

**SUSTAINABLE FOREST MANAGEMENT PLAN
2005/06 ANNUAL REPORT
Vanderhoof Licensee Team
Vanderhoof DFA**



Chairperson: Terry Lazaruk, RPF
Canadian Forest Products Ltd. - Vanderhoof Division
1399 Bearhead Road, Vanderhoof, BC, V0J 3A2
Phone: (250) 567-8260
Fax: (250) 567-3911
Terry.Lazaruk@Canfor.com
Publication Date: November 23, 2006

TABLE OF CONTENTS

	Page		Page
TABLE OF CONTENTS.....	ii	Total Projected Long Term Timber Supply	10
LIST OF TABLES.....	iii	North Central Interior Economic Contribution to Forestry in DFA ..	11
1.0 INTRODUCTION	1	Forest Road Maintained for Public Use	11
2.0 SFM INDICATORS AND OBJECTIVES	2	Support Opportunities in the DFA	11
Distinct Habitat Types.	2	Business Opportunities with First Nations	11
Snags and Live Trees Retained in Managed Areas	3	DFA Managed Under a Fire Preparedness Plan	12
Average Amount of Coarse Woody Debris per Hectare	3	Accidental Forest Industry Related Fires	12
Riparian Reserves	3	Management Strategies for Damaging Agents	12
Proportion of Shrub Habitat by NDU	4	Conservation of Cultural Features	12
Deciduous Tree Species	4	Conservation of Range Resources	13
Minimum Proportion of Late Seral Forest in the DFA	4	Conservation of Riparian Values	13
Patch Size	4	Visual Quality Objectives and Conservation of Scenic Areas	13
Plant Diversity Index	5	Local Business Relationships and Available Opportunities.....	14
Average Stand Level Retention for Harvested Blocks	5	Research and Development Projects or Partnerships within the DFA	14
Develop Management Strategies for Riparian Sensitive Species ...	5	Number of Different Forest Products Produced within the DFA	14
Stream Crossing Density by Watershed	6	Number of Public Advisory Group Meetings per Year	14
Quality of Stream Crossings	6	The Level of Satisfaction of the Public Advisory Group	15
Amount of Permanent Access Within the DFA	6	Maintenance and Review of the PAG Terms of Reference	15
Conformance with the Access Management Plan	6	Percent of Timely Responses to Written and Documented Concerns .	15
Effectiveness Monitoring Plans to Improve Access Points	7	The Level of Stakeholder Satisfaction with Forest Management	15
Effectiveness Monitoring Plans for Indicator Species	7	Opportunities for Proactive Public Involvement in Planning Processes	16
Management Strategies for Species at Risk	7	Public Review of SFM Plan	16
Coniferous Seeds and Seedlings Planted in the DFA	7	SFM Extension Activities	16
Site Index	8	Increase the Level of Understanding of SFM Annually	16
Landslides	8	Opportunities for First Nations to be Involved in the Planning Process	17
Soil Conservation	8	Review of PAG Terms of Reference to Recognize Treaty Rights	17
Regeneration Delay Date	8	Level of First Nation Satisfaction with Forest Management	17
Free Growing Date	9	Number of Socio-Economic Opportunities Available to Aboriginals	17
Active Research Plots Protected From Forestry Activities	9	Number of Forestry Management Operation Lost Time Accidents ...	18
Total Forest Land and Water Bodies	9	Forest Road Inspections That Meet Defined Safety Standards	18
Development of a Carbon Monitoring Plan	10	DFA Prescribed Burns That Follow Smoke Management Guidelines	18
Utilization of Residual Wood	10		
Annual Volume Harvested by Licensee Team	10		

	Page
APPENDIX I: CANFOR AUDIT ACTION PLANS, 2005	19
Measure 1-3.1 Indicator Species Action Plan	19
Measure 1-3.2 Species at Risk Action Plan	20
Measure 3-2.2 Carbon Monitoring Action Plan	22

	Page
Table 16 Opportunities for Aboriginal People to be Involved in the SFM Planning Process	17
Table 17 The Number of Socio-Economic Opportunities Made Available to Aboriginal People	17

LIST OF TABLES

Table 1 Summary of Indicator Objectives Status	1
Table 2 Riparian Reserve Zones (RRZ) Strategy/Standards	3
Table 3 Late Seral Forest In the DFA and Associated Targets ..	4
Table 4 Quality of Stream Crossings	6
Table 5 Access Management Plan Conformance	7
Table 6 Soil Disturbance Targets Met after Forestry Activities...	8
Table 7 Regeneration Delay Date Achievement	9
Table 8 Harvested Blocks Meeting Free Growing Status at Assessment Date	9
Table 9 Proportion of Blocks Harvested with Residual Wood Utilized	10
Table 10 Number of Support Opportunities Provided in the DFA	11
Table 11 The Number of Business Relationships and Opportunities Made Available and Taken Up by First Nations	11
Table 12 The Number of Local Business Relationships and Opportunities Made Available and Taken Up	14
Table 13 The Number of Research and Development Projects and/or Partnerships within the DFA	14
Table 14 Vanderhoof Sustainable Forest Management Plan Public Advisory Group Meetings	15
Table 15 Effective Opportunities Given to the Public to Express Forestry Management Concerns	16

1.0 INTRODUCTION

This is the second annual report of the Vanderhoof Sustainable Forest Management Plan (SFMP) and covers the reporting period of April 1, 2005 to March 31, 2006.

Four licensees operating in the Vanderhoof Forest District initiated the SFMP. These four licensees comprise the Licensee Team (LT) and are currently signatories to the SFMP, which began implementation in the winter of 2005. Each member of the LT is pursuing Sustainable Forest Management (SFM) certification under the CSA Z809-02 standard. Signatory members to the Vanderhoof SFMP include:

- Canadian Forest Products Ltd., Vanderhoof
- Lakeland Mills Ltd.
- L&M Lumber Ltd.
- BC Timber Sales, Stuart-Nechako Business Area

West Fraser Timber Co. Ltd (Fraser Lake Sawmills) has chosen to pursue another SFM certification initiative, but has agreed to supply data relative to the SFMP indicators and measures for their Vanderhoof operations. These values have been combined with LT data, as it will aid in establishing continuity in the planning process within the entire Defined Forest Area (DFA).

The SFMP is an outline of how the Licensee Team will conduct operations in order to meet the CSA standard. One requirement of the standard is public involvement in the plan. The primary public participation method proposed in the CSA SFM standard is a Public Advisory Group (PAG), which allows continual local input from a broad range of interested parties. The Vanderhoof SFMP PAG originally assisted in identifying quantifiable local level indicators and objectives. This report summarizes the status of the 68 remaining measures and objectives that were identified through the PAG process and established by this SFMP. For clarification of the intent of the indicators, objectives or the management practices employed, the reader should refer to the Vanderhoof Sustainable Forest Management Plan document (Version 2.0, July 2006).

Timelines for each LT member for SFMP implementation and CSA certification vary depending on internal business processes. These varying timelines result in different levels of implementation for this reporting period. Consequently, some indicators, measures and targets are still in progress. These indicators are listed in Table 1 and have identified timelines or action plans in place. The SFMP is not intended to be a static document, but rather in a state of continual improvement,

adapting to changes in the environment, forest management practices, research findings and public values. The Vanderhoof SFMP is in its infancy and there are many issues to be addressed as data sources are selected and the intent of measures are researched and adjusted to better address the indicators.

Each of the LT members is working towards achieving CSA certification. Canfor and L&M Lumber Ltd. underwent registration audits in March and August of 2005 respectively. BCTS is currently ISO 14001 certified and will undergo their CSA registration audit the week of November 20th, 2006. Lakeland Mills will be reviewing opportunities to achieve CSA certification in the future. As a result of the preliminary CSA audits completed, Action Plans were developed to address auditor concerns and the LT then adopted these plans.

Of the 68 total indicators, 65 indicators (96%) met their objectives, or are still pending during this reporting period. The following table summarizes the results of the current reporting period.

**Table 1: Summary of Indicator/Objectives Status
April 1, 2005 to March 31, 2006**

Indicator	Objective		
	Achieved	In Progress	Not Met
Distinct Habitat Types		X	
Snags and Live Trees Retained in Managed Areas	X		
Average Amount of Coarse Woody Debris per Hectare	X		
Riparian Reserves	X		
Proportion of Shrub Habitat by NDU	X		
Deciduous Tree Species	X		
Minimum Proportion of Late Seral Forest in the DFA	X		
Patch Size	X		
Plant Diversity Index		X	
Average Stand Level Retention for Harvested Blocks			X
Develop Management Strategies for Riparian Sensitive Species		X	
Stream Crossing Density by Watershed		X	
Quality of Stream Crossings (2 measures)	X		
Amount of Permanent Access within the DFA		X	
Conformance with the Access Management Plan			X
Effectiveness Monitoring Plans to Improve Access Points		X	
Effectiveness Monitoring Plans for Indicator Species		X	
Management Strategies for Species at Risk (2 measures)		X	
Coniferous Seeds and Seedlings Planted in the DFA	X		
Site Index	X		

Landslides	X		
Soil Conservation	X		
Productive Forest Area	REMOVED MARCH 2006		
Regeneration Delay Date	X		
Free Growing Date	X		
Active Research Plots Protected from Forestry Activities	X		
Total Forest Land and Water Bodies (2 measures)	X		
Development of a Carbon Monitoring Plan		X	
Utilization of Residual Wood	X		
Annual Volume Harvested by Licensee Team	X		
Total Projected Long Term Timber Supply		X	
North Central Interior Economic Contribution to Forestry in DFA	X		
Stumpage Paid Annually on Time	REMOVED MARCH 2006		
Municipal and Other Taxes Paid Annually on Time	REMOVED MARCH 2006		
Forest Road Maintained for Public Use	X		
Support Opportunities in the DFA	X		
Business Opportunities with First Nations	X		
DFA Managed Under a Fire Preparedness Plan		X	
Accidental Forest Industry Related Fires	X		
Management Strategies for Damaging Agents (2 measures)	X		
Conservation of Cultural Features (2 measures)	X		
Conservation of Range Resources (2 measures)	X		
Conservation of Riparian Values (2 measures)	X		
Visual Quality Objectives and Conservation of Scenic Areas (2 measures)			X
Local Opportunity to Quote on Tendered Contracts within the DFA	REMOVED MARCH 2006		
Local Opportunities for Non-Tendered Services within the DFA	REMOVED MARCH 2006		
Local Business Relationships and Available Opportunities	X		
Research and Development Projects or Partnerships within the DFA	X		
The Percentage of Direct Employment from Forestry in the DFA	REMOVED MARCH 2006		
Number of Different Forest Products Produced within the DFA	X		
Number of Public Advisory Group Meetings per Year	X		
The Level of Satisfaction of the Public Advisory Group	X		
Maintenance and Review of the PAG Terms of Reference	X		
Percent of Timely Responses to Written and Documented Concerns		X	
The Level of Stakeholder Satisfaction with Forest Management		X	

