



***SUSTAINABLE FOREST MANAGEMENT
2018 ANNUAL REPORT
APRIL 1, 2018 TO MARCH 31, 2019
CANFOR FORT NELSON***

FINAL REPORT

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July 26, 2019***

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¹ Cover page Photo Credit – Aliette Seigel, RPF

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Glossary and Acronyms

Adaptive Management: A learning approach to management that recognizes substantial uncertainties in managing forests and incorporates into decisions the experience gained from the results of previous actions. Adaptive management can be simplified into "learning by doing."

Annual Allowable Cut (AAC): The allowable rate of timber harvest from a specified area of land. The Chief Forester sets specific AACs for Timber Supply Areas and Tree Farm Licences in accordance with Section 8 of the *Forest Act*.

Biogeoclimatic Ecosystem Classification (BEC): A hierarchical system of ecosystems that integrates regional, local and chronological factors and combines climatic, vegetation and site factors.

Biological richness (species richness): The number of species in a given area.

Coarse woody debris (CWD): Downed woody material of a minimum diameter or greater that is resting on the forest floor or at an angle to the ground of 45 degrees or less. CWD consists of sound and rotting logs and branches, and may include stumps when specified. Coarse woody debris provides habitat for plants, animals and insects, and a source of nutrients for soil development.

Criterion: A category of conditions or processes by which sustainable forest management may be assessed; characterized by a set of related indicators which are monitored periodically to assess change.¹

Crown Forest Land Base (CFLB): Forested land managed by the Ministry of Forests and Range is referred to as the Crown forested land base. In the CFLB, specific conditions (e.g. a stand or a group of similar trees) are assigned either to the non-harvesting land base or to the timber harvesting land base. An area can only be removed for one reduction type; for example, the area of a stand that falls within a park, and also has sensitive soils, is assigned only once to the non-harvesting land base.

Customary use rights: The rights of First Nations peoples to use lands and resources based on culturally established patterns of utilisation and management which may include fishing; hunting; trapping; gathering of foods, medicines and materials for ceremonial, spiritual, sustenance, or fabrication (e.g. clothing, artwork, building, etc.) purposes.

Defined Forest Area (DFA): A specified area of forest, including land and water. The Defined Forest Area for the Sustainable Forest Management Plan is the Fort Nelson Forest District, excluding private land and woodlots.

Forest Management System (FMS): The FMS is a systematic means of identifying, addressing and managing environmental impacts and sustainable forest management commitments within Canfor's Woodlands operations.

Forest and Range Practices Act (FRPA): The *Forest and Range Practices Act* brings in the application of a results-based system for the management of forest and range resources. It will fully replace the *Forest Practices Code of British Columbia Act* by December, 2005.

General Development Permit (GDP): permit obtained by oil and gas sector to authorize limited development of an area in preparation for exploration activities for oil and gas.

Global ecological cycles: The complex of self-regulating processes responsible for recycling the Earth's limited supplies of water, carbon, nitrogen and other life-sustaining elements.

Inoperable: Lands that are unsuited for timber production now and in the foreseeable future because of a range of factors, including elevation; topography; inaccessible location; low value of timber; small size of timber stands; steep or unstable soils; or designation as parks, wilderness areas, or other uses incompatible with timber production.

Indicator: A measure of an aspect of the criterion; a quantitative or qualitative variable which can be measured or described and which, when observed periodically, demonstrates trends. ¹

Landscape Unit: a planning area, generally up to about 100,000 ha in size, delineated according to topographic or geographic features such as a watershed or series of watersheds. It is established by the district manager.

Measure: A set of variable that provides quantitative information about the status/standard established for an indicator.

Natural disturbance: the historic process of fire, insects, wind, landslides and other natural events in an area.

Non Commercial brush (NCBR): Describes potential productive forest land that is covered with either 'Forest' or 'Brush'.

Natural Disturbance Unit (NDU): These units separate areas based on differences in disturbance processes, stand development, and temporal and spatial landscape pattern.

NHLB: Non-Harvestable Land Base This is area not considered part of the THLB. This includes areas excluded from contributing to timber supply during the TSR process, such as parks, riparian reserve areas, inaccessible areas, inoperable areas, non-merchantable forest types, low productivity types, recreation features, and environmentally sensitive areas.

Old Growth Management Area (OGMA): areas which contain, or are managed to replace, specific structural old-growth attributes and which are mapped out and treated as special management areas.

Predictive Ecosystem Mapping (PEM): A computer, GIS and knowledge-based method that divides landscapes into ecologically-oriented map units for management purposes.

Recreation Opportunity Spectrum (ROS): a mix of outdoor settings based on remoteness, area size, and evidence of humans, which allows for a variety of recreation activities and experiences. The descriptions used to classify the settings are on a continuum and are described as: rural, roaded resource, semi-primitive motorized, semi-primitive non- motorized, and primitive.

Regeneration delay: the maximum time allowed in a prescription, between the start of harvesting in the area to which the prescription applies, and the earliest date by which the prescription requires a minimum number of acceptable well-spaced trees per hectare to be growing in that area.

Riparian: Area adjacent to a stream, river, lake or wetland. The FPC Riparian Management Area Guidebook defines it as "areas [that] occur next to the banks of streams, lakes, and wetlands and include both the area dominated by continuous high moisture content and the adjacent upland vegetation that exerts an influence on it".

Riparian Reserve Zone (RRZ): The portion of the riparian management area or lakeshore management area located adjacent to a stream, wetland or lake.

Seral: the stage of development of an ecosystem, from a disturbed, un-vegetated state (early-seral) to a mature plant community (late-seral).

Site Index: an expression of the forest site quality of a stand, at a specified age, based either on the site height, or on the top height, which is a more objective measure.

Snag: a standing dead tree, or part of a dead tree, found in various stages of decay—from recently dead to very decomposed.

Stream Crossing Quality Index: a field based hazard assessment of the potential for accelerated erosion and sediment delivery at stream crossings. The procedure evaluates and scores the potential for eroded sediment to reach the stream environment. A high score infers that there is a significant erosion problem which may in turn cause sediment related water quality problems.

Sustainable Forest Management (SFM): Management “to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social and cultural opportunities for the benefit of present and future generations”²

Target: A specific statement describing a desired future state or condition of measure. Targets should be clearly defined, time-limited and quantified, if possible.

Timber Harvesting Landbase (THLB): The area of the Defined Forest Area available for timber extraction.

Traditional Use Study (TUD): Compilation of data respecting historic use of the land and resources by First Nations

Acronyms

AAC Allowable Annual Cut	MOFR British Columbia Ministry of Forests and Range
AIA Archaeological Impact Assessment	MPS Market Pricing System
AMD Amendment	NSOGO Non Spatial Old Growth Order
AOA Archaeological Overview Assessment	NSR Not Satisfactorily Restocked
BCTS BC Timber Sales	NTPF Non-Timber Forest Products
BEC Biogeoclimatic Ecosystem Classification	OGMA Old Growth Management Area
BEO Biodiversity Emphasis Option	OHSC Occupational Health and Safety Committee
Canfor Canadian Forest Products Ltd.	OSB Oriented Strandboard
CHR Cultural Heritage Resource	PAG Public Advisory Group
CFS Canadian Forest Service	PEM Predictive Ecosystem Mapping
CFLB Crown forested land base	PMP Pest Management Plan
COPI Creating Opportunity for Public Involvement	PRISM Public Response for Informed Sustainable Management
CP Cutting Permit	RMZ Riparian Management Zone
DBH Diameter at Breast Height	ROS Recreation Opportunity Spectrum
EFG Early Free Growing	RRZ Riparian Reserve Zone
FDP Forest Development Plan	RVQC Recommended Visual Quality Class
FMS Forest Management System	SDE Spatial Data Engine
FG Free Growing	SFMP Sustainable Forest Management Plan
FIA Forest Investment Account	SI50 Site Index for age 50
FPC Forest Practices Code	SOP Standard Operating Procedure
FSP Forest Stewardship Plan	Sx White Spruce
CENGEA Name for data management system	TBD To be determined
GIS Geographic Information Systems	THLB Timber Harvesting Land Base
GMZ/GRZ General Resource Zone	TSA Timber Supply Area
ILMB Integrated Land Management Bureau	TSR Timber Supply Review
ITS Incident Tracking System	UWR Ungulate Winter Range
KDC Kaska Dene Council	VRI Vegetation Resources Inventory
LFG Late Free Growing	VQO Visual Quality Objective
LRMP Land Resources Management Plan	WQCR Water Quality Concern Rating
LU Landscape Unit	WHA Wildlife Habitat Area
LUPG Landscape Unit Planning Guide	WTP Wildlife Tree Patch
MAI Mean Annual Increment	WTR Wildlife Tree Retention
MOA Memorandum of Agreement	

² The State of Canada’s Forests 2001/2002, as cited by the CSA.

Executive Summary

Fort Nelson Defined Forest Area location

The Defined Forest Area (DFA) of the SFM Plan is the Fort Nelson Timber Supply Area (TSA) as described for the Timber Supply Review. The Fort Nelson DFA is located in the northeastern corner of British Columbia and covers approximately 9.8 million hectares, bordering Alberta to the east and the Northwest Territories and the Yukon Territory to the north. The Alaska Highway (Highway # 97) is the main access to the town of Fort Nelson and the only major service road within the DFA. The Alaska Highway leads travelers north from Dawson Creek, BC, through the Yukon to Fairbanks, Alaska. The 317 Road (Highway 77), so named because it begins 17 miles from Fort Nelson (Mile 300 on the Old Alaska Highway), is the only other year round road access to the Fort Nelson area, providing access to the Northwest Territories (source MOFR website).

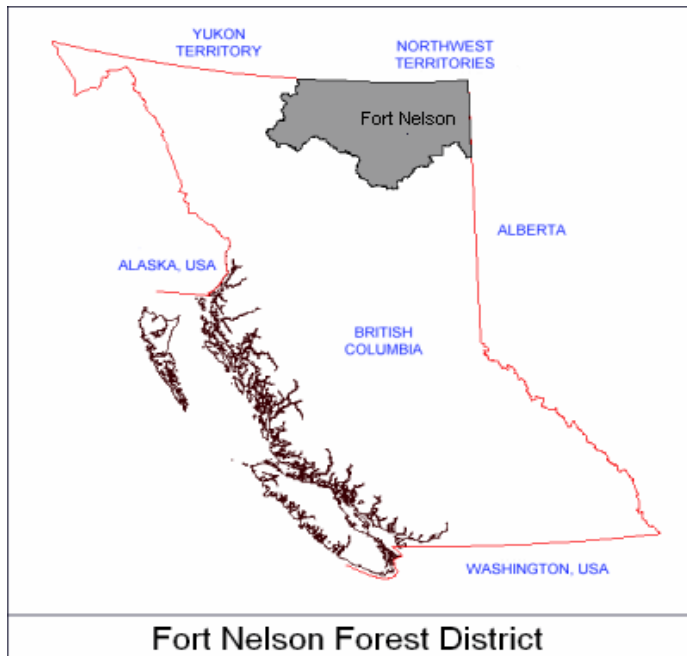


Figure 1: Fort Nelson Defined Forest Area

Purpose

This report is prepared as part of the annual assessment to confirm Canfor's continued implementation of the CSA SFM standard. This report is the 14th edition since registration to the CSA-Z809-02 standard in 2005 and provides a status from April 1, 2018 to March 31, 2019 of the locally developed measures (indicators) of the SFMP. The SFM Annual Report target completion date is September 30th annually. In this report, each measure is re-iterated, and a brief status update is provided. For further reference to the intent of the measures, or the practices involved, the reader should refer to Canfor's Sustainable Forest Management Plan for the Fort Nelson DFA (SFMP, Third edition May 9, 2018 revision 2 May 7, 2019).

The development of an updated SFM Plan in conformance with the requirements of the CSA Z809-08 standard was concluded on April 1, 2011. This annual report will summarise performance under the measures (indicators) included in the revised SFMP third edition (May 9, 2018). Reporting for BC Timber Sales is provided in a separate report generated by BC Timber Sales. It should be noted that Canfor began a process in spring 2018 to transition from CSA Z809-16 to the Sustainable Forestry Initiative (SFI) Forest Management and Fibre Sourcing standards. The transition was substantially completed in June 2019 when Canfor received registration to the SFI 2015-2019 Forest Management and Fibre Sourcing standards.

The Canfor SFI Sustainable Forest Management System (SFMS) document includes divisional specific matrices which describe how Canfor meets the performance measure indicator requirements of the SFI standards. Going forward, in conjunction with the Fort Nelson Forest Stewardship Plan (FSP) the Canfor SFI SFMS replaces the Fort Nelson SFMP as the document guiding Canfor's sustainable forest management activities. Although the Fort Nelson SFMP will no longer serve as the definitive document guiding the SFM activities of the Participants, it will serve as reference material, providing background information regarding implementation of many of the SFI performance measure indicators. Due to the Participant's transition from CSA to SFI, compilation of the Fort Nelson SFMP

annual report will cease with the 2018-2019 report. The Participants will revise their respective SFM reporting to conform with the annual reporting requirements of the SFI Forest Management and Fibre Sourcing standards.

Circumstances affecting SFM process

Canfor Corporation announced on January 18th, 2008 that due to poor wood product markets, a high Canadian dollar and record low oriented strand board (OSB) prices, its PolarBoard OSB and Tackama plywood mills in Fort Nelson would be closing indefinitely. The Polarboard closure took effect once the existing inventories were utilized and finished products shipped, which occurred in early June 2008. On February 26th, 2008 it was announced that Canfor's Fort Nelson Tackama mill would continue operations, largely because of the efforts of the United Steel Workers Union, employees, suppliers, the provincial government and contractors to identify means to reduce costs at Tackama and establish a business case to keep Tackama operating. Through the contributions of the union, employees, contractors and suppliers and policy changes announced by the provincial government a business case was made to continue operations at Tackama. The business case was predicated upon Tackama realizing the intended cost savings and continued positive performance of plywood markets. Although Tackama had performed very well and achieved record production targets, Canfor Corporation reassessed Tackama's situation and announced on October 8th, 2008 that due to the continued poor demand and low prices for plywood across North America, it would be closing indefinitely the Tackama plywood plant in Fort Nelson. The market conditions and future outlook for plywood prices were not encouraging, with no evidence of a turnaround in the near future and consequently Canfor decided to curtail production to address the reduced market demand. The indefinite shutdown of the Canfor mills which began in 2008 has continued through the subject reporting year. As of the date of completion of this report, the Canfor mills in Fort Nelson remain indefinitely closed.

