
*Prince George Region
Timber Harvesting & Processing Employment Survey*

*Final Report
December 15th, 2008*

Presented to:

*BC Ministry of Forests and Range
BC Ministry of Agriculture and Lands*

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Acknowledgements and Disclaimer

This study was initiated by the BC Ministry of Agriculture and Lands (BC MAL) and the BC Ministry of Forests and Range (MOFR). BC Government staff provided management, data and report editing support for the project and we would like to thank Alison Coyne and Nathan Hagan-Braun of BC MAL and Sinclair Tedder of BC MOFR for their assistance. Also, we would like to thank the regional and district staff of MOFR for their help in providing general information on the forest Licences in their regions.

Forest licensees and contractors throughout the Prince George region contributed employment and harvest data to this study. We would like to express our sincere thanks to all the companies and their employees who expended considerable effort in completing the questionnaires. Without their help, this work would not have been possible.

In developing the industry employment estimates in this study, the consultants have made several assumptions and utilized information gathered under the time and resource constraints imposed on this study. The assumptions and information are thought to be reasonable and suitable for the purposes of this analysis, but should not be relied upon for purposes other than conducting general socio-economic impact assessments.

About the Consultants

Pierce Lefebvre Consulting specializes in providing economic and management consulting services to its private and public sector clients. The company was formed in 1994 when Sylvie Lefebvre established the firm together with Claude Pierce, an economist who had been an independent consultant since 1990.

Sylvie Lefebvre is a professional economist and a Certified Management Consultant (CMC) with over 26 years of consulting experience, including 14 years as principal of *Pierce Lefebvre Consulting*, 10 years at Price Waterhouse (now PriceWaterhouseCoopers) and prior to that, 2 years with a smaller B.C. consulting firm that specialized in the mining industry. Sylvie specializes in socio-economic assessments, and much of her 26 years of experience working in BC has been focused on the forest sector. She has conducted many studies that have involved the development and use of timber harvesting and processing employment coefficients.

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Executive Summary

This report provides forest industry direct employment coefficients associated with harvesting and processing timber from the Prince George Region of BC. The coefficients are based on a survey of forest licensees in the area and timber harvest data from the BC Ministry of Forests and Range (MOFR). Similar studies have been conducted for various regions of Coastal BC and the Kootenay region.

For the purpose of this study, the Prince George region is defined as having the same boundaries as the Prince George Timber Supply Area (TSA), and includes the Fort St. James, Vanderhoof and Prince George Forest Districts (FD). The region also includes the Tree Farm Licences (TFLs) that are within or adjacent to the Prince George TSA boundaries, namely TFLs 30, 42 and 53.

Summary Of Findings

Survey data cover an annual timber harvest of 9.0 million m³, or an estimated 60% of the total harvest volume for the Prince George region over the three years under study, namely 2005, 2006 and 2007. This is based on timber harvest data provided by the companies that participated in the survey and the total harvest for the Prince George region as reported by MOFR.

Prince George Region Study Results	3 Year Average	
	Total Region	Survey Results
Total Timber Harvest (m ³)	15,067,866	9,002,008
Exports % (based on survey)	0.0%	0.0%
Timber Volume Processed in B.C. (m ³)	15,067,866	9,002,008
BC Direct Employment	PY of Employment - Total Region Harvest	Employment Coefficients - PY per 1,000 m ³
Harvesting and Silviculture (3 year average from survey)		
Harvesting/ Falling	1,599	0.106
Planning & Administration	572	0.038
Log Hauling / Trucking	908	0.060
Barging / Towing	15	0.001
Road Building	235	0.016
Silviculture & Other	<u>564</u>	<u>0.037</u>
Total	3,894	0.258
Primary Processing per m³ of Timber Harvested in Prince George region		
Wood Processing	3,939	0.261
Pulp and Paper	1,080	0.072
Wood Processing Outside PG Region per m³ of Timber Harvested in PG Region	306	0.020
Total Harvesting & Processing	9,219	0.612

Notes:

1. This table, and others throughout this report, provide estimates of direct harvesting employment based on MOFR timber harvest data and employment coefficients per m³ of timber harvest derived from the survey data. The number of significant digits presented in these estimates implies a degree of precision that does not exist but the represented precision is retained to maintain the integrity of the data and methodology. Tables do not always add due to rounding.
2. Timber harvest estimates are based on MOFR Harvest Billing System data as well as survey data.
3. The timber harvesting and silviculture employment coefficients are from the survey data. The BC primary processing employment coefficients are estimated based on the MOFR data on mill capacity for 2006 and other data.
4. The employment data exclude silviculture employment generated through the MOFR Forest Investment Account and other government programs. The employment data also exclude MOFR employees, and other indirect and induced employment generated through forest industry and employee spending on goods and services.

The survey data show that timber harvesting in the Prince George (PG) region generates 0.258 direct PY of harvesting and silviculture employment per 1,000 m3 of timber harvested in the region. This translates to an estimated 3,894 PY of direct timber harvesting and silviculture employment when extrapolated to the entire timber harvest in the Prince George Region.

In addition to timber harvesting and silviculture, the PG region timber harvest generates an estimated 5,325 PY of direct wood processing and primary pulp and paper manufacturing employment, bringing the total direct employment impact to 9,219 PY of employment. The following table provides an estimate of the direct employment impacts associated with the harvest within each Forest District.

Direct Employment Impacts (PY) from PG Region Timber Harvest (Extrapolated to Total Industry)	3 Year Average - Weighted Average Based on MOFR Harvest Data				
	Fort St. James FD	Prince George FD	Vanderhoof FD	Total Region	% of Total
Direct Harvesting Employment:					
Fort St. James FD	479	0	14	493	13%
Prince George FD	170	1,590	275	2,035	52%
Vanderhoof FD	30	0	715	745	19%
Other BC Interior	11	135	22	167	4%
Lower Mainland and Other (mainly planting crews)	79	282	93	455	12%
Total Harvesting and Silviculture	768	2,008	1,119	3,894	100%
Primary Processing Within PG Region:					
Wood Products Processing (note 2)	756	2,094	1,089	3,939	
Primary Pulp and Paper	207	574	299	1,080	
Sub-Total - Primary Processing Within PG Region	964	2,668	1,388	5,019	
Primary Processing Outside PG Region	59	163	85	306	
Total BC Direct Impacts	1,790	4,838	2,591	9,219	
TIMBER HARVEST					
Total Timber Harvest (MOFR) (m3)	2,892,633	8,009,711	4,165,522	15,067,866	
% of Timber Harvest by Forest District	19%	53%	28%	100%	
Survey Coverage (Harvest Volume - m3)	1,675,028	4,799,581	2,527,399	9,002,008	
Survey Volume Coverage (Reported Volume as a % of MOFR Total Harvest Volume)	58%	60%	61%	60%	

Source: Based on employment coefficients derived from the survey of licensees and other data, and the MOFR timber harvest by FD as reported by the MOFR Harvest Billing System.

The direct employment impacts derived from the employment coefficients and MOFR timber harvest levels show the following:

- 52% of the timber harvesting employees associated with the Prince George region timber harvest reside in the Prince George FD, reflecting the fact that 53% of the regional timber harvest is in that FD;
- 13% reside in the Fort St. James FD;
- 19% reside in the Vanderhoof FD;
- 4% reside in neighbouring BC Interior regions; and
- the balance (12%) consists mainly of silviculture planting crews who reside in the Greater Vancouver region, elsewhere in BC and in other Canadian provinces.

1 Introduction

This report presents the results of a survey conducted to update forest industry employment coefficients for the Prince George region. Similar surveys were conducted for Haida Gwaii/ Queen Charlotte Islands (HG/QCI) (2005), the Sea-to-Sky region (2006), the North and Central Coast (2006) and parts of the BC Southern Interior (2008).

The methodology for the work was as follows:

- collect data on timber harvesting employment and harvest by management unit through a survey of timber licensees and logging contractors that operate in the Prince George region;
- collect Ministry of Forests and Range (MOFR) timber harvest data by management unit;
- estimate local direct harvesting employment coefficients per thousand m³ of wood harvested for each sub-region from the employment and harvest survey data (2005 through 2007 averages);
- estimate BC's primary wood and pulp and paper processing employment that results from the Prince George timber harvest (based on BC MOFR Mill Capacity survey for 2006 and other data); and
- estimate the total direct employment impacts associated with the timber harvest from the Prince George region based on the MOFR timber harvest data for the total region and the employment coefficients derived from the survey and other data.

This survey considers the direct employment associated with harvesting and processing timber from the Prince George region. Harvesting and processing timber from the Prince George region also generates employment through suppliers of goods and services to the forest industry (indirect employment) and through the re-spending effects of the direct and indirect employees (induced employment). Indirect and induced employment associated with the Prince George harvest is not estimated as part of this survey. MOFR employment is also excluded.

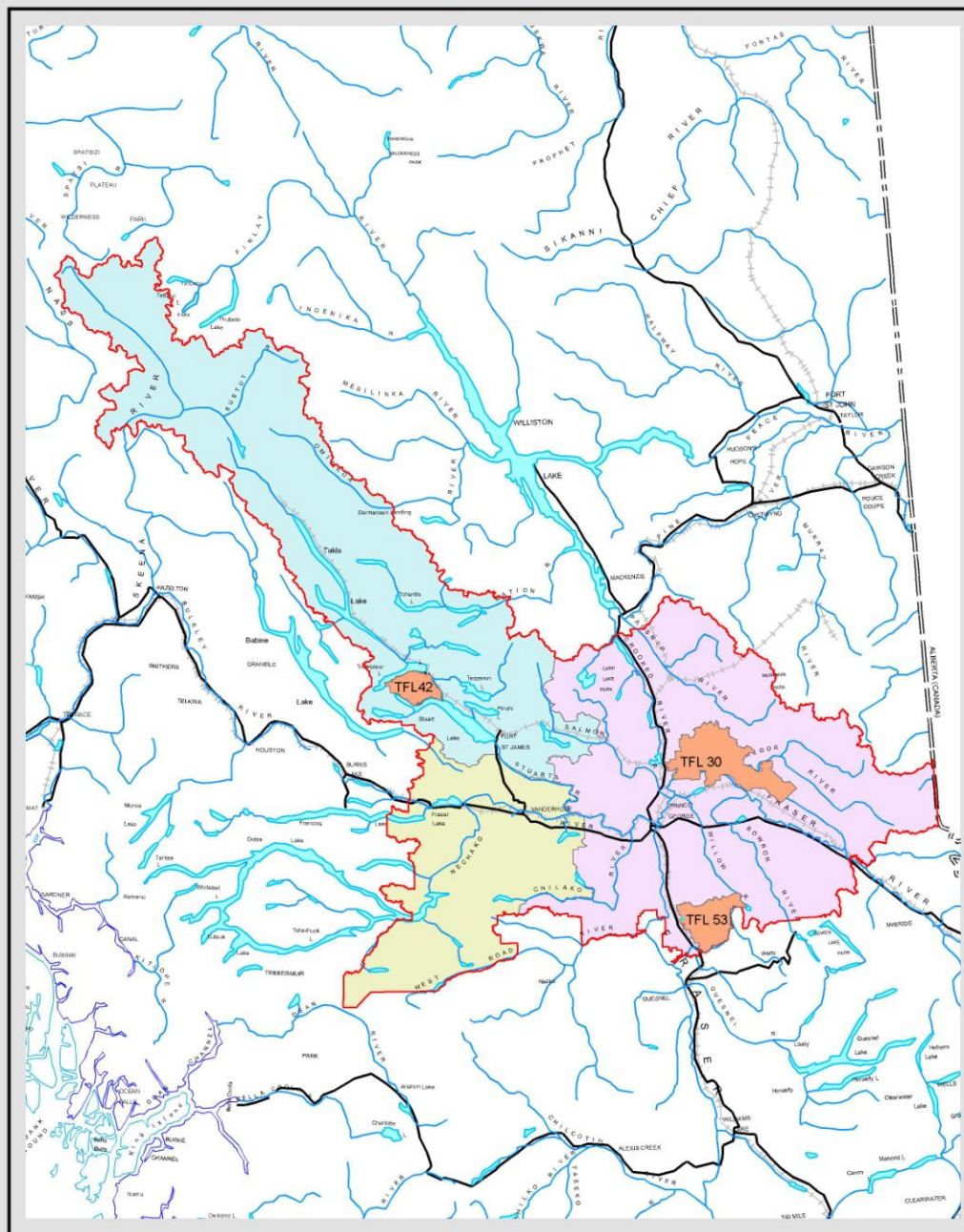
The survey results represent a mix of data obtained from licensees and their contractors, often involving some extrapolation or interpolation of data. The study results represent the best information that could be obtained within the time and monetary budget of the project, and given the cooperation of the licensees and their contractors.

For the purpose of this study, the Prince George region is defined as having the same boundaries as the Prince George Timber Supply Area (TSA), and includes the Fort St. James, Vanderhoof and Prince George Forest Districts (FD). The region also includes any Tree Farm Licences (TFLs) that are within or adjacent to the Prince George TSA boundaries. Based on data from MOFR, the Prince George region covers approximately 7.8 million hectares of northern BC, or approximately 8% of the BC landbase.¹

A map of the Prince George Timber Supply Area is shown following.

