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COMMERICAL FORESTRY AT A CROSS-ROADS:
EMERGING TRENDS IN THE FOREST SECTOR OF NEWFOUNDLAND AND LABRADOR

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Applied Research Fund 2010-11

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Commercial Forestry at a Cross-Roads: Emerging Trends in the Forest Sector of Newfoundland and Labrador

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April 2011

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Executive Summary

The forest sector has been facing unprecedented challenges during the past decade, and is still in long-term decline globally. Reduced demand for paper and wood products, environmental concerns, high energy costs, unstable input supply, and in the case of Canadian firms, an appreciating exchange rate have led to reduction in both output and production capacity for most major manufacturers.

In Newfoundland and Labrador, the forest sector has traditionally been a cornerstone in the province's natural resource-based economy. The core elements have been the paper mills and sawmills, supported by a network of harvesters scattered around the Province. Both primary and secondary processing of forest products have been dramatically affected by reductions in capacity resulting from of the closure since 2005 of two of the province's large newsprint mills, and subsequent capacity reductions since 2007 in the one remaining mill operated by Corner Brook Pulp and Paper Limited. Over the past decade, all forest industries in the Province show substantial decline in output, employment, the number of establishments, and exports. At the same time, the level of expenditure on forestry and the subsidization of commercial forestry have continued to increase.

Part of the increased public expenditure has been devoted to a more recent initiative to diversify the forest sector and find new export markets. The Government's diversification effort has been criticized by various NGOs in the Province for not living up to a commitment to replace its traditionally timber-centric view of forest management with ecosystem-based guidelines. It has been argued such guidelines reflect the increasingly more widely accepted view that the integrity of the ecosystem is a necessary, if not sufficient condition for a sustainable and efficient forest industry. Indications are strong that the Government has been slow to embrace in practice the adoption of such guidelines, and also to recognize that non-timber uses and industries based around recreation, tourism, carbon sequestration, habitat preservation for endangered species to name a few, represent an economic and social potential that is largely unexploited. Despite the adoption of comprehensive forest policy objectives, there is little evidence of

implementation especially where conflicts with established timber interests are concerned. A step in the right direction is the allocation of funding for a five-year scientific and management strategy to address the declining population of woodland caribou (Rangifer tarandus caribou).

Previous studies have noted that the Province lacks a framework for resolving land use conflicts. The present study echoes the call to establish such a framework. The need for it is evident. Major land-use issues have arisen recently leaving the Government facing criticism from the business community as well as from NGOs. The Governments ongoing dispute with Abitibi-Bowater and the manner in which the Province set about expropriating assets is harder to reconcile with the public interest, than with the perception that the Province might not be friendly to business. On another front, the Province's lifeline to Corner Brook Pulp and Paper Limited, owned by Montreal-based Kruger Inc, has attracted criticism from NGOs that see it more as a pipeline, draining taxpayers' money from alternate forestland uses.

This report reviews the evidence of decline in the forest sector of Newfoundland and Labrador. It discusses the causes of the decline and the policy dilemmas it gives rise to in terms of reconciling short-term goals for the industry with long-term goals for the forest sector as a whole. Our main concern is that these goals may not be optimally aligned. We present this case, on this basis of which a set of recommendations are made.

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Introduction

Purpose

The purpose of this report is to assess the forest policy response to the largely external economic conditions that have conspired to set commercial forestry on a path of long-term decline. We begin by documenting the economic performance of the various industries that make up the forest sector in Newfoundland and Labrador. The bleak picture emerging from the statistics is not particular to this Province – it is a phenomenon affecting commercial forestry in countries and regions worldwide, albeit to different degrees. It is a picture suggesting that more wrenching restructuring of the forest industry, as a whole is likely to come – with or without government involvement. The economic trends for the Province are then juxtaposed with 'the policy response' as manifest in forest policy pronouncements and public expenditure on forest sector activities of all kinds. From the revealed policy stance of Government, short term (jobs saving) objectives and long-term (diversification) objectives can be discerned. The objective of the present study is to conduct a preliminary assessment of whether the measures and the direction of forest policy in recent years is likely to hinder or promote what we argue should be an overriding strategic objective: setting the entire forest sector on a new footing by facilitating market-driven industrial restructuring, integration, and downsizing as needed, while at the same time implementing eco-system based forest management principles that allow both timber and non-timber uses to flourish, if not always on the same land. The adoption of such an objective would require significant flexibility by all stakeholder groups, but it would recognize the vital interests of the main stakeholders and thereby serve as fertile ground for the advancement of the public interest in the forest sector of Newfoundland and Labrador.

