

SFMP# 2 Amendment #2

Scope of Amendment:

This amendment to SFMP# 2 revises one portion of the target of existing indicator #54, totally revises existing indicator #55 and adds new indicator #66. These revisions to Indicators #55 & #66 are made to bring the plan into conformance with the core indicator content requirements of the CSA Z809-08 standard. As well, amendment #2 revises all SFMP references to the CSA Z809 standard to the current CSA Z809-08 standard.

No revisions have been made to the regulatory performance indicators contained in SFMP#2. As per sections 35(4), 38 & 39 of the *Fort St. John Pilot Project Regulation (FSJPPR)*, the requirement for public review and government approval of SFMP regulatory performance indicators applies only to those indicators identified for the evaluation of the Participants' performance in implementing the landscape level strategies specified within the plan. The indicators that are the subject of this amendment are not considered regulatory performance indicators, rather they are considered as indicators of performance under the CSA Z809-08 standard only.

Therefore this amendment to the SFMP does not require government approval or formally advertised public review. It must be noted that the indicators that are the subject of this amendment were thoroughly reviewed with the Fort St. John Pilot Project public advisory group (PAG). The PAG made a number of suggestions for revision of the indicators which have been considered in the final indicator write ups presented here.

This amendment is made on behalf of the Fort St. John Pilot Project participants: Canadian Forest Products Ltd., Louisiana-Pacific Canada Ltd., Tembec Inc., Cameron River Logging Ltd., Dunne-za LP, Peace Valley OSB and BC Timber Sales, by:

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Date: March 20, 2012

Details of Amendment:

With the implementation of amendment #2, all SFMP# 2 references to the CSA Z809 standard shall be considered to reference the CSA Z809-08 standard. This revision becomes effective as of the date this amendment is signed on behalf of the Participants.

Details of Amendment:

The following replaces SFMP# 2 indicator #55. Revised indicator #55 addresses CSA Z809-08 Core Indicator 5.2.3. The revised indicator #55 will become effective April 1, 2012.

6.55 DIRECT AND INDIRECT EMPLOYMENT

Indicator Statement	Target Statement
Level of direct and indirect employment.	Report the current level of direct and indirect employment expressed as a factor of harvest level times employment multiplier.
SFM Objective: Diverse local forest employment opportunities exist in the DFA	
Linkage to FSJPPR: N/A	

Acceptable Variance: None.

What is this indicator and why is it important?

Forests represent not only a return on investment (measured, for example, in dollar value, person-days, donations, etc.) for an organization but also a source of income and non-financial benefits for DFA-related workers, suppliers, local communities and governments.

While employment levels have been declining in many manufacturing industries including the forest industry, there remains a strong relationship between direct and indirect employment and annual harvest levels. Stable employment is a clear indication of the sustainable economic well-being of individuals and communities. Employment from the forest sector is an important contributor toward community stability, particularly rural communities that tend to be mostly resource-dependant. Within the context of the forest industry, direct employment refers to employment directly related to the production of forest products or services. As a result of this direct employment, employment is also generated in the businesses that supply goods and services to the forest sector. This is referred to as indirect employment. Finally, when these directly and indirectly generated incomes are spent and re-spent on a variety of items in the broader economy (e.g., food, clothing, entertainment), it gives rise to induced employment effects.

Current status

The 2002 timber supply analysis report completed for the Fort St John TSA provides the latest employment coefficients for the region's forestry sector. The employment coefficients specified in the 2002 timber supply analysis report are noted below in table 3. These coefficients were calculated for the TSA and the province to highlight the level of forest sector activity within the TSA and to identify the contribution that the Fort St. John TSA's forestry sector makes to the provincial economy. Employment is divided into direct, indirect and induced components; the sum of the components is the total employment impact. The coefficients are expressed as the number of full time jobs or person-years, per 1000 m³ of timber harvested. Indirect and induced employment coefficients were derived using employment multipliers developed by the Ministry of Finance.

Using 2002 data from British Columbia Stats specific to the Fort St John TSA the employment multiplier is approximately 1.44 direct, indirect, and induced jobs per 1000 m³ of harvest.

Table 3 Fort St. John TSA employment and employment coefficients

Forestry Activity	TSA employment (person years)	TSA coefficients (person-years/'000s m ³)	Provincial employment (person years)	Provincial coefficients (person-years/'000s m ³)
Harvesting	216	0.22	236	0.24
Silviculture	10	0.01	49	0.05
Processing	334	0.34	373	0.38
Total Direct	560	0.57	658	0.67
Indirect & induced	314	0.32	756	0.77
Total employment	874	0.89	1415	1.44

Note that the employment estimates are reported in person years based on average 1998-2000 employment levels and the 2010 Fort St John TSA quota harvest of 941,822 m³.

Forecasting Assumptions and Analytical Methods

Does forecasting apply (y/n)? No

Although forecasting does not apply, it is assumed that forest organizations that harvest in relation to their allocation of the allowable annual cut provide employment and taxation revenue to local communities.