¹ This includes approximately 7.5 million hectares for the Prince George TSA, 49,394 hectares for TFL 42, 87,623 hectares for TFL 53, and 182,298 hectares for TFL 30. Source: MOFR website; Description of the Prince George TSA, and AAC rationale for each TFL: <http://www.for.gov.bc.ca/hts/tsr1/ration/tfl/t53/htoc.htm>

Chart 1 Map of Prince George TSA and TFLs in Study Area



Legend:

Blue: Fort St. James FD, Pink: Prince George FD; Beige: Vanderhoof FD

TFL 30 in Prince George FD: Canadian Forest Products Ltd.

TFL 42 in Fort St. James FD: Tanizul Timber Ltd.

TFL 53 in Prince George FD: Dunkley Lumber Ltd.

Source: BC Ministry of Forests and Range.

The following sections present key findings. The appendices to the report include more detail for each of the sub-regions listed above, as well as a list of key references.

2 Survey Coverage and Prince George Region Licensed Volumes

The consultants surveyed each forest licensee that is named in the Ministry of Forests and Range (MOFR) 2008 timber apportionment for the Prince George TSA, as well as a number of larger logging contractors. The MOFR apportionment does not assign individual Licences to each FD, but most licensees tend to operate primarily in one or two of the three FDs. There are approximately 30 major licensees that are listed in the MOFR apportionment for the Prince George TSA and the 3 TFLs within those three FDs. The following list assigns those 30 licensees to the FD where the majority of their harvest occurred in 2007.²

Table 1 Forest Licensees Listed in MOFR Apportionment for Prince George TSA

Fort St. James FD	Vanderhoof FD	Prince George FD
Apollo Forest Products Ltd.	B & T Forest Products	Canadian Forest Products Ltd.
Brave Holdings Ltd.	L & M Lumber Ltd.	Carrier Lumber Ltd.
Stuart Lake Lumber Co.	West Fraser Mills	Dunkley Lumber
Pope & Talbot Ltd.	Saik'uz First Nation	Lakeland Mills
Tackla Track & Timber Ltd.	Stellako Custom Wood Ltd.	Stella-Jones Inc.
Tackla Development Corp	Nadleh Whut'en First Nation	Winton Global Lumber Ltd.
K&D Logging Ltd.		T.R.C Cedar Limited
Fort St. James All Nations Forest		Giscome Timber Ltd.
Ta-Da-Chun Timber Ltd.		Prince George Hardwoods
Xsu-Wiii-Ax Forest Products Ltd.		Yekooche First Nation
Canyon Tree Farms Inc.		T'ugus Timber Ltd.
Tanizul Timber Ltd. (TFL 42).		RPP Holdings

Source: BC MOFR Apportionment System – TSA AAC, Apportionment and Commitments, Prince George TSA, effective February 22, 2008. Appendices 1, 2 and 3 provide detail on individual licences by sub-region.

Six of the above forest licensees listed on the MOFR 2008 apportionment did not supply data for the survey including one medium size licensee and 5 smaller licensees. Of those 6 licensees, one is in receivership, and one has not operated in 8 months.

Where applicable, the 24 major licensees that participated in the survey completed separate questionnaires for each management unit so that data could be compiled by FD. All of the major timber licensees and a sample of their harvesting contractors, usually the larger contractors, participated in the survey and provided employment and harvest data. Almost all of the major licensees obtained and reported data from their contractors, but for three major licensees, the consultants collected information directly from their harvesting contractors and combined the data with data received regarding licensee timber harvesting operations. Approximately one third of the contractors contacted for the study provided detailed survey data.

Woodlot owners and the BC Timber Sales (BCTS) logging contractors that are not specifically named in the MOFR timber apportionment were not contacted to participate in the survey. These companies are typically smaller and are harder to identify and survey. Since the main objective of the survey is to update forest industry employment coefficients expressed in terms of Person Years (PY) of employment per 1,000 m³ of timber harvested, it is not necessary to survey 100% of timber harvesting operations. Provided that harvesting employment data are collected for a reasonable proportion of the total harvest in the region, distributed across various Licence types, one can be

² Several of the licensees harvest in more than one of the three FDs. Canadian Forest Products Ltd., for example is by far the largest harvester in each of the three FDs.

reasonably confident that the resulting employment coefficients are representative of the regional average. The survey results (and total regional harvest) are weighted towards the larger licensees, which may have more capital intensive and labour efficient operations than smaller licensees.

Survey data cover an estimated 60% of the total harvest volume over the three years under study, namely 2005, 2006 and 2007. This is based on timber harvest data by scale date provided by the companies that participated in the survey, as well as the harvest data reported in the MOFR Harvest Billing System for each of those three years.

Table 2 Estimated Survey Coverage

Survey Coverage - Prince George Region (TSA and TFLs)	2005	2006	2007	3 Year Average
Fort St. James FD				
Survey Data	1,822,530	1,947,313	1,255,240	1,675,028
MOFR Data - Total Harvest	2,903,932	3,203,028	2,570,938	2,892,633
Survey Volume Coverage	62.8%	60.8%	48.8%	57.9%
Prince George FD				
Survey Data	4,695,254	5,204,539	4,456,011	4,785,268
MOFR Data - Total Harvest	8,854,294	8,364,282	6,810,558	8,009,711
Survey Volume Coverage	53.0%	62.2%	65.4%	59.7%
Vanderhoof FD				
Survey Data	2,844,469	2,623,953	2,156,714	2,541,712
MOFR Data - Total Harvest	5,120,581	4,208,735	3,167,250	4,165,522
Survey Volume Coverage	55.5%	62.3%	68.1%	61.0%
Total Region				
Survey Data	9,362,253	9,775,805	7,867,965	9,002,008
MOFR Data - Total Harvest	16,878,807	15,776,045	12,548,746	15,067,866
Survey Volume Coverage	55.5%	62.0%	62.7%	59.7%

Notes:

1. The survey data include the timber harvest reported by licensees and their contractors and represents data by scale date for each calendar year.
2. The estimated total harvest by sub-region is based on data provided by the Ministry of Forests and Range (MOFR) Harvest Billing System (provided by Sinclair Tedder of BC MOFR, April 2, 2008). The MOFR HBS harvest data are by scale date.

The survey coverage in terms of proportion of total harvest is approximately the same in all three FDs. While almost all of the Licence holders identified in the MOFR timber apportionment participated in the survey, those existing Licence holders represent only approximately 65% of the total 2008 timber apportionment.

As indicated on the BC MOFR website, the current Allowable Annual Cut (AAC) for the Prince George Timber Supply Area (TSA) is 14,944,000 m³.³ The AAC for the three Tree Farm Licences (TFLs) adds another 1.37 million m³, which brings the total AAC for the region to 16.314 million m³ (excluding 106,663 m³ in non-AAC volume). Approximately 35% consists of BCTS forest Licences which are not part of existing commitments, Forest Licences, and Tree Farm Licences.

The private harvest in the Prince George region for the 3 years under study represent 5% of the total harvest reported in the MOFR HBS, for which employment data were not specifically collected, even though some of the licensees and contractors that participated in the study may be harvesting some of the private timber.

The following table summarizes the licensed volumes that comprise the Prince George region AAC.

³ Source: BC MOFR website, <http://www.for.gov.bc.ca/hth/apportionment/tsas.htm>.

The MOFR timber apportionment and information on individual Licences for the Prince George TSA by Forest District is provided in Appendices 1, 2 and 3.

Table 3 Prince George Region Licensed Timber Volumes

Prince George Region							
Forest District/ Type of Licence	Detail / Comments	2008 Allowable Annual Cut (AAC) Volume (m3)					
		Conventional	Mountain Pine Beetle	Hemlock- Cedar & Other	Total AAC	% of Total AAC	Non-AAC Volume
Prince George TSA Licences - Total Commitments per MOFR							
Fort St. James FD	Includes all existing commitments listed in apportionment, effective February 2008	2,353,724	75,000		2,428,724	15%	36,663
Prince George FD	Includes all existing commitments listed in apportionment, effective February 2008	2,643,638	1,059,580	215,000	3,918,218	24%	70,000
Vanderhoof FD	Includes all existing commitments listed in apportionment, effective February 2008	1,685,964	900,000		2,585,964	16%	
Sub-Total Commitments - TSA Forest Licences		6,683,326	2,034,580	215,000	8,932,906	55%	106,663
Community Forest Agreement	AAC is 23,895 m3 for the District of FSJ Community Forest and 12,000 m3 for the City of Prince George Community Forest; Licences for others not yet issued (April 2008)	43,975		7,000	50,975	0%	
Woodlot Licence		84,000			84,000	1%	
Forest Service Reserve		151,131			151,131	1%	
Other	Includes BCTS and other forest licences that are not part of existing commitments	2,011,568	3,665,420	48,000	5,724,988	35%	
Apportionment for Prince George TSA	Conventional Apportionment includes SPF, small pine, Fort St. James Supply Block A	8,974,000	5,700,000	270,000	14,944,000	92%	106,663
TREE FARM LICENCES (TFLs):							
TFL 30	Canadian Forest Products	180,000			180,000	1%	
TFL 30	BCTS and Other	150,000			150,000	1%	
TFL 53	Dunkley Lumber	849,687			849,687	5%	
TFL 53	BCTS and Others, including Forest Hill Contractors Ltd.	30,313			30,313	0%	
TFL 42	Tanizul Timber Ltd.	154,112			154,112	1%	
TFL 42	BCTS and Other	5,888			5,888	0%	
Sub-Total for TFLs		1,370,000			1,370,000	8%	
Total AAC - TSA Licences and TFLs		10,344,000	5,700,000	270,000	16,314,000	100%	106,663

Source: The AAC by management unit is from the MOFR timber apportionment in effect on February 22, 2008.

3 Destination of Prince George Timber Harvest

The timber harvest from the Prince George region helps supply the large manufacturing facilities in the Prince George region. None of the survey participants reported any timber volumes exported outside the country. Moreover, the majority of timber harvested within each of the three FDs is processed within that district. When survey data for the entire region are taken into account, 58% of the timber harvested is processed in the Prince George FD, 28% is processed in the Vanderhoof FD, 12% is processed in the Fort St. James FD, and the balance, or 2% is processed in neighbouring Forest Districts.

Table 4 Survey Results on Destination of Timber Harvest from Prince George Region

Prince George Region Survey Results Destination of Timber Harvest	3 Year Average			
	Fort St. James FD	Prince George FD	Vanderhoof FD	Total Region
Total Reported Harvested Volumes (m3) - Based on Survey Results	1,675,028	4,799,581	2,527,399	9,002,008
Harvest Volume in Each Region as a % of Total Region - Based on Survey Results	18.6%	53.3%	28.1%	100.0%
Survey Volume Coverage (Reported Volume as a % of MOFR Total Harvest Volume)	57.9%	59.9%	60.7%	59.7%
Percent of Total Volumes Harvested:				
Export Volume	0.0%	0.0%	0.0%	0.0%
Fort St. James FD	66.8%	0.0%	0.0%	12.4%
Prince George FD	23.9%	87.3%	24.8%	58.0%
Vanderhoof FD	4.8%	11.5%	74.6%	28.0%
Other - Mackenzie FD	0.0%	0.1%	0.0%	0.1%
Houston	0.0%	0.0%	0.6%	0.2%
Quesnel	4.5%	0.2%	0.0%	0.9%
100 Mile House	0.0%	0.4%	0.0%	0.2%
Headwaters FD (McBride/ Clearwater)	0.0%	0.4%	0.0%	0.2%
Kamloops FD	0.0%	0.1%	0.0%	0.0%
TOTAL VOLUME	100.0%	100.0%	100.0%	100.0%

Note: Destination of timber harvest is from survey results, which cover 59.7% of the Prince George region timber harvest as reported by MOFR.

4 Timber Harvesting and Processing Employment Coefficients

The survey requested data on timber harvesting employment and timber harvest volumes by management unit and Forest District. In this section of the report, the survey employment data and timber harvest volumes are used to derive the harvesting and silviculture employment coefficients (PY of employment divided by m3 of reported timber harvest). This section also provides estimates of employment coefficients associated with timber processing, namely primary wood products and primary pulp and paper manufacturing.

In the next section of the report, the coefficients are applied to the entire regional timber harvest (as indicated by the MOFR Harvest Billing System), to help derive an estimate of total direct employment impacts associated with the Prince George region timber harvest.

4.1 Timber Harvesting and Silviculture Employment Coefficients

Table 5 on the following page summarizes the estimated timber harvesting and silviculture employment coefficients per 1,000 m3 of timber harvested, as derived from the survey data.

There are many factors that influence timber harvesting employment coefficients over time, in any particular year, or for any particular operation.

- The timing of the harvest within the planning cycle is a key factor affecting employment coefficients. For example, a small licensee might conduct all of the harvest planning in one year and the actual harvesting in another. Using three-year averages likely alleviates some of these timing differences, but does not likely eliminate them completely.

- Most silviculture employment related to a specific timber harvest typically occurs one or two years after the timber has been harvested. The silviculture employment coefficients estimated as part of this study may not fully reflect the increase in timber harvest levels resulting from the MPB infestation. The survey participants reported contractor employment that took place in 2005, 2006 and 2007, work which may have been associated with the timber harvest of previous years.
- The percentage of timber that is harvested through conventional methods vs. cable logging or helicopter logging will affect the types of timber harvesting jobs, and may affect the number of jobs involved. The survey data show that of the total timber harvested in the Prince George region, some 95% is harvested through conventional ground logging methods, approximately 5% is harvested through cable logging and negligible amounts are harvested by helicopter. One licensee reported that cable logging is approximately 25% more labour intensive than conventional logging, but since cable logging represents such a small portion of the PG region harvest, this does not significantly affect the harvesting employment coefficients in the northern interior. According to one survey participant, within conventional ground logging, Cut-to-Length (CTL) “short log” contracts, which are becoming more prevalent, are also more labour intensive than ground logging “long log” contracts.
- Stands with a higher degree of pine beetle infestation are likely to have lower yields per hectare than green stands, but may require similar employment levels. If this is the case, as yield per hectare drops, timber employment coefficients expressed in PY per 1,000 m³ are likely to increase.