Opportunities for Proactive Public Involvement in Planning Processes	X		
Public Review of SFM Plan	X		
SFM Extension Activities	X		
Increase the Level of Understanding of SFM Annually		X	
Opportunities for First Nations to be Involved in the Planning Process	X		
Review of PAG Terms of Reference to Recognize Treaty Rights	X		
Level of First Nation Satisfaction with Forest Management		X	
Management Plans Approved by the Designated Decision Maker	REMOVED MARCH 2006		
Number of Socio-economic Opportunities Available to Aboriginals	X		
Number of Traditional Uses Studies Used in the Planning Process	REMOVED MARCH 2006		
Number of Hectares and Proportion of DFA with Planned Access	REMOVED MARCH 2006		
Number of Forestry Management Operation Lost Time Accidents	X		
Forest Road Inspections that Meet Defined Safety Standards	X		
DFA Prescribed Burns that Follow Smoke Management Guidelines		X	

2.0 SFM INDICATORS AND OBJECTIVES

Distinct Habitat Types

Statement of Measure	Management Objective
1-1.1,1-5.3 The percentage area of distinct habitat types in the DFA	Sustain the percentage area of distinct habitat type.

Maintaining a representation of a full range of ecosystem types is a widely accepted strategy in conserving biodiversity. Ecosystem representation is a coarse filter approach intended to ensure proportions of ecologically distinct ecosystem types are maintained across the land base.

During the previous reporting period, a study project was undertaken in the Northern Interior Forest Region, which includes the Vanderhoof DFA. This study utilized the existing Biogeoclimatic Ecosystem Classification system to define similar vegetation communities based on the frequency and abundance of indicator plant species. The *'Ecosystem Groupings for Ecosystem Representation in the Northern Interior Forest Region'* project reported out in March 2006. The

Licensee Team is currently reviewing this report and will implement procedures for data collection in the 2007/2008 reporting period.

Snags and Live Trees Retained in Managed Areas

Statement of Measure	Management Objective
1-2.1, 5-1.2 The number of snags and/or live trees per hectare over a prescribed area.	Annually sustain an average of ≥ 8 snags and/or live trees per hectare after harvesting. Sustain an average of ≥ 4 snags and/or live trees per hectare at free growing age. (-2 variance)

A snag is defined in the SFMP as a standing dead tree, or part of a dead tree, found in various stages of decay. Snags and/or live trees retained in managed stands can provide important habitat for a wide variety of animals during portions of their life cycles.

As indicated in the SFMP, baseline data for this measure has not yet been developed due to the use of both clumped and dispersed tree retention techniques within the DFA. Currently the target is being met though the use of both these retention methods, but the Licensee Team will refine the monitoring and tracking methodology in order to better reflect the intent of the indicator. During this reporting period, the stand level retention of harvested blocks was assessed via ground sampling or VRI analysis. Data indicates that averages of 83 snags and/or live trees per hectare are being retained through clumped retention. Future reporting may attempt to assess dispersed retention across the DFA in order to better understand the importance of increased snag recruitment due to MPB.

Average Amount of Coarse Woody Debris per Hectare

Statement of Measure	Management Objective
1-2.2, 5-1.1 The average amount of coarse woody debris per hectare on prescribed areas.	Sustain ≥ 4 logs per hectare after harvesting. This will be monitored annually. (0 logs per hectare variance)

Coarse woody debris (CWD) is sound or rotting logs and branches resting on the forest floor that provide habitat for plants, animals and insects. It is a source of nutrients for soil development and helps to promote higher biodiversity levels in managed areas.

The target for CWD in the Vanderhoof DFA is based on Section 68 (1) of the Forest Planning and Practices Regulation of the Forest and Range Practices Act (FRPA). This target will continue to be used as a default value until a localized

target for the DFA can be produced. A standardized data collection and monitoring process is still to be developed for this measure. Currently, data is collected through a review of all Site Plans and post harvest inspections.

Site Plans applicable to harvest operations undertaken within this reporting period were generally prepared one, or more years in advance. As such, site-specific measurable CWD targets were generally lacking, resulting in variable data formats for this reporting period. Present licensee reporting indicates an average of 105 logs per hectare, which greatly exceeds the current target. BCTS was unable to report this period, but is currently integrating pre and post harvest data collection methodology into their business process and will report out in the 2006/ 2007 reporting period. The LT expects that this measure and the related targets will continue to evolve, as more baseline data is captured.

Riparian Reserves

Statement of Measure	Management Objective
1-2.3, 1-4.1 The percentage conformance with Riparian Reserve Zone (RRZ) strategy/standards.	Annually, 100% conformance with riparian reserve zone strategy/standards. (-5% variance)

Riparian areas occur next to the banks of streams, lakes and wetlands and include both the area with continuous high moisture content, and the adjacent upland vegetation. Riparian areas play an important role in the biodiversity of flora and fauna and provide critical habitat, home ranges and travel corridors for wildlife. They also play an important role in conserving water quality, by reducing the risk associated with forestry activities. All streams, wetlands and lakes in, or immediately adjacent to a planned harvest area are classified during site level plan preparation. Riparian management objectives are established and described within the Site Plan or road design for the proposed harvest area.

A review of all Site Plans and post harvest inspections completed for blocks harvested within the DFA between April 1, 2005 and March 31, 2006 reported 100% conformance with riparian reserve zone strategies/standards (See Table 2).

Table 2: Riparian Reserve Zone (RRZ) Strategy/Standards: April 1, 2005 and March 31, 2006

Harvested Blocks with RRZ Strategies	105
Harvested Blocks in Conformance with RRZ Strategies	105
% Conformance in DFA	100%

Proportion of Shrub Habitat by NDU

Statement of Measure	Management Objective
1-2.4 The proportion of shrub habitat (%) by Natural Disturbance Unit (NDU)	Sustain 5.7% shrub cover by NDU. This will be monitored every 5 years as per SFMP. (-0.5 % variance)

Shrubs are perennial, woody, multi-stemmed plants that occur naturally in forested areas. Shrubs contribute to overall biodiversity, nutrient cycling, soil stability and provision of habitat.

The target for the proportion of shrub habitat is based on naturally occurring areas and all forested areas less than 20 years old within the DFA. The reporting period for this measure occurs every 5 years as such it is not scheduled for reporting until 2009 as per the SFMP.

Deciduous Tree Species

Statement of Measure	Management Objective
1-2.5 The proportion of deciduous species (%) by NDU	Sustain 4.9% deciduous species by NDU. Monitor every 5 years as per SFMP (-0.5% variance)

Deciduous tree species are not currently considered to be of economic importance within the DFA, however their role in providing biodiversity, foraging sites, nesting sites and substrates for invertebrates is recognized. This measure indicates the proportion of deciduous forest, compared to the coniferous forest land base within the DFA. The Vegetation Resources Inventory (VRI) is utilized as the analysis data source. The VRI is updated at periodic intervals (i.e. every 5 years), hence this measure will be reviewed and reported out in conjunction with the updated VRI. The next report will occur in 2009.

Minimum Proportion of Late Seral Forest in the DFA

Statement of Measure	Management Objectives
1-2.6 The minimum proportion of late seral forest (%) by NDU	Sustain proportions of late seral forest percentage by NDU as per SFMP.

This measure is considered a "state of the forest" measure as it portrays the percentage of forested land that contains older age classes (late seral: >120 years) for the DFA. A landscape with different seral and structural stages over space and time is recognized as being vital to biodiversity.

The Landscape Objective Working Group (LOWG), which has representation from the Integrated Land Management Bureau (ILMB), the Ministry of Forests and Range (MOFR) and timber licensees, has developed landscape biodiversity objectives and old forest retention requirements for the Prince George Timber Supply Area, which includes the Vanderhoof DFA. The Licensee LOWG (LLOWG) collected information relating to more specific DFA data at the TSA level. Table 3 shows the current status for each Natural Disturbance Unit and the related target.

Table 3: Late Seral Forest in the DFA and Associated Targets: April 1, 2005 to March 31, 2006

Natural Disturbance Unit	Merged Biogeoclimatic Units	Current Status as of March 31, 2006* (ha)	Target (%)	Variance (%)
D1 Moist Interior Mountain	ESSF mv1, ESSF mvp1, ESSF xv1	42%	>29%	0%
D2 Moist Interior Plateau	SPBS mc	50%	>17%	0%
D3 Moist Interior Plateau	SBS dk	33%	>17%	0%
D4 Moist Interior Plateau	SBS dw2	35%	>12%	0%
D5 Moist Interior Plateau	SBS dw3	30%	>17%	0%
D6 Moist Interior Plateau	SBS mc2, MS xv	39%	>12%	0%
D7 Moist Interior Plateau	SBS mc3	37%	>12%	0%

*The current status is from the LOWG Analysis Project (Results – Old Forest) (2006)

Patch Size

Statement of Measure	Management Objectives
1-2.7 The percentage area by patch size class by NDU	Achieve and sustain patch size targets by NDU as per SFMP.

A patch is defined in the SFMP as a particular unit with identifiable boundaries and different vegetation from its surroundings. Variability of patch size contributes to landscape diversity essential for meeting a variety of habitat requirements. Patches often consist of even aged forests, resulting from either natural and/or man made disturbances.

The LOWG, which has representation from ILMB, MOFR and timber licensees, has developed landscape biodiversity objectives and old forest retention requirements for the Prince George Timber Supply Area, which includes the

Vanderhoof DFA. Information relating to more specific DFA data was collected at the TSA level by the LLOWG. Patch size will be reported out every 5 years by the LLOWG, and the next expected report on patch size is scheduled for 2009.