Background Information

The decline of the Forest Sector has been well documented both internationally and nationally. The Forest Industry Association of Canada (FPAC), which billed itself an $80 billion dollar industry in 2009, has recently lowered this figure to $54 billion.[1] Alongside this drop, the FPAC has noted that in recent years Canada has seen 250 mills close and 50,000 jobs lost. More than 40,000 of these jobs have been in the last five years alone.[2] As the demand for forestry products wanes in an increasingly paperless world, commercial forestry in Newfoundland and Labrador faces numerous challenges, including (but not limited to): low commodity prices, high energy costs, volatility of both wood and labour

[1] 'For Gutted Forestry Sector, Green is the Colour of Hope.' The Globe and Mail, May 19th, 2010.

[2] 'Pulp and Paper Woes Reach Far and Wide,' CBC.ca News, September 1st, 2009.

supply, increased competition from low-cost foreign producers and increased pressure from environmental and sustainability lobbies for alternative land use policies. The United States, Canada's largest export market for forest products, now imports increasingly from countries like China, Russia and South America, where costs are lower and mills more modern.

Newfoundland and Labrador experienced these effects first-hand as pulp and paper giant Abitibi-Bowater shut down its two remaining mills in the province during the past 5 years, and Corner Brook Pulp and Paper Limited (CBPP), operated by Kruger, decreased capacity in 2007 by shuttering its oldest and most inefficient machine.

Despite these international trends and their domestic impacts, the Provincial Government has continued to support the forest industry by buying back timber and water resources, assuming severance responsibilities (including pension commitments) for displaced workers, and taking over forest- and land management responsibilities in certain locations. The Government has also continued previous practice of subsidizing forest road construction, insect control and fire suppression. The most recent subsidy initiative is a two-year, $30.6 million lifeline to Kruger Inc to keep a single plant operated by Corner Brook Pulp and Paper Limited afloat. The arrangement enables the Crown to purchase (reclaim) timber rights no longer required as the company scales down production[3].

Scope and Method

The data used derive from Statistics Canada, the Department of Natural Resources, Government of Newfoundland and Labrador, Natural Resources Canada, Industry Canada, Provincial Government budget publications and press releases, media reports, corporate annual reports, and reports by nongovernmental organizations. All data are sourced, and estimates produced by the authors are so indicated.

The present analysis is mostly descriptive as our main aim is to uncover key trends that have developed over the past decade. Some corporate data needed for a more detailed analysis were unavailable for proprietary reasons. As for data published by Statistics Canada, some data for this Province are suppressed for confidentiality reasons as per the *Statistics Act.* Proxy measures for certain industries, such as paper product manufacturing, therefore had to be constructed in order deduce economic impact. In other instances, such as in the case of non-timber industries and forest amenity values, data simply do not exist for this Province. To some extent, then, the scope as well as the depth of the analysis of this study is constrained by limits on available data. The lack of data is potentially serious as it can easily weaken the basis for policy.

Part of our purpose to identify areas where improved data collection and the development of an analytical framework should be given priority in light of the trends charted in this

[3] 'N.L. newsprint mill saved by help: Kruger,' CBC.ca news, March 30th, 2010

report. Data collection and analysis are central to the evidence-based policy-making process that we advocate in response to the challenges faced by the forest sector.

Definitions and Conventions

This report uses terms, concepts and definitions that are commonly employed in the literature. The **forest sector** refers to the three commercial industry aggregations: **primary forestry**, **wood product manufacturing** and **paper product manufacturing**. The term 'commercial forestry' is employed in this report to distinguish between the timber harvesting for commercial purposes, and non-timber 'industries' that use forest land for non-extractive, or non-timber uses. **Primary forestry** refers to any activity related to logging, harvesting or maintenance of forestland. In Newfoundland and Labrador, **wood product manufacturing** refers to both sawmilling as well as value-added secondary manufacturing, such as the production of doors, cabinets or guitars, and **paper product manufacturing** refers to mill operations that produce various paper products such as newsprint and paperboard. A detailed description of how the more detailed industries to which this report refers are related to the main categories just listed can be found in documentation of the North American Industrial Classification System (NAICS) available from Statistics Canada.

'MMFBM' refers to 'Million Foot Board Measure' - a standard measure of lumber volume.

The use of '$' refers to current Canadian dollars, unless otherwise indicated.

Acknowledgements

The authors are indebted to many individuals in government, non-governmental organizations, and academia for their assistance in the preparation of this study. Many thanks for providing data and other information are extended to Alton Hollet, Robert Read, Ken Hicks, Wade Tymchak, Gary Forward, Perry Benoit, Hazen Scarth, Eric Young, Laurie Penney, Alf Power, John Del Rizzo, Jeff Wood, Charles Conway, Robert Diamond, Ian Goudie, Nikita Lyssenko, and Vic Adamowicz. Special thanks are due Erin Kelly for helpful comments on an earlier draft. Funding for this research was provided by the *Harris Centre of Regional Policy and Development* at Memorial University of Newfoundland. This support is gratefully acknowledged. The authors bear sole responsibility for the views expressed in this report, and for any errors or omissions remaining.