Table 5 and others throughout this report, provide estimates of direct employment coefficients per m³ of timber harvest derived from the survey and other data. The number of significant digits presented in these estimates implies a degree of precision that does not exist but the represented precision is retained to maintain the integrity of the data and methodology.

Table 5 *Direct Timber Harvesting Employment Coefficients for Prince George Region*

Prince George Region Survey Results - Person Years (PY) of Direct Harvesting Related Employment per 1,000 m ³ of Timber Harvested	3 Year Average - Person Years (PY) per 1,000 m ³				
	Fort St. James FD	Prince George FD	Vanderhoof FD	Total Region	% of Total
Harvesting/ Falling	0.100	0.104	0.114	0.106	41%
Planning & Administration	0.031	0.045	0.030	0.038	15%
Log Hauling / Trucking	0.068	0.053	0.069	0.060	23%
Barging / Towing	0.000	0.000	0.004	0.001	0%
Road Building	0.025	0.010	0.020	0.016	6%
Silviculture	0.041	0.039	0.030	0.037	14%
Other	0.000	0.000	0.003	0.001	0%
Total	0.265	0.251	0.269	0.258	100%
Direct Employment by Employee Residence:					
Fort St. James FD	0.165	0.000	0.003	0.035	14%
Prince George FD	0.059	0.199	0.066	0.129	50%
Vanderhoof FD	0.010	0.000	0.172	0.054	21%
Other BC Interior	0.004	0.017	0.005	0.011	4%
Lower Mainland and Other (mainly planting crews)	0.027	0.035	0.022	0.030	11%
Total	0.265	0.251	0.269	0.258	100.0%

Notes:

1. The harvesting coefficients are derived from the survey of licensees operating in the Prince George region and are based on the timber harvest reported by survey participants (Table 2) and the associated survey results on PY of employment (Appendices 1 to 4).
2. Timber harvesting employment includes logging, silviculture and road building operations that are directly linked to logging.

Table 5 also shows the direct timber harvesting employment per 1,000 m³ by location of employee residence. This information is calculated using the employment coefficients per 1,000 m³ of timber harvested and the survey results regarding where timber harvesting employees reside. The survey results show:

- 50% of the harvesting employees associated with the timber harvested by survey participants reside in the Prince George FD;
- 21% reside in the Vanderhoof FD;
- 14% reside in Fort St. James;
- 4% reside in other BC Interior regions surrounding the Prince George region; and
- the balance, or 11% reside elsewhere in BC or other Canadian provinces.

The survey results on direct regional employment by employee residence represents an average which is weighted by the timber harvest in each FD by the survey participants. Slightly different results arise when the coefficients by FD are applied to the entire MOFR timber harvest.

Data on the percentage of workforce by community and by FD are shown in the survey results presented in the appendices.

4.2 Timber Processing Employment Coefficients

MOFR conducts an annual survey of mill capacity for all wood products and pulp and paper processing operations in BC.⁴ In 2006, MOFR reported 30 mills operating in the Prince George region. These include 19 sawmills, a plywood/veneer plant, 3 pulp mills, one paper mill, 2 pellet manufacturing operations, 2 log home manufacturers and one pole operation. A list of the operations is included in Appendix 5.

In 2007, these 30 manufacturing operations in the Prince George region employed an estimated 5,160 people, including 3,960 people in wood products manufacturing and 1,200 people in the pulp and paper operations.⁵ This section of the report combines MOFR data on these operations with other data to derive estimates of employment coefficients expressed in terms of Person Years of employment per 1,000 m³ of fibre input, and timber harvested.

Data for the primary processing coefficients for 2007 are calculated as follows:

⁴ BC Ministry of Forests and Range, *Major Primary Timber Processing Facilities in BC 2006*, August 2008.

⁵ Based on MOFR and other data including discussions with licensees contacted as part of the survey.

Table 6 Timber Processing Employment Coefficients for the Prince George Region

Estimated Processing Employment Coefficients for Prince George (PG) Region Timber Harvest (PY per 1,000 m3)	2005	2006	2007	3 Year Average	Units
MOFR Timber Harvest Volume (000 m3) (note 1)	16,879	15,776	12,549	15,068	000 m3 harvested
Lumber and Other Wood Manufacturing (note 2)					
Wood Products Manufacturing Fibre Input - 000 m3 of Log Inputs	13,589	14,176	14,176	13,980	000 m3 of log inputs
Wood Products Manufacturing Fibre Input as a % of MOFR Timber Harvest Volume				93%	
Average PG Timber Harvest Processed Outside PG Region (note 3)				1,087	000 m3 of logs
% of PG Timber Harvest Processed Outside PG Region				7%	
Wood Manufacturing Mill Employment in PG Region (PY)	3,894	3,960	3,960	3,938	PY
Wood Products Employment Coefficient - PY per 1,000 m3 Processed	0.287	0.279	0.279	0.2817	PY per 1,000 m3
Pulp and Paper (note 2)					
Employment at Prince George P&P Mills	1,200	1,200	1,200	1,200	PY
Estimated % of Chips Processed Originating from PG Timber Harvest (note 4)				90%	
Employment at Prince George P&P Mills that Depends on PG Region Harvest				1,080	PY
P & P Employment Coefficient - PY per 1,000 m3 of Timber Volume Harvested				0.0717	PY per 1,000 m3

Notes:

1. The 3-year average harvest is based on the MOFR Harvest Billing System (provided by Sinclair Tedder of BC MOFR (April 2, 2008).
2. Employment at the Prince George wood manufacturing and pulp & paper mills, as well as fibre input and mill capacity data are based on the MOFR report titled *Major Primary Timber Processing Facilities in BC, 2006*, as well as other data. Appendix 5 provides the list of manufacturing facilities in the Prince George region, which were considered in estimating employment and other data from manufacturing operations.
3. Average harvest volume processed outside the Prince George region is assumed to equal the difference between the MOFR timber harvest and the timber volume processed at local mills.
4. The % of chips processed that originate from the PG timber harvest includes the chip production from local mills and the estimated chip production from mills outside the Prince George region that depend on the PG timber harvest.

The above employment estimates represent a 3 year average, based on the timber harvest and the mills that were in operation in 2007. In 2008, the timber harvest in the Prince George region is expected to fall, in response to market conditions and the temporary and/or permanent closures of the following milling operations⁶:

- On May 27th, 2008, the North Central Plywood facility in Prince George was destroyed by fire, and in July 2008, Canfor announced that it would not rebuild the plant thereby resulting in approximately 285 permanent lay-offs.
- Winton Global was shutdown between December 2007 and March 2008 as a result of the Nechako River ice jam and flooding of the planer site, and then again from June 15, 2008 onwards as a result of market conditions.
- Pope and Talbot in Fort St. James was temporarily shutdown in October 2007 when US based Pope & Talbot became insolvent. As of August 2008, it has yet to reopen.

⁶ Source: Various news articles and publications including: BC MOFR, *Major Primary Timber Processing Facilities in BC 2006*, August 2008.

- Stuart Lake Lumber Company temporarily shutdown in August 2007, but it has yet to re-open.
- There have been shift reductions and downtime at other mills including Apollo Forest Products in Fort St. James, which moved to a 4 day shift schedule in Fall 2007, and the Canfor sawmills, which dropped the third operating shift in November 2007.

It is unclear what impacts these temporary and permanent mill closures would have on the employment coefficients expressed in terms of PY per 1,000 m³ of timber harvest given that at least for some of the mills, the closure of the manufacturing operations are resulting in a corresponding reduction in timber harvest operations. For example, the contractors surveyed for some of the mills that have shutdown in 2008, notably contractors for Winton Global reported a complete shutdown of their logging operations for 2008.

4.3 Comparisons with 1996 and 2001 Estimates of Employment Coefficients

The following table compares the 2007 employment coefficients for the Prince George region derived by this study, with the employment coefficients used by MOFR as part of the socio-economic assessments conducted for the MOFR Timber Supply Reviews (TSR). This includes TSR-1 conducted in the mid-1990s and TSR-2 conducted between 1999 and 2001.

The following table summarizes processing employment coefficient data estimated in previous TSR studies, as well as the estimates for 2007 derived by this study.

Table 7 Prince George Region Timber Harvesting & Processing Employment Coefficients

Direct Employment Coefficients for Timber Harvested in the Prince George Forest Region	Number of Person Years (PY) per 1,000 m ³		
	TSR - 1 (1995)	TSR - 2 (2001)	2007 Results
Direct Impacts Within PG Region:			
Harvesting	0.14	0.17	0.2113
Silviculture (note 1)	0.05	0.04	0.0070
Primary Processing Within PG Region:			
Wood Products Processing (note 2)	0.31	---	0.2614
Primary Pulp and Paper	0.12	---	0.0717
Sub-Total - Primary Processing Within PG Region	0.43	0.48	0.3331
Total (Harvesting, Silviculture & Processing) in Prince George Region	0.62	0.69	0.5514
Direct Impacts Outside PG Region	(note 3)		
Harvesting (Other BC Interior)	0	0.04	0.0105
Silviculture (Lower Mainland and other)	0	0.04	0.0296
Other Wood Products Processing in BC Interior	0	0.03	0.0203
Sub-Total - Direct Impacts Outside PG Region	0	0.11	0.0604
Total Direct Impacts in BC:			
Harvesting	0.14	0.21	0.2218
Silviculture (note 1)	0.05	0.08	0.0366
Wood Processing	0.31	---	0.2817
P & P Processing	0.12	---	0.0717
Sub-Total - Primary Processing	0.43	0.51	0.3534
Total Direct Impacts in BC	0.62	0.80	0.6118

Notes to Table 7:

1. Survey results for 2007 show a much greater percentage of silviculture workers from outside the region than was estimated in previous years, and lower silviculture employment overall than was estimated for TSR-1 and TSR-2. The 2007 estimates exclude incremental silviculture carried out by licensees, which are funded by government programs such as the Forest Investment Account (FIA) Land Base Investment program. Further detail is provided in Section 7.
2. The wood products processing employment coefficient within the Prince George region assumes that 93% of the timber harvested in the Prince George region is processed within the region (see Table 6).
3. In TSR-1, all of the primary employment impacts were deemed to accrue at the local/regional level.
4. The 2007 survey results are based not only on data from the TSA, but also from TFLs.
5. This table provide estimates of direct harvesting employment based on MOFR timber harvest data and employment coefficients per m3 of timber harvest derived from the survey data and other study results. The number of significant digits presented in these estimates implies a degree of precision that does not exist but the represented precision is retained to maintain the integrity of the data and methodology. Data may not add due to rounding.

Sources:

TSR-1 and TSR-2 Coefficients: MOFR Economics and Trade Branch, available from web site:

http://www.for.gov.bc.ca/HET/tsr_sea/TSR1.xls and http://www.for.gov.bc.ca/HET/tsr_sea/TSR2.xls.

2007 estimates are based on survey data and other study results.

5 Direct Employment Associated with Total Area Harvest

This section of the report presents an estimate of the direct employment associated with the Prince George region timber harvest by applying the timber harvesting and processing employment coefficients derived in Section 4 to the total MOFR reported timber harvest for the Prince George region.

The industry employment data presented in Table 8 represent an estimate of total industry employment based on the survey derived employment coefficients, and the 3-year average harvest using MOFR Harvest Billing System data by scale date for 2005 through 2007. The table provides estimates of the direct employment impacts resulting from the total timber harvest for each FD, and as a result, the regional percentage of employees by area of residence is weighted by the timber harvest in each FD. These percentages are slightly different than the survey results, which are by definition weighted by the timber harvest reported by the survey participants.

The estimates of direct employment exclude the estimated employment at the pulp and paper operations based in Prince George that result from processing chips that are not produced from timber harvested in the Prince George region.