Plant Diversity Index

Statement of Measure	Management of Objective
1-2.8, 1-5.2 The Plant Diversity Index for site association groups above the baseline target on the THLB.	Sustain the Plant Diversity Index consistent with the values identified as per SFMP

A plant diversity index is defined in the SFMP as a mathematical measure of species diversity in a plant community. Diversity of plant species directly correlates to genetic diversity within plant communities. Plant diversity indices measure the number of different species, the abundance of each different species and how rare they are.

The current data base for this measure is the Northern Interior Vegetation Management Association (NIVMA) permanent sample plots. NIVMA plots followed a highly structured protocol and were randomly established across the Prince George TSA. Plant diversity information for the Vanderhoof DFA was translated from Prince George TSA data. A localized data set and method of data collection has not yet been developed, hence there is no new information to report for this reporting period. A FIA project to establish a natural range of variability for the DFA was developed by Canfor and will span approximately 3 years. Once this project is complete, the information will be assessed by the LT and a data collection, tracking and monitoring protocol will be implemented.

Average Stand Level Retention for Harvested Blocks

Statement of Measure	Management Objective
1-2.9 The average stand level percentage retention for all harvested blocks by NDU.	Achieve and sustain >10% retention at the stand level by NDU as per SFMP. (0% variance)

Stand level retention consists primarily of Wildlife Tree Patches (WTPs), which are defined as forested areas of timber within, or immediately adjacent to, a harvested cutblock. Residual patches of timber are generally retained for their value in providing a source of habitat, local genetic diversity, or the protection of important features. WTPs in managed stands also contribute to a landscape level, natural disturbance pattern which mimics wildfires. A baseline target of 10%

stand level retention by NDU was established for this measure in order to comply with the Forest Planning and Practices Regulation of FRPA.

Sources for calculating and monitoring this measure include Site Plans, EMS pre-work forms, EMS harvest inspection forms, and various licensee information tracking systems such as GENUS. The Vanderhoof DFA is comprised of the Moist Interior NDU, which contains the mountain sub unit and the plateau sub unit. A review of LT data demonstrates that retention at the stand level for the Moist Interior NDU is 9.4% for this reporting period, which does not meet the management objective.

As the LT continues with salvage harvesting of beetle killed stands within the DFA, stand level retention is ranging between 3.5% up to 25 % (or greater). For this reporting period, the blocks that were harvested were in stands that were predominantly pine with few riparian features. As such, the percent retention fell below the target amount of 10%. In order to reduce the risk of this happening in the future, steps that have been taken include weekly reports tracking blocks put under permit, and blocks that have been harvested within the current reporting period, and their associated percent retention.

Develop Management Strategies for Riparian Sensitive Species

Statement of Measure	Management Objective
1-2.10 Develop "management strategies" for riparian sensitive species (i.e. beaver) to achieve early seral deciduous conditions.	Management strategies will be developed by December 31, 2007 (+3 month variance)

Timber harvesting affects the temporal and spatial distribution of seral stages. Current regulations and forest management practices within the DFA lean towards retaining areas adjacent to wetlands and riparian areas, thereby allowing for an over representation of late seral forest types. Limiting the diversity of riparian habitat through this practice could potentially diminish the abundance of riparian sensitive species. Pierre Beaudry and Associates developed a report entitled "Management Strategies for Riparian Sensitive Species" for the LT in March 2006. The LT has reviewed this report, and implemented phase II of the project, which involves a field analysis and sampling plan. This plan was summarized for the PAG during the September 16th, 2006 field trip. As such, the reporting period of April 1, 2005 to March 31, 2006 contains no data for this measure.

Stream Crossing Density by Watershed

Statement of Measure	Management Objective
1-2.11, 1-4.2 Stream crossing density by watershed.	Achieve and sustain ≥ 2.266 stream crossings per kilometer of road by watershed in the DFA (+10% variance).

This measure was designed to monitor the number of stream crossings in the DFA broken down by watershed. Limiting the number of stream crossings decreases the risk of water quality degradation. Water quality and conservation of aquatic habitat is fundamental to sustaining biological richness.

The reporting for this measure is dependent on the annual update of a district roads database. However, compatibility of licensee mapping systems has complicated the reporting of this measure. Therefore, current reporting relative to this measure will be delayed until April 2007. As such, no new data is available for the current reporting period. The LT will develop a standardized digital submission format to aid in future reporting of this measure.

Quality of Stream Crossings

Statement of Measure	Management Objective
1-2.12, 1-4.3 The percentage of stream crossings planned and installed to design/standard.	Annually, 100% of planned stream crossings will be installed as per design or prescribed standard. (-10% variance)
1-2.13, 1-4.4 The percentage of stream crossing inspections and resultant mitigation measures completed according to schedule.	Annually, 100% of mitigation measures resulting from stream crossing inspections will be completed according to schedule. (-10% variance)

Forestry roads can have a large impact on water quality and quantity when they intersect with streams, including increasing sedimentation into water channels. The first measure involves a process to ensure stream crossings (S6 or greater) within the DFA are installed according to design or prescription standard. The second measure involves the tracking of identified issues including stream sedimentation as a result of roads and stream crossings. The monitoring process for these measures includes inspections during and after installation as well as part of routine maintenance during the life of the structure. During this reporting period, a 97% and 100% conformance were respectively achieved for both criteria (refer to Table 4).

**Table 4: Quality of Stream Crossings in Vanderhoof DFA:
April 1, 2005 to March 31, 2006**

Total Crossings Installed	69	Total Crossing with Mitigation Measures	6
Total Installed to Design/Standard	67	Total Mitigation Completed on Schedule	6
% in DFA	97	% in DFA	100

Amount of Permanent Access within the DFA

Statement of Measure	Management Objective
1-2.14, 1-4.5, 2-2.2 The percentage of area within the THLB with permanent access.	Annually, sustain <4.2% of area within the THLB in permanent access (+1% variance)

As defined in the SFMP, permanent access structures include roads, bridges, landings, gravel pits, or other similar structures that provide access for timber harvesting. Without rehabilitation work, these structures can remove area from the productive forest land base and may negatively affect water quality and quantity. The reporting for this measure is dependent on an updated roads and landings coverage for the DFA (as initially completed to establish baseline targets). The LT has initiated a FIA project to complete such an update. Once complete and reviewed for accuracy by the LT, the current status relative to the target will be made available to the PAG. The LT will also recommend periodic reporting (as opposed to annual) of this measure to the PAG. As such, there is currently no data to report for this measure.

Conformance with the Access Management Plan

Statement of Measure	Management Objective
1-2.15, 5-1.3, 9-1.3 The percentage conformance with the Access Management Plan	Annually, achieve 100% conformance with the Access Management Plan. (-10% variance)

The Vanderhoof Land and Resource Management Plan developed general guidelines for the Vanderhoof Access Management Plan. The Ministry of Forests and Range (MOFR) is the steward of this plan and is responsible for ensuring that an annual review and updates take place. A new Access Management Plan expected from the MOFR has not yet been released (ILMB presentation to the PAG). Table 5 lists the conformance to the current Access Management Plan utilized for the SFMP baseline and demonstrates 83% conformance, which is not

within the acceptable variance. LT members have respectively implemented action plans to ensure conformance during the next reporting period.

**Table 5: Access Management Plan Conformance:
April 1, 2005 to March 31, 2006**

Total Access Management Areas	12
Total Conformance to these Areas	10
Percentage Access Areas in Conformance in DFA	83%

Effectiveness Monitoring Plans to Improve Access Points

Statement of Measure	Management Objective
1-2.16, 5-1.4, 9-1.2 Monitoring plans are developed and implemented for selected access management areas to continually improve access points.	Develop Effectiveness Monitoring Plans by Spring 2008 (3+month variance).

The Integrated Land Management Bureau (ILMB) is currently engaged in the public review of a revised Access Management Plan (strategies and managed access areas) within the Vanderhoof Forest District. ILMB has extended the public review and comment period (relative to the new access management plan) to January 2007 and are planning to have the new access management plan developed and approved sometime in 2007. Until this process is completed, the Licensee Team has deferred the development of effectiveness monitoring plans to improve access points. Once a new access management plan is released for the Vanderhoof Forest District, the Licensee Team will develop strategies to effectively manage these access areas. Once these strategies are developed, implementation can be initiated. As such, there is no data to report this period.

Effectiveness Monitoring Plans for Indicator Species

Statement of Measure	Management Objective
1-3.1 Effectiveness Monitoring Plans (wildlife) are developed and implemented for selected indicator species to test management targets developed for indicators 1-1 and 1-2	Develop Effectiveness Monitoring Plans for December 31, 2008 (+3 month variance).

This measure is used to determine if productive populations of selected wildlife species are present and well distributed throughout their habitat within the DFA.

The Licensee Team will develop and implement an Effectiveness Monitoring Plan for one or more indicator species. These plans will aid the Licensee Team in assessing whether current management practices and existing policies are successful in maintaining desired populations. No data is available for this measure for this reporting period as these strategies have not yet been developed or implemented. Alpha Wildlife Research and Management Ltd. has produced a report entitled “An Effectiveness Monitoring Program for Biodiversity Management in the Prince George TSA”. The LT is currently reviewing this report (See Appendix I).

Management Strategies for Species at Risk

Statement of Measure	Management Objective
1-3.2 Develop “Management Strategies” for all Species at Risk.	Develop management strategies for all Species at Risk within the DFA by December 31, 2007 (+3month variance)
1-3.3 The percentage of Species at Risk “Management Strategies” being implemented as scheduled	Annually, beginning in 2008, ensure 100 % of species at risk management strategies are being implemented as scheduled. (55% variance)

These measures will ensure that specific management strategies are developed and implemented in order to conserve and manage specific habitat needs for all identified Species at Risk as defined by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). The LT is currently reviewing a report from Alpha Wildlife Research and Management Ltd. entitled “Management Guidelines for Species and Plant Communities at Risk: Prince George Timber Supply Area”. Therefore, no data is available for this reporting period (See Appendix I).