Previous Studies

Earlier studies covering economic aspects of the forest sector in Newfoundland and Labrador are numerous. A review of this literature in its totality would be useful, but such an effort is beyond the scope of the present paper. The following is a brief summary of recent studies referenced specifically for the present purpose.

Newfoundland's Forest's and Forest Industry: Statistical Information 1985 edition, (Hayden) is published by the Newfoundland Forestry Centre. The report is largely statistical, as it was prepared to 'meet the demand' for forestry data for the province. It contains data concerning the geographical details of the forest resource, inventory, forest management, commodity production and trade, principal industry groups, federal-provincial forestry agreements, and select indicators for the sector.

The Sawmill and Planing Mill Industry of Newfoundland (Trelawny, 1994) is an analysis of the sawmill- and planing industry, published by Natural Resources Canada. The study uses the Structure, Conduct, Performance paradigm of industrial economics to identify challenges and solutions problems facing the industry.
A *Provincial Sustainable Forest Management Strategy* was released in 2003 by the Department of Forest Resources and Agrifoods, Government of Newfoundland and Labrador. The report proposes a framework for forest management that meets both ecological and economic needs.

In 2004, Corner Brook Pulp and Paper Limited released its *Sustainable Forest Management Plan*. Its objective is to demonstrate that the Defined Forest Area (DFA) of CBPP is managed sustainably. The report is data-intensive, detailing the geographic and biological characteristics of the forest resources managed by CBPP. The report outlines CBPP's efforts to manage the forest ecosystem sustainably.

A document entitled *Forest Management Guidelines for Woodland Caribou for the Island of Newfoundland and Labrador* was produced by the Department of Environment and Conservation in January 2007. The report sets out buffer zones, calving areas and migration corridors for woodland caribou on the Island. As such, the report makes an important contribution to forestland management in that conflict exists on much productive land between woodland caribou preservation and commercial timber harvesting.

An excellent reference to the history of the forest products industry in Newfoundland and Labrador is contained in the collaborative volume *Coasts Under Stress – Restructuring and Social-Ecological Health* (Ommer with the Coasts Under Stress Research Project Team, 2007), Memorial University of Newfoundland. Of particular relevance here is the discussion in Chapter 4 entitled *Social-Ecological Health and the History of the Forest Products Industry on Both Coasts,* which documents the history of relations between the Provincial Government and Kruger, and the past harvesting practices on the land held by Kruger.

In August 2008, the Atlantic Provinces Economic Council (APEC) released *Building Competitiveness in Atlantic Canada's Forest Industries: a Strategy for Prosperity*. This report deals with issues closely akin to those addressed in the present paper. The APEC report seeks to answer questions concerning the role of government in supporting the forest sector in Atlantic Canada, industrial adjustment, and the balancing of multiple uses in forestry. The report discusses the importance of the forest industry to the region,

describes the challenges it faces from international competition, and explores new directions for the sector.

The Provincial Government released its *Forest Sector Strategy* in November 2008. It comprises a collection of documents describing the economic contribution of the forest sector, and important and scarce technical details of the paper and sawmill operations in the Province. Also described is the forestland base on the island, the tenure arrangements, and conflicts over land use. The report proposes a framework for adjusting the size and structure of the industry in response to pressures stemming from global markets. In short, it discusses ways to improve the efficiency of the commercial dimension of the forest sector. The analysis is thorough, constructive, and timely. As with several of the above reports, we find ourselves in broad agreement with many of the conclusions in the *Strategy* document(s).

Forestry and the Economy

Global Market Conditions

The stress endured by the Canadian forest sector in recent years is primarily attributable to conditions in the world economy. Much as a result of the digital media revolution, producers face lower demand for paper products. Reduced paper demand puts downward pressure on prices, which tends to reduce production in what appears to be an increasingly paperless world. For example, demand for glossy paper, a staple product of many newsprint mills in Canada, has declined by 30 percent over the past two years.[4] Other factors contributing to the distress include low productivity growth in manufacturing (secondary processing of forest products), unfavourable exchange rate movements, fewer housing starts and reduced construction activity since the onset of the recession in 2008 despite rising real estate prices, consumer-driven pressure for sustainable and environmentally sound (but more costly) business practices by forest industries world-wide. Higher energy- and other input costs have also contributed to narrower profit margins, especially for energy intensive paper mills. In addition, the lingering softwood lumber dispute with the United States, Canada's largest trading partner, has lead to a loss of some market share to Europe and China. The cumulative effect of these trends has affected the global market demand for forest products adversely, causing related commodity prices to fall. Newfoundland and Labrador has not been isolated from these trends although Atlantic Canada has arguably fared better in this regard than Western Canada.

