completed a field review and confirmed no presence of the plants in question. Canfor conducted 4 information sharing submissions to the Kootenay Lands and Resource Agency (KLRA) on proposed developments. The consultation sub-committee continued to meet to discuss the information sharing submissions, plans, emerging issues, review information sharing processes and any other areas of interest to the nation.

Nation or Band	# Plans Shared Annually with Aboriginals	Forms of Communication	Qualitative Information provided in 2016?
Shuswap Indian Band	12	Face-to-face meetings, phone calls, letters and information sharing hard copy submissions.	Several meetings were held with the Shuswap Band's referrals staff. Canfor met their referrals staff to discuss the 4 information sharing submissions, the new FSP and to provide update on emerging forest health issues. Canfor and the Shuswap Territorial Lands Dept held an open house for elders and community members to explain and discuss Canfor's amalgamated FSP. Territorial lands staff accompanied Canfor woodlands staff on a helicopter flight to review the fires of 2017 for potential salvage opportunities.
Adams Lake Indian Band	3	Phone calls, emails, letters and information sharing digital submissions.	Canfor sent 4 information sharing submissions to the Band. Additionally, Canfor sent the Band information and sought input on the amalgamated FSP. No comments were received from the ALIB.
Neskonlith Indian Band	3	Phone calls, emails, letters and information sharing digital submissions.	Canfor sent 4 information sharing submissions to the Band. Additionally, Canfor sent the Band information and sought input on the amalgamated FSP. Few comments were received from the NIB.

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 (ITS). In 2017, 39 archaeological assessments were completed on proposed harvesting blocks within Kootenay Region. Following the wildfires of 2017, extensive referrals work was completed with local First Nations groups. These efforts included face-to-face meetings on cultural, archaeological and environmental values. Additionally, helicopter overview flights and field trips were held with the Ktunaxa Nation and Shuswap Indian Band lands staff.

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

Canfor and the Ktunaxa Nation Lands and Resources staff continue to follow their agreed upon referral process. Several field trips were held with Shuswap and Ktunaxa lands staff in 2017 fire areas to develop management strategies for salvage operations. Additionally, the Ktunaxa Nation was instrumental in in expediting archaeological assessments for the salvage areas.

Canfor conducted a field trip with Aqam elders to an identified area as the management strategies included verification of the presence of medicinal plants. CCVF

Canfor and the Shuswap Indian Band held an open house with community elders and members to review and discuss Canfor's proposed Forest Stewardship Plan (FSP). The open house was easily the most attended session for FSP review. Discussions focused on management strategies for trapping territories, cultural values and riparian management.

Element 6.3 – Forest Community Well-being and Resilience

Indicator 6.3.1 – Primary and By-Products

Indicator Statement	Target (Variance)	Results
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

Primary and by-products were sold or traded with 33 +/- forest dependent businesses on the local area. Sales included pulp chips, hog fuel, cedar poles, peeler logs, posts, beams, firewood, and spruce for musical instruments.

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. The program covers topics ranging from relevant legislation to hazard identification, risk assessment and control measures.

Canfor's staff and contractor safety record is above the industry average and the trend is reported as improved compared to previous years ("YTD" and "Previous YTD", Figure 4). 2017 Hazard to Near Miss ratio was 56.3 compared to 2016's ratio of 29.7.