Coniferous Seeds and Seedlings Planted in the DFA

Statement of Measure	Management Objective
1-5.1 The percentage of seed for coniferous species collected and seedlings planted in accordance with the Forest and Range Practices Act.	Annually, sustain 100% of seed for coniferous species collected and seedlings planted in accordance with the Forest and Range Practices Act. (-5% variance)

Sustainability of genetic diversity is an important forest management consideration because harvesting and regeneration activities can interrupt the natural patterns of plant reproduction. Assurance of genetically diverse seedlings

for reforestation in the Vanderhoof DFA is delivered through the requirements of legislation that regulate the forest industry's use of tree seed and planted seedlings. This measure relates to seed and seedlings used under the guidance of the Forest and Range Practices Act (FRPA). As Licensees are currently planting areas that fall under the guidance of both the Forest Practices Code (FPC) and FRPA, the data for this measure was somewhat difficult to collect. However, between April 1, 2005 and March 31, 2006, 100% of the seedlings and seeds planted under FRPA were planted in accordance with the Chief Forester's Standards for Seed Use of FRPA.

Site Index

Statement of Measure	Management of Objectives
2-1.1 Site index for managed stands within the THLB at the subzone level is sustained.	Sustain site index for managed stands within the THLB at the subzone level as outlined in SFMP.

Site index is defined in this SFMP as the height of a tree at 50 years of age. Site index is used in timber supply planning to predict future stand volume and in silviculture planning. The Licensee Team will review the potential of altering current silviculture survey methodologies to collect additional field data and recalculate the managed stand site index every five years. As the reporting period for this measure is every 5 years, there is no data to report this period and the measure will be re-visited in 2009.

Landslides

Statement of Measure	Management Objective
2-1.2 The number of hectares of landslides resulting from forestry practices.	Annually, landslide areas will be <20 cumulative hectares across the DFA.

As defined in this SFMP, a landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. For the purposes of the SFMP and this measure, landslides are considered as the mass movement of soil or debris covering an area of at least 0.10 hectares in size. Maintaining a sustainable, productive forest requires that the impacts of timber harvesting do not create conditions that may initiate landslides.

During this reporting period there was no loss of area due to landslides associated with forest management activities.

Soil Conservation

Statement of Measure	Management Objectives
2-1.3 The percentage of blocks meeting soil conservation targets after harvesting and silviculture activities.	Annually, 100% of blocks will meet soil conservation targets after harvesting and silviculture activities. (-5% variance).

Some degree of soil disturbance is expected during forestry activities. However, site disturbance limits established when developing individual Site Plans ensure the disturbance is minimized. Data for this measure was collected from each Licensee Team member's Site Plans and post harvest inspection forms. During the reporting period there was 99% conformance overall to soil disturbance limits, which is within the acceptable variance level (See Table 6 for breakdown). It should be noted that BCTS soil disturbance assessments were restricted to harvesting activities only.

**Table 6: Soil Disturbance Targets Met After Forestry Activities:
April 1, 2005 to March 31, 2006**

Activity	Total Number	Achieved Soil Disturbance Limits	% in DFA
Harvested Blocks	200	199	99%
Site Preparation Blocks	51	51	100%

Regeneration Delay Date

Statement of Measure	Management Objectives
2-3.1, 4-1.3 The percentage of harvested blocks meeting the regeneration delay date.	Annually, sustain 100% of harvested blocks meeting the regeneration delay date. (-5% variance)

Regeneration delay is defined in the SFMP as the time allowed between the start of harvesting in an area and the date the associated Site Plan requires a minimum number of acceptable, well spaced trees per hectare to be growing in that area. Licensee Team members have reviewed all the blocks that have their regeneration commitment dates falling within this reporting period (Table 7). As milestone declarations are recorded by Standard Unit (SU), the data collection was changed to record the SUs that had achieved Regeneration Delay during the reporting period. The percentage of harvested SUs within the DFA meeting the regeneration delay date is 99 %, which is within the variance limit.

**Table 7: Regeneration Delay Date Achievement:
April 1, 2005 to March 31, 2006**

Total SUs Surveyed with Regeneration Delay Due	2150
Total SUs Meeting Regeneration Delay Target	2148
% Blocks Meeting Regeneration Delay Target	99%

Free Growing Date

Statement of Measure	Management Objective
2-3.2,4-1.4 The percentage of harvested blocks meeting the free growing assessment date.	Annually, sustain 100% of harvested blocks that meet the free growing assessment date. (-5% variance)

A free growing stand is defined in the SFMP as a stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees. Once harvested areas reach the free to grow standard, the area reverts back to Crown land and Licensee obligations are considered complete. Achieving free to grow status demonstrates the LT's efforts to sustain the productive capability of forest ecosystems. Table 8 lists all harvested areas within the DFA that had a free growing due date between April 1, 2005 and March 31, 2006. As milestone declarations are recorded by Standard Unit (SU), the data collection was changed to record the SUs that had achieved Free Growing during the reporting period. In total, 99% of harvested areas achieved free to grow status within the specified timeline, which is within the variance of the target for this measure.

**Table 8: Harvested Areas Meeting Free Growing Status Assessment Date:
April 1, 2005 to March 31, 2006**

Number of SUs with Free Growing Due Dates	253
Number of SUs Achieving Free Growing Status	251
Total Overall Percentage in DFA	99%

Active Research Plots Protected from Forestry Activities

Statement Of Measure	Management Objective
2-4.1 The percentage of active research plots protected from harvesting and silviculture activities.	Sustain 100% of established, active research plots protected from harvesting and silviculture activities. (-10% variance)

Research and development is important to the maintenance of the long-term capacity of forest ecosystems within the DFA. Harvesting and other forest management activities can impact field research projects. This measure was designed to ensure the protection of research plots by spatially identifying their locations and excluding them from forest management planning areas.

A digital coverage indicating the location of permanent and temporary research plots within the DFA has been created by Forest Analysis and Inventory Branch (MOFR). This research plot coverage has subsequently been added to each licensee's planning platform and is utilized to mitigate potential impacts from harvesting, road building and silviculture activities. The Integrated Land Management Bureau's Land and Resource Data Warehouse (LRDW) contains a GIS layer that may be accessed to supply updates. This database will be checked yearly and updated as required.

For the reporting period of April 1, 2005 to March 31, 2006, no updates to the database have occurred. As such, 100% of established, active research plots in the DFA have not been impacted by the LT.

Total Forest Land and Water Bodies

Statement of Measure	Management Objective
3-1.1 The percentage area change of total forested land	Sustain 0% area change of total forested land. This will be measured at each Timber Supply Analysis period. (+/- 2% variance)
3-1.2 The percentage area change of water bodies	Sustain 0% area change of water bodies. This will be measured at each Timber Supply Analysis period. (+/- 2% variance)

The first measure determines the area that is physically converted from forested land and removed from the THLB as a result of permanent access or other development. The second measure addresses the change in water bodies across the DFA and helps to ensure that water features are sustained over time. Poor management of forest land adjacent to water bodies could potentially affect the size of water bodies. As the reporting period for each of these measures is every 5 years, there is no new data available for this reporting period. These measures will be reviewed again in 2009 in conjunction with a new Timber Supply Analysis.

Development of a Carbon Monitoring Plan

Statement of Measure	Management of Objective
3-2.1 Carbon Monitoring Plan is developed and implemented for forest ecosystem biomass and carbon pools.	Develop and implement a Carbon Monitoring Plan by December, 2007 (+3 month variance)

The 1997 Kyoto protocol has placed considerable pressure on the public and private sectors of society to account for the role that forests play in carbon storage and the reduction of carbon dioxide emissions. The capability of the forest to sequester carbon is considered an important environmental value and has been included as an aspect of the SFMP.

Phase I of the Action Plan to develop and implement a Carbon Monitoring Plan was completed by Forest Ecosystems Solutions Ltd. through the development of a report entitled “Forecasting Indicators for Sustainable Forest Management: Total Ecosystem Carbon for the Vanderhoof DFA”. This report was reviewed by the LT in July 2006. Phase II of the project includes review of a Carbon plan developed by Canfor, Fort Nelson in 2005/2006 in order to determine the feasibility of adopting these strategies for the Vanderhoof DFA. However, both of these project phases occurred outside the reporting period of April 1, 2005 to March 31, 2006 (See Appendix I).

Utilization of Residual Wood

Statement of Measure	Management Objective
3-2.2 The percentage of blocks where a portion of the residual wood is utilized or left on block to contribute to other values.	Sustain \geq 5% of blocks where a portion of the residual wood is utilized or left on block. (-5% variance)

This measure was designed to promote the utilization of residual post harvest wood fiber. Examples of utilization include CWD piles left onsite for small mammal habitat, firewood and other forest products such as fence posts or biomass for wood pellets. Strategies for residual wood use or strategies for residual wood to be left on site are contained in Site Plans. Post harvest inspections are then utilized to ensure Site Plan objectives are met on all harvested blocks. During the April 1, 2005 to March 31, 2006 reporting period, 21% of blocks were harvested where a portion of the residual wood was utilized or left on site (See Table 9). This value achieves the SFMP target.

Table 9: Proportion of Blocks Harvested with Residual Wood Utilized: April 1, 2005 to March 31, 2006

Number of Blocks Harvested	200
Number of Harvested Blocks with CWD piles	42
Total Overall Percent in DFA	21%

Annual Volume Harvested by Licensee Team

Statement of Measure	Management Objective
4-1.1, 4-4.1 Annually, total volume (m ³ /ha) of timber harvested in the DFA (Actual)	Sustain a harvest volume of 5,500,000 m ³ /year until 2009. (+/-1,000,000 m ³ /year variance)

To be considered sustainable, harvesting a renewable resource can not deteriorate the resource on an ecological, economic or social basis. In the summer of 2004 the Chief Forester completed an expedited Timber Supply Review (TSR) to re-determine the Allowable Annual Cut (AAC) for the Prince George TSA, which includes the Vanderhoof Forest District. This review was initiated in order to address the severe mountain pine beetle infestation that currently exists. The actual recorded cut for the Vanderhoof DFA during the current reporting period was 5,143,873.6 m³, which is within the acceptable variance limits of the stated target.

Total Projected Long Term Timber Supply

Statement of Measure	Management Objectives
4-1.2, 4-4.2 Total projected timber supply (m ³ /year)	2,570,000 m ³ /year (+/- 257,000m ³ /year variance)

Initial data for this measure was produced through the forecasting process developed by Forest Ecosystem Solutions Ltd. This forecasting process will be revisited and revised throughout the life of this plan, but revisions have not yet taken place. The Licensee Team will determine a frequency at which the quantitative elements of this SFMP should be re-forecasted once the plan is fully implemented and operational. As such, there is no information to report for the current reporting period.