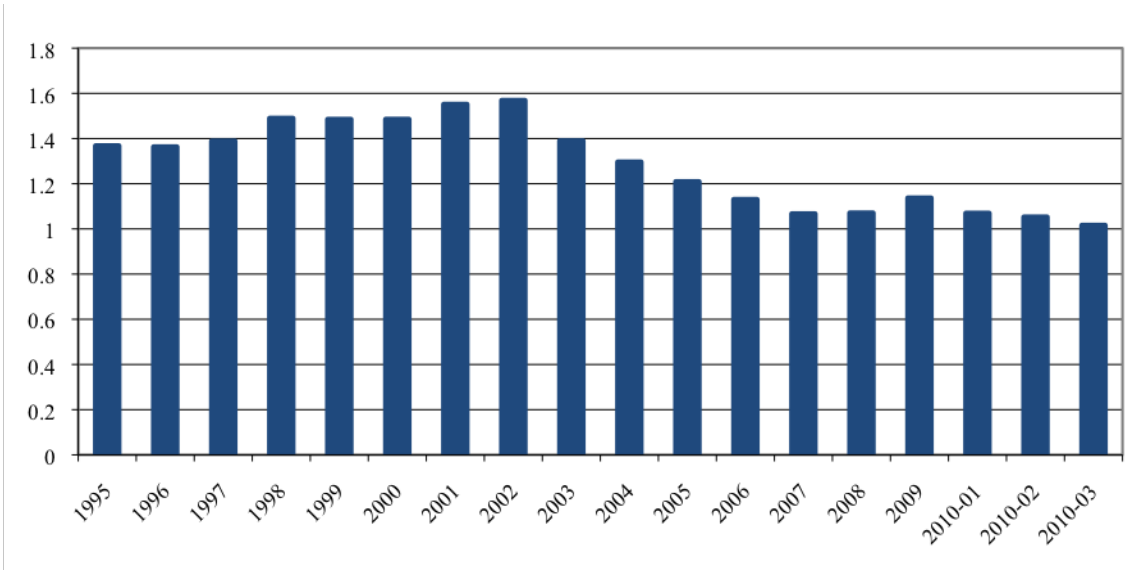
[4] 'Kruger Reduces Production at Two Quebec Mills,' The Telegram, May 20th, 2010

Prices

The perhaps most serious challenge facing the forest industry, is the stagnation or decline of forest commodity prices such as lumber, pulp and newsprint. The decline in global demand has been exacerbated in Canada more recently by the appreciation of the dollar against the currencies of our main trading partners, weakening the purchasing power of foreign consumers. As a result, the performance of the forest sector, which is largely export-oriented, has also weakened.

The strengthening of the Canadian dollar to parity with the US dollar in recent years [Figure 1], has taken a predictable toll on Canadian exports of forest products, whose prices are largely determined in world markets and quoted in US dollars.

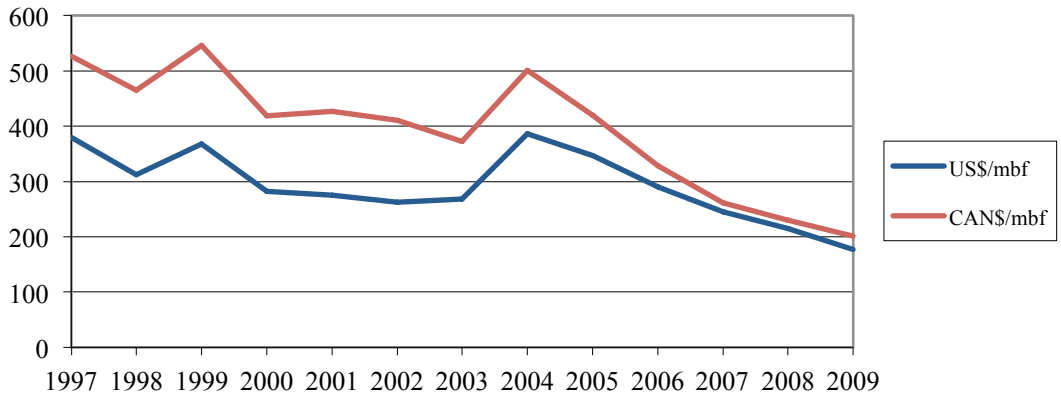
Figure 1: Exchange Rate, $CAN/$US, 1995-2010



Source: Statistics Canada

Lumber prices have fallen consistently since the late 1990's [Figure 2]. In Canadian dollar terms, the value of lumber has decreased by almost two-thirds since 1997.