Table 8 Estimated Direct Employment Associated with Prince George Region Harvest

Direct Employment Impacts (PY) from PG Region Timber Harvest (Extrapolated to Total Industry)	3 Year Average - Weighted Average Based on MOFR Harvest Data				
	Fort St. James FD	Prince George FD	Vanderhoof FD	Total Region	% of Total
Direct Harvesting Employment:					
Fort St. James FD	479	0	14	493	5%
Prince George FD	170	1,590	275	2,035	22%
Vanderhoof FD	30	0	715	745	8%
Other BC Interior	11	135	22	167	2%
Lower Mainland and Other (mainly planting crews)	79	282	93	455	5%
Total Harvesting and Silviculture	768	2,008	1,119	3,894	42%
Primary Processing Within PG Region:					
Wood Products Processing (note 2)	756	2,094	1,089	3,939	43%
Primary Pulp and Paper	207	574	299	1,080	12%
Sub-Total - Primary Processing Within PG Region	964	2,668	1,388	5,019	54%
Primary Processing Outside PG Region	59	163	85	306	3%
Total BC Direct Impacts	1,790	4,838	2,591	9,219	100%
ASSUMPTIONS					
Total Timber Harvest (MOFR) (m3)	2,892,633	8,009,711	4,165,522	15,067,866	
Exports Based on Survey	0.0%	0.0%	0.0%	0.0%	
Volume Processed in BC (m3)	2,892,633	8,009,711	4,165,522	15,067,866	
3 Year Average - Weighted Average Based on Survey Harvest Data					
BC Employment Coefficients (PY per 000 m3):					
Harvesting and Silviculture (3 Year Average from Survey)	0.265	0.251	0.269	0.258	42%
Primary Wood Products Processing in PG region	0.261	0.261	0.261	0.261	43%
Primary Pulp and Paper in PG Region	0.072	0.072	0.072	0.072	12%
Primary Processing Outside PG Region	0.020	0.020	0.020	0.020	3%
Total - Direct Primary Impacts	0.619	0.604	0.622	0.612	100%

Notes to Table 8:

1. This table provides estimates of direct harvesting employment based on assumed levels of timber harvest and employment coefficients per m3 of timber harvest; the number of significant digits presented in these estimates implies a degree of precision that does not exist but the represented precision is retained to maintain the integrity of the data and methodology.
 2. The data assume a job is full-time (one PY) if the work year consistently lasts 8 to 12 months per year, or at least 180 days per year. Part-time employment data were collected and converted to PY of employment using 180 days per PY.
 3. Excludes secondary paper manufacturing and value added wood processing sector.
- Source: based on study results on employment coefficients (see Tables 6 and 7 for more detail), and MOFR timber harvest for each Forest District.

6 Full-Time and Part-Time Employment

The survey of licensees requested data on the number of full-time jobs, the number of part-time jobs and the number of days per part-time job by category of timber harvesting employment. The following paragraphs explain how the survey differentiates between full-time and part-time employment, and discusses some of the factors that influence the number of jobs reported as part-time or full-time.

- The survey defines a full-time job (also referred to as Person Year (PY) of employment) as any job where employees worked more than 180 regular 8-hour days in a year.

- Where full-time contractor employees did not work 180 days, these were reported by licensees as part-time employment, and the number of days of part-time employment were converted into PY using 180 days per year.
- Full-time employees who also work on Licences in other regions outside the Prince George region were reported as part-time employees if they worked less than 180 days per year on the Prince George region harvest.
- Special care was taken so that part-time workers who operate in different Forest Districts and management units for the same company were not counted more than once. Part-time workers who split their time between two licensees, however, could be counted two or more times. This may be particularly relevant for silviculture workers, and in particular planting crews, where part-time work seems to be the most prevalent.
- While logging contractors such as “stump to dump” contractors were included in the survey, smaller contractors such as silviculture contractors were not. As a result, licensees typically estimated silviculture jobs, usually in terms of days of part-time employment. While licensees usually have employees or local contractors conduct the site preparation, brushing, and surveying, planting is typically carried out over a relatively short season by crews from all over BC and other Canadian provinces.
- All the major licensees who participated in the survey reported that their timber harvesting crews operate between 9 and 10 months per year. Spring break-up typically occurs during April and May, sometimes up to June 15. There are also a few weeks in the fall when it is too wet to log, usually approximately 4 to 6 weeks from the beginning or mid-October to early November. Some of the smaller licensees reported working consistently from November through March (5 months) and intermittently between July and September (another 3 months). These contractors often reported 12-hour days during the winter months. Survey participants were asked to adjust the number of days of employment to reflect 8-hour days (i.e. a 12-hour day was reported as 1.5 days).

The following table indicates the number of jobs associated with the PY of employment as reported in the survey. As shown on the table, on average, over the three-year period, there are an estimated 1.8 times more jobs than there are PY of employment. The table shows that on average every year, the Prince George region timber harvest generates some 2,326 PY of direct harvesting employment in BC, but the number of full-time and part-time jobs may be as much as 1.8 times greater than that, at 4,259 jobs.

Table 9 *Estimated Number of Jobs per PY of Direct Timber Harvesting Employment*

Prince George Region Full Time and Part Time Jobs Per PY of Direct Employment in Timber Harvesting and Silviculture	3 Year Average			
	Fort St. James FD	Prince George FD	Vanderhoof FD	Total
Survey Results:				
Number of Full Time Jobs	375	869	514	1,758
Number of Part Time Jobs	422	1,382	698	2,501
Total Timber Harvesting Jobs	797	2,251	1,212	4,259
PY of Direct Timber Harvesting Employment	444	1,203	679	2,326
Jobs/PY of Direct Harvesting Employment	1.8	1.9	1.8	1.8
Extrapolated Data to Total Industry:				
PY of Direct Timber Harvesting Employment	768	2,008	1,119	3,894
Total Full Time & Part Time Jobs	1,376	3,756	1,997	7,130

Notes:

1. As noted in the text of the report, there are various factors that influence the number of jobs reported as part-time or full-time. As a result, the data by FD are not as reliable as the combined totals, as each FD has fewer survey respondents.
2. The industry estimates of full-time and part-time jobs are based on the survey results for the Prince George region.

7 Factors Affecting Timber Harvesting Employment Coefficients

The survey requested data on possible factors that may be affecting timber harvesting employment coefficients, for example tree species, logging methods, proportion of old growth and proportion in mountainous/ Mountain Caribou habitat areas. The survey also requested licensees to comment on incremental silviculture activities. The following paragraphs summarize the survey results.

Tree Species: The survey requested licensees to report on whether the timber harvested on each Licence for 2007 was predominantly pine stands, spruce, deciduous, hemlock cedar, or other species. The survey participants reported that pine leading stands account for 100% of the timber harvest in the Vanderhoof FD, 94% in the Prince George FD and 83% of the Fort St. James FD harvest. The balance consists of spruce leading stands and balsam leading stands. In the Prince George FD, the survey participants also reported a very small amount of cedar leading stands (approximately 18,000 m³ in timber harvest) and a very small amount of deciduous timber harvest (approximately 10,000 m³ per year in timber harvest).

Mountain Pine Beetle (MPB) Infestation: On October 1, 2004, the AAC for the Prince George TSA was increased by 22% to 14,944,000 m³ to provide each FD with sufficient AAC to salvage timber killed by the then current and projected MPB epidemic. One licensee contacted for the survey speculated that timber harvesting employment coefficients would be higher for areas highly infected by the Mountain Pine Beetle because the yield per acre (i.e. m³ of wood harvested per acre) would likely be much lower in those infected areas. The survey data are not conclusive, however, as employment coefficients in the highly affected Vanderhoof FD and Prince George FD do not seem to significantly differ from the less infected Fort St. James FD.

Logging Methods: The survey requested data on the approximate proportions of total timber harvest through conventional ground logging, cable logging, and helicopter logging. The survey participants reported using conventional ground logging for 100% of the timber harvest in the Fort St. James FD, 95% in the Prince George FD and 98% of the Vanderhoof FD. Conventional logging has been more prevalent given the high proportion of harvest in MPB infected pine leading stands. Cable logging and negligible amounts of helicopter logging share the balance. One of the licensees

suggested that cable logging in the Prince George TSA would be 25% more labour intensive than Cut-to-Length (CTL) short log contracts, and approximately 35% more labour intensive than conventional ground logging (long log) contracts in the same area. Since the survey results included so little cable logging, the greater employment coefficients for cable logging could not be confirmed.

Percent of Old Growth vs. Second Growth: The survey participants reported that all of the timber harvested in the Prince George region is in areas that have not been commercially harvested on an industrial scale in the past. According to the survey participants, timber is approximately 100 years old, on average, although some of the dead infected pine is younger and probably less than 20% of the timber harvested is older than 140 years.

% of Harvesting in Mountain Caribou Planning Units as identified by BC MAL: The survey requested information on the approximate percentage of harvest in Mountain Caribou Planning Units (e.g. Hart Ranges, Upper Fraser, etc.). None of the survey participants are harvesting in the Mountain Caribou Planning Units, partly the result of the current focus on harvesting MPB infected pine leading stands.

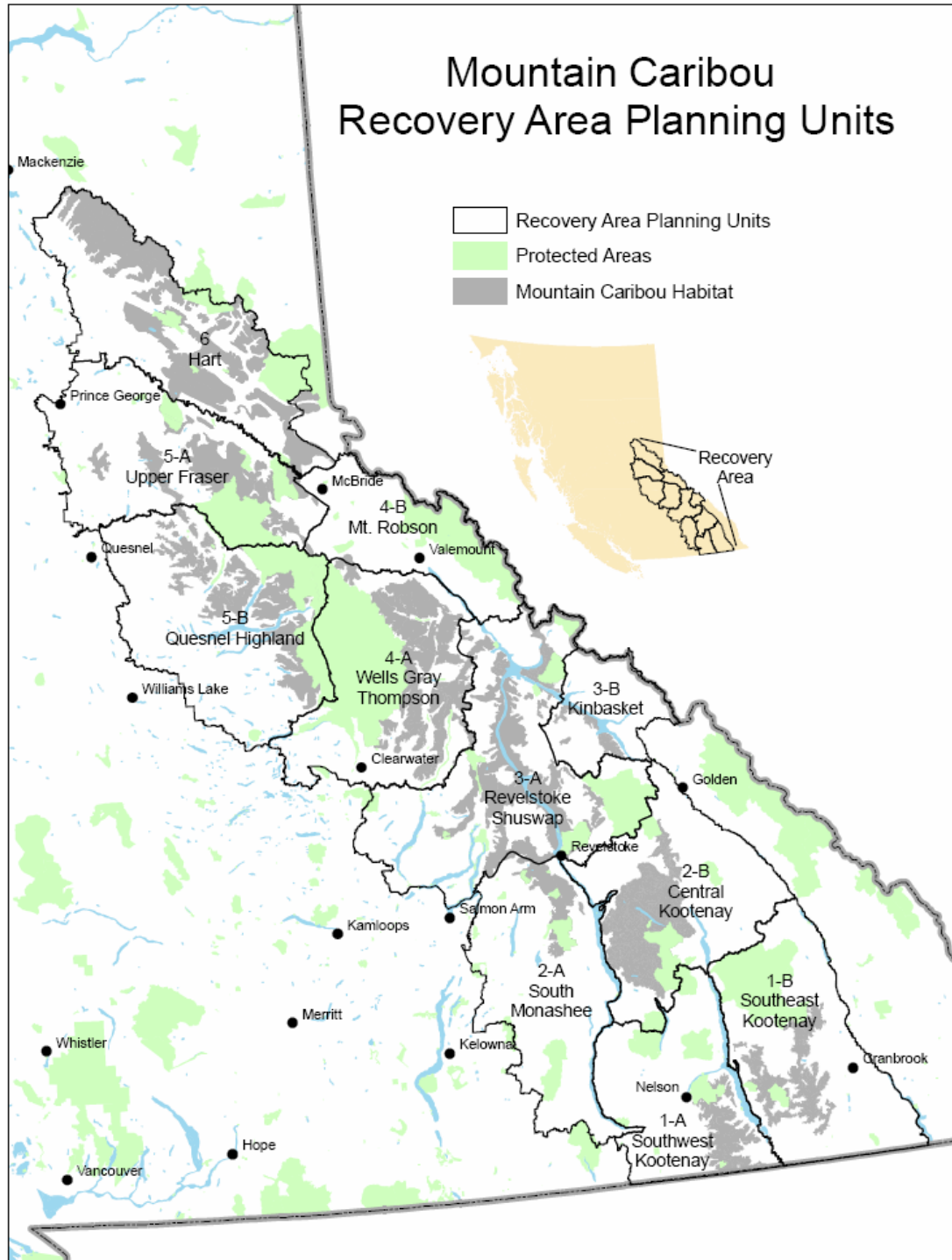
Additional Employment from Incremental Silviculture Activities: The survey requested licensees to indicate if they carried out additional silviculture such as fertilizing, pruning, and pre-commercial thinning in 2005, 2006 and 2007, in addition to the basic silviculture activities such as planting and brushing reported as part of the survey.

None of the survey participants reported incremental silviculture activities except for what is currently carried out under the Forest Investment Account (FIA) Land Base Investment Program (LBIP).⁷ The BC Government established the FIA in 2002 to help improve the forest asset base and support sustainable forest management practices in BC. LBIP projects are planned and delivered by licensees and administered through a third party (PricewaterhouseCoopers).

In 2006/2007, some 254 projects representing an investment of \$19.0 million were undertaken in the Northern Interior Forest Region, but this covers a much larger region than is included in this study. In the Prince George Timber Supply Area, the entire licensee FIA work is managed by Canadian Forest Products. Employment estimates related to the FIA work is not available and as a result has been excluded from this study.

⁷ BC Ministry of Forests and Range, *Forest Investment Account (FIA). Forest Investment Account Land Base Investment Program, 2006/07 Annual Update*, 8 pages.

Chart 2 Map of Mountain Caribou Recovery Area Planning Units



Source: Valdal, Eric (BC MAL), Steven F. Wilson (Ecologic Research) and Jeff Stone (BC MOFR), *The BC Species at Risk Coordination Office's Draft Mountain Caribou Recovery Strategy: Analysis of Habitat Options for Forest Industry Stakeholders*; Prepared for the BC Species at Risk Coordination Office; March 2007, 65 pages.

Appendices

The following numbered appendices provide data for the following Forest Districts and management units:

Appendix 1: Fort St. James Forest District including Prince George TSA Licences and TFL 42 (Tanizul Timber Ltd.)