Strategy and Implementation Schedule

The participants will conduct timber harvest at sustainable harvest levels in relation to the allocated supply levels determined by government authorities. This activity will provide direct and indirect employment opportunities in the Fort St. John area. The harvest level (AAC) is set using a rigorous process that considers social, economic and biological criteria. The participants will contribute to direct and indirect employment within the region and to sustainable harvesting by adhering to their apportioned harvest volume within the TSA. Cut control regulations dictate the short-term harvest flexibility.

Monitoring Procedure

Participants will update inputs used to report for this indicator. As changes occur over time to the participants' AAC and/or the employment coefficient from timber supply review economic analysis data specific to the forest industry in the Fort St. John TSA, it will be necessary to update the inputs as required.

The participants will report the harvest volume used for cut control purposes and use the current TSR employment multiplier to determine the level of direct and indirect employment maintained in the Fort St. John TSA during the subject reporting year.

Linkages to operational Plans

None.

Linkages to LRMP

None.

Details of Amendment:

The following indicator #66 is added to the SFMP# 2 to address CSA Z809-08 Core Indicator 2.2.1. Indicator #66 will become effective April 1, 2012.

6.66 DELETIONS TO FOREST AREA

Indicator Statement	Target Statement
Percentage of the gross crown forest landbase in the DFA converted to non-forest land use through forest management activities of the participants during the term of SFMP# 2.	Less than 0.6% of the gross crown forest landbase in the DFA will be converted to non-forest land use through forest management activities of the participants during the term of SFMP# 2.
SFM Objective: Sustain forest lands within the participant's control within the DFA	
Linkage to FSJPPR: N/A	

Acceptable Variance:

Additional +0.2%. The acceptable variance of +0.2% is required to provide the Participants flexibility to exceed the 0.6% target in the event that additional permanent road construction is needed to address unforeseen catastrophic forest disturbance events such as wildfires, insect or disease outbreaks, etc.

What is this indicator and why is it important?

Forest ecosystem productivity can be interpreted to mean both net primary production and forest (i.e wood) productivity. This indicator focuses on wood productivity or the production of wood biomass. SFM should apply to the extent of forest in a landscape, including the encouragement of additions to the forest landbase and discouraging deletions caused by human activity. For the purposes of this indicator, 'non forest land use' is considered to be a condition whereby the land is no longer suitable for growing trees.

Given the Crown tenure situation in British Columbia, forest companies generally have little influence on any additions or deletions to the forest area, which generally are a result of government establishing or varying land use objectives. Where forest companies can have a direct influence is through their management practices, particularly the practices pertaining to access structures such as roads, trails and landings. It must be realized that in order to develop the forest timber resource, a certain amount of permanent access is required. By minimizing the creation of permanent access structures, 'forest companies can prevent unnecessary deletions to the crown forested landbase.'

Unless rehabilitated, these access structures may occupy otherwise productive land suitable for growing trees. This indicator is focused on forest deletions resulting from access management activities for which the participants have management responsibility.

Current status

The current status of forest deletions resulting from forest management activities is described in Table 2 (Determination of the timber harvesting land base for the Fort St. John TSA), of the "Fort St. John Timber Supply Area Analysis Report – June 2002". A subset of this information is reproduced below. Note that the timber supply review for the Fort St. John Timber Supply Area is scheduled to be completed in 2012 by the ministry of Forests Lands and Natural Resource Operations (MFLNRO).

Table 1: TSR2 Determination of the Timber harvesting land base for the Fort St. John TSA

Classification	Area (ha)	Per cent (%) of TSA area
Total Timber Supply Area	4,676,636	100
Non forest land	2,121,261	45.4
Woodlots	13,299	0.3
Land not managed by the MFLNRO	208,696	4.5
Range lease	10,373	0.2
Parks and reserves	79,750	1.7
Crown forest area managed by the MFLNRO	2,243,257	48.0
Reductions to crown forest area		
Existing roads, trails and landings	6,670	0.1
Other crown forest reductions	1,178,047	25.4
Timber harvesting landbase component of crown forest area	1,058,540	22.6
Total crown forest landbase area	2,243,257	48.0

The 2002 timber supply analysis revealed that reductions to the crown forest landbase (CFLB) attributable to existing roads, trails and landings totaled 6,670 ha or 0.1% of the CFLB. This included roads constructed by various industries, including forestry.

Since the implementation of forest management activities under SFMP# 1 in 2004, the participants have constructed a total of 1,605.8 km of new road. The Participants have assumed an average disturbance width of 20m (for out of block road) and 8m (for in block road) in the calculation of area disturbed due to permanent access construction. This 1,605.8 km of road equates to 3,211.7 ha or 0.14% of the crown forest landbase disturbed by the participants to April 1, 2011. Table 2 summarizes the participant's permanent access construction since implementation of activities under SFMP# 1.