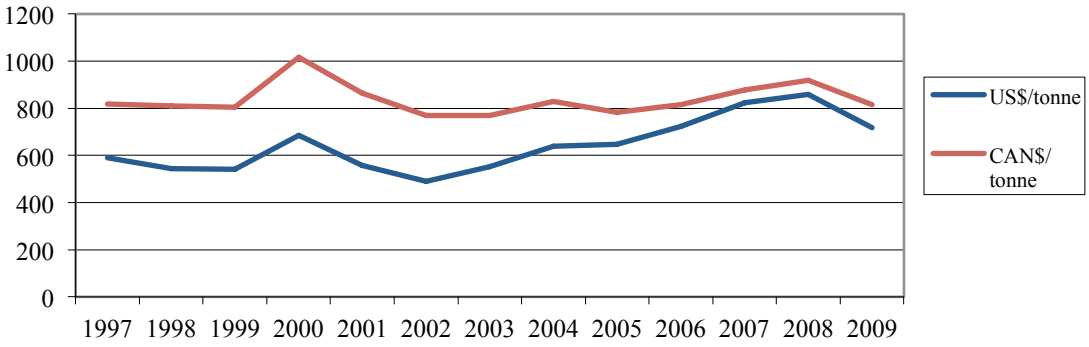
Figure 2: Commodity Prices, Lumber



Source: BMO Commodity Markets

A downward trend is also evident in pulp prices [Figure 3]. For pulp producers, it is not the decrease in (nominal) prices that has proven most troublesome, but rather the impact of near parity with the US dollar in recent years. In US dollar terms, the price of pulp has seen no net change since 1997, while the price in Canadian dollars has declined.

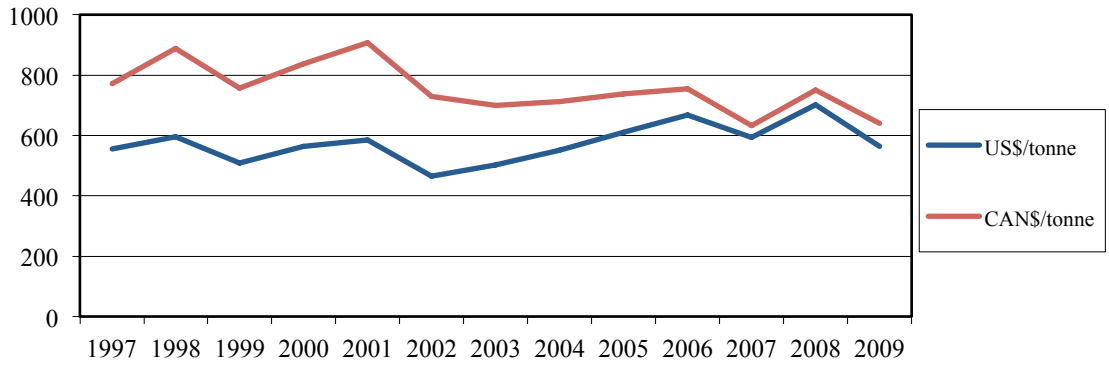
Figure 3: Commodity Prices, Pulp



Source: BMO Commodity Markets

Newsprint prices have suffered a similar fate [Figure 4]. While the world price as quoted in US dollars has gained slightly from 1997 to 2009, the newsprint price in Canadian dollars has declined significantly (about 17%).

Figure 4: Commodity Prices, Newsprint



Source: BMO Commodity Markets

Shipments

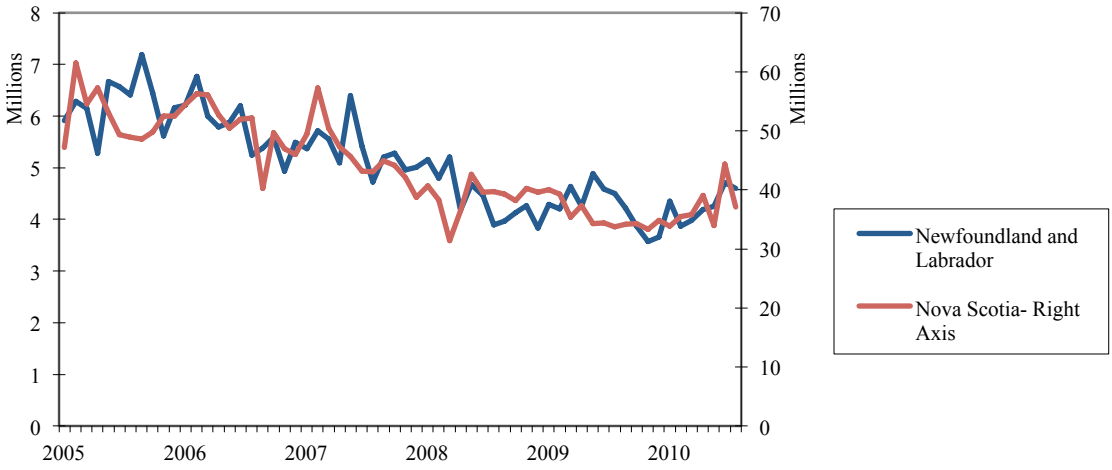
The response of domestic producers to lower product prices is not surprising. Canadian manufacturing shipments of wood and paper have both declined in recent time. This decline amounts to about $274 million (15 percent) for wood products, and $268 million (11 percent) for paper products. The correlation of the trends in shipments of the two commodities reflect that wood is the primary input into paper manufacturing [Figure 5].