Appendix 2: Prince George Forest District including Prince George TSA licences, TFL 30 (Canadian Forest Products) and TFL 53 (Dunkley Lumber Ltd.)

Appendix 3: Vanderhoof Forest District

Appendix 4: Total for Prince George Region including all three Forest Districts, namely Fort St. James, Prince George and Vanderhoof, as well as TFLs 30, 42 and 53.

Appendix 5: Provides the list of manufacturing facilities in the Prince George region that were considered in estimating employment and other data from manufacturing operations.

Appendix 6: Provides selected references.

APPENDIX 1 FORT ST. JAMES FOREST DISTRICT SURVEY RESULTS

Fort St. James Forest District (FSJ FD)										
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)			
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC	Non-AAC Lump Sum Volume
TSA Licences										
Apollo Forest Products	A18156	Licensee reported combined harvest for all Apollo licenses					216,746		216,746	
	A 81516	Forest Licence, Non-Replaceable					50,000		50,000	
	A 82364	Forest Licence, Non-Replaceable					50,000		50,000	
Sub-Total Apollo Forest Products			209,818	319,933	235,944	255,232	316,746		316,746	
Ta-Da-Chun Timber Ltd.	A 64418	BCTS Forest Licence, Non-Replaceable; Woodland activities are managed by Apollo Forest Products	41,058	88,838	3,617	44,504	100,000		100,000	
Sub-Total Apollo Forest Products and Ta-Da-Chun Timber Ltd.		Based on survey data	250,876	408,771	239,561	299,736	416,746		416,746	
Brave Holdings Ltd.	A 75670	Forest Licence, Non-Replaceable	15,088	51,467	45,745	37,433	25,000		25,000	
	A 78072	Forest Licence, Non-Replaceable, Mountain Pine Beetle;						25,000	25,000	
Sub-Total Brave Holdings		Harvest per MOFR; MOFR also reports Brave Holdings harvest in Vanderhoof FD (included in other table), FSJ Sustainable Forest Management (SFM) Plan recognizes A75670 and A78072 as part of FSJ FD					25,000	25,000	50,000	
Canadian Forest Products	A18165	AAC of 1,104,858 m3, of which an estimated 550,000 m3 is in the FSJ FD (based on FSJ - SFM Plan); balance is in PG FD					550,000		550,000	
	A33801	Forest Licence, Non-Replaceable, conventional - all in Fort St. James Supply Block A (per MOFR discussions & FSJ - SFM Plan)					200,000		200,000	

Fort St. James Forest District (FSJ FD)										
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)			
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC	Non-AAC Lump Sum Volume
Sub-Total Canfor		Harvest as reported by MOFR for Fort St. James FD (confirmed by licensee)	605,183	750,723	546,225	634,044	750,000		750,000	
Carrier Lumber Ltd.	A18158	AAC of 253,027 mainly in PG FD; estimated 40,000 m3 is in FSJ FD (per FSJ SFM Plan). Lower harvest in FSJ is attributed to the lower levels of beetle attack then in PG.	18,511	75,547	0	31,353	40,000		40,000	
Stuart Lake Lumber Company	A 18169	Harvest per MOFR	141,663	205,983	51,553	133,066	201,978		201,978	
Pope & Talbot Ltd.	A 77955	Harvest per survey data; by comparison, MOFR harvest data show average of 285,992 m3 over the 3 years (11% higher than harvest reported by Pope & Talbot)	415,724	298,595	57,965	257,428	640,000		640,000	
Tackla Track & Timber Ltd	A 27823	Forest Licence, Non-Replaceable, Conventional; harvest as per MOFR; all in FSJ Supply Block A	175,185	104,275	38,071	105,844	200,000		200,000	
Tackla Development Corporation	A 62356	Forest Licence, Non-Replaceable, non-AAC Lump Sum volume (MOFR shows AAC of 0)	40	13,000	142,642	51,894				36,663
K & D Logging Ltd.	A 78069	Forest Licence, Non-Replaceable, Mountain Pine Beetle; K & D also logs for Tanizul Timber (TFL 42), manages Village of Fort St. James community forest, and logs for some major licensees; harvest by license is based on MOFR data	17,520	18,421	63,249	33,063		25,000	25,000	
Fort St. James All Nations Forest	A 59071	BCTS Forest Licence, Non-Replaceable; MOFR data report no harvest	-3	0	0	-1	60,000		60,000	
Xsu-Wii-Ax Forest Products Ltd.	A 70349	BCTS Forest Licence, Non-Replaceable; MOFR data report no harvest	0	0	0	0	20,000		20,000	
Canyon Tree Farms Inc.	A 78073	Forest Licence, Non-Replaceable, Mountain Pine Beetle; harvest is based on MOFR data; survey data include harvest on other licenses	36,472	55,654	14,149	35,425		25,000	25,000	

Fort St. James Forest District (FSJ FD)										
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)			
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC	Non-AAC Lump Sum Volume
Winton Global Lumber Ltd.	A 18171	Harvest in 2008 is all in Prince George FD and as a result allocate entire AAC to that district; harvest noted in this table is only the Fort St. James portion and is based on MOFR data	47,137	45,351	-2,508	29,993				
Sub-Total TSA - Forest Licences			1,723,396	2,027,787	1,196,652	1,649,278	2,353,724	75,000	2,428,724	36,663
TREE FARM LICENCES (TFLs):										
Tanizul Timber Ltd.	TFL 42	Tanizul Timber is a not-for-profit society that started in 1981 to harvest this licence. Tanizul is not involved in the Forest Resource Agreement which has yet to be harvested. Harvest per MOFR, confirmed through survey.	122,914	47,051	156,418	108,794	154,112		154,112	
BCTS and Other	TFL 42	MOFR reports no harvest on TFL 42 other than Tanizul Timber harvest; AAC from MOFR - Apportionment System TFL Summary Report, effective April 15, 2008					5,888		5,888	
Sub-Total - TSA Forest Licences and TFL listed above			1,846,310	2,074,838	1,353,070	1,758,073	2,513,724		2,588,724	
Community Forest Agreement - District of Fort St. James (Village)		K & D Logging manages the Fort St. James Community Forest on behalf of the District of Fort St. James; as per MOFR, licence was issued in March 2001; harvest per MOFR database	6,426	86,470	113,363	68,753	23,895		23,895	
Other Harvest Not Included in Above Commitments		Includes BCTS sales not included in above commitments, community forest licences, woodlot licences and Forest Service Reserve	1,032,691	1,004,208	1,072,248	1,036,382	Not available by Forest District		Not available by Forest District	

Fort St. James Forest District (FSJ FD)										
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)			
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC	Non-AAC Lump Sum Volume
TOTAL PROVINCIAL CROWN HARVEST			2,885,427	3,165,516	2,538,681	2,863,208				
TOTAL PRIVATE & FEDERAL HARVEST		MOFR Volume by scale date	18,505	37,512	32,257	29,425				
TOTAL HARVEST		MOFR Volume by scale date	2,903,932	3,203,028	2,570,938	2,892,633				
Survey Coverage Based on Harvest (m3)			1,822,530	1,947,313	1,255,240	1,675,028				
Survey Harvest Volume Coverage (% of Total Harvest)			63%	61%	49%	58%				

Source:

The harvest data noted as being based on MOFR data are from the MOFR Harvest Billing System, as provided by Sinclair Tedder of MOFR (April 2008).

All other harvest data are from the Pierce Lefebvre Consulting survey of licensees, which was conducted for this project.

BCTS et al., *Fort St. James Sustainable Forest Management Plan*, Version 3.5, March 2007.

MOFR - Apportionment System - TSA AAC, *Apportionment and Commitments, Prince George TSA*, effective February 22, 2008.

AAC for Community Forest: MOFR, *Community Forest Agreements*, April 2008; MOFR website: <http://www.for.gov.bc.ca/hth/community/Documents/status-table-april-2008.pdf>.

The following tables summarize the survey results and data for the Fort St. James Forest District.

Fort St. James Survey Results - Timber Exports and Destination of Fort St. James FD Timber Harvest	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	Fort St. James 3-Yr Average
Total Reported Harvested Volumes (m3)	1,822,530	1,947,313	1,255,240	1,675,028
Percent of Total Volumes Harvested:				
Export Volume	0.0%	0.0%	0.0%	0.0%
Fort St. James FD	68.0%	64.1%	69.0%	66.8%
Prince George FD	27.0%	22.9%	21.0%	23.9%
Vanderhoof FD	1.5%	7.7%	5.2%	4.8%
Other - Mackenzie FD	0.0%	0.0%	0.0%	0.0%
Houston	0.0%	0.0%	0.0%	0.0%
Quesnel	3.4%	5.2%	4.8%	4.5%
100 Mile House	0.0%	0.0%	0.0%	0.0%
Headwaters FD (McBride/ Clearwater)	0.0%	0.0%	0.0%	0.0%
Kamloops FD	0.0%	0.0%	0.0%	0.0%
TOTAL VOLUME	100.0%	100.0%	100.0%	100.0%

Fort St. James Survey Results - Harvesting Employment - Person Years (PY)	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007
Harvesting/ Falling	176	189	138
Planning & Administration	58	55	44
Log Hauling / Trucking	127	125	91
Barging / Towing	0	0	0
Road Building	45	36	45
Silviculture	70	81	54
Other	0	0	0
Total	476	486	372

Fort St. James Survey Results - Full Time & Part Time Harvesting Employment	Full Time Jobs			% Residing in Fort St. James
	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	
Harvesting/ Falling	172	180	137	12%
Planning & Administration	56	53	43	27%
Log Hauling / Trucking	125	117	91	7%
Barging / Towing	0	0	0	0%
Road Building	44	35	44	9%
Silviculture	13	9	8	9%
Other	0	0	0	0%
Total	409	393	323	12%
Fort St. James Survey Results -	Part Time Jobs			% Residing

Part Time Employment	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	in Fort St. James
Harvesting/ Falling	19	30	5	36%
Planning & Administration	17	20	19	65%
Log Hauling / Trucking	15	30	0	50%
Barging / Towing	0	0	0	0%
Road Building	6	4	3	23%
Silviculture	379	421	297	15%
Other	0	0	0	0%
Total	436	505	324	19%

Fort St. James Survey Results - % of Employees by Residence Location	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	Fort St. James 3-Yr Average
Fort St. James FD				
Fort St. James	56%	51%	61%	55%
Other - Fort St. James FD	7%	6%	9%	7%
Sub-Total Fort St. James	62%	57%	70%	62%
Prince George FD				
Prince George	23%	24%	12%	20%
Other - Prince George FD	1%	1%	2%	2%
Sub-Total Prince George FD	25%	25%	14%	22%
Vanderhoof FD				
Vanderhoof	2%	5%	5%	4%
Other Vanderhoof FD	0%	0%	0%	0%
Sub-Total Vanderhoof FD	2%	5%	5%	4%
Fraser Lake	0%	0%	0%	0%
Williams Lake	1%	1%	0%	1%
Quesnel	0%	0%	0%	0%
BC Interior - Unknown	1%	1%	1%	1%
Headwaters FD (McBride/Clearwater)	0%	0%	0%	0%
Other	0%	0%	0%	0%
Sub-Total - Other BC Interior	2%	1%	1%	1%
Lower Mainland	0%	0%	1%	0%
Other (please specify):	9%	11%	10%	10%
Total	100%	100%	100%	100%

Fort St. James Survey Results - Person Years (PY) of Direct Harvesting Related Employment per 1, 000 m3 of Timber Harvested	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	Fort St. James 3-Yr Average
Harvesting/ Falling	0.097	0.097	0.110	0.100
Planning & Administration	0.032	0.028	0.035	0.031
Log Hauling / Trucking	0.070	0.064	0.073	0.068

Barging / Towing	0.000	0.000	0.000	0.000
Road Building	0.024	0.018	0.036	0.025
Silviculture	0.039	0.041	0.043	0.041
Other	0.000	0.000	0.000	0.000
Total	0.261	0.249	0.296	0.265
Direct Employment by Employee Residence				
Fort St. James FD	0.162	0.142	0.209	0.165
Prince George FD	0.064	0.063	0.041	0.059
Vanderhoof FD	0.005	0.013	0.014	0.010
Other BC Interior	0.005	0.004	0.002	0.004
Lower Mainland and Other (mainly planting crews)	0.025	0.028	0.030	0.027
Total	0.261	0.249	0.296	0.265

Survey Coverage	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	Fort St. James 3-Yr Average
Total Harvest Reported by MOF	2,903,932	3,203,028	2,570,938	2,892,633
Reported Volume	1,822,530	1,947,313	1,255,240	1,675,028
Survey Coverage	63%	61%	49%	58%

Direct Employment Impacts (PY) from PG Region Timber Harvest (Extrapolated to Total Industry)	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	Fort St. James 3-Yr Average	3 Year Average % of Total
Direct Harvesting Employment:					
Fort St. James FD	481	530	425	479	27%
Prince George FD	170	188	151	170	9%
Vanderhoof FD	30	33	26	30	2%
Other BC Interior	11	12	9	11	1%
Lower Mainland and Other (mainly planting crews)	79	88	70	79	4%
Total Harvesting and Silviculture	771	850	682	768	43%
Primary Processing Within PG Region:					
Wood Products Processing	759	837	672	756	42%
Primary Pulp and Paper	208	230	184	207	12%
Sub-Total - Primary Processing Within PG Region	967	1,067	856	964	54%
Primary Processing Outside PG Region	59	65	52	59	3%
Total BC Direct Impacts	1,797	1,982	1,591	1,790	100%
ASSUMPTIONS					
Total Timber Harvest (MOFR) (m3)	2,903,932	3,203,028	2,570,938	2,892,633	
Exports Based on Survey	0.0%	0.0%	0.0%	0.0%	
Volume Processed in BC (m3)	2,903,932	3,203,028	2,570,938	2,892,633	

BC Employment Coefficients (PY per 000 m3):					
Harvesting and Silviculture (3 Year Average from Survey)	0.265	0.265	0.265	0.265	43%
Primary Wood Products Processing in PG region	0.261	0.261	0.261	0.261	42%
Primary Pulp and Paper in PG Region	0.072	0.072	0.072	0.072	12%
Primary Processing Outside PG Region	0.020	0.020	0.020	0.020	3%
Total - Direct Primary Impacts	0.619	0.619	0.619	0.619	100%

Survey Results - Timber Harvesting Characteristics	Fort St. James 2005	Fort St. James 2006	Fort St. James 2007	Fort St. James 3-Yr Average
% Pine Leading Stands	89.5%	90.2%	83.1%	88.2%
% Conventional Ground Logging	97.6%	98.9%	100.0%	98.4%
% Cable Logging	2.4%	1.1%	0.0%	1.6%
% Helicopter Logging	0.0%	0.0%	0.0%	0.0%
Sub-Total	100.0%	100.0%	100.0%	100.0%

APPENDIX 2 PRINCE GEORGE FOREST DISTRICT SURVEY RESULTS

This Appendix provides data for the Prince George Forest District, which includes the TSA Licences and the TFLs that are within those boundaries including TFL 30 and TFL 53.