North Central Interior Economic Contribution to Forestry in DFA

Statement of Measure	Management Objectives
4-2.1 The percentage of money spent on forest operations and management on the DFA provided from the suppliers of the North Central Interior (NCI). (stumpage not included)	Annually, sustain $\geq 80\%$ of the money spent on forest operations and management from the North Central Interior. (-5% variance)

This measure is calculated through a comparison of the dollar value of goods and services invested locally to the total dollar value of goods and services. Forest management activities provide substantial socio-economic benefits to local communities. As such, local forest related businesses should be able to benefit from the work that is required in the management of the forest resource in the DFA. The percentage of money spent on forest operations within the North Central Interior (NCI) was 96.7% between April 1, 2005 and March 31, 2006, which achieves the target for this measure.

Forest Road Maintained for Public Use

Statement of Measure	Management Objectives
4-2.4, 9-1.4 The number of kilometers of forest road maintained annually for public use.	Maintain ≥ 300 km of forest road for public use. (-30km variance)

This measure is a general indicator of the amount of forest road maintained, that provides public access benefits to the DFA forest resource. A balance must be met between the value of access to the forest resource, the social cost or benefit, and the ecological cost or benefit. Each year, the Licensee Team members review active forest roads to ensure they are in good working condition. A summary from Licensees indicates 582.25 km of forest road was maintained during the reporting period, which achieves the stated target for this measure.

Support Opportunities in the DFA

Statement of Measure	Management Objectives
4-2.5, 6-1.5, 9-5.1 Annually, the number of support opportunities provided in the DFA.	Annually, sustain ≥ 100 support opportunities in the DFA(-10 variance)

This measure indicates how the Licensee Team members provide economic and social benefits to the public over and above wages, taxes and stumpage fees,

through donations and involvement in local community organizations. Support opportunities for this reporting period were tracked by each Licensee Team member and are recorded in Table 10, which shows 143 total opportunities.

Table 10: The Number of Support Opportunities Provided in the DFA: April 1, 2005 to March 31, 2006

Support Opportunity	Number of Opportunities
Cash Donations	100
Product Donations	8
Resource and Worker Donations	22
Community Events	13
TOTAL	143

Business Opportunities with First Nations

Statement of Measure	Management Objective
4-3.1 Annually, the number of business relationships and opportunities made available and taken up.	Sustain ≥ 12 business relationships or opportunities annually (-2 variance).

Business relationships, opportunities and cooperative working arrangements with local Aboriginal people provides mutual social, cultural and economic benefits and is an important component in the success of the SFMP. A business relationship, in the context of this measure, is defined as a financial arrangement between a local business, or a person from a local community and a member of the Licensee Team. To administrate this measure, Licensee Team members will report individual achievements annually. A total of 59 business relationships with local First Nations were recorded during April 1, 2005 to March 31, 2006 (See Table 11).

Table 11: The Number of Business Relationships and Opportunities Made Available and Taken Up by First Nations: April 1, 2005 to March 31, 2006

Business Type	Number of Business Relationships	Number of Business Opportunities	Total
Forest Management	8	1	9
Silviculture	17	4	21
Harvesting	20	9	47
Total	45	14	59

DFA Managed Under a Fire Preparedness Plan

Statement of Measure	Management Objective
4-5.1, 9-4.3 The percentage of the operating area managed under a Fire Preparedness Plan.	Annually, sustain 100% of the operating area managed under a Fire Preparedness Plan. (-5% variance)

Although fire is part of the natural disturbance pattern in the Vanderhoof DFA, fires that burn out of control have the potential to negatively impact the forest industry, local economy, community stability and other resource values. Current legislation and certification processes require Licensees harvesting within the DFA to complete an Emergency Preparedness Plan, which ultimately contains a Fire Preparedness Plan. Of the licensees reporting during this reporting period, all of their operating areas were managed under a Fire Preparedness Plan.

BCTS was unable to report on this measure, as a component of TSL's within this reporting period were outside the scope of their EMS (i.e. issued prior to ISO14001 registration) and Emergency Response Plans were not available. BCTS will be able to fully report on this measure for the next reporting period.

Accidental Forest Industry Related Fires

Statement of Measure	Management Objectives
4-5.2 The number of hectares of accidental forest industry operational related fires.	Annually, sustain < 100 cumulative hectares of accidental forest industry operational related fires. (+ 10 hectare variance)

This measure accounts for losses attributable to accidentally caused industrial forest fires. The Licensee Team has discussed the tracking of this DFA measure with the Ministry of Forests and Range Protection Branch in Vanderhoof. Protection staff currently maintains a database that tracks all fires within the DFA in detail. It was decided that this dataset offers the most consistent method of reporting industrial caused fires within the DFA. For the reporting period of April 1, 2005 to March 31, 2006, 1.4 ha were lost due to accidental forest industry related fires, which is within the stated target.

Management Strategies for Damaging Agents

Statement of Measure	Management Objective
4-5.3 Develop "management strategies" for damaging agents.	Develop various strategies by December 31, 2005 (+3 month variance)
4-5.4 The percentage of management strategies in place and implemented to reduce the impact of damaging events or agents (i.e. annual harvest targeted toward MPB)	Implement 100% of management strategies developed to reduce the impact of damaging events or agents. (0% variance)

Damaging agents can be considered as biotic or abiotic factors (e.g. fire, wind, and insects) that reduce the value of commercial stands of timber. Within the DFA, mountain pine beetle impacts far outweigh the combined losses caused by all other damaging agents. Control efforts to address this destructive pest are not practical at this stage of the epidemic. However, a range of management strategies to mitigate the impact of standing timber mortality has been developed by the LT.

It is not expected that all licensees within the DFA will implement all management strategies. Licensees will have to assess those that are applicable based on operating area, stage or incidence of infestation on the landscape, business practices, etc. Thus, reporting on this measure reflects the % of applicable management strategies implemented by the various licensees, which for the current reporting period was 100%.

Conservation of Cultural Features

Statement of Measure	Management Objective
5-1.5, 9-3.1 The percentage of Site Plans conserving unique or significant identified cultural features.	Annually, sustain 100% of the Site Plans that conserve unique or significant cultural features when they are identified. (0% variance)
5-1.6, 9-3.2 The percentage of forest management operations consistent with the conservation of unique or significant identified cultural features	Annually, sustain 100% consistency between forest management operations and the strategies identified in the Site Plan to conserve cultural or significant features (-5 variance).

The protection and maintenance of culturally unique or significant features gives assurance that these values will be identified, assessed and archived for future

generations. These measures ensure that all Site Plans have identified such features and have strategies that are implemented to ensure the feature is conserved. A review of all Licensee Team Site Plans with identified cultural features revealed 100% conformance to the first measure and 98% conformance to the second measure during the current reporting period, which is within the variance of the target.

Conservation of Range Resources

Statement of Measure	Management Objective
5-1.7 The percentage of Site Plans conserving range resources for those areas that have been identified range resources.	Annually, sustain 100% of the Site Plans that conserve range resources when they are identified. (0% variance)
5-1.8 The percentage of forest management operations consistent with the conservation of range resources identified in Site Plans.	Annually, sustain 100% consistency between forest management operations and the strategies identified in the Site Plan to conserve range resources. (-5% variance)

Range resources can include grazing or hay cutting permits, or areas with potential for these ventures. These measures ensure that range areas are identified, have Site Plan strategies developed and that these strategies are adhered to. The data for these measures was collated and reported by each Licensee Team member. During the reporting period of April 1, 2005 to March 31, 2006 the management objectives were achieved on both measures (100%).

Conservation of Riparian Values

Statement of Measure	Management Objective
5-1.9 The percentage of Site Plans conserving riparian values for those areas that have identified riparian values.	Annually, sustain 100% of the Site Plans that conserve riparian values when they are identified in the plan. (0% variance)
5-1.10 The percentage of forest management operations consistent with the conservation of riparian values identified in the Site Plan.	Annually, sustain 100% consistency between forest management operations and the strategies identified in the Site Plan to conserve riparian values. (-5% variance)

Riparian values can be important to ecological values such as vegetation, water quality, soil protection and wildlife habitat. Riparian areas are identified within

the Site Plan and strategies are developed therein. There is a legal obligation to adhere to the strategies listed in the Site Plan with inspections occurring during harvesting and silviculture activities to document this. During this reporting period there was 100% conformance with measure 5-1.9 and 97% conformance with measure 5-1.10, which is within the allowable variance for the stated target.

Visual Quality Objectives and Conservation of Scenic Areas

Statement of Measure	Management Objective
5-1.11, 9-2.1 The percentage of Site Plans within a scenic area that meet Visual Quality Objectives (VQO)	Annually, sustain 100% of the Site Plans that are within a scenic area and meet Visual Quality Objectives (0% variance)
5-1.12, 9-2.2 The percentage of forest management operations which are consistent with the conservation of Visual Quality Objectives identified in the Site Plan	Annually, sustain 100% consistency between forest management operations and the strategies identified in the Site Plan to conserve Visual Quality Objectives. (-5% variance)

Visual Quality Objectives are defined in the SFMP as resource management objectives that have been established by the District Manager, or are contained in a higher level plan.

For the current reporting period, some interpretation of the management objective for this measure is necessary, due to the mountain pine beetle epidemic within the DFA. Data summaries of Licensee Team Site Plans and a summary of the number of forestry management operations that were consistent with the VQO strategies were collected, resulting in 95% conformance with the first measure, which is outside the variance of the target. However, there was 100% conformance with the second measure.

The non-conformance with the first measure was due to a MPB exempted block where beetle risk was weighed against visual quality concerns. The intent of Licensees to exceed VQO's was made known to affected stakeholders and approved by the statutory decision maker. Where this decision was made, it is difficult to conclude that proposed plans did not meet objectives. However, for this reporting period where visual impact assessments were not conducted (or directed) within known scenic areas, it has been reported that the Site Plan did not meet the VQO's.

Local Business Relationships and Available Opportunities

Statement of Measure	Management Objective
6-1.3 Annually, the number of business relationships and opportunities made available and taken up within the DFA.	Sustain > 100 business relationships or opportunities annually within the DFA. (-10 variance)

A business relationship, in the context of this measure, is defined as a financial arrangement between a local business, or a person from a local community and a member of the Licensee Team. An opportunity is defined as a reasonable chance to form a business relationship. A business relationship does not directly relate to the number of contracts administered, as one particular business relationship may be facilitated through a number of contracts covering a variety of projects. To monitor and report on this measure the Licensee Team members tallied the number of business relationships and opportunities that were formed with local residents or businesses between April 1, 2005 and March 31, 2006. The Licensee Team exceeded the target for this measure (See Table 12).