Table 2: New Road Area Constructed by Managing Participants since 2004

	2004 (m)	2005 (m)	2006 (m)	2007 (m)	2008 (m)	2009 (m)	2010 (m)	Total (m)	Total (ha)
BCTS	121,435	169,810	71,994	57,873	50,288	33,745	22,281	527,426	1,054.9
Canfor	144,376	177,226	221,155	191,347	126,425	90,483	127,398	1,078,410	2,156.8
Total	265,811	347,036	293,149	249,220	176,713	124,228	149,679	1,605,836	3,211.7

Forecasting Assumptions and Analytical Methods

Does forecasting apply (y/n)? No

Although annual forecasting does not apply, analysis of the access structures proposed by the participants for construction in FOS# 2 indicates a theoretical total potential deletion to the CFLB by new road construction of 8,801 ha or 0.4% of the CFLB. This includes both in-block permanent access (estimated at 4,631 ha based on past performance) as well as permanent roads (estimated at 4,170 ha) constructed to access all cutblocks included in the current FOS. The 0.2% acceptable variance to the CFLB maximum deletion target allows room for the participants to manage for unforeseen events such as catastrophic fires, etc.

Strategy and Implementation Schedule

Foresters preparing SLP's and FOS's will continue to minimize forest area deletions through adherence to the SFMP road access management strategy and the indicator #24 target set for maximum amount of permanent access structures created within harvest blocks. The Participants will continue to coordinate access development activities with the oil and gas industry. Where practicable, the Participants will use existing access infrastructure including those roads created by other industries, such as oil and gas roads, to access areas planned for harvest. This strategy will minimize the total amount of permanent access structures created by the participants.

Monitoring Procedure

During timber supply analysis, netdowns to the crown forest landbase are completed to determine the timber harvesting landbase. Included in the netdown of the crown forest landbase is the area taken out of production by permanent access structures. The CFLB netdown attributed to permanent access structures will be included in annual reports as it becomes available upon the completion of TSR analyses. On an annual basis, the participants will report the total area of permanent access structures constructed by them during the subject reporting year, as a proportion of the CFLB.

Upon completion of the term of SFMP# 2, the sum total area of permanent access structures constructed by the participants during the term of SFMP# 2 will be reported as a proportion of the CFLB. Any additions to the landbase effected by the participants will be included in annual reports.

Linkages to Operational Plans

Operational plans prepared by Participant staff will continue to prescribe the most appropriate methods to minimize losses to the forest landbase. Staff will be responsible for ensuring that area occupied by permanent access structures constructed by the Participants shall not be disproportionate to the planned total harvest area.

Linkages to LRMP

Restricting the permanent CFLB losses due to permanent access structures helps maintain the productive land available for timber and other resources. This indicator therefore supports the following LRMP objectives:

Coordinate access and linear development to minimize negative impacts on other resource values.

Minimize losses to the timber harvesting land base.

Details of Amendment:

The existing indicator #54, silviculture phase local spending target of 8%, is revised to 5%, as shown below. No other revisions are made to this indicator. The revised target for indicator #54 will become effective April 1, 2012.

6.54 PAG DOLLARS SPENT LOCALLY ON EACH WOODLANDS PHASE

Indicator Statement	Target Statement
Percentage of dollars spent locally on each woodlands phase in proportion to total expenditures	Woodlands Phases to be monitored: Logging/hauling: minimum of 80% Road construction and maintenance: minimum of 80% Silviculture: minimum of 5% Planning and administration: minimum of 50%
SFM Objective: Diverse local forest employment opportunities exist in the DFA	
Linkage to FSJPPR: N/A	

No changes have been made to the Indicator statement or the acceptable variance for Indicator #54.

Details of Amendment:

Following is the revised CSA Matrix 43, which reflects the revisions made to Indicators #54 & #55 and the addition of Indicator #66 to SFMP #2.

43.0 CSA Matrix¹ Fort St. John Pilot Project SFM Matrix

6.0 The SFM Performance Requirements: CCFM Criteria and CSA SFM Elements				CCFM Criterion 1 – Conservation of Biological Diversity		
Value	Objective	CSA core Indicator (for reference only)	SFMP Indicator		Target	
The organization, in conformance with the public participation process requirements set out in Section 5, will identify DFA-specific values, objectives, indicators and targets for each of the CSA SFM Elements described in Clauses 6.1-6.6, as well as any other values associated with DFA.		Indicator - a variable that measures or describes the state or condition of a value.	Indicator - a specific statement describing a desired future state or condition of an indicator. Targets should be clearly defined, time-limited, and quantified, if possible.			
		1.1.1 - Ecosystem area by type	17 - Representative Examples of Ecosystems	Percent of area of forest stands in an unmanaged condition, by leading species, by NDU	100% of baseline targets for forested stands in an unmanaged condition, by leading species, by NDU will be met	
	Maintain the diversity and pattern of communities and ecosystems within a natural range	1.1.2 - Forest area by type or species composition	1 - Forest Types	Percent distribution of forest type (deciduous, deciduous mixedwood, conifer mixedwood, conifer) >20 years old by landscape unit	All forest type groups by landscape unit will meet or exceed the minimum area percentage in table 9	
Element 1.1 Ecosystem Diversity - Conserve ecosystem diversity at the stand and landscape levels by maintaining the variety of communities and ecosystems that naturally occur in the DFA.	Ecosystem Diversity	28 - Species Composition	Relative change in plantation composition versus harvest composition for spruce and pine	The relative proportion of spruce and pine planted annually will equal the proportions harvested annually (excluding fill planting)		

¹ matrix number reflects the PAG meeting at which it was approved.