Prince George Forest District (PG FD)											
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)				
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Hemlock-cedar & Other	Total AAC	Non-AAC Lump Sum Volume
TSA Licences											
Canadian Forest Products	A40873	AAC of 1,597,771 m3 per MOFR plus 63,495 m3 in IFPA uplift (1,661,266 m3 per Canfor with IFPA volume) for the total TSA of which 554,434 m3 is in the Vanderhoof FD (per licensee).					1,043,337			1,043,337	
	A18165	AAC of 1,104,858 m3, of which an estimated 550,000 m3 is in the FSJ FD (based on FSJ - SFM Plan); balance is in PG FD					554,858			554,858	
Sub-Total Canfor		Excludes TFL 30 listed below (harvest from MOFR)	2,916,665	2,923,785	2,223,025	2,687,825	1,598,195			1,598,195	
Carrier Lumber Ltd.	A18158	AAC of 253,027 m3 mainly in PG FD; estimated 40,000 m3 is in FSJ FD (per FSJ SFM Plan). Higher harvest in PG FD is attributed to the higher levels of beetle attack then in PG; harvest from survey data	94,276	262,623	7,786	121,562	213,027			213,027	
Carrier Lumber Ltd.	A 70174	Forest Licence, Non-Replaceable, Mountain Pine Beetle; harvest from survey data	131,370	243,891	280,269	218,510		300,000		300,000	
Dunkley Lumber	A62247	Forest Licence, Non-Replaceable					30,000			30,000	
Dunkley Lumber	A 57544	Forest Licence, Non-Replaceable, non-AAC Lump Sum volume (MOFR shows AAC of 0)									50,000
Stella-Jones Inc.	A 18160	Stella-Jones licence is harvested by Dunkley Lumber					47,048			47,048	

Prince George Forest District (PG FD)											
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)				
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Hemlock-cedar & Other	Total AAC	Non-AAC Lump Sum Volume
Sub-Total Dunkley Lumber		Harvest from survey data reported by Dunkley Lumber; harvest includes TSA licences for Dunkley & Stella-Jones but excludes TFL 53 harvest	24,568	244,000	112,772	127,113	77,048			77,048	50,000
Lakeland Mills	A 18163	Mostly in PG FD, some timber marks in Vanderhoof, but none in FSJ FD; harvest includes approximately 20,000 m3 a year in Vanderhoof FD for each of 2005 and 2006; harvest from survey data	279,782	318,661	322,160	306,868	249,827			249,827	
Winton Global Lumber Ltd.	A 18171	Suffered from flooding (December 2007 and January 2008); operated for 3 months between March 15 and June 15 to clear up log inventory but no harvest for 2008 - have sawmill at Bear Lake (north of PG) and planer mill in PG; harvest is based on MOFR confirmed by Winton Global (includes only harvest in PG FD, harvest in FSJ FD is included in other table)	569,941	586,205	505,683	553,943	505,541			505,541	
Winton Global Lumber Ltd.	A 57545										20,000
T.R.C. Cedar Limited	A61216	Forest Licence, Non-Replaceable, conventional; harvest from survey data	51,216	31,643	18,000	33,620			80,000	80,000	
Giscome Timber Cedar	A62425	Hemlock balsam cedar stands; from survey data	50,000	0	50,000	33,333			30,000	30,000	
Yekooche First Nation	A75069	Forest Licence, Non-Replaceable, Mountain Pine Beetle - MOFR harvest	-174	150,487	0	50,104		9,580		9,580	
RPP Holdings (see Note 1)	A 76218	Forest Licence, Non-Replaceable, Mountain Pine Beetle; per survey data	0	0	0	0		250,000		250,000	
RPP Holdings	A 76219	Forest Licence, Non-Replaceable, Mountain Pine Beetle	0	0	0	0		250,000		250,000	
RPP Holdings	A 76400	Forest Licence, Non-Replaceable, Mountain Pine Beetle	0	0	0	0		250,000		250,000	
Prince George Hardwood Ltd.	A701015	Deciduous licence (based on MOFR data and confirmed through survey)	24,279	-803	6,186	9,887			50,000	50,000	

Prince George Forest District (PG FD)											
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)				
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Hemlock-cedar & Other	Total AAC	Non-AAC Lump Sum Volume
T'ugus Timber Ltd.	A701016	Deciduous licence (based on MOFR data and confirmed through survey)	0	0	0	0			55,000	55,000	
Sub-Total TSA - Forest Licences			4,141,923	4,760,492	3,525,881	4,142,765	2,643,638	1,059,580	215,000	3,918,218	70,000
TREE FARM LICENCES (TFLs):											
Canadian Forest Products	TFL 30	Harvest from MOFR and confirmed through survey	68,778	60,948	173,185	100,970	180,000			180,000	
BCTS and Other	TFL 30	MOFR reports no harvest on TFL 30 other than Canfor harvest; AAC is from MOFR - Apportionment System, TFL Summary report, effective April 15, 2008					150,000			150,000	
Dunkley Lumber	TFL 53	As reported by Dunkley Lumber, 3 year harvest averages 615,837 m3; harvest from MOFR averages 733,266 m3. AAC of TFL 53 was increased in October 2005 (as reported by Dunkley Lumber)	525,999	558,380	763,131	615,837	849,687			849,687	
BCTS and Others, including Forest Hill Contractors Ltd.	TFL 53	Harvest from MOFR; AAC from MOFR - Apportionment System TFL Summary Report, effective April 15, 2008	83,088	15,917	0	33,002	30,313			30,313	
Sub-Total - TSA Forest Licences and TFL listed above			4,819,788	5,395,737	4,462,197	4,892,574	3,853,638	1,059,580	215,000	5,128,218	70,000

Prince George Forest District (PG FD)											
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)				
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Hemlock-cedar & Other	Total AAC	Non-AAC Lump Sum Volume
Community Forest Agreement - Prince George		Harvest based on MOFR data; AAC as per MOFR list of Community Forest Agreements; per MOFR, community forest licence was issued November 1, 2006	9,231	4,503	17,863	10,532	12,000			12,000	
Other Harvest Not Included in Above Commitments		Includes BCTS sales not included in above commitments, community forest licences, woodlot licences and Forest Service Reserve	3,298,631	2,344,048	1,797,231	2,479,970	Not available by Forest District			Not available by Forest District	
TOTAL PROVINCIAL CROWN HARVEST			8,127,650	7,744,288	6,277,291	7,383,076					
TOTAL PRIVATE & FEDERAL HARVEST		MOFR Volume by scale date	726,644	619,994	533,267	626,635					
TOTAL HARVEST		MOFR Volume by scale date	8,854,294	8,364,282	6,810,558	8,009,711					
Survey Coverage Based on Harvest (m3)			4,695,254	5,204,539	4,456,011	4,785,268					
Survey Harvest Volume Coverage (% of Total Harvest)			53%	62%	65%	60%					

Notes:

1. RPP Holdings licences were sold to Pioneer Timber of Williams Lake in 2008. Tall Oil, the previous owner was to build a pellet plant, but did not, and nothing has been harvested on any of the 3 RPP Holdings licences. Pioneer Timber is building a pellet plant in Williams Lake, and harvest will begin in 2009.
2. The AAC in the table is from the MOFR Apportionment in effect in February 2008.

Source:

The harvest data noted as being based on MOFR data are from the MOFR Harvest Billing System, as provided by Sinclair Tedder of MOFR (April 2008).

All other harvest data are from the Pierce Lefebvre Consulting survey of licensees, which was conducted for this project.

MOFR - Apportionment System - TSA AAC, *Apportionment and Commitments, Prince George TSA*, effective February 22, 2008.

AAC for Community Forest: MOFR, *Community Forest Agreements*, April 2008; MOFR website: <http://www.for.gov.bc.ca/hth/community/Documents/status-table-april-2008.pdf>.

Prince George FD Survey Results - Timber Exports and Destination of Timber Harvest from the Prince George FD	PG FD 2005	PG FD 2006	PG FD 2007	PG FD 3 Year Average
Total Reported Harvested Volumes (m3)	4,712,595	5,230,136	4,456,011	4,799,581
Percent of Total Volumes Harvested:				
Export Volume	0.0%	0.0%	0.0%	0.0%
Fort St. James FD	0.0%	0.0%	0.0%	0.0%
Prince George FD	85.1%	87.8%	89.1%	87.3%
Vanderhoof FD	12.7%	11.5%	10.3%	11.5%
Other - Mackenzie FD	0.1%	0.1%	0.1%	0.1%
Houston	0.0%	0.0%	0.0%	0.0%
Quesnel	0.3%	0.2%	0.1%	0.2%
100 Mile House	1.1%	0.0%	0.0%	0.4%
Headwaters FD (McBride/ Clearwater)	0.6%	0.3%	0.2%	0.4%
Kamloops FD	0.1%	0.1%	0.0%	0.1%
TOTAL VOLUME	100.0%	100.0%	100.0%	100.0%

Prince George FD Survey Results - Harvesting Employment - Person Years (PY)	PG FD 2005	PG FD 2006	PG FD 2007
Harvesting/ Falling	509	542	447
Planning & Administration	211	232	202
Log Hauling / Trucking	258	270	230
Barging / Towing	0	0	0
Road Building	53	50	45
Silviculture	174	201	184
Other	0	0	0
Total	1,205	1,296	1,108

Prince George FD Survey Results - Full Time & Part Time Harvesting Employment	Full Time Jobs			% Residing in PG FD
	PG FD 2005	PG FD 2006	PG FD 2007	
Harvesting/ Falling	431	443	375	92.6%
Planning & Administration	182	182	165	95.6%
Log Hauling / Trucking	232	226	186	94.3%
Barging / Towing	0	0	0	0.0%
Road Building	41	40	34	92.0%
Silviculture	24	24	24	57.6%
Other	0	0	0	0.0%
Total	909	914	784	93%
Prince George FD Survey Results - Part Time Employment	Part Time Jobs			% Residing in PG FD
	PG FD 2005	PG FD 2006	PG FD 2007	
Harvesting/ Falling	153	186	145	72%
Planning & Administration	47	73	56	92%
Log Hauling / Trucking	45	80	67	83%
Barging / Towing	0	0	0	0%

Road Building	51	35	36	45%
Silviculture	1,025	1,137	1,008	37%
Other	0	0	0	0%
Total	1,321	1,511	1,312	46%

Prince George FD Survey Results - % of Employees by Residence Location	PG FD 2005	PG FD 2006	PG FD 2007	PG FD 3 Year Average
Fort St. James FD				
Fort St. James	0%	0%	0%	0%
Other - Fort St. James FD	0%	0%	0%	0%
Sub-Total Fort St. James	0%	0%	0%	0%
Prince George FD				
Prince George	73%	70%	70%	71%
Other - Prince George FD	8%	8%	9%	8%
Sub-Total Prince George FD	81%	78%	79%	79%
Vanderhoof FD				
Vanderhoof	0%	0%	0%	0%
Other Vanderhoof FD	0%	0%	0%	0%
Sub-Total Vanderhoof FD	0%	0%	0%	0%
Fraser Lake	0%	0%	0%	0%
Williams Lake	0%	0%	0%	0%
Quesnel	3%	3%	3%	3%
BC Interior - Unknown	0%	2%	1%	1%
Headwaters FD (McBride/Clearwater)	3%	3%	2%	2%
Other	0%	0%	0%	0%
Sub-Total - Other BC Interior	6%	8%	7%	7%
Lower Mainland	0%	0%	0%	0%
Other (please specify):	13%	14%	14%	14%
Total	100%	100%	100%	100%