Table 12: The Number of Local Business Relationships and Opportunities Made Available and Taken Up: April 1, 2005 to March 31, 2006

Type of Business or Opportunity	Number of Relationships	Number of Opportunities	Total for Measure
Forestry Management	34	41	75
Silviculture	27	20	47
Harvesting/ Road Construction	62	51	113
Total	123	112	235

Research and Development Projects or Partnerships within the DFA

Statement of Measure	Management Objective
6-1.4 The number of research and development projects and/or partnerships completed within the DFA	Annually, sustain ≥ 3 research and development opportunities within the DFA (-1 variance)

SFM system requirements are based on adaptive management and continual improvement, which can both be guided through the specific results of research and development projects or partnerships conducted within the DFA. Research

and development initiatives also provide direct economic benefits to the communities within the DFA. The target for this measure was achieved for the collaborative Licensee Team during this reporting period (See Table 13).

Table 13: The Number of Research and Development Projects and/or Partnerships within the DFA: April 1, 2005 to March 31, 2006

Research and Development Projects	Total Number
Biodiversity Projects	0
Silviculture Projects	3
Forest Product Research and Development	6
Other	0
Total Number	9

Number of Different Forest Products Produced within the DFA

Statement of Measure	Management Objective
6-1.7, 9-5.2 The number of different forest products produced within the DFA	Annually, sustain ≥ 9 different forest products produced within the DFA. (-2 variance)

Diversification of forest products improves any local economy through increased employment and decreased dependence on a single market. The ability of a value added manufacturer to sustain operations is often dependent upon the availability of raw material from dimensional lumber mills. Licensee Team members provide dimensional lumber products and help to supply value-added manufacturers with raw materials for production. These provisions maintain stability and sustainability of socio-economic factors within the DFA. Licensee Team members have reported the production of 15 different products from April 1, 2005 to March 31, 2006. This tally is unchanged from the last reporting period and meets the management objective and target.

Number of Public Advisory Group Meetings per Year

Statement of Measure	Management Objective
7-1.1 The number of Public Advisory Group (PAG) meetings per year.	Annually, sustain ≥ 2 PAG meetings per year. (-1 variance)

The Vanderhoof PAG members represent diverse interests, values and specific uses of the forest resource within the DFA. The PAG provided initial input into the development of the SFMP by identifying local issues and values to consider

during management and planning processes. The PAG will continue to provide guidance, input and evaluation throughout the life of the SFMP. This measure provides information regarding how often the Licensee Team provided the opportunity for the PAG to meet. According to the Management Plus Communication's final submission binder, the PAG met 2 times during the reporting period, which meets the target (See Table 14).

**Table 14: Vanderhoof Sustainable Forest Management Plan
Public Advisory Group Meetings: April 1, 2005 to March 31, 2006**

Date	Location
April 26, 2005	Village Inn, Vanderhoof, BC
June 8, 2005	Friendship Centre, Vanderhoof, BC
Total Number of Meetings	2

The Level of Satisfaction of the Public Advisory Group

Statement of Measure	Management Objective
7-1.2 Measure the level of satisfaction of the PAG members with the SFMP process, annually.	Annually, sustain a satisfaction index level of ≥ 4 (-0.5 variance)

As mentioned in the previous measure the PAG is one of the key elements for public involvement in the sustainable forest management process. This measure provides the Licensee Team an analysis tool to gauge how well the public participation process is working. On June 8, 2005 a PAG satisfaction survey was completed. The average level of satisfaction was 4.0, which meets the management objective.

Maintenance and Review of the PAG Terms of Reference

Statement of Measure	Management Objective
7-1.3 Maintain and review annually the SFM plan PAG Terms of Reference (TOR) to ensure a credible and transparent process.	The PAG TOR will be reviewed each year to ensure a credible and transparent process. This will be monitored annually. (0% variance)

Each member of the PAG must be able to have effective and fair interaction or communication with one another and the Licensee Team members to ensure all identified values receive sufficient input from the PAG representatives. The PAG Terms of Reference underwent review over the course of this reporting period

with the Public Advisory Group and the Licensee Team both approving the revised Terms of Reference in June 2005.

Percent of Timely Responses to Written and Documented Concerns

Statement of Measure	Management Objective
7-1.4 The percentage of timely responses to written and documented concerns categorized by value.	Annually, sustain 100% of timely responses to all written and documented concerns. (-10% variance)

Members of the Licensee Team solicit feedback on all public plans and receive ongoing general feedback regarding forest practices and management of the DFA. Public involvement is an important aspect of the SFM process, therefore it is the Licensee Team's responsibility to provide meaningful and effective opportunities to incorporate public input into the SFMP and respond to public concerns. A review of questions raised with regards to public plans and the number of responses put forth by members of the Licensee Team was analyzed for the reporting period and 100% of responses were completed in a timely fashion (i.e. within 30 days).

It should be noted that BCTS was excluded from this measure as an adequate tracking system was not in place to capture the diverse range of written concerns associated with BCTS operations and their related government mandate. In conjunction with the PAG, the LT would like to narrow the scope of this measure to enable BCTS to focus on forest management planning related concerns.

The Level of Stakeholder Satisfaction with Forest Management

Statement of Measure	Management Objective
7-1.5, 8-1.3 Through an ongoing survey measure the level of satisfaction of residents, stakeholders and Aboriginal groups with the forest management processes and outcomes.	Annually, sustain a satisfaction index of ≥ 4 (-0.5 variance)

A survey to measure resident, stakeholder and First Nation satisfaction was adopted from UBC entitled the "Sustainable Forest Management Public Opinion Survey". This survey was distributed, but the results will not be collated during the April 1, 2005 to March 31, 2006 reporting period. As such, there is no data to report for this measure for the current reporting period.

Opportunities for Proactive Public Involvement in Planning Processes

Statement of Measure	Management Objective
7-1.6 The number and variety of effective opportunities given to the residents and stakeholders to express forestry related concerns and be proactively involved in the planning processes (i.e. FSP, harvest and road schedules). The number of participants providing feedback at each opportunity will also be recorded and tracked (starting April 1, 2006-March 31, 2007 reporting period). Summarized annually	Annually, sustain ≥ 24 opportunities for residents and stakeholders to express forestry related concerns and be proactively involved in planning processes. (-4 variance)

The Licensee Team considers public values, interests and uses in all aspects of forest management. Providing effective opportunities for public input in the forest management process ensures that information is exchanged between Forest Licensees and members of the public. Each Licensee Team member compiled data for this measure for the period of April 1, 2005 to March 31, 2006. Table 15 provides a summary of this measure, demonstrating conformance with the management objective.

Table 15: Effective Opportunities Given to the Public to Express Forestry Management Concerns: April 1, 2005 to March 31, 2006

Description of Opportunity	Number of Opportunities
Open Houses	2
Individual Meetings	18
Letters	51
Newspaper Advertisements	13
Other	0
Total	84

Public Review of SFM Plan

Statement of Measure	Management Objectives
7-2.1 The number of times the SFMP and associated annual reports will be communicated to the public for review and comment annually.	Annually, the SFMP and associated annual reports will be communicated to the public ≥ 1 time (0 variance).

This measure is one of a group of measures that will help to increase the overall understanding of sustainable forest management. The current SFMP is available

for the public to view at Canfor's website (www.canfor.com) and the BCTS certification website (www.for.gov.bc.ca/bcts/areas/TSN_certification.htm). An opportunity was also made available to the general public to review the SFMP and associated reports at a Open House held November 5th, 2005, which achieves the stated target for the current reporting period.

SFM Extension Activities

Statement of Measure	Management Objective
7-2.2 The number of opportunities provided for SFM extension activities per year.	Annually, sustain ≥ 4 sustainable forest management extension opportunities. (-1 variance)

The goal of this measure is to increase the collective understanding of SFM by both the forest industry and the public. SFM extension activities that occurred during the reporting period included Project Forest Management at Malaput Camp, a reference for a college paper, the Canfor Community Page in the local newspaper, a tree growing project with the local elementary schools and employee/contractor SFM training at L&M Lumber Ltd and BCTS. These 9 sustainable forest management extension activities achieved the target for this measure.

Increase the Level of Understanding of SFM Annually

Statement of Measure	Management Objectives
7-2.3 Increase the level of understanding of sustainable forest management annually.	Annually, sustain an understanding index of ≥ 4 with survey results. (-0.5 variance)

This measure was designed to ensure that a collective understanding of SFM by the forest industry and the public is increased over time. A survey to measure resident, stakeholder and First Nation satisfaction was adopted from UBC entitled the "Sustainable Forest Management Public Opinion Survey". This survey was distributed, but the results will not be collated during the April 1, 2005 to March 31, 2006 reporting period. As such, there is no data to report for this measure for the current reporting period.

Opportunities for First Nations to be Involved in the Planning Process

Statement of Measure	Management Objective
8-1.1, 8-3.1 The number of opportunities provided to Aboriginal people to be involved in planning processes and/or provide input on operational plans related to Traditional Use.	Annually, sustain ≥ 12 opportunities for Aboriginal people to be involved in the planning process. (-2 variance)

Incorporation of Aboriginal people and their unique perspective into the forest planning process is an important aspect of sustainable forest management.

Table 16 lists the opportunities provided by the members of the Licensee Team during the current reporting period.

Table16: Opportunities for Aboriginal People to be Involved in the SFM Planning Process: April 1, 2005 to March 31, 2006

Opportunity Type	Number of Opportunities
Open House	1
Letters	44
Newspaper Advertisements	15
Pest Management Prescriptions	1
Individual Meetings	5
Other (FSP Referrals)	22
Total	88

Review of PAG Terms of Reference to Recognize Aboriginal Treaty Rights

Statement of Measure	Management Objective
8-1.2 The SFMP PAG Terms of Reference will be reviewed annually to recognize that Aboriginal participation in the public process will not prejudice Aboriginal treaty rights.	Annually, the PAG Terms of Reference will be reviewed to ensure that the public process will not prejudice Aboriginal treaty rights 100% (0% variance)

As previously indicated, the PAG Terms of Reference underwent review over the course of this reporting period. The Public Advisory Group and the Licensee Team Members both approved the new Terms of Reference in June 2005.