			The minimum proportion (%) of late seral forest by NDU as identified in table 11 will be met
	1.1.3 - Forest Area by serial stage or age class	2 - Seral Stage 3 - Patch Size	The minimum proportion (%) of late seral forest by NDU
		Percent area by Patch Size Class (0-50, 51-100, and >100 ha) by NDU	A minimum of 9 of 18 of the baseline targets for early patches will be achieved during the term of this SFMP
	1.1.4 - Degree of within-stand structural retention	5 - Snags / Cavity Sites	Number of snags and/or live trees (>23 cm dbh) per ha on prescribed areas
		9 - Wildlife Tree Patches	Cumulative Wildlife Tree Patch percentage in blocks harvested under the FSJPPR in each Landscape Unit
		5 - Snags / Cavity Sites	Cumulative Wildlife Tree Patch % will meet or exceed the minimum target in each LU (Blueberry 6%, Halfway 3%, Kahntah 7%, Kobes 5%, Lower Beaton 8%, Milligan 6%, Tommy Lakes 3%, Trutch 5%, Sikanni 4%, Graham 4%, Crying Girl 6%)
	1.2.1 - Degree of habitat protection for selected focal species, including species at risk	6 - Coarse Woody Debris Volume	See indicator # 5
	1.2.2 - Degree of suitable habitat in the long term for selected focal species, including species at risk	7 - Riparian Reserves	See indicator # 6
	Element 1.2 Species Diversity - Conserve species diversity by ensuring that habitats for the native species found in the DFA are maintained through time, including habitats for known occurrences of species at risk.	Species Richness	The number of non-compliances to riparian reserve zone standards
		8 - Shrubs	No non-compliances to riparian reserve zone standards
		9 - Wildlife Tree patches	Each landscape unit will meet or exceed the baseline target (%) proportion of shrub habitat
			See indicator # 9

11 - Species at Risk Stand Level Management Guidelines	The percentage of SLPs prepared annually for 'effected' cutblocks that incorporate one or more stand level species at risk management guidelines	All pilot Participant activities will be consistent with the objectives of the MKMA, and general wildlife measures for Ungulate Winter Ranges and Wildlife Habitat Areas		
16 - Ungulate Winter Ranges, Wildlife Habitat Areas & MKMA	Proportion of activities consistent with the objectives of the Muskwa-Kechika Management Area (MKMA), and general wildlife measures for Ungulate Winter			
17 - Representative Examples of Ecosystems	See indicator # 17			
10 - Invasive Plants / Noxious Weeds	The % prohibited and primary noxious weeds, and known invasive weed species of concern, in seed mix analysis	Seed mix analyses will have 0% content of prohibited and primary noxious weeds and known invasive plants, as identified in the most current publication of: "Listing of Invasive Plants", available from the Peace River Regional District		
1.2.3 - Proportion of regeneration comprised of native species	13 - Coniferous Seeds	The percentage of seedlings and vegetative material used and planted in accordance with the Chief Forester's Standards for Seed Use (Nov.20, 2004), as amended from time to time	100% of seedlings and vegetative material will be used and planted in accordance with the Chief Forester's Standards for Seed Use (Nov.20, 2004), as amended from time to time	

			14 - Aspen Regeneration	% natural regeneration of deciduous	100% natural regeneration for deciduous
Element 1.3 Genetic Diversity - Conserve genetic diversity by maintaining the variation of genes within species and ensuring that reforestation programs are free of genetically modified organisms	Genetic Diversity	Conserve genetic diversity of tree stock	13 - Coniferous Seeds	See indicator # 13	
			14 - Aspen Regeneration	See indicator # 14	
			15 - Class A Parks, Ecological Reserves & LRMP Designated Protected Areas	Hectares of forestry related harvesting or road construction within Class A parks, protected areas, ecological reserves, or LRMP designated protected areas	Zero hectares of forestry related harvesting or road construction within Class A parks, protected areas, ecological reserves, or LRMP designated protected areas
Element 1.4 Protected areas and sites of special biological and cultural significance - Respect protected areas identified through government processes. Co-operate in broader landscape management related to protected areas and sites of special biological and cultural significance. Identify sites with special geological, biological, or cultural significance within the DFA, and implement management strategies appropriate to their long-term maintenance.	Protect areas and Conservation Emphasis areas, for example Special Management Zones, Ecological Reserves, etc	To have representative areas of naturally occurring and important ecosystems and rare physical environments protected at both the broad and site-specific levels across or adjacent to the DFA.	1.4.1 - Proportion of identified sites with implemented management strategies.	16 - Ungulate Winter Ranges, Wildlife Habitat Areas & MKMA	See indicator # 16
			17 - Representative Examples of Ecosystems	See indicator # 17	
			18 - Graham Harvest Timing	The number of clusters in the Graham IRM Plan area where active operational harvesting is concurrently occurring	Operational harvesting within the Graham IRM Plan area will be constrained to no more than 1 'cluster' of cutblocks at any one time