The closure of the PolarBoard mill, followed later by the closure of the Tackama mill affects local forest management and the PRISM Public Advisory Group in the following ways:

- Reduced and/or no operational harvesting activities affects reporting of certain measures, rendering reporting on current status of much of the indicators as static until resumption of harvest activity;
- Cessation of harvest activities reduces the economic benefit of forest management to the region;
- With the exception of the added meetings required to discuss revisions to the SFM plan, suspended harvesting activities has reduced the need to continue with frequent PAG meetings, resulting in reduced numbers of meetings and field tours;
- Difficulty in attracting new PAG members and promoting general interest in forestry in the community.

Overview of Canfor Achievements

For the 2018 reporting year the following list describes the results achieved:

- ✓ 45 of the 46 measures were achieved (97.8%),
- ✓ 1 measure is pending (2.1%),
- ✓ 0 of the indicator objectives were not met (0.0%).

The overview of target achievements in this section captures Canfor's performance measures. BC Timber Sales is responsible for reporting their achievements through their Annual Report. Figure 2

below compares the 2018 measure achievement to previous reporting periods and Table 1 shows the status of each individual measure. Very similar measure performance for the 2018 reporting year is noticeable, with respect to the number of measures either pending or not achieved. Measures that were not met will be discussed during the upcoming Management Review and actions will be identified that should result in improving trends.

With the shutdown of the Canfor mills in Fort Nelson, no Canfor harvest activities took place in 2018/19. As a result, many measures directly linked to harvest activities do not contain new data and those often refer to the 2008 data (last year of harvesting activities) or recent updates to various indicators including seral stage, forest types, shrubs and additions/deletions to the forest landbase. The 2018/19 Annual Report continues the trend of providing minimal new reporting of measures that are directly influenced by harvest activities. Table 1 identifies the measures that received minimal reporting. The POG and Participants agreed that full reporting of these CSA indicators would be deferred until harvesting activities resume.

Revisions to Sustainable Forest Management Plan

The Fort Nelson SFMP was revised in winter 2018 to conform to the CSA Z809-16 standard. The SFMP indicators were renumbered sequentially. Old indicator 6.5.1 was merged with 6.4.2. Two new indicators (#31 and #42) were added to the plan, monitoring of the new indicators took effect April 1, 2018. These new indicators are included in the 2018-19 SFM annual report.

Following is a list of the indicators included in the May 9, 2018 version of the Fort Nelson SFMP.

Criteria 1 – Biological Diversity

Element 1.1 Ecosystem Diversity	CSA Core
1 – Ecosystem area by type	1.1.1
2 – Forest area by type or species	1.1.2
3 – Forest area by seral stage or age class	1.1.3
4 – Degree of within stand structural retention – WTP percentage	1.1.4
5 – Degree of Within stand structural retention – Dispersed retention	1.1.4
6 – Degree of within stand structural retention – Riparian management	1.1.4
7 – Shrub Habitat across the DFA	
Element 1.2 Species Diversity	CSA Core
8 – Degree of habitat protection for selected focal species including species at risk	1.2.1
9 – Degree of suitable habitat in the long term for selected focal species including species at risk	1.2.2
10 – Proportion of regeneration comprised of native species	1.2.3
Element 1.3 Genetic Diversity	CSA Core
11 – Percentage of stands reforestation programs free of genetically modified organisms	
Element 1.4 Protected Areas and Sites of Special Biological and Cultural Significance	CSA Core
12 – Proportion of identified sites with implemented management strategies	1.4.2
13 – Protection of identified sacred and culturally important sites	1.4.1

Criteria 2 – Ecosystem Condition and Productivity

Element 2.1 Forest Ecosystem Condition and Productivity	CSA Core
14 – Reforestation success – Regen delay	2.1.1
15 – Reforestation success – Free Growing	2.1.1
16 – Percentage of silviculture obligation areas with significant detected forest health damaging agents which have treatment plans	
17 – Evidence of efforts being made to manage known significant forest health damaging agents	
10 – Proportion of regeneration comprised of native species	2.1.2
18 – Additions or deletions to the forest area	2.1.3
19 – Proportion of the calculated long term sustainable harvest level that is actually harvested	2.1.4

Criteria 3 – Soil and Water

Element 3.1 Soil Quality and Quantity CSA Core

- 20 – Level of soil disturbance 3.1.1
- 21 – Level of downed woody material 3.1.2

Element 3.2 Water Quality and Quantity CSA Core

- 22 – Proportion of watershed or water management areas with recent stand replacing events - Watersheds 3.2.1
- 23 – Proportion of watershed or water management areas with recent stand replacing events - Roads 3.2.2

Criteria 4 – Role in Global Ecological Cycles

Element 4.1 Carbon Uptake and Storage CSA Core

- 24 – Net Carbon Uptake – Total carbon storage 4.1.1
- 25 – Net Carbon Uptake – Carbon sequestration rate 4.1.1
- 14 – Reforestation Success 4.1.2

Element 4.2 Forest Land Conversion CSA Core

- 18 – Additions and deletions to the forest area 4.2.1
- 26 – Evidence of best efforts to coordinate forest management activities with the oil and gas industry

Criteria 5 – Economic and Social Benefits

Element 5.1 Timber and Non-Timber Benefits

- 19 – Proportion of long term sustainable harvest level that is actually harvested
- 27 – Conformance with strategies for non-timber benefits identified in plans 5.1.1
- 28 – Participants forest management activities will not negatively impact established recreational sites and trails
- 29 – Forest Management Activities will be consistent with Visual Quality Objectives (VQO's)
- 30 – Evidence that the organization has cooperated with other forest-dependant businesses, forest users and local community to strengthen and diversify the local economy 5.1.1
- 31 – Evidence of communication and consideration of non-timber resources into forest management planning 5.1.2

Element 5.2 Communities and Sustainability	CSA Core
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- | | |
|--|-------|
| 32 – Level of participation and support in initiatives that contribute to community sustainability | 5.2.1 |
| 33 – Amount of Stumpage paid in the Fort Nelson DFA | |
| 34 – Level of participation and support in training and skills development | 5.2.2 |
| 35 – Level of direct and indirect employment | 5.2.3 |

Criteria 6 – Society’s Responsibilities

Element 6.1 Fair and Effective Decision Making	CSA Core
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- | | |
|--|-------|
| 36 – Level of participant and PRISM member satisfaction with the public participation process | 6.1.1 |
| 37 – Evidence of efforts to promote capacity development and meaningful participation in general | 6.1.2 |
| 38 – Availability of summary information on issues of concern to the public | 6.1.3 |

Element 6.2 Safety	CSA Core
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- | | |
|---|-------|
| 39 – Evidence of cooperation with DFA-Related workers to improve and enhance safety standards, procedures and outcomes in all DFA-related workplaces and affected communities | 6.2.1 |
| 40 – Evidence that a worker safety program has been implemented and is periodically reviewed and improved | 6.2.2 |

Criteria 7 – Aboriginal Relations

Element 7.1 Aboriginal and Treaty Rights	CSA Core
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- | | |
|--|-------|
| 41 – Evidence of a good understanding of the nature of Aboriginal title and rights | 7.1.1 |
| 42 – Evidence of ongoing communication with Aboriginal communities and consideration of information gained | 7.1.2 |

Element 7.2 Respect for Aboriginal Forest Values, Knowledge and Uses	CSA Core
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- | | |
|--|-------|
| 43 – Level of Aboriginal participation in the forest economy | 7.2.1 |
| 44 – Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans | 7.2.2 |
| 45 – Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values | 7.2.2 |
| 46 – Level of management and/or protection of areas where culturally important practices and activities occur | 7.2.3 |

Summary of Measure (Indicator) Performance to Date

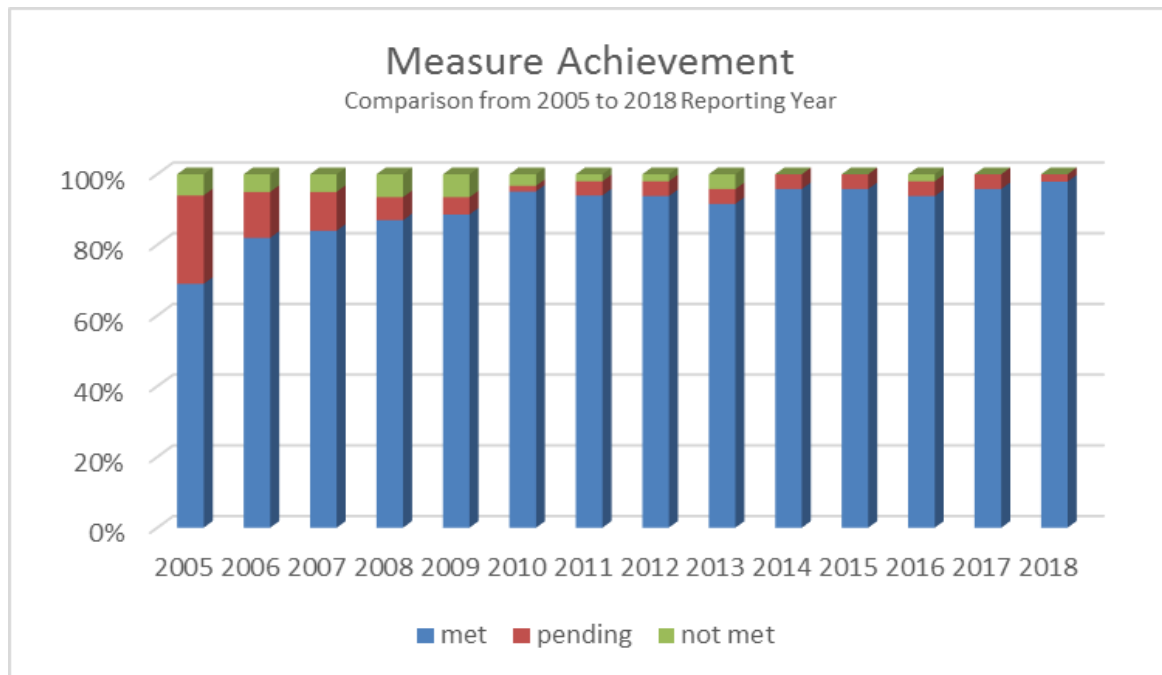


Figure 2: Comparison of measure achievement (Canfor) 2005 to 2018

Table 1: Summary of Canfor's 2018 Measure Status

	Measure	Target Met	Target Pending	Target Not Met	Minimal reporting
1	Ecosystem area by type	✓			✓
2	Forest area by type or species	✓			✓
3	Forest area by seral stage or age class	✓			✓
4	Degree of within stand structural retention – WTP Percentage	✓			✓
5	Degree of within stand structural retention – Dispersed Retention	✓			✓
6	Degree of within stand structural retention – Riparian Management	✓			✓
7	Shrub Habitat	✓			✓
8	Degree of habitat protection for selected focal species including species at risk	✓			✓
9	Degree of suitable habitat in the long term for selected focal species including species at risk	✓			✓
10	Proportion of regeneration comprised of native species	✓			
11	Percentage of stands artificially regenerated that are free of genetically modified organisms (GMOs)	✓			
12	Proportion of identified sites with implemented management strategies	✓			
13	Protection of identified sacred and culturally important sites	✓			
14	Reforestation success – Regen Delay	✓			
15	Reforestation success – Free Growing	✓			
16	Percentage of silviculture obligation areas with significant detected forest health damaging agents which have	✓			
17	Evidence of efforts being made to manage known significant forest health damaging agents	✓			
18	Additions and deletions to the forest area	✓			✓
19	Proportion of calculated long term sustainable harvest that is actually harvested		✓		✓
20	Level of soil disturbance	✓			✓
21	Level of downed woody debris	✓			✓
22	Proportion of watershed or water management areas with recent stand replacing disturbance - Watersheds	✓			✓
23	Proportion of watershed or water management areas with recent stand replacing disturbance – Roads and road structures	✓			✓
24	Net carbon uptake – Total Carbon Storage	✓			✓
25	Net carbon uptake – Sequestration rate	✓			✓
26	Evidence of best efforts to coordinate forest management activities with the oil and gas industry	✓			
27	Conformance with strategies for non-timber benefits identified in Plans	✓			
28	Participants forest management activities will not negatively impact established recreational sites and trails	✓			✓
29	Forest management activities will be consistent with Visual Quality Objectives (VQO's)	✓			✓
30	Evidence that the organization has cooperated with other forest dependent businesses, forest users and local community to strengthen and diversify the local economy	✓			✓
31	Evidence of communication and consideration of non-timber resources into forest management planning	✓			
32	Level of participation and support in initiatives that contribute to community sustainability	✓			✓
33	Amount of stumpage paid in the Fort Nelson TSA	✓			✓
34	Level of participation and support in training and skills development	✓			
35	Level of direct and indirect employment	✓			✓
36	Level of participant and Prism member satisfaction with the public participation process	✓			
37	Evidence of efforts to promote capacity development and meaningful participation in general	✓			✓
38	Availability of summary information on issues of concern to the public	✓			
39	Evidence of cooperation with DFA related workers to enhance safety standards, procedures and outcomes in all DFA workplaces and affected communities	✓			
40	Evidence that a worker safety program has been implemented and is periodically reviewed and improved	✓			
41	Evidence of good understanding of the nature of aboriginal title and rights	✓			
42	Evidence of ongoing communication with Aboriginal communities and consideration of information gained	✓			
43	Level of aboriginal participation in the forest economy	✓			✓
44	Evidence of best efforts to obtain acceptance of management Plans based on Aboriginal communities having a clear understanding of the plans	✓			
45	Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities using a process that identifies and manages culturally important resources and values	✓			
46	Level of management and/or protection of areas where culturally important practices and activities (hunting/fishing/gathering) occur	✓			
	Total	45	1	0	

Continuous Improvement

To facilitate reporting and continuous improvement of the measures and targets in the SFM Plan, and to ensure that data is collected in a timely and orderly fashion, each measure will be recorded and tracked. This will occur either in Canfor's Land & Resources Management (LRM) or Incident Tracking System (ITS) modules or in a separate database specific to the measure. LRM and ITS act like a warehouse for most SFM tasks, tracking responsibilities, due dates, and progress comments.

Detailed Review of SFM Measure Performance

Criterion 1.0 Biological Diversity

1 - Ecosystem area by type

Measure 1	
Target	Results
Based on a percent representation of ecosystem groups across the DFA:	Canfor did not complete any harvesting or road construction during the reporting period. Therefore no activities were completed involving rare or uncommon ecosystems. This indicator is therefore considered to be achieved.
A) 100% of the rare and uncommon ecosystems will have special management strategies associated with them (0%)	
B) 100% of the strategies for rare and uncommon ecosystems will be followed.	

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The ecosystem representation analysis for the Fort Nelson DFA was updated in 2011/12. Prior to resumption of harvest activities the management strategies currently identified for rare and uncommon ecosystems will be updated to be consistent with the revised 2011/12 ERA results. Those ecosystems found to be uncommon or rare in the NHLB will be subject to specific management strategies where they occur in the THLB.