Level of First Nation Satisfaction with Forest Management

Statement of Measure	Management Objective
8-1.4 Annually, through a survey, measure the level of Aboriginal satisfaction related to forest management.	Annually, sustain a satisfaction index of ≥ 4 (-0.5 variance).

A survey to measure resident, stakeholder and First Nation satisfaction was adopted from UBC entitled the “Sustainable Forest Management Public Opinion Survey”. The results will not be collated during the April 1, 2005 to March 31, 2006 reporting period. As such, there is no data to report for this measure for the current reporting period.

Number of Socio-economic Opportunities Available to Aboriginals

Statement of Measure	Management Objective
8-2.1 The number of socio-economic opportunities afforded to the First Nations annually.	Annually, sustain ≥ 10 (-2 variance) socio-economic opportunities.

Providing business relationships, opportunities and cooperative working arrangements with Aboriginal people will help to provide mutual social, cultural and economic benefits to the communities within the DFA. Licensee Team members tracked the opportunities made available and any achievements realized throughout the reporting period. Table 17 lists the results of this tracking and demonstrates conformance with the target for this measure.

Table 17: The Number of Socio-Economic Opportunities made Available to Aboriginal People: April 1, 2005 to March 31, 2006

Opportunity Type	Number of Opportunities
Training and Extension	1
Forest Management Employment	1
Silviculture Employment	5
Harvesting Employment	19
Total	26

Number of Forestry Management Operation Lost Time Accidents

Statement of Measure	Management Objective
9-4.1 The number of company related forestry management operation lost time accidents each year.	Annually, Zero lost time company related forest management accidents (+2 variance).

The health and safety of forest workers and members of the public is an important quality of life objective that is essential to sustainable forest management. The data for this measure is a summary of Licensee Team member's EMS incident tracking. This review showed that zero lost time accidents were recorded from April 1, 2005 to March 31, 2006 within the DFA.

Forest Road Inspections that Meet Defined Safety Standards

Statement of Measure	Management Objective
9-4.2 The percentage of road inspections meeting defined safety standards.	Annually, sustain 100% of road inspections that meet defined safety standards. (-2 % variance)

Road safety involves maintaining road surfaces and access structures such as bridges at required safety standards. Road inspections were reviewed by Licensee Team members to identify those with safety issues. It became evident that more discussion and documentation regarding what constitutes a road safety issue needs to be undertaken to ensure consistent reporting within the DFA. In respect of those road inspections undertaken during the reporting period, 99.9% met the defined safety standards.

DFA Prescribed Burns that Follow Smoke Management Guidelines

Statement of Measure	Management Objective
9-4.4 The percentage of prescribed burns that follow the smoke management guidelines.	Annually, sustain 100% of prescribed burns that follow the smoke management guidelines. (-10% variance)

Members of the Vanderhoof PAG identified smoke management as a public concern and a potential area of improvement for members of the Licensee Team. Smoke produced through forest management activities occurs during prescribed burning events and is regulated by management guidelines found in the Open Burning Smoke Control Regulation of the Environmental Management Act 2003. Each Licensee Team member reported the results for adherence to the smoke management guidelines. Results show that of the 12,487 prescribed burns that

occurred between April 1, 2005 and March 31, 2006, 12,481 of them adhered to the smoke management guidelines. This indicates that the prescribed burns conducted by reporting licensees were 99.9% consistent with smoke management guidelines.

It should be noted that BCTS reporting was excluded from this measure. Contractual obligations are in place regarding Smoke Management Guidelines for all TSL's issued by BCTS in the Vanderhoof District, however documented evidence to support consistency with the plan is not available. BCTS has an internal action plan to address collection of this supportive data. BCTS expects to report out on this measure in subsequent reporting periods.

APPENDIX I: CANFOR AUDIT ACTION PLANS, 2006

Measure 1-3.1 Indicator Species Action Plan

CSA Z809 – 2002: Corrective Action Response (AP-2) for Minor Non Conformance

Standard and Clause N: CSA Z809-02 @ 7.3.6.1: "The organization working with interested parties in the public participation process at each stage, shall establish DFA-specific performance requirements that address all the CSA SFM elements in Clause 6."*

Discussion

The audit review of Measure 1-3.1 (Effectiveness Monitoring Plans (wildlife) are developed and implemented for selected indicator species to test management targets developed for indicators 1-1 and 1-2) indicated that this measure requires a workplan outlining timelines, milestones, and responsibilities. The January 2005 version of the SFM plan indicates that an Effectiveness Monitoring plan(s) will be developed by December 31, 2006 (+3 month variance).

Action(s) to be Completed

The following detail will be added to the SFM Plan, Measure 1-3.1 (Effectiveness Monitoring Plans (wildlife) are developed and implemented for selected indicator species to test management targets developed for indicators 1-1 and 1-2) under the Current practices and state of measure section:

Canfor's workplan is composed of the following key actions. These actions describe the methods / procedures to be followed to develop and implement an Effectiveness Monitoring Plan(s) for selected indicator species:

- 1.0 Identification of Indicator Species
 - Approach qualified specialists to request assistance/information in the identification of the general location and type of indicator species to be considered
 - Gather and review pertinent information such as a literature review of indicator species.
 - Identify and confirm Indicator species
 - Use existing data where possible

- 2.0 Develop a Monitoring Plan
 - Review of accepted industry Best Management Practices in order to guide the preparation of a draft protocol of procedures and strategies
 - Goal is the development of a reliable, cost effective monitoring process
 - Coordinate local and regional monitoring strategies
 - Use existing data where possible
 - Monitor and sample select geographical locations and populations
 - Review and define Monitoring and Sample designs
 - Identification of logistical and statistical sampling issues.
- 3.0 Review and Approval of Monitoring Plan
 - Discussion of the proposed Effectiveness Monitoring Plan(s) procedures and strategies with the Licensee Team, and where necessary revision of the plan and strategies
- 4.0 Implement the Monitoring Plan
 - Establish baseline population data.
 - Monitor long term population trends and changes.
- 5.0 Continuous Improvement, Plan Review and Analysis
 - Annual review of the Plan and results
 - Evaluation of the relationship between habitat use and condition, and population densities and trends through predictive models.
- 6.0 Training: Internal Canfor review/training of Effectiveness Monitoring Plan procedures and strategies to identify and manage indicator species

Responsibility:

Canfor's Strategic Planner will be responsible for implementation of these workplan actions.

Timeline for completion –(Revised Timeline: December 31, 2008).

Process Update as of November 20, 2006:

- 1 Identification of Indicator Species (November 2005 – March 2006)
 - FIA Project # 2424036 – Riparian Sensitive Species
 - Project Work Plan:
 - Management strategies for riparian sensitive terrestrial or aquatic species do not currently exist within the Vanderhoof DFA. Forest management, through the harvest of stands, affects the temporal and spatial distribution of seral stages. Current regulations and management practices within the DFA lean towards the retention of late seral or old coniferous forest adjacent to wetlands or riparian areas. This practice suggests a potential over representation of late seral forest types adjacent to riparian areas, which could potentially diminish riparian habitat and abundance of riparian sensitive terrestrial or aquatic species.
 - Canfor's SFM plan is committed to developing an implementation schedule for production and implementation of management strategies for riparian sensitive terrestrial or aquatic species. As such the primary objectives of this report will be to:
 - Review all existing information on riparian sensitive terrestrial or aquatic species-habitat associations produced in BC, specifically for the PGTSA or areas surrounding or adjacent to the Vanderhoof Defined Forest Area (Vanderhoof Forest District).
 - Review the information on riparian sensitive terrestrial or aquatic species-habitat associations and modify as appropriate for the Vanderhoof Defined Forest Area.
 - Develop a scientifically defensible list of potential forest riparian sensitive terrestrial or aquatic species indicators (first cut) that occur in the Vanderhoof Forest District
 - For each forest riparian sensitive terrestrial or aquatic species identified on the aforementioned list, provide draft management strategies (first

cut) that can be used as links to operational plans and can be implemented through Site Plans where applicable.

- Project Deliverables:
- Interim report (timing to be determined with the proponents work plan and project schedule) for review by Canfor's SFM Group identifying:
 - All source of material referenced
 - First Cut list of indicators
 - First Cut list of Management Strategies
 - Final report. (March 2006)
 - All source of material referenced
 - Final list of forest riparian sensitive terrestrial or aquatic species indicators
- For each forest riparian sensitive terrestrial or aquatic species, identified management strategies that can be used as links to operational plans and can be implemented through Site Plans where applicable.
- This project has been established in accordance with this measure for riparian sensitive species. The results will be used to facilitate the continuing process of:
 - Developing a monitoring plan (Currently under way. Timeline for completion is March 2008 as this is a 2 year project)
 - Review and approval of the monitoring plan (August, 2008)
 - Implement the monitoring plan (August – December, 2008 Ongoing)
 - Plan review and analysis (2009 & forward)

Measure 1-3.2 Species at Risk Action Plan

CSA Z809 – 2002: Corrective Action Response (AP-3) for Minor Non Conformance

Standard and Clause N: CSA Z809-02 @ 7.3.6.1: "The organization working with interested parties in the public participation process at each stage, shall establish DFA-specific performance requirements that address all the CSA SFM elements in Clause 6."*

Discussion

The audit review of Measure 1-3.2 (Develop "Management Strategies" for all Species at Risk) indicated that this measure requires a workplan outlining timelines, milestones, and responsibilities. The January 2005 version of the SFM plan indicates that a Management Strategy(s) will be developed by December 31, 2007 (+3 month variance).

Action(s) to be Completed

The following detail will be added to the SFM Plan, Measure 1-3.2 (Develop "Management Strategies" for all Species at Risk) under the Current practices and state of measure section:

Canfor's workplan describing the methods/procedures to be followed to develop and implement Management Strategy(s) for Species at Risk is composed of the following key actions:

- Gather and review pertinent information such as identified Species at Risk in the Vanderhoof DFA and accepted industry Best Management Practices in order to prepare a draft protocol of procedures and strategies
(Jan- Mar 2006)
- Approach qualified specialists to request assistance/information regarding management of identified Species at Risk
(Jan- Mar, 2006)
- Discussion of the proposed Management Strategy(s) procedures and methods with the Licensee Team, and where necessary revision of the strategy(s) and methods
(Apr – June 2006)
- Canfor internal review/training of Management Strategy(s) procedures and methods to identify and manage Species at Risk
(Dec 2006, Aug, 2007)
- Implementation of Management Strategy(s)
(Aug, Dec, 2007)

Responsibility:

Canfor's Strategic Planner will be responsible for implementation of these actions.