Figure 4: Kootenay Safety Numbers – 2017

Kootenay STAFF HZ & NM to Incident Ratio
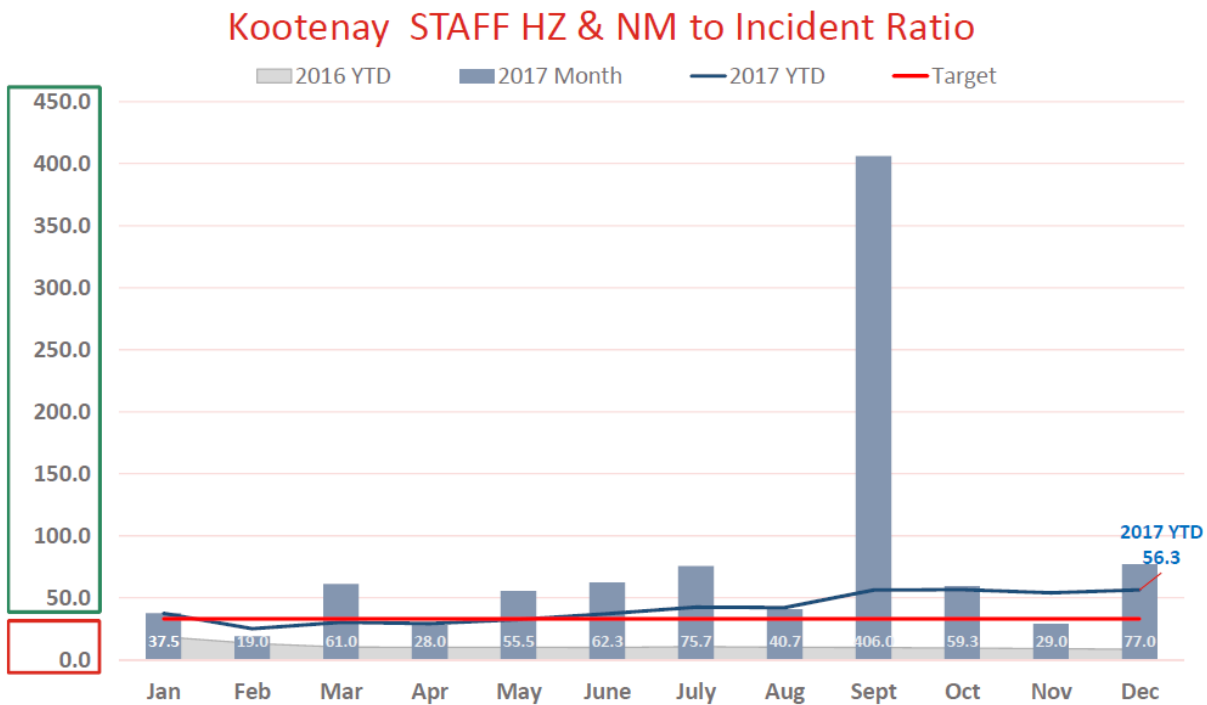
Kootenay	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	YTD	Pr YTD
Hazard	52	62	52	148	77	130	169	79	282	123	61	51	1,286	277
Near Miss	23	14	9	48	34	57	58	43	124	55	26	26	517	22
INCIDENTS														
Prp Damage	1	3	1	7	2	2	1	3	0	3	3	0	26	7
First Aid	0	1	0	0	0	1	2	0	0	0	0	0	4	3
Medical Aid	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Medical Treatment	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Lost Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1/12/2018

Element 6.4 – Fair and Effective Decision-making

Indicator 6.4.1 – PAG Satisfaction

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

During 2017, three meetings (April, September, December) were held for the Radium PAG (Public Advisory Group). All three meetings had a satisfaction survey completed. The final meeting of the year (December - #53) resulted in a score of 3.8 (76%). Some of the lower scores are related to materials provided, the timing of that material and presentation. It should be noted that it was a low attendance meeting and that only 50% of the attendees completed the survey. Regardless, Canfor will revise their process to ensure that (1) the material presented is provided in advanced and (2) presented more clearly.

Overall the Satisfaction Survey (22 questions) resulted in a score of 4.3 (86%), above the target of 4.0. It should be noted that two questions (Q8, Q22) that continue to score below 4.0 are related to low number of PAG members involvement in discussion during meetings and the lack of diversity of a representation on the PAG. Canfor continues to recruit new PAG members from organizations that are not currently on the PAG.

Indicator 6.4.2 – Educational Opportunities – Information/Training

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

In 2017, there were three PAG meetings. Educational opportunities were provided to the PAG for each of those meetings. Educational opportunity topics included: forest health & fire updates, harvesting and salvage opportunities and approaches, slash burning, using LiDAR for planning. Although the PAG is specific to CSA Certification (FLA18979) Canfor provides information/training topics covering the entire DFA.

Indicator 6.4.3 (6.1.2) – Aboriginal Understanding of Plans

Indicator Statement	Target (Variance)	Results
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

Indicator Statement	Target (Variance)	Results
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 DFAs during 2017. It should be noted that PAG members are often involved in audits through being interviewed by FSC and/or CSA Auditors. In addition, interim and final audit results are presented at subsequent PAG meetings.

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. There were over 70 people in attendance at various presentations, field tours and workshops.

In 2016, Canfor staff led numerous educational opportunities including presentations, workshops, field tours, presentations to schools, and one-on-one meetings. Examples include: a Wings over the Rockies tour on forest practices, hosting a tour of US Foresters in the Flathead area on Canfor practices, forest health updates to Concerned Residents of Sheep Creek, a presentation at the Crown of the Continent workshop, a presentation on forest practices to the Conservation Partnership board, and updating the Shuswap on cultural landscapes process and presentations to local town councils on forest practices.