References
Table 5: Rare and Uncommon Ecosystem Groups in the Fort Nelson DFA in Appendix 2.

2 – Forest area by type and species

Measure 2	
Target	Results
Percent distribution of Forest type (treed conifer, treed broadleaf, treed mixed) >20 years old across the DFA. Target is to maintain baseline ranges and distribution in the future (5%)	Canfor was not actively harvesting or constructing roads or reforestation during the reporting period. Accordingly, there was no effect on the forest type distribution. This indicator is considered met due to zero net effect on the indicator.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The forest cover type analysis was updated in May 2018. The revised forest cover data is presented in Appendix 2 Table 6A and 6B.

References
See Table 6: Forest Cover Type in Appendix 2.



Figure 3: Deciduous, conifer and mixed wood forest stands.

3 – Forest area by Seral stage or age class

Measure 3	
Target	Results
Percent of late seral stage (old growth) distribution by natural disturbance unit is maintained at the legal target for old growth as set by the Non-Spatial Old Growth Objectives of the Fort Nelson Forest District Order (NSLBOO) and spatially established OGMA's or to trend positive each year toward meeting the legal target.%)	There are no legal spatial OGMA's within the Fort Nelson resource District. Canfor was not actively harvesting or constructing road during the reporting period. Accordingly there was no effect on the late seral stage forest distribution across the DFA. The non spatial old forest targets are achieved in each of the natural Disturbance Units of the Fort Nelson Resource District. This indicator is considered met due to zero net effect on the indicator.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.

References
See Table 8: Required Percentage of Retention in the DFA, Figure 9: Natural Disturbance Units of the Fort Nelson DFA and Table 9: Current Percentage of Old Seral Stage by NDU in Appendix 2 for a summary of the data supporting this indicator. The seral status was updated in the 2015-2016 annual report.

4 - Degree of within stand structural retention – WTP percentage

Measure 4	
Target	Results
Percent of within stand structure retained across the DFA in harvested areas:	Canfor completed no harvesting activities in the reporting period. No harvesting occurred since the calculation of the 2010 baseline data for the 2011 SFMP. Accordingly, there was no effect on the percentage of WTP retention within the DFA and the trend was unaffected as well. This indicator is considered met due to zero net effect on the target.
A) 100% conformance with landscape level (LU) target of 7% set by FRPA for all new harvesting (0%)	
B) positive trend toward the baseline 7% in LU's where current level of retention is deficient	

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The Canfor Forest Stewardship Plan (FSP) WTP retention target was amended in 2012 to be consistent with the target noted in the SFMP. No harvesting has been completed under the revised WTP retention targets.

References
See Table 10: Current Stand Level Retention Percentage in Appendix 2.

5 – Degree of within stand structural retention – Dispersed Retention

Measure 5		
Target	Results	
Percent of blocks meeting dispersed retention levels as prescribed in the site/logging plan, target of 100% (0%)	Canfor completed no harvesting activities during the reporting period. Accordingly there was no effect on the indicator target. This indicator is considered met due to zero net effect on the target.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
This indicator was added to the 2011 SFMP.		
References		

6 – Degree of within stand structural retention – Riparian management

Measure 6		
Target	Results	
Number of non-conformances where forest operations are not consistent with riparian management requirements as identified in operational plans, target of 0 non conformances. (Variance of 0)	Canfor completed no harvesting activities during the reporting period. Accordingly, there were no non-conformances with riparian management requirements in operational plans. This indicator is considered met due to zero net effect on the target.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

7 – Shrub Habitat

Measure 7		
Target	Results	
A) Sustain current baseline shrub habitat percentage in the THLB (1% of CFLB)	Canfor completed no harvesting or road construction activities during the reporting period therefore our forest activities had no effect on the shrub percentage in the THLB. This target is considered met due to zero net effect on the target.	
B) Monitor shrub habitat percentage in the NHLB		
Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
Consider revising indicator & target to focus on avoidance of conversion of shrub land to forest land, such as “Over a defined period, shrub area converted to forest land by the participants will not exceed “X”% of the total shrub land in the Gross Harvesting Landbase”.
References
See Table 12 – Area in Stands Less than 20 Years Old in Appendix 2.

**8 – Degree of Habitat protection for selected focal species including species at risk, and
9 – Degree of suitable habitat in the long term for selected focal species including species at risk.**

Measure 8 and 9	
Target	Results
Percentage of forest management activities consistent with management strategies for species of management concern, target of 100% conformance with management strategies. (Variance of 0).	Canfor completed no harvesting or road construction activities during the reporting period therefore no activities took place that would have the potential to impact habitat of a species of management concern. This target is considered met due to zero net effect on the target.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

10 - Proportion of regeneration comprised of native species

Measure 10	
Target	Results
Regeneration will be consistent with provincial regulation and standards for seed and vegetative material use. Target of 100% conformance with standards (0).	Canfor's planting activities during the reporting period were in conformance with the Chief Forester's Standards for Seed Use. Seedlings were planted from local seed collected in Fort Nelson in accordance with the Chief Forester's Standards for Seed Use. This target has been met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

11 - Percentage of stands artificially regenerated that are free from genetically modified organisms (GMO's)

Measure 11	
Target	Results
100 percent of stands artificially reforested by participants will be free of GMO's. (Variance of 0%).	Canfor's planting activities during the reporting period were in conformance with the Chief Forester's Standards for Seed Use. All blocks were planted with seedlings grown from locally harvested seed as mentioned in indicator 1.2.3. No genetically modified organisms were used to reforest any areas in the DFA. This target has been met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

12 - Proportion of identified sites with implemented management strategies

Measure 12	
Target	Results
100 percent of forest management activities consistent with management strategies for protected areas and sites of biological significance (Variance of 0%)	Canfor completed no harvesting or road construction activities during the reporting period therefore no activities took place that would have the potential to impact protected areas or sites of biological significance. Silviculture activities were consistent with operational plans. This indicator is considered met due to zero impact on the target.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The indicator target and variance includes sites of cultural significance made known to the participants by First Nations and other parties.
References

13 - Protection of identified sacred and culturally important sites

Measure 13	
Target	Results
100 percent of identified Aboriginal forest values, knowledge and uses considered in forestry planning processes (0).	Canfor completed no harvesting or road construction activities during the reporting period, accordingly no activities took place that would have the potential to impact identified sacred or culturally important sites. No sites of significance to first nations to be addressed by planning or silviculture processes were brought forward to Canfor during this reporting period. This indicator is considered met due to zero harvesting activities having occurred.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
Inherent in the SFMP description of this indicator is the understanding that the consideration of Aboriginal forest values, knowledge and uses in forestry planning also includes addressing the mitigation of potential negative impact of these items and known sites of cultural importance to First Nations by way of site level plans.
References

Criterion 2.0 Ecosystem Condition and Productivity

14 - Reforestation success – Regen Delay

Measure 14	
Target	Results
100 percent of stands established annually will have an average regeneration delay of 3 years or less (variance Site Plan specific)	No blocks were due to be established in the reporting period. Fill planting of previously established stands occurred in 2018 to maintain stocking within target thresholds. This target has been met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
.
References
See Appendix 3 Table 13.

15 - Reforestation success – Free Growing

Measure 15	
Target	Results
100 percent compliance with free growing timelines prescribed in site plans (0)	100% of all blocks required to be free growing in 2018 achieved free growing status and were declared as free growing. This target has been met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
References
See Appendix 3 Table 13 – Summary of Free Growing Blocks.

16 - Percentage of silviculture obligation areas with significant detected forest health damaging agents which have treatment plans

Measure 16		
Target	Results	
100 Percent of sites with significant forest health damaging agents will have a treatment plan developed and initiated within one year of detection (0)	All blocks found to have a significant forest health damaging agent that threatens the survival of the stand have had treatment plans developed. The most significant damaging agent found in blocks surveyed in 2018 was competing vegetation. These blocks have been scheduled for vegetation management and/or fill planting treatments. This indicator target has been achieved.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
Wildfires in the Kotcho area destroyed a number of Canfor's plantations in 2012. Action plans were developed in 2013 to deal with reforesting these areas.		
References		
See Appendix 3 Table 15 - Plantation Pest Severity Ranking.		

17 - Evidence of efforts being made to manage known significant forest health damaging agents

Measure 17		
Target	Results	
a) Annually report out on percentage of harvest activity that is focused on the treatment of stands damaged by or susceptible to damage by natural events or damaging agents	Canfor completed no harvesting or road construction activities during the reporting period, accordingly no harvest salvage or sanitation activities took place that would have the potential to impact significant forest health damaging agents. Canfor has implemented brushing activities where required. Canfor staff were members of the Fort Nelson Mountain Pine Beetle Task Force during the reporting period. Therefore, this indicator is considered to have been met.	
b) Annually report out on participation in management efforts within the DFA (committees, etc.) for significant forest health damaging agents		
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

18 - Additions and deletions to the forest area

Measure 18		
Target	Results	
Report out the percentage of gross forested landbase (CFLB) in the DFA converted to non-forest land use through forest management activities. Target of less than 3% of the gross forested landbase at any given time (variance of 0%).	Canfor completed no harvesting or road construction activities during the reporting period, accordingly no forest management activities took place that converted forest land to non forest land use. This indicator target is considered achieved.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
The baseline data for this indicator was updated in 2018 using TSR4 data.		
References		
See Appendix 3 Table 17 – Total Deletions from the Forested Landbase.		

19 - Proportion of long term sustainable harvest level that is actually harvested

Measure 19		
Target	Results	
Percentage of volume harvested compared to the long term harvest level (AAC) with a target of 100 percent over 5 years (10%)	Canfor completed no harvesting or road construction activities during the reporting period. This indicator target is considered pending.	
Target Met		
Yes	No	✓ Pending
Recommendations and Next Steps		
The PRISM has agreed that reporting of the Participants performance for this indicator will be waived pending the resumption of extensive timber harvesting by the Participants within the DFA.		
References		

Criterion 3.0 Soil and Water

20 - Level of soil disturbance

Measure 20	
Target	Results
Percentage of harvested blocks meeting soil disturbance objectives identified in plans. Target of 100 percent (variance of 0%)	Canfor completed no harvesting, mechanical site preparation or road construction activities during the reporting period. Therefore no negative soil disturbance was created. This indicator target is considered achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

21 - Level of Downed woody debris

Measure 21	
Target	Results
Percent of cutblocks reviewed where post harvest coarse woody debris (CWD) levels are within the targets contained in plans. Target of 100% (10%)	Canfor completed no harvesting or road construction activities during the reporting period. Therefore the population of blocks required to meet the target was zero. This indicator target is considered achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

22 - Proportion of watersheds or water management areas with recent stand replacing disturbance – Watersheds

Measure 22	
Target	Results
Sensitive watersheds that are found to be above peak flow targets will have further assessment done and strategies created for water management prior to harvest within the watershed. Target of 100 percent (0)	Canfor completed no harvesting or road construction activities during the reporting period. Therefore no harvesting occurred in sensitive watersheds. This indicator target is considered achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
<p>Equivalent Clearcut Area for the Fort Nelson TSA was calculated by MacDonald Hydrology Consultants Limited in March 2018.</p> <p>The following excerpt is taken from the report “Climate and hydrologic change assessment for the Fort Nelson TSA” dated March 31, 2018 - <i>On average, ECA across the study area is relatively low, ranging from less than 1% to approximately 25% (see Appendix Section 8.5). The mean ECA for the whole study area is 9% indicating the Fort Nelson TSA is currently largely hydrologically unaltered due to harvest and road development. Visual assessment of the results suggests they are reasonable given that relatively little disturbance has occurred recently across this landscape.</i></p>
References
Climate and hydrologic change assessment for the Fort Nelson TSA dated March 31, 2018 by Dr. Ryan MacDonald.

23 - Proportion of watersheds with recent stand replacing disturbance – Roads and Structures

Measure 23	
Target	Results
Percentage of high hazard drainage structures on road permits in sensitive watersheds with identified water quality concerns that have mitigative strategies implemented. Target of 100 (0)	Canfor completed no harvesting or road construction activities during the reporting period. Therefore no harvesting or road construction occurred in sensitive watersheds. Road maintenance activities were limited to the re-establishment of cross ditches on deactivated sections of the Pipeline Bypass and Tofte mainline roads. This indicator target is considered achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The Equivalent Clearcut Area analysis completed in 2018 for the Fort Nelson TSA indicates that there are currently no sensitive watersheds .and that <i>“the Fort Nelson TSA is currently largely hydrologically unaltered</i>

due to harvest and road development". Future harvesting conducted in sensitive watersheds utilizing roads held under permit by Canfor will be targeted for assessment of drainage structures as identified in the SFMP, to identify stream crossings considered to be of high potential hazard for sediment delivery to fish bearing streams. Mitigation strategies will be developed for high sedimentation hazard crossing structures. Early in the current harvest shut down, Canfor surrendered the majority of it's road permits for mainline roads to MFLNRORD. These roads were then re-issued to various oil and gas companies, who took over maintenance responsibilities on the roads.