Figure 5: Manufacturing Shipments, Canada

Source: Statistics Canada

The greater variability in the shipments of wood products from the Atlantic Provinces is due to the scale of measurement. The more important aspect of these data is the downward trend: Nova Scotia has seen deterioration in wood product shipments of 21 percent since 2005, on par with that of Newfoundland and Labrador [Figure 6]. The full economic impact of this decline is considerably larger as employment losses and indirect effects on the local economy must be taken into account.

Figure 6: Wood Product Shipments, Atlantic Provinces



Source: Statistics Canada

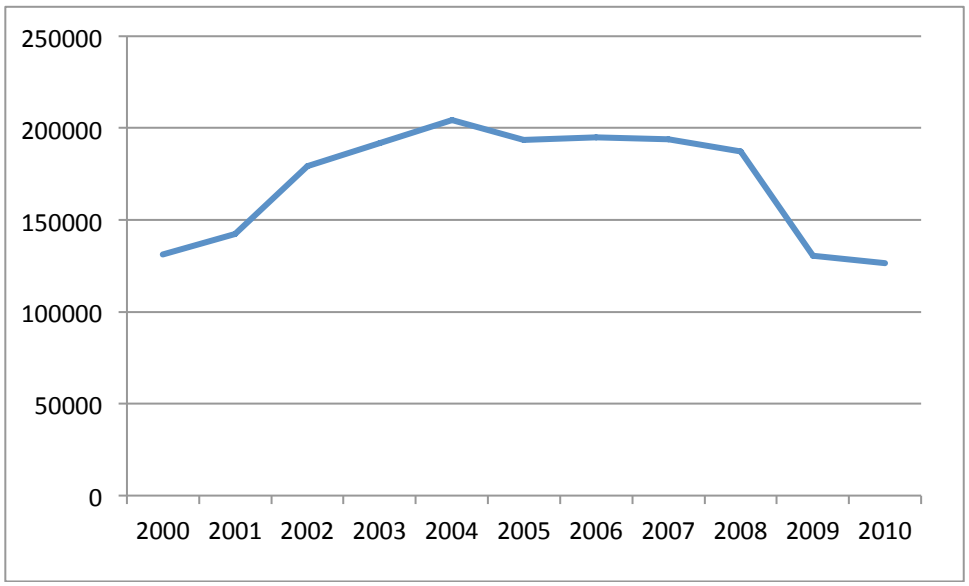
Declining shipments have lead to a downsizing of capacity in the wood products industry. As recently as May 2010, Kruger Inc cut production in two Quebec mills, leading to layoffs of 440 employees. CBPP (owned by Kruger Inc) also cut capacity by closing its oldest and least efficient paper machine in November 2007, leading to layoffs of approximately 100 people in this Province. Both companies cite some of the same reasons for these decisions that we have listed above.[5]

Housing Starts

Despite intermittent periods of rising real estate prices, the Canadian housing market has declined consistently since 2005 [Figure 7].

[5] 'Kruger Reduces Production at Two Quebec Mills,' The Telegram, May 20th, 2010