		The cumulative merchantable area (hectares) within harvested blocks will not exceed the planned maximum cumulative harvest areas, as measured at the end of each time period: Period 2 (April 2012): 6569 ha; Period 3 (April 2017): 9355 ha
19 - Graham Merch Area	Cumulative merchantable area (hectares) within blocks harvested in the Graham IRM Plan area since 1997	Area (hectares) harvested in cutblocks in the Graham IRM area, within the permanent alluvial and non-productive/non-commercial components of the connectivity corridors
20 - Graham Connectivity		A minimum of one long-term plan submitted no later than 1 year following government approval of a landscape unit objective under the MKMA Act, that applies to the Fort St. John TSA portion of the MKMA
21 - MKMA harvest		The number of long term harvest plans within the MKMA completed and submitted to government
22 - River Corridors		The percentage of harvested areas that create openings greater than 1 hectare within 100 metres of RRZ's in identified major river corridors
57 - Number of known Values and Uses addressed in Operational Planning		Percentage of known traditional site-specific aboriginal values and uses that are addressed in operational plans

		15 - Class A Parks, Ecological Reserves & LRMP Designated Protected Areas	See indicator # 15
		16 - Ungulate Winter Ranges, Wildlife Habitat Areas & MKMA	See indicator # 16
	1.4.2 - Protection of identified sacred and culturally important sites	17 - Representative Examples of Ecosystems	See indicator # 17
		18 - Graham Harvest Timing	See indicator # 18
		19 - Graham Merch Area	See indicator # 19
		20 - Graham Connectivity	See indicator # 20
		21 - MKMA harvest	See indicator # 21
		22 - River Corridors	See indicator # 22
		57 - Number of known Values and Uses addressed in Operational Planning	See indicator # 57
		CCFM Criterion 2 – Maintenance and Enhancement of Forest Ecosystem Condition and Productivity	-
		Conserve forest ecosystem condition and productivity by maintaining the health, vitality, and rates of biological production.	-

25 - Forest Health	Percentage of silviculture obligation areas with significant detected forest health damaging agents will have treatment plans developed for them, and initiated within 1 year of detection			
27 - Silviculture Systems	Percentage of area harvested annually using even aged silviculture systems			
28 - Species Composition	See indicator 28			
Maintain a natural range of variability in ecosystem function, composition and structure with allows ecosystems to recover from disturbance and stress	2.1.1 - Reforestation success 29 - Reforestation Assessment	Predicted Merchantable Volume (PMV) (cubic meters) coniferous and separate deciduous surveyed areas. See indicator #2	Predicted Merchantable Volume will meet or exceed the Target Merchantable Volume (TMV). The TMV is set at 95% of the Maximum Predicted Merchantable Volume attainable on coniferous areas. The TMV is set at 90% of the Maximum Predicted Merchantable Volume attainable on deciduous areas	
Element 2.1 Forest Ecosystem Resilience - Conserve ecosystem resilience by maintaining both ecosystem processes and ecosystem conditions.	30 - Establishment Delay (years)		The area weighted average establishment delay for coniferous regeneration will not exceed two years. The area weighted average establishment delay for deciduous regeneration will not exceed three years. The area weighted average establishment delay for mixedwood stands regeneration will not exceed three years	
Non-Core	2 - Serial Stage	See indicator # 2		

	9 - Wildlife Tree Patches	See indicator # 9		
	24 - Permanent Access Structures	Percentage of the total area in Managing Participants' cutblocks occupied by permanent access structures, in which harvesting was completed	A maximum of 5% of the total area in Managing Participants' cutblocks occupied by permanent access structures in which harvesting was completed, as determined on a 3 year rolling average	
	26 - Salvage	The relative proportion of area of merchantable fire-damaged stands salvaged within a management intensity class	The relative proportions of salvage will be highest in the high intensity zones, and lowest in the low intensity zones over the SFM Plan period (April 1, 2010 - March 31, 2016)	
	49 - Forest Health FOS Planning	Percentage of new conifer-leading harvest blocks in the 2010 FOS that are pine-leading	A minimum of 60% of new conifer-leading harvest blocks in the 2010 FOS will be pine-leading	
	24 - Permanent Access Structures	See indicator # 24	See indicator # 24	
	Ecosystem functions capable of supporting naturally occurring species exist within the range of natural variability	2.2.1 - Additions and deletions to the forest area	40 - Coordinated Developments	Report annually the number of proposed coordinated developments that occurred
Element 2.2 Forest Ecosystem Productivity - Conserve forest ecosystem productivity and productive capacity by maintaining ecosystem conditions that are capable of supporting naturally occurring species. Reforest promptly and use tree species ecologically suited to the site		Productive Capacity for Timber	Maintain or enhance landscape level	Less than 0.6% of the gross crown forest landbase in the DFA converted to non-forest land use through forest management activities of the participants during the term of SFMP #2.
		2.2.2 - Proportion of the calculated	25 - Forest Health	See indicator # 25