References

Figure 4: Fort Nelson TSA Equivalent Clearcut Area

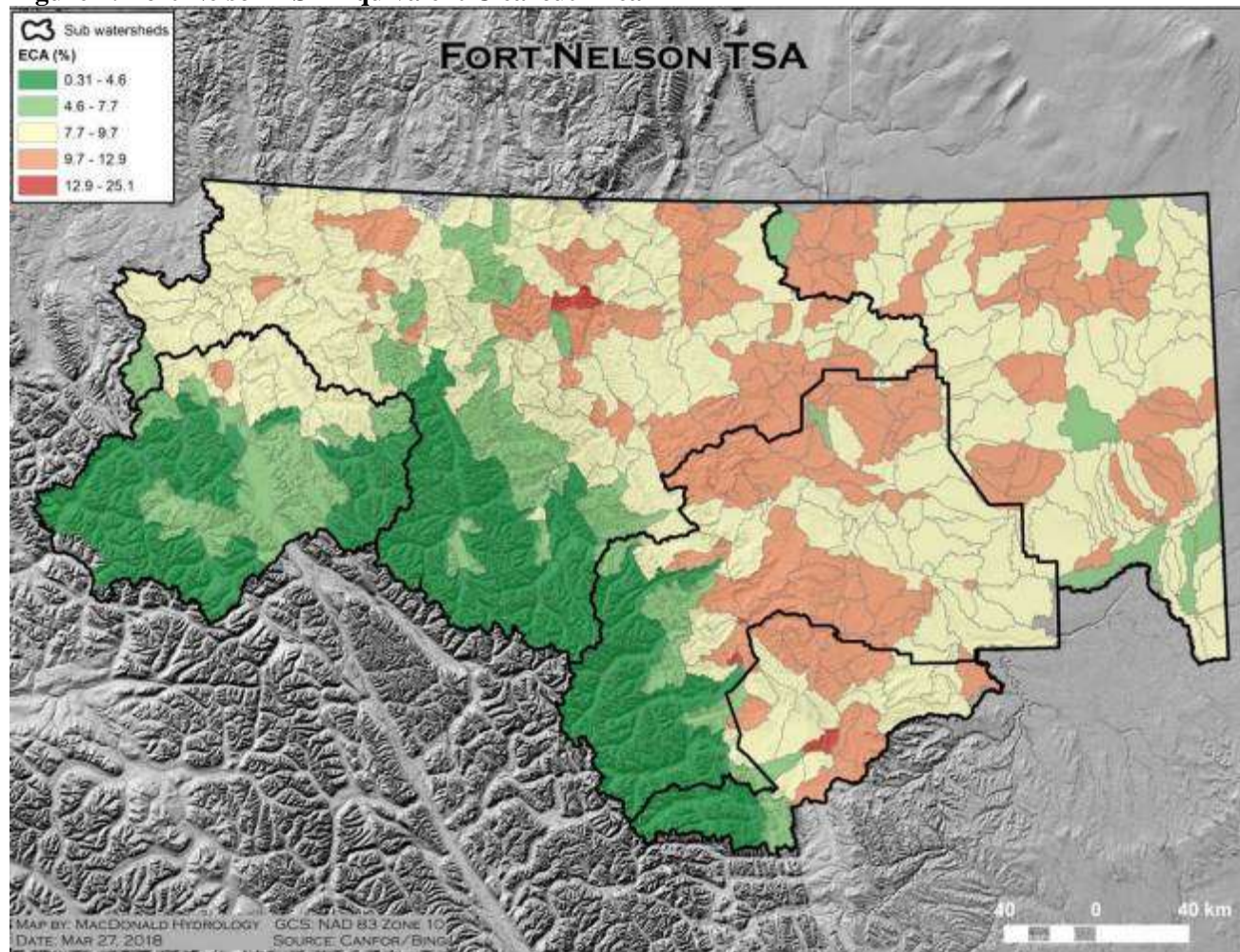


Figure 4 depicts ECA calculated at the scale of 100 km² threshold watersheds.

Criterion 4.0 Role in Global Ecological Cycles

24 - Net carbon uptake – Total Carbon Storage

Measure 24	
Target	Results
Maintain or increase the CFS-CBM derived baseline of 1,752 mega-tonnes total ecosystem carbon on the productive CFLB (10%)	The total carbon storage for the Fort Nelson DFA was calculated in 2006 and came out to 1,752 MT of carbon in the DFA. This indicator is considered met as the data from the initial run is still the baseline and believed to be applicable. Timber harvesting activities shut down in 2008.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
Analysis completed in 2006, harvesting shut down in Oct 2008. No timber harvesting has occurred since October 2008. Historical average area harvested per year is approximately 4503 ha per year or 0.05% of the DFA. The lack of timber harvesting disturbance that has occurred since the carbon storage and sequestration analysis was completed, (only 2 years of timber harvest) suggests that the carbon analysis does not need to be revised at this time. This analysis uses data tied to inputs developed under Timber Supply Review (TSR) analyses. The lack of harvesting and road building activities by Canfor has resulted in no reductions in Carbon storage resulting from Canfor’s forest management activities. The Fort Nelson TSR4 analysis report released in July 2019 did not include a carbon analysis.
References
See Table 20: Summary of ecosystem carbon storage in the forested landbase over a 250 year period in Appendix 4 – Criterion 4 Supporting Data for a summary of the data from the carbon analysis report.

25 - Net carbon uptake – Sequestration rate

Measure 25	
Target	Results
Maintain or increase the CFS-CBM derived baseline sequestration rate of 0.93 MT carbon per year in the THLB and 0.55 MT carbon per year in the NHLB (10%)	The annual carbon sequestration rate for the Fort Nelson DFA was calculated in 2006 and came out to 0.93 MT per year in the THLB and 0.55 MT per year in the NHLB. This indicator is considered met as the data from the initial run is still the baseline and believed to be applicable. Timber harvesting activities shut down in 2008.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps

Carbon analysis completed in 2006, harvesting shut down in Oct 2008. No timber harvesting has occurred since October 2008. Historical average area harvested per year is approximately 4503 ha per year or 0.05% of the DFA. The lack of timber harvesting disturbance that has occurred since the carbon storage and sequestration analysis was completed, (only 2 years of timber harvest) suggests that the carbon analysis does not need to be revised at this time. This analysis uses data tied to inputs developed under Timber Supply Review (TSR) analyses. The Fort Nelson TSR4 AAC determination report, released in early July 2019, does not include a carbon analysis. Should new carbon sequestration rate data for the DFA become available as part of a future TSR, it would be presented within the reporting year report when the TSR was released. Canfor's prompt reforestation activities have contributed to maintaining and / or increasing the Carbon sequestration rate.

References

See Table 21: Average carbon sequestration rate in the forested landbase over a 250 year period in Appendix 4 – Criterion 4 Supporting Data for a summary of the data from the carbon analysis report.

14– Reforestation Success

Measure 14	
Target	Results
Average regeneration delay for stands established annually will be 3 years or less (Variance site plan specific).	No stands were required to be established in the last 8 years, as no harvesting has occurred since 2008. Fill planting of previously established stands occurred in 2018 to maintain stocking within target thresholds. This target has been met

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps

Cut block stocking will continue to be monitored and fill planting completed, where required to maintain stocking within target thresholds, in order to achieve free growing requirements.

References

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18 - Addition and deletions to the forest area

Measure 18	
Target	Results
Percent of gross forested landbase in the DFA converted to non-forest land use through forest management activities. Target of less than 3% of gross forested landbase at any given time (0).	Canfor completed no harvesting or road construction activities during the reporting period, accordingly no activities took place that converted forest land to non forest land use. This indicator target is considered achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The baseline data for this indicator was updated in 2018 using TSR4 data.

References
See Appendix 3 Table 17 – Total Deletions from the Forested Landbase.

26 - Evidence of best efforts to coordinate forest management activities with the oil and gas industry

Measure 26	
Target	Results
A) Share 100% of annual planned block and road construction with the Oil and Gas Commission (0) B) Report out the number of oil and gas referrals for the Fort Nelson DFA responded to by each of the participants	Canfor completed no harvesting or road construction activities during the reporting period, nor did Canfor complete any harvest planning activities. Accordingly, there was no annual operating plan to share with the OGC. This indicator target is considered achieved. During 2018 Canfor received and responded to 2 Fort Nelson based oil and gas project referrals. There were no direct impacts to Canfor interests and no opportunities to coordinate access or forest management activities.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
Prior to resumption of extensive harvest activities, Canfor will share it’s annual harvest plan with the Oil and Gas Commission. Canfor continues to comment on oil and gas project referrals received. See the BCTS Annual Report for the number of referrals responded to by BCTS.

References
A risk assessment of the impact of oil and gas activities on SFM targets was completed in 2012. Activity in the oil and gas sector has decreased significantly since that assessment, as evidenced by only 2 oil and gas referrals received by Canfor in 2018. As a result of the downturn in the oil and gas activity there is even less risk of oil and gas activity negatively impacting ability of the participants to achieve the SFMP targets. See Appendix 3 Table 19 – TSA Disturbance Impact by Sector.

Criterion 5.0 Economic and Social Benefits

19 - Proportion of the long term sustainable harvest level that is actually harvested

Measure 19	
Target	Results
Proportion of the long term sustainable harvest level that is actually harvested. Percentage of volume harvested annually compared to long term harvest level (AAC) with a target of 100 percent over 5 years (0)	Canfor completed no harvesting or road construction activities during the reporting period. This indicator target is considered pending.

Target Met		
Yes	No	✓ Pending

Recommendations and Next Steps
The PRISM has agreed that reporting of the Participants performance for this indicator will be waived pending the resumption of timber harvesting by the Participants within the DFA.
References



Figure 5: Canfor Polarboard OSB mill circa 2003.

27 – Conformance with strategies for non-timber benefits identified in plans

Measure 27		
Target	Results	
Conformance with strategies for non-timber benefits identified in plans. Target of 100 percent compliance (0).	Canfor completed no harvesting or road construction activities during the reporting period. Brushing and weeding activities were reviewed with First Nations and no important sites were identified for protection. As such no plans were implemented that required strategies for provision of non-timber benefits. This indicator target is considered met.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
References		

28 - Participants forest management activities will not negatively impact established recreational sites and trails

Measure 5-1.1.3		
Target	Results	
100 percent of Participants road building and harvesting activities will take place outside of established recreation sites and trails. A variance is allowed in the event there is a compelling forest health or safety concern and that appropriate permissions are obtained.	Canfor completed no harvesting or road construction activities during the reporting period. As such there was no potential or actual impact to established recreation sites and trails. The indicator is considered achieved.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
A variance, if required, would be requested from the appropriate designated decision maker.		
References		
See Appendix 5 Table 22: Recreation sites and trails in the Fort Nelson DFA, for a summary of Recreation sites and trails identified in the SFMP. This list of Recreation sites and trails was updated based on data provided by the MFLNRORD in 2016.		

29 - Forest management activities will be consistent with Visual Quality Objectives (VQOs)

Measure 29		
Target	Results	
100 percent of Participants forest operations will be consistent with the established VQOs for the Fort Nelson DFA. A variance is allowed in the event there is a compelling forest health or safety concern, and the appropriate permissions are obtained.	Canfor completed no harvesting or road construction activities during the reporting period. As such there was no potential or actual impact to established VQOs. The indicator is considered achieved.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
A variance, if required, would be requested from the appropriate designated decision maker.		
References		
See Appendix 5 Figure 10: Fort Nelson Visual Quality Objectives, Table 23: Visual Quality Objective Class, 24: Maximum Allowable Disturbance Percentage by VQO Class, Table 25: Percent Denudation for Established VQOs. This table provides a summary of the background data from the 2011 SFMP. There have been no revisions to the Fort Nelson Visual Quality Objectives since 2002.		

30 - Evidence that the organization has co-operated with other forest dependent businesses, forest users and the local community to strengthen and diversify the local economy

Measure 30		
Target	Results	
Report out the number of purchase/Sale/Trade relationships with local forest dependent businesses where primary forest products and by-products are bought, sold or traded (Variance not applicable).	Canfor maintained an inactive purchase relationship with BCTS and other industrial suppliers in the Fort Nelson area, due to the indefinite closure of Canfor’s mills. The indicator is considered to have been achieved.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

31 - Evidence of communication and consideration of non-timber resources into forest management planning

Measure 6-4.3		
Target	Results	
100 percent of non-timber resource values, identified through communication, have been responded to and considered and/or accommodated in forest management planning. (0%)	During the reporting period no harvesting plans were shared, however Notices of Intent to Treat were shared with affected First Nations (Prophet River & Fort Nelson First Nations) and stakeholders, who were invited to meet with Canfor reps to review the plans. Meetings occurred to discuss the plans. A block specific concern regarding cultural values to be protected was provided regarding the NIT, which resulted in mitigative strategies being implemented to protect the value identified. This indicator is considered to have been met.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

32 - Level of participation and support in initiatives that contribute to community sustainability

Measure 32		
Target	Results	
Percent of total budget spent in local communities on a 5 year rolling average. This will be a report out indicator until the PAG decides on an acceptable target and variance. Annual expenditures will also be reported out in this indicator	Of Canfor’s 2018 planning and admin budget for Fort Nelson 86% (\$193,652) was spent on local suppliers. Of Canfor’s 2018 silviculture budget 67% (\$347,509) was spent on local suppliers. Of Canfor’s 2018 road maintenance budget 94% (\$103,703) was spent on local suppliers. Overall, 75% (\$644,865) of Canfor’s 2018 budget was spent on local suppliers. The 5 year rolling average is 48.8%	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		
See Appendix 5 Table 29 – Proportion of Local Spend 5 year rolling average.		

33 - Amount of stumpage paid in the Fort Nelson DFA

Measure 33		
Target	Results	
This is a report out indicator requested by the Public Advisory Group to show what revenues are being generated by the forest resource (timber extraction) in the DFA. As such there is no target or variance associated with it.	Canfor completed no harvesting or road construction activities during the reporting period. As such there was no stumpage charged and none paid in the reporting period. The indicator is considered to have been achieved. Canfor paid \$185,175 in forest rent to the government of BC.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

34 - Level of participation and support in training skills development

Measure 34		
Target	Results	
Training in environmental and safety procedures in compliance with company training plans. Target of 100 percent of company employees will have both environmental and safety training (5).	In 2018 Canfor had 4 woodlands employees with duties in Fort Nelson. All 4 employees received required safety and environmental training. This indicator target is considered to have been met.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

35 - Level of direct and indirect employment

Measure 35	
Target	Results
Maintain current level of direct and indirect employment as expressed as a factor of current harvest level (or using indirect job multipliers derived from the last TSR (variance of 10%))	During the reporting period Canfor had a total of 4 staff assigned to Fort Nelson duties. A total of 2.4 person years of employment were created through Canfor's planning and reforestation activities in Fort Nelson. The 2006 TSR employment multiplier of 1.25 yields a total of 5 direct and indirect jobs. This indicator target is considered to have been achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
With the sale of Canfor's panel manufacturing equipment in the spring of 2013, the 14 manufacturing staff assigned to Canfor Fort Nelson had their employment with the Company terminated. As of the writing of the 2013 report, Canfor had no manufacturing staff in Fort Nelson. At the time of preparation of the 2013 report Canfor had and continues to have 4 employees (Woodlands) with duties in Fort Nelson. This became the baseline level of direct employment to be maintained in the 2014 and subsequent reporting years. With the 2018 reporting year, reliance on harvest volume based indicators of indirect employment will not occur, rather only direct employment will be reported. This will result in an underestimation of the number of indirect jobs created by the road maintenance and silviculture activities completed by contractors for Canfor.
References

Criterion 6.0 Societies Responsibilities

36 - Level of Participant and PRISM satisfaction with the public participation process

Measure 36	
Target	Results
80 percent or greater level of satisfaction indicated by a PRISM established and maintained satisfaction survey (10%)	A satisfaction survey was not administered in the 2018 reporting year because of the participants' transition to SFI. The PAG agreed to drop the formal satisfaction survey, in recognition of the fact that the meeting facilitator always seeks feedback at the conclusion of each meeting regarding satisfaction with the completed meeting. Therefore this indicator is considered to be met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The last PRISM public participation process satisfaction survey was administered January 18, 2018 PAG meeting. Five surveys were returned and the average satisfaction level with the Public advisory process was rated as 5.0 out of 5.