Figure 7: Housing Starts, Canada

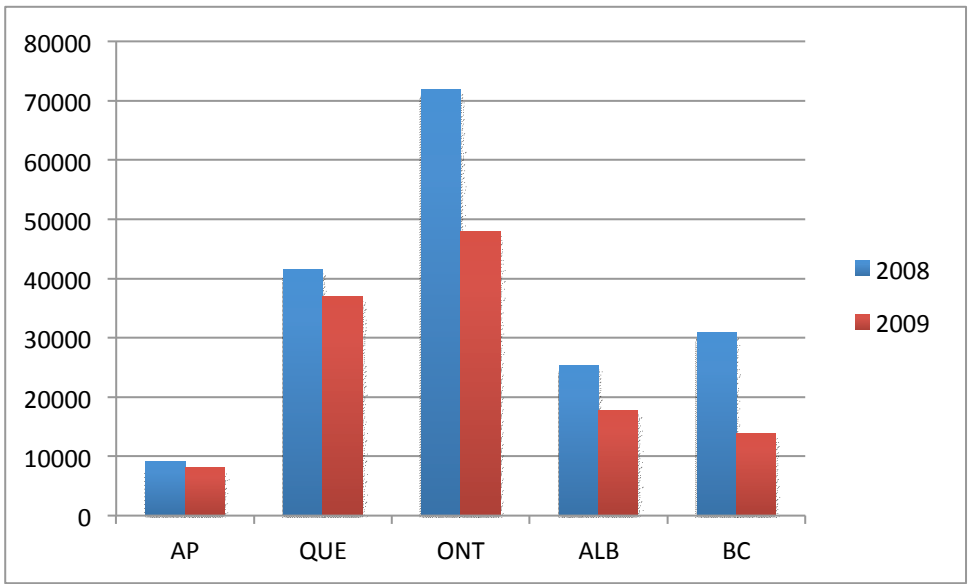


Source: Statistics Canada

The failure to build capacity in the housing market is an anomaly in that builders have faced higher real estate prices in many larger centres at a time when lumber prices have been declining. However, it is probable that the lower demand for new construction in recent years is at least partly due to rising real estate prices. It is also likely that an increasing substitution of synthetic (polycarbonate) building materials for wood has contributed to a reduced the demand for construction lumber. It is fair to conclude that both supply and demand factors have contributed to the falling number of housing starts and therefore to the challenges faced by the forestry sector.

Similar trends can also be seen at the provincial and regional levels in Canada. Almost every province and region has seen a decline in new construction [Figure 8]. Most have been of a considerable magnitude. Housing starts in Ontario, Alberta and British Columbia have declined (about) 33 percent, 30 percent and 55 percent respectively between 2008 and 2009. Though this decline largely reflects the effects of the onset of the 2008 financial crisis, it has clearly been exacerbated by the factors discussed above.

Figure 8: Housing Starts, Provinces



Source: Statistics Canada

The Atlantic Provinces (AP) had just over 8,000 housing starts in 2009. If distributed across the region's provinces in proportion to population, Newfoundland and Labrador lags behind both Nova Scotia and New Brunswick in term of housing starts. However, Newfoundland and Labrador experienced the smallest proportional decrease since 2008 (9.4 percent). Nova Scotia and New Brunswick experienced larger decreases of 16 and 17 percent, respectively. The exception to the national trend is Prince Edward Island, which recorded an increase in housing starts of 40 percent over the period.

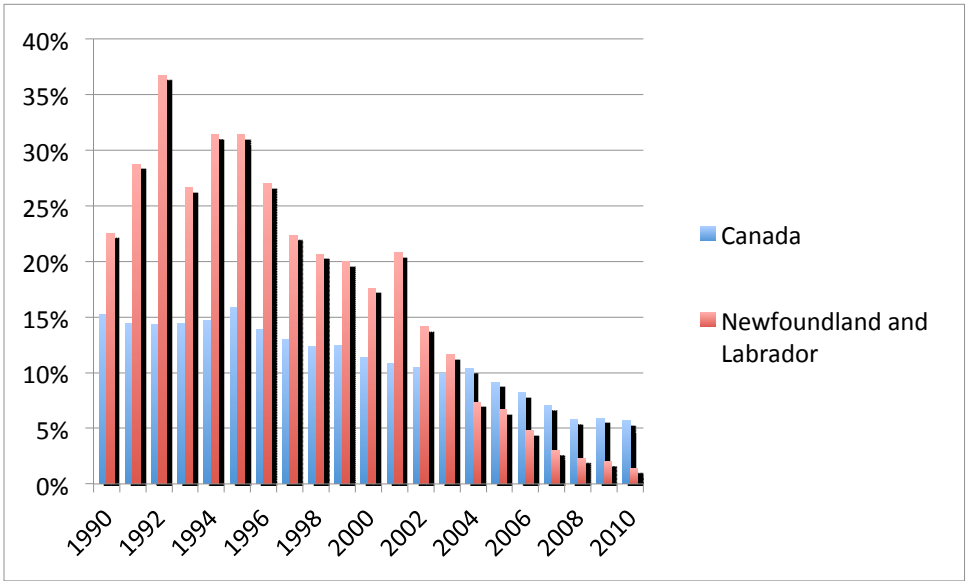
Trade in Forest Products

The main lesson from the previous section is that the sources of the persistent challenges for the Province's forest sector are primarily attributable to the vagaries of world markets. It is in our export markets that the decreased activity of forestry production and employment is perhaps most visible.

Forest exports as a share of total exports have declined consistently over the past decade for both Canada and Newfoundland and Labrador [Figure 9]. The national trend shows a somewhat less dramatic decline, with forestry products comprising 15.9 percent of Canada's exports at its peak in 1995 and falling subsequently to an estimated 5.7 percent in 2010.

A starker decline is in evidence for Newfoundland and Labrador. Forestry products accounted for 36.7 percent of the province's exports in 1992. The estimate for 2010 is a mere 1.4 percent. These data suggest that the comparative advantage enjoyed by the forest sector in the past has been eroded.