Prince George FD Survey Results - Person Years (PY) of Direct Harvesting Related Employment per 000 m3 of Timber Harvested	PG FD 2005	PG FD 2006	PG FD 2007	PG FD 3 Year Average
Harvesting/ Falling	0.108	0.104	0.100	0.104
Planning & Administration	0.045	0.044	0.045	0.045
Log Hauling / Trucking	0.055	0.052	0.052	0.053
Barging / Towing	0.000	0.000	0.000	0.000
Road Building	0.011	0.010	0.010	0.010
Silviculture	0.037	0.038	0.041	0.039
Other	0.000	0.000	0.000	0.000
Total	0.256	0.248	0.249	0.251
Direct Employment by Employee Residence				
Fort St. James FD	0.000	0.000	0.000	0.000
Prince George FD	0.207	0.193	0.196	0.199
Vanderhoof FD	0.000	0.000	0.000	0.000
Other BC Interior	0.016	0.019	0.016	0.017

Lower Mainland and Other (mainly planting crews)	0.033	0.036	0.036	0.035
Total	0.256	0.248	0.249	0.251

Survey Coverage	PG FD 2005	PG FD 2006	PG FD 2007	PG FD 3 Year Average
Total Harvest Reported by MOFR	8,854,294	8,364,282	6,810,558	8,009,711
Reported Volume	4,695,254	5,204,539	4,456,011	4,785,268
Survey Coverage	53%	62%	65%	60%

Direct Employment Impacts (PY) from PG Region Timber Harvest (Extrapolated to Total Industry)	PG FD 2005	PG FD 2006	PG FD 2007	PG FD 3 Year Average	3 Year Average % of Total
Direct Harvesting Employment:					
Fort St. James FD	0	0	0	0	0%
Prince George FD	1,758	1,660	1,352	1,590	33%
Vanderhoof FD	0	0	0	0	0%
Other BC Interior	150	141	115	135	3%
Lower Mainland and Other (mainly planting crews)	312	295	240	282	6%
Total Harvesting and Silviculture	2,219	2,097	1,707	2,008	41%
Primary Processing Within PG Region:					
Wood Products Processing	2,315	2,186	1,780	2,094	43%
Primary Pulp and Paper	635	600	488	574	12%
Sub-Total - Primary Processing Within PG Region	2,949	2,786	2,269	2,668	55%
Primary Processing Outside PG Region	180	170	138	163	3%
Total BC Direct Impacts	5,348	5,052	4,114	4,838	100%
ASSUMPTIONS					
Total Timber Harvest (MOFR) (m3)	8,854,294	8,364,282	6,810,558	8,009,711	
Exports Based on Survey	0.0%	0.0%	0.0%	0.0%	
Volume Processed in BC (m3)	8,854,294	8,364,282	6,810,558	8,009,711	
BC Employment Coefficients (PY per 000 m3):					
Harvesting and Silviculture (3 Year Average from Survey)	0.251	0.251	0.251	0.251	41%
Primary Wood Products Processing in PG region	0.261	0.261	0.261	0.261	43%
Primary Pulp and Paper in PG Region	0.072	0.072	0.072	0.072	12%
Primary Processing Outside PG Region	0.020	0.020	0.020	0.020	3%
Total - Direct Primary Impacts	0.604	0.604	0.604	0.604	100%

Survey Results - Timber Harvesting Characteristics	PG FD 2005	PG FD 2006	PG FD 2007	PG FD 3 Year Average
% Pine Leading Stands	94.3%	92.4%	93.5%	93.4%
% Conventional Ground Logging	95.4%	95.0%	95.4%	95.3%
% Cable Logging	4.1%	4.0%	3.6%	3.9%
% Helicopter Logging	0.5%	1.0%	1.0%	0.8%
Sub-Total	100.0%	100.0%	100.0%	100.0%

APPENDIX 3 VANDERHOOF FOREST DISTRICT SURVEY RESULTS

This Appendix provides data for the Vanderhoof Forest District.

Vanderhoof Forest District									
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)		
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC
TSA Licences									
Canadian Forest Products	A18157	AAC of 588,223 m3 plus 181,000 m3 in IFPA uplift					588,223		588,223
	A40873	AAC of 1,597,771 m3 per MOFR plus 63,495 m3 in IFPA uplift (1,661,266 m3 per Canfor with IFPA volume) for the total TSA of which 554,434 m3 is in the Vanderhoof FD (per licensee).					554,434		554,434
		Sub-Total Canfor	1,739,275	1,194,761	1,085,552	1,339,863	1,142,657		1,142,657
L & M Lumber Ltd.	A 17842	Harvest is from survey data	133,551	188,122	161,588	161,087	49,514		49,514
L & M Lumber Ltd.	A 55578	Forest Licence, Non-Replaceable, conventional, small pine; harvest is from survey data	133,551	258,708	167,866	186,708	250,000		250,000
West Fraser Mills Ltd.	A 18162						240,908		240,908
	A 70864	Forest Licence, Non-Replaceable, Mountain Pine Beetle						150,000	150,000
		Sub-Total - West Fraser Mills Ltd.	685,751	846,765	561,708	698,075			390,908
Saik'uz First Nation	A 72189	Forest Licence, Non-Replaceable, Mountain Pine Beetle, harvest per MOFR	24,206	146,908	77,793	82,969		150,000	150,000
Stellako Custom Wood Ltd.	A 72920	Forest Licence, Non-Replaceable, Mountain Pine Beetle; harvested by Selkin Logging Ltd.	135,000	110,000	180,000	141,667		150,000	150,000

Vanderhoof Forest District									
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)		
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC
Nadleh Whut'en First Nation	A 75068	Forest Licence, Non-Replaceable, Mountain Pine Beetle - MOFR harvest	0	34,212	141,875	58,696		150,000	150,000
B & T Forest Products	A 77813	Forest Licence, Non-Replaceable, Mountain Pine Beetle	0	0	0	0		250,000	250,000
B & T Forest Products	A 75472	Forest Licence, Non-Replaceable, Mountain Pine Beetle	0	0	0	0		50,000	50,000
Brave Holdings Ltd.	A 75670	Forest Licence, Non-Replaceable - 25,000 m3 included in FSJ FD							
	A 78072	Forest Licence, Non-Replaceable, Mountain Pine Beetle - 25,000 m3, included in FSJ FD							
Sub-Total Brave Holdings		Harvest per MOFR (most of harvest from above licences is in FSJ FD)	25,991	-456	7,020	10,852			
Gordon Peters Logging Ltd.	A17804	TSL smaller than 10,000 m3 - replaceable; MOFR harvest data not available					398		398
Perry	A17809	Very small, allocated to Vanderhoof; MOFR harvest data not available					2,070		2,070
Poole Farms Ltd.	A17810	Very small, allocated to Vanderhoof	725	782	698	735	246		246
474483 British Columbia Ltd.	A17813	Some federal funding allocated to that company indicates that it operates in Vanderhoof ; MOFR harvest data not available					171		171
Sub-Total TSA - Forest Licences		Harvest represents scaled data as reported in the survey	2,878,050	2,779,802	2,384,100	2,680,651	1,685,964	900,000	2,585,964
Other Harvest Not Included in Above Commitments		Includes BCTS sales not included in above commitments, community forest licences, woodlot licences and Forest Service Reserve	1,876,378	1,302,247	678,678	1,285,768	Not available by Forest District		Not available by Forest District
TOTAL PROVINCIAL CROWN HARVEST			4,754,428	4,082,049	3,062,778	3,966,418			

Vanderhoof Forest District									
Name of Licence Holder	Licence Number	Comment on AAC and Harvest Levels	Timber Harvest (m3)				2008 Allowable Annual Cut (AAC) Volume (m3)		
			2005	2006	2007	3 Year Average Harvest	Conventional	Mountain Pine Beetle	Total AAC
TOTAL PRIVATE HARVEST		MOFR Volume by scale date	366,153	126,686	104,472	199,104			
TOTAL HARVEST		MOFR Volume by scale date	5,120,581	4,208,735	3,167,250	4,165,522			
Survey Coverage Based on Harvest (m3)		Includes a very small amount of harvest (approx. 20,000 m3) in the Prince George FD	2,844,469	2,623,953	2,156,714	2,541,712			
Survey Harvest Volume Coverage (% of Total Harvest)			56%	62%	68%	61%			

Note:

1. The list of licensees in the Vanderhoof FD excludes Lakeland Mills even though they harvested approximately 20,000 m3 of timber in the Vanderhoof FD in each of 2005 and 2006, as the licensee included that harvest as part of its Prince George Forest District harvest.

Source:

The harvest data noted as being based on MOFR data are from the MOFR Harvest Billing System, as provided by Sinclair Tedder of MOFR (April 2008).

All other harvest data are from the Pierce Lefebvre Consulting survey of licensees, which was conducted for this project.

MOFR - Apportionment System - TSA AAC, *Apportionment and Commitments, Prince George TSA*, effective February 22, 2008.

AAC for Community Forest: MOFR, *Community Forest Agreements*, April 2008; MOFR website: <http://www.for.gov.bc.ca/hth/community/Documents/status-table-april-2008.pdf>.

Vanderhoof Survey Results - Timber Exports and Destination of Timber Harvest from the Vanderhoof FD	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	Vanderhoof 3 Year Average
Total Reported Harvested Volumes (m3)	2,827,128	2,598,356	2,156,714	2,527,399
Percent of Total Volumes Harvested:				
Export Volume	0.0%	0.0%	0.0%	0.0%
Fort St. James FD	0.0%	0.0%	0.0%	0.0%
Prince George FD	28.7%	21.5%	23.5%	24.8%
Vanderhoof FD	70.8%	77.8%	75.9%	74.6%
Other - Mackenzie FD	0.0%	0.0%	0.0%	0.0%
Houston	0.5%	0.7%	0.5%	0.6%
Quesnel	0.0%	0.0%	0.0%	0.0%
100 Mile House	0.0%	0.0%	0.0%	0.0%
Headwaters FD (McBride/ Clearwater)	0.0%	0.0%	0.0%	0.0%
Kamloops FD	0.0%	0.0%	0.0%	0.0%
TOTAL VOLUME	100.0%	100.0%	100.0%	100.0%

Vanderhoof Survey Results - Harvesting Employment - Person Years (PY)	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007
Harvesting/ Falling	281	302	280
Planning & Administration	76	83	65
Log Hauling / Trucking	173	190	164
Barging / Towing	9	11	7
Road Building	49	53	47
Silviculture	80	69	75
Other	8	7	7
Total	676	715	645

Vanderhoof Survey Results - Full Time & Part Time Harvesting Employment	Full Time Jobs			% Residing in Vanderhoof
	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	
Harvesting/ Falling	253	269	257	85%
Planning & Administration	63	69	57	92%
Log Hauling / Trucking	142	152	139	90%
Barging / Towing	0	0	0	0%
Road Building	38	40	39	82%
Silviculture	2	2	2	100%
Other	6	6	6	100%
Total	505	537	499	87%
Vanderhoof Survey Results - Part Time Employment	Part Time Jobs			% Residing in Vanderhoof
	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	
Harvesting/ Falling	19	24	16	100%
Planning & Administration	16	14	6	20%
Log Hauling / Trucking	30	36	26	95%
Barging / Towing	10	12	8	100%

Road Building	21	24	19	84%
Silviculture	667	553	507	13%
Other	30	20	35	45%
Total	794	682	618	24%

Vanderhoof Survey Results - % of Employees by Residence Location	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	Vanderhoof 3 Year Average
Fort St. James FD				
Fort St. James	1%	1%	1%	1%
Other - Fort St. James FD	0%	0%	0%	0%
Sub-Total Fort St. James	1%	1%	1%	1%
Prince George FD				
Prince George	25%	24%	25%	25%
Other - Prince George FD	0%	0%	0%	0%
Sub-Total Prince George FD	25%	24%	25%	25%
Vanderhoof FD				
Vanderhoof	53%	53%	54%	53%
Other Vanderhoof FD	<u>10%</u>	<u>12%</u>	<u>9%</u>	<u>11%</u>
Sub-Total Vanderhoof FD	63%	66%	63%	64%
Fraser Lake	0%	0%	0%	0%
Williams Lake	0%	0%	0%	0%
Quesnel	0%	0%	0%	0%
BC Interior - Unknown	2%	2%	2%	2%
Headwaters FD (McBride/Clearwater)	0%	0%	0%	0%
Other	0%	0%	0%	0%
Sub-Total - Other BC Interior	2%	2%	2%	2%
Lower Mainland	0%	0%	0%	0%
Other (please specify):	9%	7%	9%	8%
Total	100%	100%	100%	100%

Vanderhoof Survey Results - Person Years (PY) of Direct Harvesting Related Employment per 000 m3 of Timber Harvested	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	Vanderhoof 3 Year Average
Harvesting/ Falling	0.099	0.116	0.130	0.114
Planning & Administration	0.027	0.032	0.030	0.030
Log Hauling / Trucking	0.061	0.073	0.076	0.069
Barging / Towing	0.003	0.004	0.003	0.004
Road Building	0.017	0.020	0.022	0.020
Silviculture	0.028	0.027	0.035	0.030
Other	0.003	0.003	0.003	0.003
Total	0.239	0.275	0.299	0.269
Direct Employment by Employee Residence				
Fort St. James FD	0.003	0.004	0.004	0.003
Prince George FD	0.059	0.066	0.076	0.066
Vanderhoof FD	0.152	0.180	0.188	0.172

Other BC Interior	0.004	0.005	0.007	0.005
Lower Mainland and Other (mainly planting crews)	0.021	0.020	0.026	0.022
Total	0.239	0.275	0.299	0.269