References
See Appendix 6 Table 30: Summary of 2017 Public Participation Process Satisfaction Survey

37 - Evidence of efforts to promote capacity and meaningful participation in general

Measure 37	
Target	Results
1 or more educational opportunities for information/training are delivered to the PAG Annually	3 Educational opportunities were provided to the PAG during the reporting period: <ul style="list-style-type: none"> • October 25th, 2018 PRISM Meeting <ol style="list-style-type: none"> a) Forest Stewardship Plans – D. Regimbald b) Sustainable Forestry Initiative – D. Regimbald • July 20th, 2018 PRISM Field Tour <ol style="list-style-type: none"> a) Forest health, ecological restoration –J Smith., D. Regimbald This indicator is considered to have been met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.

References



Figure 6 PRISM Discussion of Fire Impacts, Field Tour June 2016

38 - Availability of summary information on issues of concern to the public

Measure 38	
Target	Results
Previous years' annual report must be made available to the public via the web prior to March 31 st of the current reporting year (no variance).	Canfor posted the 2017 annual report to it's external website. The 2017 SFM annual report was submitted to the Fort Nelson public library. This indicator has been met.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
The 2018 SFM annual report will be posted to Canfor's external website and a copy will be provided to the Fort Nelson public library.

References



Figure 7 PRISM Field Tour June 2016

39 - Evidence of co-operation with DFA related workers to improve and enhance safety standards, procedures and outcomes in all DFA workplaces and affected communities

Measure 39	
Target	Results
100 percent of Participants and their contractors and licensees (in the case of BCTS) will implement and maintain a certified safety program (10%).	Canfor maintained Safe Companies Certification in the reporting period. Canfor did not complete any harvesting or road construction activities during the reporting period. Silviculture contractors working for Canfor in the woods during the reporting period maintained certified safety programs. This indicator is considered to have been achieved.

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

40 - Evidence that a worker safety program has been implemented and is periodically reviewed and improved.

Measure 40	
Target	Results
A) 100 Percent of non-conformities found during external audits will have an action plan developed and implemented in a manner and timeframe acceptable to the auditor (0).	A) Canfor successfully underwent a surveillance audit of its safety certification, which was maintained during the reporting period. No non conformities were identified. B) A management review of Canfor's 2018 Woodlands Group safety program was completed. This indicator is considered to have been achieved.
B) An annual management review of the safety program will be completed (0)	

Target Met		
✓ Yes	No	Pending

Recommendations and Next Steps
None at this point.
References

Criterion 7.0 Aboriginal Relations

41 - Evidence of good understanding of the nature of Aboriginal title and rights

Measure 41	
Target	Results
100% of Canfor Forest Management Group (Fort Nelson Woodlands) employees and 100% of all BCTS Fort Nelson Field Team staff will receive First Nations awareness training (variance of 0%)	All of Canfor's four Fort Nelson Woodlands employees received First Nations awareness training. This indicator is considered to have been achieved.

Target Met		
Yes	✓ No	Pending

Recommendations and Next Steps
Canfor's aboriginal awareness training module was placed on the Eclipse training website in the form of a self administered training module in 2012.
References

42 - Evidence of ongoing communication with Aboriginal communities and consideration of information gained

Measure 6-4.3		
Target	Results	
100 percent of information on aboriginal titles and rights, identified through ongoing communication with aboriginal communities, has been responded to and considered and/or accommodated in forest management planning. (0%)	During the reporting period no harvesting plans were shared, however Notices of Intent to Treat were shared with affected First Nations (Prophet River & Fort Nelson First Nations) and invited to meet with Canfor reps to review the plans. Meetings occurred to discuss the plans. A block specific concern regarding cultural values to be protected was provided regarding the NIT, which resulted in mitigative strategies being implemented to protect the value identified. This indicator is considered to have been met.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

43 - Level of Aboriginal participation in the forest economy

Measure 43		
Target	Results	
Number of opportunities compared to the three year rolling average. There will be no set target for this indicator as the objective is to ensure that some opportunities are being made available to first nations within the DFA. No variance is prescribed with this indicator	Canfor maintained 1 MOU with Prophet River First Nation. The provisions of the MOU are considered “on hold” until harvest operations resume by Canfor. Canfor did not tender any contracts for work in Fort Nelson in 2016. As this is a report out indicator it is considered to have been met.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		
See Appendix 5 Table 28 – Number of Opportunities Offered to First Nations		

44 - Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans

Measure 6-1.2		
Target	Results	
100% of management plans exhibit evidence of best efforts to obtain acceptance by aboriginal communities	In the reporting period, Notices of Intent to Treat were shared with affected First Nations (Prophet River, Fort Nelson, Fort Liard) and invited to meet with Canfor reps to review the plans. No block specific concerns requiring mitigation strategies were received from First Nation community members or trappers. No harvest plans were developed or shared during the 2018 reporting period. This indicator is considered to have been met.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
None at this point.		
References		

45 - Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values

Measure 45		
Target	Results	
100 percent of identified Aboriginal forest values and uses considered in the forestry planning process	Canfor did not complete any harvesting or road construction activities during the reporting period. In the reporting year no block specific concerns requiring mitigation strategies were received from First Nation community members. Canfor's brushing activities were completed in conformance with site plans and comments received from First Nations in response to the PMP and NIT consultation. The indicator is achieved.	
Target Met		
✓ Yes	No	Pending
Recommendations and Next Steps		
Inherent in the SFMP description of this indicator is the understanding that the consideration of Aboriginal forest values and uses in forestry planning includes addressing the protection of these items in forest plans. Every affected trapper/guide/First Nation was notified of planned 2018 herbicide treatments, and in 2014 First Nations were contacted to comment on the PMP; any concerns expressed to Canfor were addressed		

prior to vegetation management activity taking place. In the reporting year no block specific concerns requiring mitigation strategies were received from First Nation community members or trappers.

References

46 - Level of Management and/or Protection of areas where culturally important practices and activities (hunting, fishing, gathering) occur

Measure 46

Target	Results
100 percent of forest operations in conformance with operational / site plans developed to address Aboriginal forest values, knowledge and uses (variance of 0)	Canfor completed no harvesting or road construction activities during the reporting period. Canfor's brushing activities were completed in conformance with site plans & comments received in response to the Pesticide Management Plan (PMP) and Notice of Intent to Treat (NIT). No site specific concerns requiring mitigation strategies were received from First Nations regarding the blocks proposed to be treated with herbicide. The indicator is considered to be achieved.

Target Met

✓ Yes	No	Pending
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Recommendations and Next Steps

None at this point.

References



Figure 8 Toad River, Fort Nelson Defined Forest Area.

Questions regarding the 2018 SFM annual report may be directed to Canfor:
Darrell Regimbald RPF
Certification Specialist
250 787-3651

Appendix 1 – SFMP Change Tables

Table 2: Summary of Changes to Criteria from the 2004 SFMP to the 2011 SFMP

Table 3: Summary of changes from 2004 Measures to 2011 Indicators

Table 4: Dropped Measures from the Amended 2004 SFMP

Table 2: Summary of Changes to Criteria from the 2004 SFMP to the 2011 SFMP

2004 Criteria	CSA Z809-08 Criteria
C1 Biological richness and its associated values are sustained in the defined forest area (DFA)	C1 Biological diversity
C 2. The productive capability of forest ecosystems within the Timber Harvesting Land Base (THLB) are sustained	C2 Ecosystem Condition and Productivity
C 3. Forest ecosystem contributions to global ecological cycles are sustained within the DFA	C3 Soil and Water
C 4. The flow of economic benefits from forests through the forest industry is sustained	C4 Role in Global Ecological Cycles
C 5. The flow of marketed non-timber economic benefits from forests is sustained	C5 Economic and Social Benefits
C 6. Forest management contributes to a diversified local economy	C6 Society's responsibility
C 7. Decisions guiding forest management on the DFA are informed by and respond to a wide range of social and cultural values	
C 8. Forest management sustains or enhances the cultural (material and economic), health (physical and spiritual) and capacity benefits that First Nations derive from forest resources	
C 9. Forest management sustains ongoing opportunities for a range of quality of life benefits	

Table 3: Summary of changes from 2004 Measures to 2011 Indicators

CSA Z809-08 Core indicator or Local Indicator	Measure replaced from the 2008 update of the 2004 plan
1.1.1 Ecosystem area by type	1-1.1 Ecosystem Representation
1.1.2 Forest area by type or species composition	1-2.1 Habitat elements
1.1.3 Forest area by seral stage or age class	1-1.2 Seral stage
1.1.4.1 Degree of within stand structural retention – WTP percentage	1-2.1 Habitat elements
1.1.4.2 Degree of within stand structural retention – Dispersed Retention	1-2.1 Habitat elements
1.1.4.3 Degree of within stand structural retention – Riparian Management	1-2.1 Habitat elements
1.1.5 Shrub Habitat	1-2.1 Habitat elements
1.2.1 Degree of habitat protection for focal species including species at risk	1-3.1 Vertebrate species populations 1-3.2 SAR management strategies 1-4.1 Operations in parks, reserves and PA's 1-4.2 Special sites of biological significance 1-4.3 Management activities consistent with the Muskwa-Kechika management area 1-4.4 Management activities consistent with legal objectives
1.2.2 Degree of suitable habitat in the long term for selected focal species including species at risk	1-2.1 Habitat elements 1-3.1 Vertebrate species populations 1-4.1 Operations in parks, reserves and protected areas 1-4.2 Special sites of biological significance 1-4.3 Management activities consistent with the Muskwa-Kechika management area 1-4.4 Management activities consistent with legal objectives
1.2.3 Proportion of regeneration comprised of native species	1-6.1 Conifer seed use in accordance with regulation 1-6.2 Aspen regeneration – Natural regeneration
1.3.1 Percentage of stands artificially regenerated that are free of genetically modified organisms	New Measure with no equivalent from the older plans
1.4.1 Proportion of identified sites with implemented management strategies	1-4.1 Operations in parks, reserves and protected areas 1-4.2 Special site of biological significance 1-4.4 Management activities consistent with legal objectives 9-3.1 compliance with documented strategies
1.4.2 Protection of identified sacred and culturally important sites	8-2.1 Percentage of specific/confirmed culturally important sites identified by first nations
2.1.1.1 Reforestation success – Regen Delay	2-3.1 Regeneration delay 2-3.2 Compliance with regeneration standards
2.1.1.2 Reforestation success – Free Growing	2-3.3 Compliance with free growing
2.1.1.3 Percentage of silviculture obligation areas with significant detected forest health agents	4-6.2 Management strategies for damaging events or agents

CSA Z809-08 Core indicator or Local Indicator	Measure replaced from the 2008 update of the 2004 plan
which have treatment plans	
2.1.1.4 Evidence of efforts being made to manage known significant forest health damaging agents	4-6.1 Assessment of damaging events or agents
2.2.1 Addition and deletions to the forest area	2-2.1 forest converted to non-forest use 2-2.3 Landslides
2.2.2 Percentage of long term sustainable harvest level that is actually harvested	4-1.1 Harvested Volume 4-1.2 Timber supply certainty
3.1.1 Level of Soil disturbance	2.-2.2 Long term detrimental soil disturbance
3.1.2 Level of downed woody debris	1-2.1 Habitat elements 2-1.2 Coarse woody debris
3.2.1.1 Proportion of watershed or water management areas with recent stand replacing disturbance - Watersheds	1-5.1 Stream crossings – WQCR 1-5.2 Stream crossings – installed/removed to design/standard 1-5.3 Stream crossings - inspections
3.2.1.2 Proportion of watershed or water management areas with recent stand replacing disturbance - Roads	1-5.1 Stream crossings – WQCR 1-5.2 Stream crossings – installed/removed to design/standard 1-5.3 Stream crossings - inspections
4.1.1.1 Net Carbon Uptake – Total Carbon Storage	3-1.1 Carbon stored in trees and non-tree vegetation Note this measure was pulled directly across
4.1.1.2 Net Carbon Uptake – Carbon sequestration rate	3-3.1 Carbon Sequestration Note this measure was pulled directly across
4.1.2 Reforestation success	As per indicator 2.1.1
4.2.1.1 Additions and deletions from to the forest area	As per indicator 2.2.1
4.2.1.2 Evidence of best efforts to coordinate forest management activities with the oil and gas industry	2-2.4 Information requests – oil and gas industry
5.1.1.1 Quantity and Quality of timber and non-timber benefits, products and services produced in the DFA	As per indicator 2.2.2
5.1.1.2 Quantity and Quality of timber and non-timber benefits, products and services produced in the DFA	5-1.1 Potential for marketed non-timber resource benefits 5-1.2 Amount of marketed non-timber resource activity
5.1.1.3 Participants forest management activities will not negatively impact established recreational sites and trails	9-1.1 Number of forest recreation sites/facilities maintained
5.1.1.4 Forest management activities will be consistent with Visual Quality Objectives (VQO's)	9-2.1 Compliance with Visual Quality Objectives
5.2.1.1 Level of investment in initiatives that contribute to community sustainability	New Measure with no equivalent from the older plans
5.2.1.2 Amount of stumpage paid in the Fort Nelson DFA	4-3.1 Fees paid by the Forest Industry
5.2.2 Level of investment in training and skills development	New Measure with no equivalent from the older plans

CSA Z809-08 Core indicator or Local Indicator	Measure replaced from the 2008 update of the 2004 plan
5.2.3 Level of direct and indirect employment	4-2.1 Direct employment in the forest industry 4-2.2 Indirect and induced employment
5.2.4 Level of Aboriginal participation in the forest economy	4-4.1 Opportunities for first nations 4-4.2 Opportunities for first nations (BCTS)
6.1.1 Evidence of good understanding of the nature of Aboriginal title and rights	New Measure with no equivalent from the older plans
6.1.2 Evidence of best efforts to obtain acceptance of management plans based on Aboriginal communities having a clear understanding of the plans	8-1.1 Percentage of cutblocks where information sharing took place 8-2.1 Access to resources for first nations 8-3.1 First nations opportunities to comment 8-3.2 Percentage of archaeological impact assessments sought
6.1.3 Level of management and/or protection of areas where culturally important practices and activities (hunting, fishing, gathering, Etc.) occur	8-1.1 Percentage of cutblocks where information sharing took place 8-2.1 Access to resources for first nations 8-3.1 First nations opportunities to comment
6.2.1 Evidence of understanding and use of Aboriginal knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values	8-1.1 Percentage of cutblocks where information sharing took place 8-2.1 Access to resources for first nations
6.3.1 Evidence that the organization has co-operated with other forest dependant businesses, forest users and the local community to strengthen and diversify the local economy	New Measure with no equivalent from the older plans
6.3.2 Evidence of co-operation with DFA related workers and their unions to improve and enhance safety standards, procedures and outcomes in all DFA workplaces and affected communities	9-4.1 Safe company registration and certification 9-4.2 safety incidences 9-4.3 Number of serious injuries 9-4.4 Number of fatalities
6.3.3 Evidence that a worker safety program has been implemented and is periodically reviewed and improved	9-4.1 Safe company registration and certification
6.4.1 Level of Participant satisfaction with the public process	7-1.3 Effective public advisory group 7-1.4 Equitable and inclusive deliberation process
6.4.2 Evidence of efforts to promote capacity development and meaningful participation in general	7-1.2 Methods used for public communication 7-1.3 Effective public advisory group 7-1.5 perceptions of members of the Fort Nelson public advisory group
6.4.3 Evidence of efforts to promote capacity development and meaningful participation for Aboriginal communities	New Measure with no equivalent from the older plans
6.5.1 Number of people reached through educational outreach	7-1.2 Methods used for public communication
6.5.2 Availability of summary information on issues of concern to the public	New Measure with no equivalent from the older plans