	productivity	Long-term sustainable harvest level that is actually harvested	31 - Long Term Harvest Level (m³/yr)	Long-term harvest level (LTHL) as measured in cubic metres per year (m³/yr)	We will propose an Allowable Annual Cut (AAC) that sustains the LTHL of the Defined Forest Area (DFA)
			32 - Site Index	Site index	Average post harvest site index will not be less than average pre-harvest site index on blocks harvested under the pilot project regulation
CCFM Criterion 3 – Conservation of Soil and Water Resources					
				4 - Soil Disturbance	Number of blocks with non-conformances to soil disturbance limits reported annually by Managing Participant
			Protect soil resources to sustain productive forests	3.1.1 - Level of Soil Disturbance	Zero blocks will have non conformances to soil disturbance limits
		Element 3.1 Soil Quality and Quantity - Conserve soil resources by maintaining soil quality and quantity	Soil Productivity	32 - Site Index	See indicator # 32

Element 3.2 Water Quality and Quantity - Conserve water resources by maintaining water quality and quantity		Indicator 3.2.1 Water Quantity		Indicator 3.2.2 Water Quality	
3.1.2 - Level of downed woody debris	6 - Coarse Woody Debris Volume See indicator # 6	3.2.1 - Proportion of watershed or water management areas with recent stand-replacing disturbance Maintenance of water quantity	34 - Peak Flow Index The percentage of watersheds achieving baseline targets for the peak flow index and the percent of watershed reviews completed where the baseline target is exceeded	95% or more of the watersheds will be below the baseline target. All watersheds that exceed the baseline target will have a watershed review completed wherever new harvesting is planned	
		7 - Riparian Reserves Maintenance of water quality	7 - Riparian Reserves The percentage of surveyed stream crossings annually identified with a high WQCR rating on forestry roads within the DFA for which participants have stewardship (*WQCR – water quality concern rating)	On an annual basis, fewer than 30% of the total number of surveyed stream crossings on roads for which the participants have stewardship will have High WQCR	
		Water Quantity	Non-Core 36 - Protection of Stream banks and Riparian Values of Small Streams	The number of annual non-conformances to SLP measures related to protecting stream bank, stream channel stability and riparian vegetation from to harvesting or silviculture activities	No non-conformances to SLP measures related to protecting stream bank, stream channel stability and riparian vegetation from to harvesting or silviculture activities

<p>Number of spills of a reportable substance (i.e. antifreeze, diesel fuel, gasoline, greases, hydraulic oil, lubricating oil, methyl hydrate, paints and paint thinners, solvents, pesticides, and explosives) entering water bodies</p> <p>37 - Spills Entering Water Bodies</p>	<p>Zero spills entering water bodies</p>
<p>CCFM Criterion 4 – Forest Ecosystem Contributions to Global Ecological Cycles</p> <p>Maintain forest conditions and management activities that contribute to the health of global ecological cycles.</p>	
<p>24 - Permanent Access Structures</p>	<p>See indicator # 24</p>
<p>29 - Reforestation Assessment</p>	<p>See indicator # 29</p>
<p>Element 4.1 Carbon Uptake and Storage - Maintain the processes that take carbon from the atmosphere and store it in forest ecosystems.</p>	<p>Maintain DFA Average carbon sequestration rates</p>
<p>30 - Establishment Delay</p>	<p>See indicator # 30</p>
<p>38 - Carbon Sequestration Rate</p>	<p>Maintain DFA Average carbon sequestration rates</p>

			39 - Ecosystem Carbon Storage	The percentage of ecosystem carbon stored in the Fort St. John DFA relative to projected natural levels	Maintain ecosystem carbon storage at a minimum of 95% of projected natural storage levels
		2.1.1 - Reforestation Success	See indicators # 25, 27, 28, 29, 30 (related to CSA z809-08 Core Indicator 2.1.1 above)		
	Sustain forest lands within our control within the DFA	2.2.1 - Additions and deletions to the forest area		See indicators # 24, 40, 55 (related to CSA z809-08 Core Indicator 2.2.1 above)	
CCFM Criterion 5 – Multiple Benefits to Society					
Element 4.2 Forest Land Conversion - Protect forest lands from deforestation or conversion to non-forests, where ecologically appropriate.	Forest Land Base			18 - Graham Harvest Timing	See indicator # 18
				19 - Graham Merch Area	See indicator # 19
				21 - MKMA harvest	See indicator # 21
				31 - Long Term harvest Level (Timber)	See indicator # 31
				41 - Range Action Plan	Percent consistency with mutually agreed upon action plans for range
				42 - Damage to Range Improvements	Number of range improvements damaged by Participants' activities
					Zero range improvements damaged by Participants' activities