Timeline for completion Jan 2nd 2006, through to December 31st, 2007.

Process Update as of November 20, 2006:

The work plan and procedures developed to date towards implementing Management Strategies for Species at Risk is composed of the following key actions:

- An initial strategy for extension and training for species at risk (SAR) in the Prince George Timber Supply Area (PGTSA) was proposed through a project under the Forest Investment Account (FIA) funding program. The objective of this SAR Extension and Training project was to develop a PG TSA SAR awareness program that can be accessed by any interested parties. The focal point of the SAR extension was the development of a website where all the PG TSA SAR information would be centrally housed and available for anyone to access at any time (or optionally, have password protected areas for client use only). The website would also be interactive in nature, allowing field workers, naturalists, etc to provide information on SAR locations using Internet communication and mapping technologies.
- The investment manager's review of the proposed training and extension project identified that web site development are projects that are not eligible for funding under FIA.
- January – December 2007:
- Timber Supply-wide strategies for species at risk and identification of potential additional indicator species and subsequent development of monitoring plans will be extrapolated for implementation to the Canfor Vanderhoof SFMP DFA.
- Timelines and work plans describing the methods and procedures to be followed to develop and implement Management Strategies for Species at Risk will continue to follow the key actions outlined in the Action(s) to be completed.

Measure 3-2.2 Carbon Monitoring Action Plan

CSA Z809 – 2002: Corrective Action Response (AP-6) for Minor Non Conformance

Standard and Clause N: CSA Z809-02 @ 7.3.6.1: "The organization working with interested parties in the public participation process at each stage, shall establish DFA-specific performance requirements that address all the CSA SFM elements in Clause 6."*

Discussion

The audit review of Measure 3-2.2 (Carbon Monitoring Plan is developed and implemented for forest ecosystem biomass and carbon pools) indicated that this measure requires a workplan outlining timelines, milestones, and responsibilities. The January 2005 version of the SFM plan indicates that a Carbon Monitoring Plan will be developed by June 30, 2006 (+3 month variance).

Action(s) to be Completed

The following detail will be added to the SFM Plan, Measure 3-2.2 (Carbon Monitoring Plan is developed and implemented for forest ecosystem biomass and carbon pools) under the Current practices and state of measure section:

Canfor's workplan describing the methods/procedures to be followed to develop and implement a Carbon Monitoring Plan is composed of the following key actions:

- Approach qualified specialists to request assistance/information in the identification of forest ecosystem biomass and carbon pools and the effects of harvesting on carbon sequestration in forest stands
- Gather and review pertinent information such as accepted industry Best Management Practices, and conduct a literature review of carbon sequestration in forest ecosystems in order to prepare a draft protocol of procedures and strategies
- Discussion of the proposed Carbon Monitoring Plan(s) procedures and strategies with the Licensee Team, and where necessary revision of the plan and strategies
- Canfor internal review of Carbon Monitoring Plan procedures and strategies to identify and manage forest ecosystem carbon sequestration

- Implementation of Carbon Monitoring Plan(s) strategies

Responsibility:

Canfor's Strategic Planner will be responsible for implementation of these actions.

Timeline for Completion: May 1st, 2006 (Revised timeline: December, 2007)

Process Update as of November 20, 2006:

Canfor's work plan describing the methods/procedures to be followed to develop and implement a Carbon Monitoring Plan is composed of the following key actions:

- Across most Canfor divisions, carbon represents a knowledge gap that is currently being addressed as a company wide initiative.

The following is the project proposal being submitted for FIA funding:

Development of Carbon Measures and Baseline Information for Sustainable Forest Management for Canfor Sustainable Forest Management Plans

Investment Rationale:

(Qualitative description and quantitative measures)

The aim of this project is to improve the stewardship of British Columbia's forests through the development of a knowledge base for sustainable forest carbon management. Forest managers are interested in forest carbon management because of their desire to achieve good forest stewardship and to attain certification in sustainable forest management. Canfor is pursuing the development of Sustainable Forest Management (SFM) Plans in areas where they operate. Criteria and indicators have been established as part of the development of the SFM Plans.

A requirement of Canadian Standards Association (CSA) certification is an indicator related to carbon and its related cycles. In the CSA or Canadian Council of Forest Minister's Criteria 4 - Forest Ecosystem Contributions to Global Ecological Cycles, the criteria states that one must "maintain the processes that take carbon from the atmosphere and store it in forest ecosystems as well as protecting forestlands from deforestation or conversion to non-forests." Specifically, Indicator 3-1 and 3-3 in the SFM plans concern carbon storage and carbon sequestration processes being sustained. Across most Canfor divisions,

carbon represents knowledge gap that is currently being addressed as a company wide initiative.

In order for forest managers to learn and understand how to better plan and manage their forests for forest carbon among other timber and non-timber values, it is critical to congregate existing information and provide forecasts of future forest conditions for resource assessment and trade-off analysis.

For forest certification purposes, the first step is to determine the baseline or current forest carbon condition. The current forest carbon condition would include carbon stored in the following carbon pools: aboveground biomass, belowground biomass, dead organic matter (snags, coarse woody debris and litter), and soils, as outlined in the IPCC Report of Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPPC GPG-LULUCF, 2003).

The second step would be to predict future carbon condition given various scenarios. For example, in the Vanderhoof Defined Forest Area (DFA), one of the scenario analyses would be to predict future carbon conditions given current management practices, current harvest levels, and certain assumptions on natural disturbance. The forecast results would provide quantitative measures of both carbon storage and sequestration rates—the variation and range of carbon conditions that may be expected over time, which may provide an indication on the target and variance that the Public Advisory Group (PAG) may want to set for their carbon indicators and criteria.

As identified previously, across most Canfor divisions, carbon represents knowledge gap. This work plan is the development of carbon measures and baseline information for the Canfor Vanderhoof Division SFM. This project will serve as a template to other Canfor divisions for sustainable forest management plans. This project will be coordinated out of Canfor Vanderhoof Division.

Canfor Vanderhoof anticipates reviewing the proposed solutions with government agency staff for their input into the efficacy of the solutions proposed and to engage in technical and expert discussions on how forecast results may be used to develop scientifically-sound targets and variances.

Project Description

This project will focus on the forecasts of total forest ecosystem carbon in the Vanderhoof DFA. The forecasting results will be reported as outlined by the criteria and indicators developed in Canfor Vanderhoof Division's Sustainable

Forest Management (SFM) Plan by the PAG. Under the SFM plan, the 'base case' is defined by current forest conditions and assumptions (i.e. 2005)¹.

The objectives of the project are:

1. To develop an accounting system of forest carbon in various carbon pools including: above ground biomass, below ground biomass, dead organic matter (snags, coarse woody debris and litter), and soils, as outlined in the IPCC Report on Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPPC GPG-LULUCF, 2003);
2. To develop a knowledge base on the interactions and carbon transfer between different pools;
3. To predict current and future forest carbon conditions for the Vanderhoof DFA;
4. To demonstrate the integration of forest carbon in timber supply analysis where scenario analyses such as the impact of harvesting and natural disturbance would be conducted;
5. To show how forest carbon conditions changes over spatial and temporal scales;
6. To develop linkages between forecasted results and the CSA/ SFM framework (e.g. criteria and indicators, sustainable forest management plans, and monitoring guidelines); and
7. To provide a reporting protocol on forest carbon conditions in parallel to timber supply and CSA forecasting procedures. It should be noted that this reporting tool is limited to the carbon storage in terrestrial forest ecosystems. A full comprehensive carbon accounting system may include emissions from harvest and forest management activities, the carbon balance from aquatic ecosystems, emissions from wood processing and the carbon storage in wood products, which is beyond the scope of this project.
8. To apply the beta-version of the Carbon Budget Model by the Canadian Forest Service (CBM-CFS3) to the Vanderhoof DFA, for trend and benchmark comparisons.

¹ In the context of the Kyoto Protocol, the 'baseline' is forest carbon conditions in 1990. The development of a 'Kyoto baseline' will not be considered in this project but may be in the future when it is required by government policy.

Project Methodology

The project will have two phases: 1) initial forest carbon analyses with forecasting results for the Vanderhoof DFA, and 2) the application of the CBM-CFS3 to the Vanderhoof DFA and analysis of forecasting trends between the results from Phase 1 and the CBM-CFS3.

For the first phase, carbon forecasting consists of a three-stage process by developing: 1) a Forest/landscape-level dataset containing forest inventory and resource management data (i.e. the timber supply model), 2) a stand-level carbon attribute database, and 3) linking the stand-level data to a landscape-level timber supply model and apply it to forecasting.

Forecasting results will be summarized for the Vanderhoof Defined Forest Area, which would track both the timber harvesting land base (THLB) and the non-harvestable land base (NHLB).

For the second phase, the goal is to evaluate the effectiveness of adopting the CBM-CFS3 to existing timber supply or other landscape level models used in forecasting SFM criteria and indicators. Furthermore, an analysis will be completed to compare the results between Phase 1 and Phase 2, as well as identifying any knowledge gaps. The management unit used for this analysis will be the Fort Nelson DFA.

This project accounts for the carbon balance in the DFA as set out in the SFM Plan; however, under the Kyoto Protocol, carbon in wetlands, non-commercial brush areas, and marginal lands may have to be considered as well. Canada has until 2006 to determine the definition of a 'managed forest,' by which carbon accounting rules will be applied.

Project Deliverables:

This project will provide 5 main deliverables:

Phase 1:

1. Documentation on how the analysis was done to provide guidelines for other licensee and policy makers on forest level carbon forecasting.
2. A preliminary analysis of current and future forest carbon conditions.
3. Report on scenario results and recommendations to forest managers on sustainable forest carbon management planning and analysis.
4. Stand-level carbon yield tables that were used in the analysis

Phase 2:

5. Report on the linkages between the CBM-CFS3 and timber supply models, and provide a comparison of forecasting results between the CBM-CFS3 and the approach taken in Phase 1.

Phase 2 of the project includes the development of management strategies regarding carbon sequestering. This Part of the project is scheduled for completion by March 31, 2007. As such, the Licensee Team will require some time to review the proposed management plans and to develop implementation strategies. The projected timelines for implementing the management strategies is December 2007.