Table 4: Dropped Measures from the Amended 2004 SFMP

Dropped Measure	Reason for deletion
2-1.1 Site index	This measure was dropped because of the high variability in the methodology of measuring Site Index for any given site. There are three methods for calculating SI, and there is no way of knowing how the original SI was derived. This makes any comparison to a newly calculated SI very difficult to reconcile.
2-4.1 Treatment plans for natural disturbance events	As natural disturbance events are not under the control of the Participants, neither is the legal responsibility for management of these events which are not triggered by the actions of the participants. The treatment of such areas would have to be voluntary. Such losses to natural disturbance would be taken into account by the TSR process, resulting in downward pressure on AAC in the short term.
2-4.2 Percent of catastrophic natural disturbance events due to forestry activities	If forestry activities were to result in a catastrophic natural disturbance or to exacerbate a natural disturbance, the Participants would be required to help with the mitigation as a matter of law.
4-2.3 Dollar value of BCTS timber sales and total timber volume advertised by BCTS	This measure did not really fit in with any of the elements from the 6 CSA criteria.
4-3.2 Personal income taxes paid	This measure did not fit in with any of the elements from the 6 CSA criteria, and was considered inappropriate by the Participants as it was reporting personal information.
4-5.1 Perceptions of Canfor and BCTS	This measure did not really fit in with any of the elements from the 6 CSA criteria.
4-5.2 Competitive primary milling facility	This measure was removed as the presence of a competitive primary milling facility is controlled by the lumber market, which is beyond the control of the Participants to influence.
6-1.1 Employments by broad sector	This measure is out of the scope of control of the Participants and as such not appropriate for the SFMP
6-1.2 Employment by industry	This measure is out of the scope of control of the Participants and as such not appropriate for the SFMP
7-1.1 Stakeholder database	This measure did not really fit in with any of the elements from the 6 CSA criteria. The stakeholder database has been retained as a tool to be used by the participants to assist in efforts to inform the public about the SFM activities of the participants.

Appendix 2 – Criterion 1 Supporting Data

Table 5: Rare and Uncommon Ecosystem Groups in the Fort Nelson DFA

Table 6: Forest Cover Type (2011 dataset)

Table 7: Forest Cover Type (2018 dataset)

Table 8: Required Percentage of Retention in the DFA

Table 9: Current Percentage of Old Seral Stage by NDU

Table 10: Current Stand Level Retention Percentage (2011 analysis)

Table 11: Current Stand Level Retention Percentage (2013 analysis)

Table 12: Area in Stands Less than 20 years old and polygons labelled as shrub area (TSR 3 VRI dataset 2018)

Figure 9: Natural Disturbance Units of the Fort Nelson DFA

Table 5: Rare and Uncommon Ecosystem Groups in the Fort Nelson DFA*

Rare Ecosystems in the NHLB	Forest Area (ha)
Group #	
7 - BWBS dk1 (02), SBS mk1 (03), SBS mk2 (02)	532
73 - BWBS dk1 (06)	2,397
71 - BWBS dk1 (07)	704
74 - BWBS dk1 (08)	74
69 - SWB mk (09)	346
Uncommon Ecosystems in the NHLB	Ecosystem Description
3 - SWB mk (02)	5,695
36 - ESSF mc (05)	8,158

*from 2011 ecosystem analysis conducted by Canfor

Table 6: Forest Cover Type (2011 dataset)*

Cover Type	CFLB (ha)	THLB (ha)	NHLB (ha)	Baseline % of CFLB
Pure hardwoods	1,071,994	657,375	414,619	19.0%
Hardwood-leading mixed	452,116	205,060	247,055	8.0%
Pure conifers	3,583,672	1,123,399	2,460,273	63.6%
Conifer-leading mixed	532,327	302,898	229,428	9.4%
Total Area	5,640,109	2,288,732	3,351,375	100%

*From 2011 SFMP analysis.

Table 7: Forest Cover Type (2018 dataset)**

Cover Type	CFLB (ha)	THLB (ha)	NHLB (ha)	Baseline % of CFLB
Pure hardwoods	1,017,415	493,102	524,312	17.8%
Hardwood-leading mixed	452,291	175,449	276,841	7.9%
Pure conifers	1,559,604	639,747	919,858	27.4%
Conifer-leading mixed	279,076	138,773	140,303	4.9%
Immature	43,995	39,442	4553	0.8%
NP	2,348,187	70,041	2,278,146	41.2%
Total Area	5,700,568	1,556,554	4,144,013	100%

**From 2018 SFM analysis using updated TSR3 THLB database.

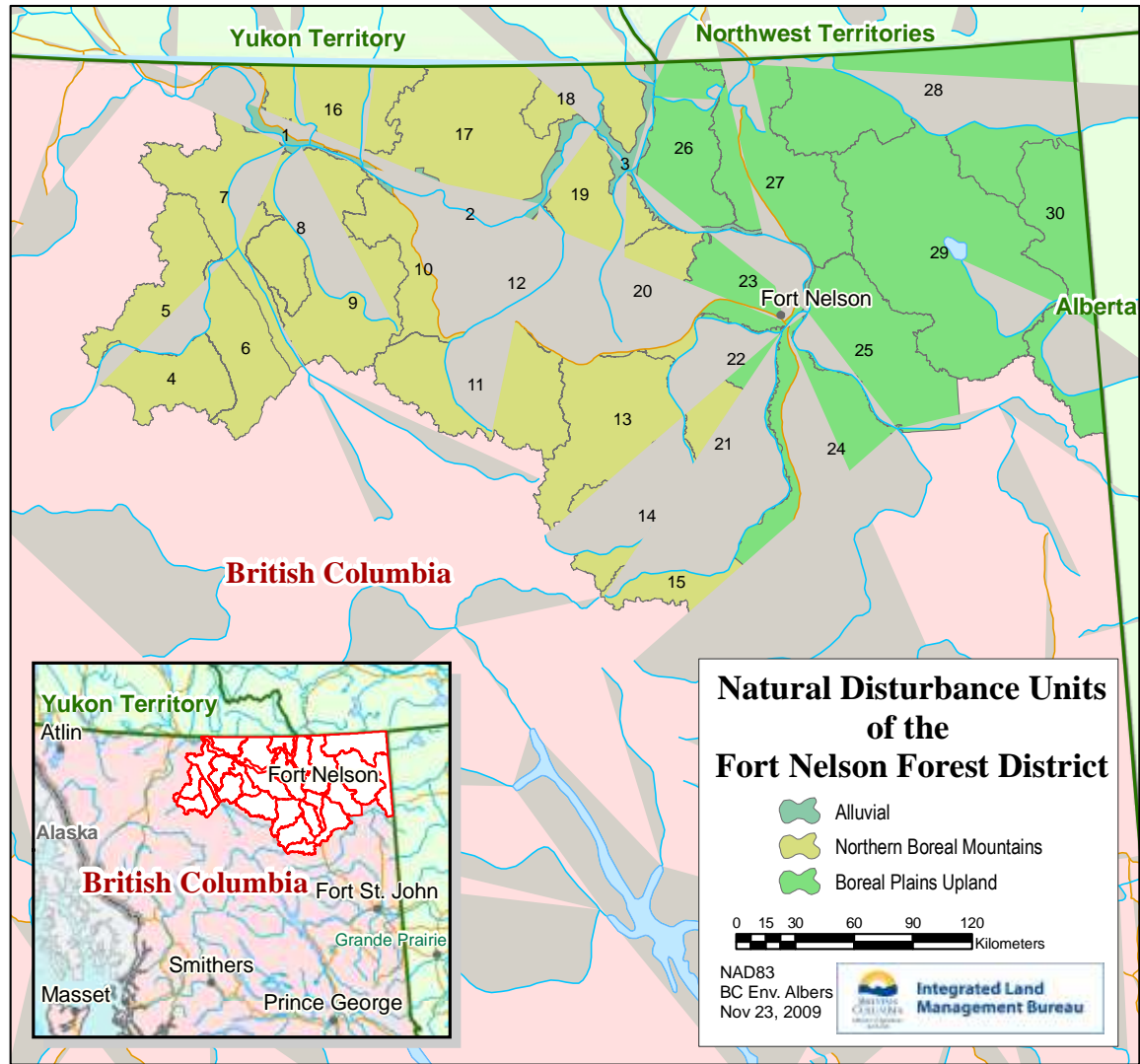
The tables above illustrate the cover type current condition for the Fort Nelson DFA by crown forest land base. The 2011 THLB dataset did not remove immature and NP areas from the species area calculations. The THLB dataset used in the 2018 analysis has removed immature and NP area from the species area calculations. Unfortunately as a result, a direct comparison of the results of the 2 analyses cannot be made. As shown, pure conifers continue to comprise the most of the land base. These distributions are not expected to change as the regeneration assumptions in Fort Nelson will maintain the same cover type distribution as currently exists. Of note no timber harvesting has been conducted in Fort Nelson since 2008.

Table 8: Required Percentage of Retention in the DFA*

Natural Disturbance Unit	Landscape Units	Age-of-old	Minimum % of CFLB retained as Old Forest
Alluvial	1 Liard River 2 Liard River Corridor Park 3 Nelson Forks	Conifer 140 Deciduous 100	44
Northern Boreal Mountains	4 Sharktooth 5 Major Hart 6 Boreal 7 Kechika 8 Rabbit 9 Netson 10 Muncho 11 Churchill 12 Sulpher/8 Mile 13 Tuchodi 14 Gatho 15 Prophet 16 Smith 17 Hyland 18 Beaver 19 Irene 20 Kleo 21 Holden	140	37
Boreal Plains Uplands	22 Klowee 23 Cridland 24 Klua 25 Clarke 26 Sandy 27 Kwigana 28 Petitot 29 Kotcho 30 Shekilie	Conifer 140 Deciduous 100	17

*from 2010 Fort Nelson Non Spatial Landscape Biodiversity Objectives Order.

Figure 9: Natural Disturbance Units of the Fort Nelson DFA*



*from 2010 Fort Nelson Non Spatial Landscape Biodiversity Objectives Order.

Table 9: Current Percentage of Old Seral Stage by NDU and LU*

NDU & LU	< 40yrs		40-100yrs		100-140yrs		>140yrs		Target	Surplus / Deficit	Total Forested area
	(ha)	%	(ha)	%	(ha)	%	(ha)	%	%	(ha)	(ha)
Conifer & Deciduous											
Northern Boreal Mountains NDU											
Beaver	9,952	9%	16,878	16%	8,097	8%	71,952	67%	37%	32,407	106,879
Boreal	0	0%	13,625	28%	18	0%	35,647	72%	37%	17,410	49,290
Churchill	66	0%	15,880	37%	449	1%	27,029	62%	37%	10,962	43,424
Gathto	1,574	1%	62,748	57%	2,734	2%	42,790	39%	37%	2,147	109,846
Holden	9,484	6%	98,416	67%	3,930	3%	36,084	24%	37%	-18,645	147,915
Hyland	12,833	6%	115,199	50%	8,087	4%	94,372	41%	37%	9,090	230,491
Irene	1,033	1%	12,217	12%	9,569	9%	82,983	78%	37%	43,836	105,801
Kechika	35,821	13%	82,785	30%	5,689	2%	147,665	54%	37%	47,040	271,959
Kledo	4,651	4%	39,306	30%	12,173	9%	73,173	57%	37%	25,331	129,303
Major Hart	1,843	2%	31,597	34%	1,212	1%	59,194	63%	37%	24,471	93,847
Muncho	120	0%	45,031	70%	161	0%	19,383	30%	37%	-4,554	64,695
Netson	1,492	1%	15,983	15%	1,165	1%	90,210	83%	37%	49,935	108,851
Prophet	0	0%	8,743	24%	563	2%	27,819	75%	37%	14,082	37,125
Rabbit	6,098	3%	143,722	68%	300	0%	60,785	29%	37%	-17,250	210,905
Sharktooth	627	2%	4,073	14%	54	0%	24,647	84%	37%	13,769	29,401
Smith	42,920	19%	116,683	52%	14	0%	64,399	29%	37%	-18,487	224,017
Sulpher/8mile	7,972	5%	54,968	35%	5,182	3%	89,933	57%	37%	31,453	158,054
Tuchodi	833	1%	45,995	53%	1,923	2%	38,446	44%	37%	6,183	87,197
Northern Boreal Mountains Total	137,320	6%	923,849	42%	61,321	3%	1,086,511	49%	37%	269,181	2,209,001
Coniferous											
Alluvial NDU											
Liard River	26,161	43%	14,707	24%	0	0%	19,649	32%	44%	-6,979	60,518
Liard River Corridor Park	371	1%	14,097	47%	0	0%	15,499	52%	44%	2,314	29,967
Nelson Forks	6,073	16%	4,645	12%	0	0%	26,647	71%	44%	10,206	37,365
Alluvial Conifer Total	32,606	26%	33,449	26%	0	0%	61,795	48%	44%	5,541	127,850
Deciduous											
Alluvial NDU											
Liard River	8,700	75%	421	4%	0	0%	2,549	22%	44%	-2,586	11,670
Liard River Corridor Park	1,893	6%	11,960	37%	0	0%	18,857	58%	44%	4,465	32,710
Nelson Forks	4,971	11%	10,610	22%	0	0%	31,592	67%	44%	10,836	47,174
Alluvial Deciduous Total	15,564	17%	22,991	25%	0	0%	52,998	58%	44%	12,715	91,553
Coniferous											

NDU & LU	< 40yrs		40-100yrs		100-140yrs		>140yrs		Target	Surplus / Deficit	Total Forested area
	(ha)	%	(ha)	%	(ha)	%	(ha)	%	%	(ha)	(ha)
Boreal Plains NDU											
Clark	1,107	2%	25,497	53%	0	0%	21,610	45%	17%	13,414	48,214
Cridland	7,151	19%	10,619	29%	0	0%	19,484	52%	17%	13,151	37,254
Kiwigana	1,224	2%	42,590	60%	0	0%	27,134	38%	17%	15,073	70,949
Klowee	10,555	23%	13,823	30%	0	0%	22,272	48%	17%	14,341	46,650
Klua	2,402	3%	40,324	48%	0	0%	41,608	49%	17%	27,271	84,334
Kotcho	4,119	3%	86,465	67%	0	0%	37,706	29%	17%	15,897	128,290
Petitot	289	0%	70,388	75%	0	0%	22,647	24%	17%	6,782	93,324
Sandy	2,578	6%	23,109	53%	0	0%	17,950	41%	17%	10,532	43,638
Shekilie	2,331	4%	41,513	64%	0	0%	21,253	33%	17%	10,187	65,097
Boreal Plains Conifer Total	31,757	5%	354,329	57%	0	0%	231,664	38%	17%	126,647	617,750
Deciduous											
Boreal Plains NDU											
Clark	3,270	3%	77,337	72%	0	0%	26,086	24%	17%	7,948	106,692
Cridland	5,279	6%	28,731	35%	0	0%	47,935	58%	17%	34,004	81,945
Kiwigana	1,742	1%	72,538	61%	0	0%	44,461	37%	17%	24,275	118,742
Klowee	10,961	17%	17,841	28%	0	0%	34,978	55%	17%	24,135	63,780
Klua	4,909	5%	60,836	58%	0	0%	39,643	38%	17%	21,727	105,388
Kotcho	9,001	5%	145,822	86%	0	0%	15,637	9%	17%	-13,341	170,461
Petitot	616	1%	59,168	84%	0	0%	11,024	16%	17%	-1,013	70,808
Sandy	2,405	3%	36,368	50%	0	0%	34,650	47%	17%	22,168	73,423
Shekilie	17,176	15%	94,243	83%	0	0%	2,371	2%	17%	-16,973	113,790
Boreal Plains Deciduous Total	55,360	6%	592,884	66%	0	0%	256,785	28%	17%	102,930	905,029

*From 2016 SFMP seral analysis.