		The number of recreation sites maintained by Participants	Participants will maintain a minimum of one recreational site within the DFA
43 - Recreation Sites (Non - Timber)	44 - Visual Quality Objectives	Consistency with Visual Quality Objectives (VQO's)	Pilot Participants' forest operations will be consistent with the established VQO's
45 - Recreation Opportunity Spectrum		Area in primitive and semi-primitive non-motorized classifications of the Recreation Opportunity Spectrum (ROS) for the Graham, Sikanni and Crying Girl LU's	A minimum of 65,839 ha in primitive ROS area (100% of 1996 primitive ROS area) and 180,726 ha in semi primitive non-motorized ROS area (50% of the 1996 total semi primitive NM ROS area) in the combined Graham, Crying Girl and Sikanni LU's (excluding the Graham Laurier and Redfern-Kelly PA's)
46 - Actions Addressing Guides, Trappers, and Other Interests		Percentage of operations consistent with mutually agreed upon action plans for guides, trappers and other known non-timber commercial interests	100% of operations will be consistent with action plans for guides, trappers and other non-timber commercial interests
47 - Timber processed in the DFA (Timber)		Volume of timber processed in the DFA in proportion to volume harvested in the DFA	The annual equivalent of a minimum of 70% of the DFA's harvest is primary processed in the DFA
48 - Summer and Fall Volume Deliveries		See Indicator # 48	

		The area(ha) of deciduous leading cutblocks identified in Supply Block F for harvest during the term of the SFMP	A minimum of 200 ha of deciduous leading cutblocks located in Supply Block F will be identified for harvest during the term of the new SFMP
	51 - Timber Profile - Deciduous (Timber)		April 1, 2006 - March 31st, 2011: 8% or more of the total coniferous cutblock area harvested by managing Participants during the 5-year period will be in height-class two pine inventory types. April 1, 2011- March 31st, 2016: 8% or more of the total coniferous cutblock area harvested by managing Participants during the 5-year period will be in height-class two pine inventory types.
Non - Core	52 - Timber Profile - Coniferous (Timber)	The percentage of the total cutblock area in harvested blocks that was identified as preharvest height-class two pine inventory types	
	53 - Cut Control (Timber)	See indicator # 53	
	47 - Timber Processed in the DFA	See Indicator # 47	
	48 - Summer and Fall Volume Deliveries	Volume of timber (m^3) delivered annually to wood processing facilities within the Fort St. John Defined Forest Area (DFA) wood processing facilities between May 1st and November 30th	Minimum of 100,000 m^3 to conifer mills in the DFA, Minimum of 185,000 m^3 to deciduous mills in the DFA
	Maintain viable timber processing facilities in the DFA. No decrease in the LTHL in the DFA	5.2.1 - Level of investment in initiatives that contribute to community sustainability	
Element 5.2 Communities and Sustainability - Contribute to the sustainability of communities by providing diverse opportunities to derive benefits from forests and by supporting local community economies.	Sustainable and Viable Communities		Percentages of SFMP's and FOS's prepared jointly by the Participants
		50 - Coordination	100% of all SFMP's and FOS's will be jointly prepared by the Participants

	51 - Timber Profile - Deciduous	See indicator # 51		
	52 - Timber Profile - Coniferous	See Indicator # 52		
	54 - Dollars Spent Locally on each Woodlands Phase	Percentage of dollars spent locally on each woodlands phase in proportion to total expenditures	Woodlands Phases to be monitored: Logging/hauling: minimum of 80% Road construction and maintenance: minimum of 80% Silviculture: minimum of 5%	Planning and administration: minimum of 50%
	55 - Direct and Indirect Employment	Level of direct and indirect employment	Report the current level of direct and indirect employment expressed as a factor of harvest level times employment multiplier	
	Non - Core	31 - Long Term Harvest Level 53 - Cut Control	See Indicator # 31 See Indicator # 53	
Contribute to Worker and Public Safety. Communities Participate in the Use and Management of the Forest	Provide a safe work environment for DFA forestry workers and the public. Diverse local forest employment opportunities	5.2.2 - Level of investment in training and skills development 12 - Forest Workers Safety	63 - Worker Training Implementation and maintenance of certified safety program	100% of managing participants' employees will have training consistent with training plans Each managing participant will implement and maintain a certified safety program