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 2017 SFMP Annual Report (current) for the entire DFA, addressing both CSA and FSC indicators is provided to the PAG and made publicly available. All current and historic SFMP Annual Reports are located on Canfor's Website – Canfor Plans - select Kootenay Operations

Appendices

Appendix I. Common Ecosystem Type Representation within HCVFs

Table A-I 1. Common Ecosystem type overlap with Ecosystem Restoration HCVFs

HCVF Number	HCVF Name	Group	Area in HCVF (ha)
2114	Skookumchuk Priarie	1	703.1
2115	Reed Lakes	1	500.7
2125a	Lower Findlay A	1	22.6
2125b	Lower Findlay B	1	134.2
2126	E. Columbia Lake	1	420.3
2128	Findley Mouth	1	0.0
3127	Fussee Lake	1	679.6
3128	Englishman Creek	1	1711.4
3152	Saugum Lake	1	2272.9
		Total Group 1	**6444.9**
	Area required to be harvested under Ecosystem Restoration (ha)		**4098.0**
		Total Surplus (ha)	**2349.9**
2115	Reed Lakes	3	1699.4
2125a	Lower Findlay A	3	1673.2
2125b	Lower Findlay B	3	676.0
2125c	Lower Findlay C	3	331.5
2126	E. Columbia Lake	3	908.5
2128	Findley Mouth	3	45.2
3127	Fussee Lake	3	350.9
3128	Englishman Creek	3	6826.1
3139	Kiakho Lake	3	211.5
3152	Saugum Lake	3	2744.7
		Total Group 3	**15466.8**
	Area required to be harvested under Ecosystem Restoration (ha)		**3021.0**
		Total Surplus (ha)	**12445.8**

Appendix II. IDFdm2 and PPdh BEC Variant Representation within HCVFs

Table A-II 1. IDFdm2 and PPdh BEC Variant Representation within HCVFs

License	BEC	HCVF#	HCVF	Area (ha)
A18978	IDFdm2	Lower Findlay a,b,c	2125a,b,c	5746.2
A18978	IDFdm2	Findlay Mouth	2128	106.5
A18978	IDFdm2	East Columbia Lake	2126	1075.5
A18978	IDFdm2	Dutch Creek	2124	25
A18978	IDFdm2	Lower Lussier a	2113a	696.5
A18978	IDFdm2	Lower Lussier	2112	200
A18978	IDFdm2	Mud Creek a	2127a	57
A18978	IDFdm2	Mud Creek b	2127b	26.5
A18978	IDFdm2	Reed Lakes	2115	2124
			Total Area IDFdm2	**10057.2**
		Area required to be harvested under Ecosystem Restoration (ha)		**2242.3**
			Total Surplus (ha)	**7814.9**
A18978	PPdh	Lower Lussier b	2113b	128.4
A18978	PPdh	Reed Lakes	2115	770.9
A18978	PPdh	Skook Prairie	2114	1370.7
			Total Area PPdh2	**2270.0**
		Area required to be harvested under Ecosystem Restoration (ha)		**835.4**
			Total Surplus (ha)	**1434.6**
A18979	IDFdm2	Aberdeen	2545	1500
			Total Area IDFdm2/PPdh	**1500**
		Area required to be harvested under Ecosystem Restoration (ha)		**46**
			Total Surplus (ha)	**1454**
A19040	IDFdm2	Saugum Lake	3152	3698
A19040	IDFdm2	Lower St. Mary's b	3150b	475.6
A19040	IDFdm2	Kimberley Nature Park	3151	1190
A19040	IDFdm2	Lower St. Mary's c	3150c	69.7
A19040	IDFdm2	Lower St. Mary's d	3150d	182.7
A19040	IDFdm2	Kiakho Lake	3139	173.4
A19040	IDFdm2	Englishman Creek	3128	7778.3
A19040	IDFdm2	Fussee Lake	3127	657.2
A19040	IDFdm2	Lower Elk Fish a	3125	1084.7
A19040	IDFdm2	Mt. Broadwood	3126	2706.5
A19040	IDFdm2	Morissey GB Linkage	3113	104.3
			Total Area IDFdm2	**18120.4**
		Area required to be harvested under Ecosystem Restoration (ha)		**4293.0**
			Total Surplus (ha)	**13827.4**
A19040	PPdh	Saugum Lake	3152	2520

License	BEC	HCVF#	HCVF	Area (ha)
A19040	PPdh	Lower St. Mary's c	3150c	19
A19040	PPdh	Englishman Creek	3128	2949.3
A19040	PPdh	Fussee Lake	3127	1031
A19040	PPdh	Lower Elk Fish a	3125	6.6
			Total Area PPdh	**6525.9**
		Area required to be harvested under Ecosystem Restoration (ha)		**1667.0**
			Total Surplus (ha)	**4858.9**