Table 10: Current Stand Level Retention Percentage*

Canfor			BCTS		
LU #	% THLB in WTP	FSP Retention Target %	LU #	% THLB in WTP	FSP Retention Target %
4	5.6	3	9	9.30	3
9	5.4	3	12	4.56	3
10	12.36	4	14	5.05	5
11	10.3	5	15	6.73	6
12	10.4	3	16	8.71	4
14	8.8	5	17	4.38	2
15	9.1	6	19	5.03	4
16	7.8	4	20	9.47	6
18	8.0	3	22	5.50	7
19	8.5	4	23	12.34	6
20	12.4	6	38	4.23	6
21	5.0	5	39	3.09	4
22	8.4	7	66	8.00	10
23	8.6	6			
24	14.1	5			
25	12.8	4			
34	6.3	3			
36	5.0	2			
37	5.8	2			
38	11.0	6			
39	3.3	4			
65	10.0	7			
68	13	11			
69	2.7	8			
All LUs combined retention	8.1				

* From 2011 SFMP WTP retention analysis. This reflects the landscape units in effect prior to the establishment of the Fort Nelson Non Spatial Landscape Biodiversity Objectives Order, which among other things, consolidated the number of landscape units.

Table 11: Current Stand Level Retention Percentage*

Canfor			BCTS		
LU #	% THLB in WTP	*FSP Retention Target %	LU #	% THLB in WTP	FSP Retention Target %
3	16.2	7	9	9.30	3
19	6.8	7	12	4.56	3
20	4.38	7	14	5.05	5
24	0	7	15	6.73	6
25	4.82	7	16	8.71	4
26	8.8	7	17	4.38	2
			19	5.03	4
			20	9.47	6
			22	5.50	7
			23	12.34	6
			38	4.23	6
			39	3.09	4
			66	8.00	10
All LUs combined retention	7.8				

*From 2013 Canfor WTP retention analysis.

FSP retention targets revised in February 2013 to 7%. Table 11 reflects the consolidated landscape units effected by the Fort Nelson Non Spatial Landscape Biodiversity Objectives Order. Table 11 also reflects the revised FSP WTP retention targets and the historical WTP retention completed to October 2008. There has been no harvesting in Fort Nelson by Canfor since October 2008. Therefore no harvesting has occurred under the revised targets.

Table 12: Area in Stands Less than 20 years old and polygons labelled as shrub area (TSR 3 VRI dataset 2018)³

Stands Less Than 20 Years TSR3			
TSA	Area of THLB (Ha)	Area of NHLB (Ha)	Area of THLB & NHLB Combined (CFLB Ha)
Fort Nelson	38,413.06	9,001.73	47,414.80
Shrub Stands (VRI - Shrub Low & Shrub Tall) TSR3			
TSA	Area of THLB (Ha)	Area of NHLB (Ha)	Area of THLB & NHLB Combined (CFLB Ha)
Fort Nelson	18,267.55	168,441.28	186,708.83
Total Shrub Area	56,680.61	177,443.01	234,123.62
%	24%	76%	100%

CFLB represents combination of THLB and NHLB for this analysis.

The 2018 analysis indicates a total shrub area of 234,123.6 ha, which represents 4% of the CFLB of 5,700,568 ha. This is the revised baseline shrub area to be used for monitoring purposes.

In 2011 total shrub area of 271,841 ha represented 5% of the CFLB.

This reduction in shrub area noted by the 2018 analysis can be attributed primarily to the shutdown in timber harvesting (not producing new shrub area), the aging of previously harvested stands beyond 20 years of age and differences in the rate of natural disturbance over the period.

³ A surrogate for shrub area. Shrub area analysis updated in 2018.

Appendix 3 – Criterion 2 Supporting Data

Table 13: Summary of Free Growing Data Blocks with Free Growing Date in 2018

Table 14: Regen Delay Population January 1, 2015 – December 31, 2015

Table 15: Plantation Pest Severity Ranking

Table 16: Action Plan Summary for 2012 Burned Reforestation Obligations

Table 17: Total Deletions from the Forested Land base

Table 18: Oil and Gas Impact Risk Assessment

Table 19: TSA Disturbance Impact by Sector

Table 13: Summary of Free Growing Data Blocks with Free Growing Date in 2018

<u>Licence</u>	<u>CP/TSL</u>	<u>Block</u>	<u>Area</u>	<u>Milestone Met</u>
A17007	109	80	9.1	Yes
A17007	112	1963	23.6	Yes
A17007	112	1963	3.9	Yes
A17007	119	4601	59.0	Yes
A17007	123	5827	5.1	Yes
A17007	132	1163	2.4	Yes
A17007	181	1315	62.0	Yes
A17007	194	5304	24.2	Yes
A17007	194	5304	67.7	Yes
A17007	317	5798	80.0	Yes
A17007	317	5798	17.9	Yes
A17007	425	2220	69.8	Yes
A17007	449	2501	15.9	Yes
A17007	449	2501	6.4	Yes
A17007	449	3257	46.4	Yes
A17007	449	3257	27.4	Yes
A17007	449	3257	8.0	Yes
A17007	457	31A	13.3	Yes
A17007	499	902I	42.8	Yes
A17007	499	902I	16.4	Yes
A17007	500	903B	23.9	Yes
A17007	500	903B	52.7	Yes
A17007	500	904A	0.5	Yes
A17007	500	904A	86.9	Yes
A17007	534	502	142.5	Yes
A17007	537	511B	63.0	Yes
A17007	553	563	39.7	Yes
A17007	558	647	23.7	Yes
A17007	591	900D	33.2	Yes
A17007	591	900G	11.0	Yes
A17007	614	4B	10.8	Yes
A17007	72	2483	22.1	Yes
A17007	72	2483	17.2	Yes
A17007	72	2484	51.7	Yes
A17007	72	2484	8.8	Yes
A17007	85	3151	2.4	Yes
A56317	APR-56317	P97	16.9	Yes
A65237	APR-65237	P106	7.2	Yes

Table 14: Regen Delay Population January 1, 2018 – December 31, 2018

<u>CP/TSL</u>	<u>Block</u>	<u>Area</u>	<u>Regen Delay Date</u>	<u>Milestone Met</u>
	Total	0		

There were no blocks with a regen due date during the reporting period.

Table 15: Plantation Pest Severity Ranking*

Plantation Pests	Code	Potential Severity Ranking
Eastern spruce budworm	IDE	Very High
White pine weevil	IWS	Low-Medium
Venturia spp.	DLV	Low
Harwood Truck Rot	DDH	Very low
Red ring rot	DDP	Very low
Aspen Truck Rot	DDT	Very low
Tomentosus root rot	DRT	Very low
Stem Disease	DS	Very low
Warren's root collar weevil	IWW	Very low (due to small % of planted PL)

*From 2011 SFMP analysis.

Table 16: Action Plan Summary for 2012 Burned Reforestation Obligations

CP/TSL	Block	SU	Area	Area Burned	Action Plan
76	592	2	4.50	4.50	Apply for relief of obligation under FRPR Section 108 in 2013
601	593	1	145.90	145.90	Apply for relief of obligation under FRPR Section 108 in 2013
601	598	1	139.20	139.20	Apply for relief of obligation under FRPR Section 108 in 2013
63	597A	1	81.00	81.00	Apply for relief of obligation under FRPR Section 108 in 2013
62	999ABC	1	15.10	15.10	Apply for relief of obligation under FRPR Section 108 in 2013
88	1050	1	27.70	27.70	Apply for relief of obligation under FRPR Section 108 in 2013
88	3220	1	17.00	17.00	Apply for relief of obligation under FRPR Section 108 in 2013
88	3219A	1	23.10	23.10	Apply for relief of obligation under FRPR Section 108 in 2013
139	KLU2321	A	30.30	4.00	Fill-plant burned area 2014
62	600B	2	5.80	5.80	Apply for relief of obligation under FRPR Section 108 in 2013
62	600A	A	76.30	76.30	Apply for relief of obligation under FRPR Section 108 in 2013
542	536B	1	25.50	4.00	Fill-plant burned area 2014
Total Area			591.4	543.6	

Table 17: Total Deletions from the Forested Land base*

Total deletions from the forested land base – 2017 baseline data⁴	
Category of deletion	Hectares
Permanent roads, landings and trails	32,181
Range burns	12,080
Landslides resulting from forest management activities	0
Wells, pipelines & seismic lines	16,328
GRAND TOTAL	60,589
CFLB	5,700,568
% of CFLB deleted from all industrial activities	1.06%
% of CFLB deleted from forest management activities	0.49%

*From 2017 TSR4 data package.

Baseline percentage of land base deleted from production = Grand total deletions / CFLB

It is assumed that 50% of the roads, trails and landings were created by forest management activities and the remainder by oil and gas. Of note there was no harvesting and no road construction completed by forest management activities since 2008. The disturbance noted in the table represents historical disturbance on the land base.

Table 18: Oil and Gas Impact Risk Assessment*

2011/12 Fiscal Year	Total Area (ha)	Total Volume (m3)
Oil & Gas Harvest Activity		
Total New Cut Area - Oil & Gas	979.1	
Total Merchantable Volume Cut - Oil and Gas		149,071.51
Potential Forest Licensee Harvest Activity		
Total Annual Cut Area - BCTS & Canfor	4502.72	
Total Merchantable Volume Cut - BCTS & Canfor		1,463,384.00

*Data provided by OGC Nov 26, 2012

⁴ Baseline data taken from Fort Nelson TSR4 Data Package, February 2017

Table 19: TSA Disturbance Impact by Sector

TSA Impact - Classification	Total Area (ha)	Total Volume (m3)	O&G Cut % of Area	O&G Cut % of AAC	Participants Cut % of Area	Participants Cut % of AAC
TSA area	9,868,067		0.010%		0.046%	
Area not in DFA (private, federal, indian, woodlots, etc)	29,927					
Area managed by MFLNRO (DFA)	9,838,140		0.010%		0.046%	
non productive areas (non forest, alpine, existing roads and trails, non commercial cover)	4,096,928					
Productive crown forest landbase	5,741,212		0.017%		0.078%	
NHLB area	4,308,943					
THLB area	1,432,269		0.068%		0.314%	
TSA AAC		1,625,000		9%		90.1%
Non certified tenures AAC		101,000				
Certified tenures						
BCTS AAC		299,668				
Canfor AAC		1,163,716				
Total Certified Participants AAC	979.1	1,463,384		10%		100%

Discussion:

O&G harvest activity averages approximately 979 ha per year of a combination of NHLB and THLB CFLB. This area includes road construction, well sites, seismic areas and pipeline areas. O&G timber harvest impact on DFA amounts to 0.01 % of the total DFA area annually. This is compared to forest industry impact on the DFA of 0.05% of the total DFA which is primarily comprised of THLB area.

When Canfor is operating, the majority of merchantable timber harvested by O&G is purchased by Canfor, which serves to reduce the total volume harvested under Canfor's forest tenures. Therefore the impact on the AAC is minimal. Of the 2 non certified tenures identified in the AAC apportionment, no forest planning has occurred consequently, no forest harvesting has occurred. No harvest activity is expected under these non certified tenures.

Conclusion:

Given the small annual impact on the total DFA area from O&G activity, there is little risk to the participant's of not achieving SFMP landscape level ecological commitments as a result of O&G harvest activity.

Note that oil and gas activity in the Fort Nelson area has decreased significantly since 2015 as a result of reduced world wide demand for natural gas. Over the last few years there has been very little oil and gas activity in the Fort Nelson area. The footprint created by oil and gas activity in 2017 and 2018 is significantly less than that created in 2012. The data included in this analysis was collected when oil and gas activity was peaking in NE BC. Therefore the current disturbance impact created by the oil and gas sector poses very little risk of negatively impacting the participant's ability to achieve the SFMP landscape level ecological commitments.

Appendix 4 – Criterion 4 Supporting Data

Table 20: Summary of ecosystem carbon storage in the forested landbase over a 250 year period

Table 21: Average carbon sequestration rate in the forested landbase over a 250 year period

Table 20: Summary of ecosystem carbon storage in the forested landbase over a 250 year period*

Carbon Pool	Current Carbon (MT)	Average Carbon Over 250 Years (MT)	Minimum Carbon (MT)	% Difference from Current Carbon	Year at Minimum	Maximum Carbon (MT)	% Difference from Current Carbon	Year at Maximum
Tree-aboveground	473	466	416	-12%	125	526	11%	50
Tree-belowground	112	109	97	-13%	125	123	10%	50
Deadwood	265	312	265	0%	0	342	29%	60
Litter	90	95	88	-2%	5	100	11%	50
Soil	811	916	811	0%	0	998	23%	250
Total	1,752	1,898	1,752	0%	0	2,005	14%	240

*From 2006 carbon budget analysis completed for Fort Nelson DFA. No timber harvesting has occurred since October 2008. Historical average area harvested per year is approximately 4503 ha per year or 0.05% of the DFA. The lack of timber harvesting disturbance that has occurred since the carbon storage and sequestration analysis was completed, (only 2 years of timber harvest) suggests that the carbon analysis does not need to be revised at this time.