6.1.2 - Evidence of best efforts to obtain acceptance of management plans based on aboriginal communities having a clear understanding of the plans	33- First Nations Consultation & Information Sharing See Indicator # 33		
6.1.3 - Level of management and/or protection of areas where culturally important practices and activities (hunting, fishing, gathering) occur	33 - First Nations Consultation & Information Sharing See Indicator # 33		
	57 - Number of Known values and Uses Addressed in Operational Planning See Indicator # 57		
	62 - Brushing Program Aerial Herbicide Use The number of hectares removed annually from the participants' aerial herbicide plans based on input from First Nations or the public and final treatment layout		The participants will report annually, the number of hectares removed from the participants' aerial herbicide plans based on input from First Nations or the public and final treatment layout
Element 6.2 Respect for Aboriginal Forest Values, Knowledge and Uses - Respect traditional Aboriginal forest values, knowledge, and uses as identified through the Aboriginal	Respect known traditional aboriginal forest values and uses. 6.2.1 - Evidence of understanding and use of Aboriginal	33 - First Nation Consultation & Information Sharing See Indicator # 33	

Input process.	Knowledge through the engagement of willing Aboriginal communities, using a process that identifies and manages culturally important resources and values	57 - Number of Known values and Uses Addressed in Operational Planning See Indicator # 57	
		62 - Brushing Program Aerial Herbicide Use See Indicator # 62	
	6.3.1 - 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	23 - Value and Total Number of Contracts Awarded to First Nations See Indicator # 23	
Element 6.3 Forest Community Well-Being and Resilience - Encourage, co-operate with, or help to provide opportunities for economic diversity within the community.	Provide opportunities for a range of interests to access benefits Fair Distribution of Benefits and Costs	41 - Range Action Plan See Indicator # 41	
		46 - Actions Addressing Guides, Trappers, and Other Interests See Indicator # 46	
		47 - Timber Processed in the DFA See Indicator # 47	

		54 - Dollars Spent Locally on Each Woodlands Phase	See indicator # 54
		55 - Direct and Indirect Employment	See Indicator # 55
	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 - related workplaces	Provide opportunities for First Nations to participate in forest economy. ————— Development of Skilled Workers	12 - Forest Workers Safety See Indicator # 12

and affected communities	<p>6.3.3 - Evidence that a worker safety program has been implemented and is periodically reviewed and improved</p> <p>See Indicator # 63</p>	<p>63 - Worker Training</p> <p>See Indicator # 63</p>	
		<p>23 - Value and Total Number of contracts Awarded to First Nations</p> <p>Non - Core</p> <p>See Indicator # 23</p>	<p>23 - Value and Total Number of contracts Awarded to First Nations</p> <p>Non - Core</p> <p>See Indicator # 23</p>
		<p>59 - Terms of Reference (TOR) for the Public Participation Process.</p> <p>6.4.1 - level of participant satisfaction with the public participation process</p> <p>To facilitate a satisfactory public participation process. To develop satisfaction with the public participation process</p>	<p>Current Terms of reference (TOR) for the FSJPPR public participation process</p> <p>59 - Terms of Reference (TOR) for the Public Participation Process.</p> <p>64 - PAG Satisfaction Surveys</p> <p>Level of satisfaction with the public participation process as measured by PAG surveys</p>
	<p>Element 6.4 Fair and effective decision - making - Demonstrate that SFM public participation process is designed and functioning to the satisfaction of the participants and that there is general public awareness of the process and its progress.</p>	<p>Opportunity for Public participation</p>	<p>Biennial review of the TOR for the FSJPPR public participation process (PAG)</p> <p>At least an 80% (average score of 4 out of 5) satisfaction level as measured from PAG surveys</p>

	41 - Timber Range Action Plans 46 - Actions Addressing Guides, Trappers, and Other Interests	See Indicator # 41 See indicator # 46	
	58 - Regulatory Public Review and comment Process	Compliance with the public review and comment process identified in the FSJ Pilot Project Regulation	100% compliance with public review and comment processes identified in the FSJ Pilot Project Regulation
6.4.2 - Evidence of efforts to promote capacity development and meaningful participation in general	59 - Terms of Reference (TOR) for the Public Participation Process.	See Indicator # 59	
	60 - Public Inquiries	The percentage of timely responses to public inquiries	Respond to 100% of public inquiries regarding Participants' forestry practices, that are additional to the Pilot Public Review and Comment processes, within one month of receipt
	61 - Educational Outreach	Number of people to whom information, presentations, or field trips provided annually	Minimum of 40 people provided information, presentations, or field trips
	64 - PAG Satisfaction Surveys	See Indicator # 64	

		concern to the public	65 - Availability of Information on Issues of Concern	SFM Monitoring report made available to the public	SFM monitoring report made available to the public annually
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List of CSA Matrix Revisions

SFMP Amendment #2

- CSA SFM Elements re-numbered and core indicators included, to align with CSA Z809-08 standard.
- Existing Indicators #54 & #55 revised as indicated via SFMP Amendment #2, becomes effective April 1, 2012.
- New Indicator #66 added to SFMP, via Amendment #1, becomes effective April 1, 2012.