Survey Coverage	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	Vanderhoof 3 Year Average
Total Harvest Reported by MOFR	5,120,581	4,208,735	3,167,250	4,165,522
Reported Volume	2,844,469	2,623,953	2,156,714	2,541,712
Survey Coverage	56%	62%	68%	61%

Direct Employment Impacts (PY) from PG Region Timber Harvest (Extrapolated to Total Industry)	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	Vanderhoof 3 Year Average	3 Year Average % of Total
Direct Harvesting Employment:					
Fort St. James FD	17	14	11	14	1%
Prince George FD	338	278	209	275	11%
Vanderhoof FD	879	722	544	715	28%
Other BC Interior	26	22	16	22	1%
Lower Mainland and Other (mainly planting crews)	114	94	71	93	4%
Total Harvesting and Silviculture	1,375	1,130	851	1,119	43%
Primary Processing Within PG Region:					
Wood Products Processing	1,339	1,100	828	1,089	42%
Primary Pulp and Paper	367	302	227	299	12%
Sub-Total - Primary Processing Within PG Region	1,706	1,402	1,055	1,388	54%
Primary Processing Outside PG Region	104	85	64	85	3%
Total BC Direct Impacts	3,185	2,618	1,970	2,591	100%
ASSUMPTIONS					
Total Timber Harvest (MOFR) (m3)	5,120,581	4,208,735	3,167,250	4,165,522	
Exports Based on Survey	0.0%	0.0%	0.0%	0.0%	
Volume Processed in BC (m3)	5,120,581	4,208,735	3,167,250	4,165,522	
BC Employment Coefficients (PY per 000 m3):					
Harvesting and Silviculture (3 Year Average from Survey)	0.269	0.269	0.269	0.269	43%
Primary Wood Products Processing in PG region	0.261	0.261	0.261	0.261	42%
Primary Pulp and Paper in PG Region	0.072	0.072	0.072	0.072	12%
Primary Processing Outside PG Region	0.020	0.020	0.020	0.020	3%
Total - Direct Primary Impacts	0.622	0.622	0.622	0.622	100%

Survey Results - Timber Harvesting Characteristics	Vanderhoof 2005	Vanderhoof 2006	Vanderhoof 2007	Vanderhoof 3 Year Average
% Pine Leading Stands	100.0%	100.0%	100.0%	100.0%
% Conventional Ground Logging	98.8%	98.4%	98.7%	98.6%
% Cable Logging	1.2%	1.6%	1.3%	1.4%
% Helicopter Logging	0.0%	0.0%	0.0%	0.0%
Sub-Total	100.0%	100.0%	100.0%	100.0%

APPENDIX 4 PRINCE GEORGE REGION SURVEY RESULTS

This appendix includes all 3 forest districts (Fort St. James, Prince George and Vanderhoof) as well as the three TFLs within those boundaries namely, TFL 30, 42 and 53.

Prince George Region Survey Results - Timber Exports and Destination of Timber Harvest from the PG Region	PG Region 2005	PG Region 2006	PG Region 2007	PG Region 3 Year Average
Total Reported Harvested Volumes (m3)	9,362,253	9,775,805	7,867,965	9,002,008
Percent of Total Volumes Harvested:				
Export Volume	0.0%	0.0%	0.0%	0.0%
Fort St. James FD	13.2%	12.8%	11.0%	12.4%
Prince George FD	56.8%	57.3%	60.3%	58.0%
Vanderhoof FD	28.1%	28.3%	27.5%	28.0%
Other - Mackenzie FD	0.1%	0.1%	0.1%	0.1%
Houston	0.1%	0.2%	0.1%	0.2%
Quesnel	0.8%	1.1%	0.8%	0.9%
100 Mile House	0.6%	0.0%	0.0%	0.2%
Headwaters FD (McBride/ Clearwater)	0.3%	0.2%	0.1%	0.2%
Kamloops FD	0.1%	0.0%	0.0%	0.0%
TOTAL VOLUME	100.0%	100.0%	100.0%	100.0%

Prince George Region Results - Harvesting Employment - Person Years (PY)	PG Region 2005	PG Region 2006	PG Region 2007
Harvesting/ Falling	966	1,034	866
Planning & Administration	345	370	310
Log Hauling / Trucking	558	585	485
Barging / Towing	9	11	7
Road Building	146	138	137
Silviculture	325	350	313
Other	8	7	7
Total	2,358	2,496	2,125

Prince George Region Results - Full Time & Part Time Harvesting Employment	Full Time Jobs		
	PG Region 2005	PG Region 2006	PG Region 2007
Harvesting/ Falling	856	892	769
Planning & Administration	301	304	265
Log Hauling / Trucking	499	495	416
Barging / Towing	0	0	0
Road Building	122	115	117
Silviculture	38	35	34
Other	6	6	6
Total	1,823	1,845	1,606

Prince George Region Results - Part Time Employment	Part Time Jobs		
	PG Region 2005	PG Region 2006	PG Region 2007
Harvesting/ Falling	191	240	166
Planning & Administration	80	107	81
Log Hauling / Trucking	90	146	93
Barging / Towing	10	12	8
Road Building	78	63	58
Silviculture	2,072	2,112	1,813
Other	30	20	35
Total	2,551	2,699	2,254

Prince George Region Results - % of Employees by Residence Location (Part-Time Employees are Counted as PY)	PG Region 2005	PG Region 2006	PG Region 2007	PG Region 3 Year Average
Fort St. James FD				
Fort St. James	13%	12%	11%	12%
Other - Fort St. James FD	2%	1%	2%	1%
Sub-Total Fort St. James	15%	13%	13%	14%
Prince George FD				
Prince George	47%	45%	45%	46%
Other - Prince George FD	4%	4%	5%	4%
Sub-Total Prince George FD	51%	49%	49%	50%
Vanderhoof FD				
Vanderhoof	17%	18%	19%	18%
Other Vanderhoof FD	<u>3%</u>	<u>4%</u>	<u>3%</u>	<u>3%</u>
Sub-Total Vanderhoof FD	20%	21%	22%	21%
Fraser Lake	0%	0%	0%	0%
Williams Lake	0%	0%	0%	0%
Quesnel	1%	1%	2%	1%
BC Interior - Unknown	1%	2%	1%	1%
Headwaters FD (McBride/Clearwater)	1%	1%	1%	1%
Other	0%	0%	0%	0%
Sub-Total - Other BC Interior	4%	4%	4%	4%
Lower Mainland	0%	0%	0%	0%
Other (please specify):	11%	11%	11%	11%
Total	100%	100%	100%	100%

Prince George Region Results - Person Years (PY) of Direct Harvesting Related Employment per 1,000 m3 of Timber Harvested	PG Region 2005	PG Region 2006	PG Region 2007	PG Region 3 Year Average
Harvesting/ Falling	0.103	0.106	0.110	0.106
Planning & Administration	0.037	0.038	0.039	0.038
Log Hauling / Trucking	0.060	0.060	0.062	0.060
Barging / Towing	0.001	0.001	0.001	0.001

Road Building	0.016	0.014	0.017	0.016
Silviculture	0.035	0.036	0.040	0.037
Other	0.001	0.001	0.001	0.001
Total	0.252	0.255	0.270	0.258
Direct Employment by Employee Residence				
Fort St. James FD	0.037	0.034	0.035	0.035
Prince George FD	0.128	0.126	0.134	0.129
Vanderhoof FD	0.050	0.055	0.058	0.054
Other BC Interior	0.009	0.011	0.011	0.011
Lower Mainland and Other (mainly planting crews)	0.028	0.030	0.032	0.030
Total	0.252	0.255	0.270	0.258

Survey Coverage	PG Region 2005	PG Region 2006	PG Region 2007	PG Region 3 Year Average
Total Harvest Reported by MOF	16,878,807	15,776,045	12,548,746	15,067,866
Reported Volume	9,362,253	9,775,805	7,867,965	9,002,008
Survey Coverage	55%	62%	63%	60%

Direct Employment Impacts (PY) from PG Region Timber Harvest (Extrapolated to Total Industry)	PG Region 2005	PG Region 2006	PG Region 2007	PG Region 3 Year Average	3 Year Average % of Total
Direct Harvesting Employment:					
Fort St. James FD	598	559	444	533	6%
Prince George FD	2,172	2,030	1,615	1,939	21%
Vanderhoof FD	915	855	680	817	9%
Other BC Interior	178	166	132	159	2%
Lower Mainland and Other (mainly planting crews)	499	467	371	446	5%
Total Harvesting and Silviculture	4,362	4,077	3,243	3,894	42%
Primary Processing Within PG Region:					
Wood Products Processing	4,412	4,124	3,280	3,939	43%
Primary Pulp and Paper	1,210	1,131	900	1,080	12%
Sub-Total - Primary Processing Within PG Region	5,622	5,255	4,180	5,019	54%
Primary Processing Outside PG Region	343	320	255	306	3%
Total BC Direct Impacts	10,327	9,652	7,678	9,219	100%
ASSUMPTIONS					
Total Timber Harvest (MOFR) (m3)	16,878,807	15,776,045	12,548,746	15,067,866	
Exports Based on Survey	0.0%	0.0%	0.0%	0.0%	
Volume Processed in BC (m3)	16,878,807	15,776,045	12,548,746	15,067,866	

BC Employment Coefficients (PY per 000 m3):					
Harvesting and Silviculture (3 Year Average from Survey)	0.258	0.258	0.258	0.258	42%
Primary Wood Products Processing in PG region	0.261	0.261	0.261	0.261	43%
Primary Pulp and Paper in PG Region	0.072	0.072	0.072	0.072	12%
Primary Processing Outside PG Region	0.020	0.020	0.020	0.020	3%
Total - Direct Primary Impacts	0.612	0.612	0.612	0.612	100%

Survey Results - Timber Harvesting Characteristics	PG Region 2005	PG Region 2006	PG Region 2007	PG Region 3 Year Average
% Pine Leading Stands	95.1%	94.0%	93.6%	94.3%
% Conventional Ground Logging	96.9%	96.7%	97.1%	96.8%
% Cable Logging	2.9%	2.8%	2.4%	2.8%
% Helicopter Logging	0.3%	0.5%	0.6%	0.4%
Sub-Total	100.0%	100.0%	100.0%	100.0%

APPENDIX 5 LIST OF MANUFACTURING OPERATIONS, 2007

List of Primary Manufacturing Operations in Prince George Region		Annual Capacity	
Fort St. James FD			units
Apollo Forest Products Ltd.	Lumber Operations	134	millions of board feet
Pope and Talbot Ltd.	Fort St. James Lumber Operations	276	millions of board feet
Stuart Lake Lumber Co. Ltd.	Lumber Operations	132	millions of board feet
Sub-Total		542	
Prince George FD			
BearPaw Mountain Homes Ltd.	Log Home Operations		
Roundwood Log Homes Ltd.	Log Home Operations		
Stella-Jones Inc.	Pole Operations	30	000's pieces
Pacific Bioenergy Corp	Pellet Operations	135	000's tonnes
Canadian Forest Products Ltd.	North Central Plywoods - Plywood Plant	180	million square feet, 3/8" basis
Canadian Forest Products Ltd.	North Central Plywoods - Veneer Plant	122	million square feet, 3/8" basis
Lumber			
Canadian Forest Products Ltd.	Clear Lake Division - Lumber Operations	119	millions of board feet
Canadian Forest Products Ltd.	Isle Pierre - Lumber Operations	188	millions of board feet
Canadian Forest Products Ltd.	Rustad Sawmill - Lumber Operations	257	millions of board feet
Canadian Forest Products Ltd.	Polar Division - Lumber Operations	132	millions of board feet
Canadian Forest Products Ltd.	Prince George Sawmill - Lumber Operations	226	millions of board feet
Carrier Lumber Ltd.	Lumber Operations	192	millions of board feet
Dunkley Lumber Ltd.	Lumber Operations	552	millions of board feet
Lakeland Mills Ltd.	Lumber Operations	144	millions of board feet
Northern Lumber Solutions Ltd	Lumber Operations	19	millions of board feet
PG Sort Yard	Lumber Operations	19	millions of board feet
Winton Global	Lumber Operations	264	millions of board feet
Woodland Forest Products Ltd	Lumber Operations	29	millions of board feet
Sub-Total Lumber		2,140	
Vanderhoof FD			
Premium Pellet Ltd.	Pellet Operations	130	000's tonnes
Lumber			
BC Custom Timber Products Ltd.	Lumber Operations	7	millions of board feet
Canadian Forest Products Ltd.	Plateau Division - Engen - Lumber Operations	276	millions of board feet
L & M Lumber Ltd.	Lumber Operations	240	millions of board feet
West Fraser Mills Ltd.	Fraser Lake Sawmill Division - Lumber	216	millions of board feet
Sub-Total Lumber - Vanderhoof FD		739	
Capacity - Lumber Operations for 3 FD		3,421	
Pulp and Paper Operations - Prince George			
Canadian Forest Products Ltd.	Prince George Pulp and Paper - Pulp Mill	145	000's tonnes
	Intercon Pulp Operations	294	000's tonnes
	Northwood Pulpmill	555	000's tonnes
	Sub-Total Pulp Capacity	993	
	Prince George Pulp and Paper - Paper Mill	126	000's tonnes

Source: BC MOFR, *Major Primary Timber Processing Facilities in BC 2006*, August 2008.

APPENDIX 6 LIST OF KEY REFERENCES

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