Table 21: Average carbon sequestration rate in the forested landbase over a 250 year period*

Carbon Pool	Current Sequestration Rate ^{1,2}	Base Case	Harvest without Natural Disturbance	No Harvest with Natural Disturbance	Base Case with Modified Natural Disturbance
Timber Harvesting Land Base	0.93	0.07 to 0.93 (-92% to 0%)	0.07 to 0.93 (-92% to 0%)	0.38 to 1.43 (-73% to 1%)	0.25 to 4.56 (-95% to 0%)
Non-Harvestable Land Base	0.55	-4.53 to 4.29 (-929% to 685%)	1.52 to 6.53 (-70% to 24%)	-6.79 to 4.26 (-908% to 408%)	0.08 to 0.93 (-92% to 0%)
Total Forested Land Base	1.47	-3.96 to 5.00 (-369% to 239%)	1.70 to 7.02 (-72% to 16%)	-5.66 to 5.69 (-349% to 151%)	0.13 to 3.63 (-97% to 0%)

*From 2006 carbon budget analysis completed for Fort Nelson DFA. No timber harvesting has occurred since October 2008. Historical average area harvested per year is approximately 4503 ha per year or 0.05% of the DFA. The lack of timber harvesting disturbance that has occurred since the carbon storage and sequestration analysis was completed, (only 2 years of timber harvest) suggests that the carbon analysis does not need to be revised at this time.

Appendix 5 – Criterion 5 Supporting Data

Table 22: Recreation sites and trails in the Fort Nelson DFA

Figure 10: Fort Nelson Visual Quality Objectives

Table 23: Visual Quality Objective Class

Table 24: Maximum Allowable Disturbance Percentage by VQO Class

Table 25: Percent Denudation for Established VQOs

Table 26: Canfor Direct and Induced Employment

Table 27: Indirect and Induced Employment multipliers from 2006 TSR

Table 28: Number of Opportunities offered to First Nations by year

Table 29: Proportion of Local Spend

Table 22: Recreation sites and trails in the Fort Nelson DFA*

Recreation Sites	Recreation Trails
West Lake	Teetering Rock trail
Muskwa Boat Launch	Tetsa Bridge #1 trail
Tuchodi River	Stone Mountain Park trails
Gathto Creek	MacDonald Creek trail
Beaver Lake	Babba Creek Trail
Fort Nelson Recreation Demonstration Forest	Wokpash trail
Parker Lake	Boulder Canyon trail
Recreational Motorized Routes	Peterson Canyon trail
Wokpash Corridor	Muncho Lake trails
Yedhe Trail	Mineral Lick trail
West Toad Corridor	Teeter Creek trail
Nonda Creek Corridor	Smith River Falls trail
Liard River Corridor	Tsimeh Lakes trail
Mould Creek Tower Road	Fort Nelson Community Forest trails
Smith River Road	Dunedin trail
Fort Nelson Snowmobile Trails	Summit Ridge trail
Fort Nelson Motorized Community Trail system	Stone's Sheep trail
Non Legally Established Recreation Sites	Parker/Evie Lake trail
Alaska Highway 372 km borrow pit	Summit Peak trail
Alaska Highway km 384 borrow pit 3	Erosion Pillar trail
Alaska Highway km 391 borrow pit 5	"The Cutt" trail
Alaska Highway borrow pits 6, 7, 9, 10	Red Rock Canyon trail
Alaska Highway km 416	Old Alaska Highway trail
Muskwa River Bridge Recreation Site	
Poplar Hills Emergency Warming Shelter	
Fort Nelson Motorized Community Trail system	

*Updated in 2016 with data from MFLNRO

Figure 10: Fort Nelson Visual Quality Objectives

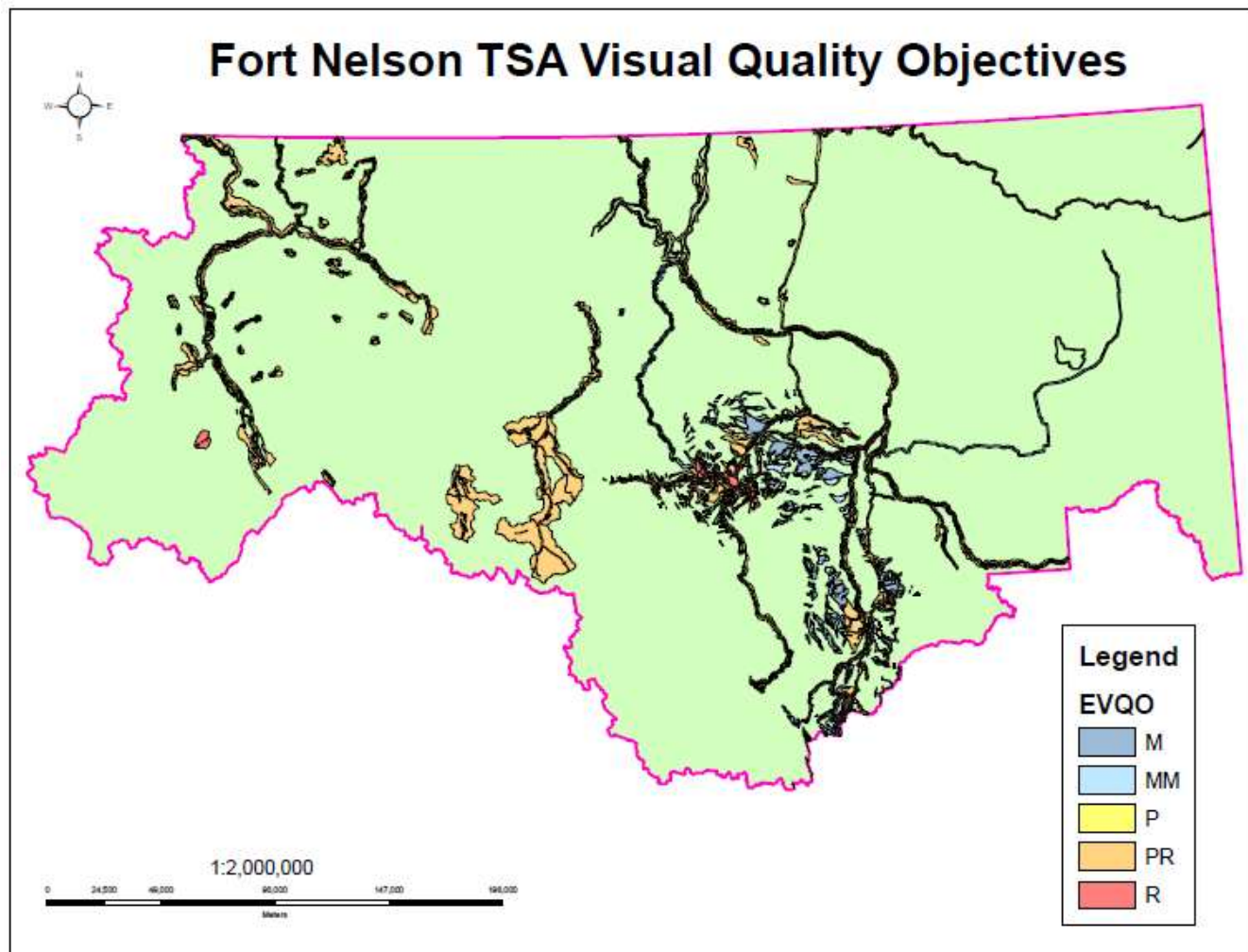


Table 23: Visual Quality Objective Class*

Visual Quality Objective Class	TSA Area (ha)*	Crown Forested Land Base Area (ha)	Timber Harvesting Land Base Area (ha)
Established Preservation VQO	879	814	99
Established Retention VQO	32,518	25,470	6483
Established Partial retention VQO	502,325	357,716	113,431
Established Modification VQO	127,342	105,816	38,080
Established Maximum modification VQO	14,028	11,661	4,410
Subtotal:	677,090	501,477	162,503
Recommended Preservation VQO	0	0	0
Recommended Retention VQO	19,528	7,268	113
Recommended Partial retention VQO	8,246	5,172	2,083
Recommended Modification VQO	168,037	87,778	15,056
Recommended Maximum modification VQO	31,625	14,151	7,242
Subtotal:	195,811	100,219	17,252
Total:	872,902	601,696	179,755

*From 2011 SFMP

Table 24: Maximum Allowable Disturbance Percentage by VQO Class*

Resource Emphasis Zone	Total Crown forest area (ha)	Timber harvesting land base (ha)	Maximum allowable disturbance (%)	Applies to:
Established Preservation VQO	879	814	0	CFLB
Established Retention VQO	32,518	25,470	1.1 – 5	CFLB
Established Partial retention VQO	502,325	357,716	5.1 – 15	CFLB
Established Modification VQO	127,342	105,816	15.1 – 25	CFLB
Established Maximum modification VQO	14,028	11,661	25.1 – 40	CFLB
Recommended Preservation VQO	0	0	0	CFLB
Recommended Retention VQO	19,528	7,268	1.1 – 5	CFLB
Recommended Partial retention VQO	8,246	5,172	5.1 – 15	CFLB
Recommended Modification VQO	168,037	87,778	15.1 – 25	CFLB
Recommended Maximum modification VQO	31,625	14,151	25.1 – 40	CFLB

*From 2011 SFMP

Table 25: Percent Denudation for Established VQOs*

VQO Category	Percent Denudation Range	Low VAC	Medium VAC	High VAC
Preservation	0 – 1	0.25	0.5	0.75
Retention	1.1 – 5	2.07	3.05	4.02
Partial Retention	5.1 – 15	7.57	10.05	12.52
Modification	15.1 – 25	17.57	20.05	22.52
Maximum Modification	25.1 – 40	28.82	32.55	36.27

*From 2011 SFMP

Table 26: Canfor Direct and Induced Employment

Canfor Direct Employment as on March 31, 2018*	Indirect and induced employment multiplier	Total jobs; direct, indirect and induced
4	1.25	5
Baseline from 2014 Annual Report**	Indirect employment multiplier	Total jobs; direct, indirect and induced
4	1.25	5

* From 2018 employment records.

** From 2015 employment records.

Table 27: Indirect and Induced Employment multipliers from 2006 TSR*

	Indirect and Induced Employment Ratio	Indirect Employment Ratios
Logging	1.25	1.15
Wood Manufacturing	1.35	1.20
Mining	1.34	1.25
Agriculture	1.17	1.11
Tourism	1.12	1.09
Public Sector	1.19	1.13
Construction	1.22	1.14

BC Stats, 2001a. The indirect and induced employment ratio assumes no migration with safety net in place.

*From 2011 SFMP analysis.

Table 28: Number of Opportunities offered to First Nations by year

Participant	Year	Number of opportunities	Form of Opportunity	Rolling 3 year average 2013	Rolling 3 year average 2014	Rolling 3 year average 2015	Rolling 3 year average 2016	Rolling 3 year average 2017	Rolling 3 year average 2018
	2007	5	4 contracts 1 MOU	Not in data set					
Canfor	2008	4	3 contracts 1 MOU	Not in data set					
	2009	1	0 contracts 1 MOU	Not in data set					
	2010	1	0 contract 1 MOU	Not in data set					
	2011	1	0 Contract 1 MOU	1.0					
	2012	1	0 Contract 1 MOU		1.0				
	2013	1	0 Contract 1 MOU		1.0				
	2014	1	0 Contract 1 MOU			1.0			
	2015	1	0 Contract 1 MOU				1.0		
	2016	1	0 Contract 1 MOU					1.0	
	2017	1	0 Contract 1 MOU						1.0
	2018	1	0 Contract 1 MOU						1.0

Table 29: Proportion of Local Spend 5 year Rolling Average

Participant	Year	Road Maintenance Proportion of Local Spend (%)	Planning Proportion of Local Spend (%)	Silviculture Proportion of Local Spend	Proportion of Total Local Spend
Canfor	2011		46%	50%	48%
	2012	98.9%	17.1%	50.8%	51.2%
	2013	100%	36.1%	34.1%	35.6%
	2014	100%	18.0%	46.5%	46.8%
	2015	92.4%	17.0%	41.5%	41.4
	2016	14%	3%	50%	34%
	2017	91%	62%	41%	47%
	2018	94%	86%	67%	75%
				5 Year rolling average	48.8%

***Starting in 2011**

Appendix 6 – Criterion 6 Supporting Data

Table 30: Summary of 2017 Public Participation Process Satisfaction Survey

Table 30: Summary of 2017 Public Participation Process Satisfaction Survey, Administered 2018\01\18

Question	Rating
5. I have a good understanding of the purpose of the advisory group and my role as part of that group.	5.0
6. My concerns related to SFM values and objectives are being adequately listened to at the Advisory Group meetings.	5.0
7. Efforts have been made to incorporate my concerns related to SFM values and objectives into the SFM Plan.	5.0
8. My concerns related to SFM indicators and targets are being adequately listened to at the Advisory Group meetings.	5.0
9. Efforts have been made to incorporate my concerns related to SFM indicators and targets into the SFM Plan.	5.0
10. Information provided in advance of meetings is adequate and organized to allow for me to effectively contribute.	5.0
11. Advisory Group Meetings are run efficiently and effectively.	5.0
12. The meeting agenda allows for inclusion of any related sustainable forestry issues of concern to advisory group members.	5.0
13. The meeting minutes capture important aspects of the meeting.	5.0
14. Additional information I ask for is provided to me.	5.0
15. The Participants encouraged open communication.	5.0
16. The outputs generated through discussion with the public advisory group (SFM Plan and annual monitoring reports) are clear and concise.	5.0
17. The Participants strived for consensus based decision making.	5.0
18. A broad cross-section of interests is represented at Public Advisory Group meetings.	4.2
19. The Participants have made an effort to recruit new members as needed.	4.6
20. The Participants are proactive about sharing new information to the PAG members regarding topic issues related to environment, sustainability, forestry, etc.	5.0
21. Your overall level of satisfaction with the Public Participation Process:	5.0
<p>Comments:</p> <ol style="list-style-type: none"> <li data-bbox="191 1182 1443 1295">1. Broad cross section of interests remains somewhat of an issue due to general lack of interest in the community. The participants have made all reasonable efforts to secure new members. Awesome job, very happy to continue on this committee. 	