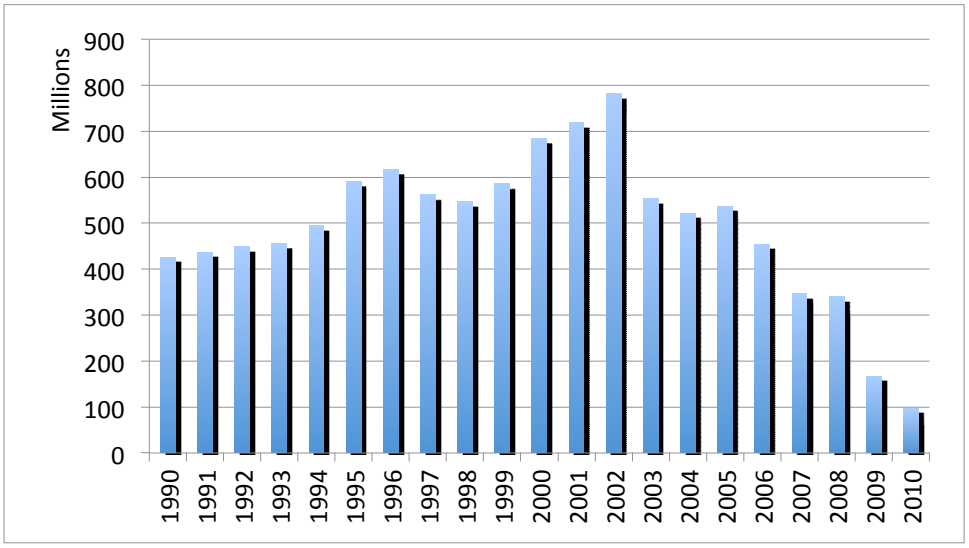
Figure 9: Forest Exports as a Share of Total Exports



Source: Statistics Canada

Given the decline in exports, it is not surprising that the provincial trade balance for the forest sector as a whole has also deteriorated. Having peaked in 2002, the trade surplus has since declined by $684 million or 87 percent [Figure 10]. The change from 2009 to 2010 alone amounted to $70.2 million, a decrease of 42 percent. As is evident from the industry-specific statistics (below), the trade balances of the various forest industries have declined together. This is indicative of the interdependence of the activities of these industries, and the commonality of factors affecting the sector as a whole. Changes affecting one industry tend to reverberate across the sector because of the inter-industry linkages that are characteristic of the structure of industry in the forest sector. For example, the output from primary forestry is used as input for wood product manufacturers, and residue from sawmilling and value-added wood products (wood chips, etc) are a key inputs for the paper products industry in the Province.

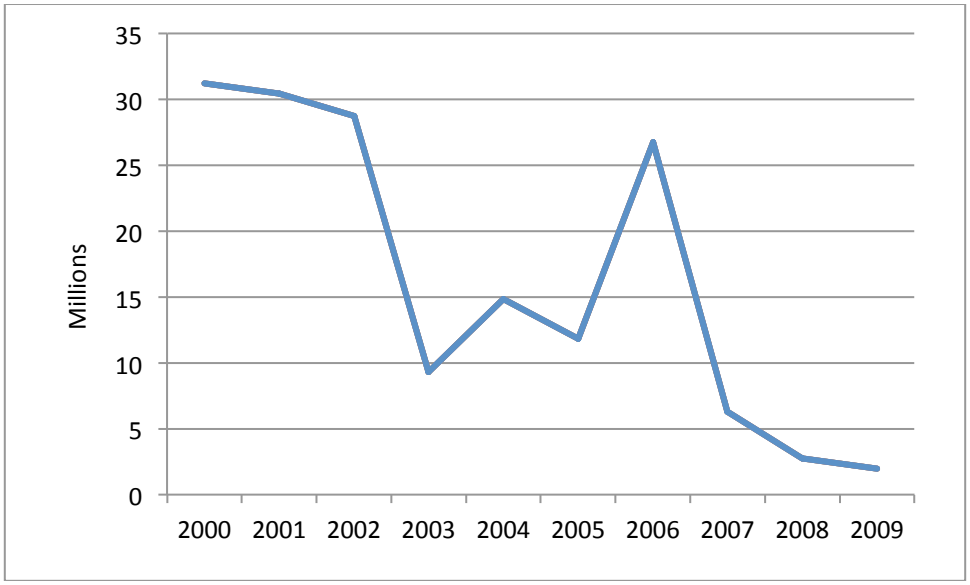
Figure 10: Trade Balance, Forestry Products



Source: Statistics Canada

Behind these aggregate statistics lie the trends in the three major industries that make up the Province's forest sector. Wood product industries, and paper product industries have both seen sharp falls in export activity over the past decade. Even primary forestry - traditionally a negligible export industry - has declined. Despite the recovery in wood product manufacturing exports in 2004 and 2006, the general trend has been declining [Figure 11], falling $29.1 million (or 95 percent) over the sample period.

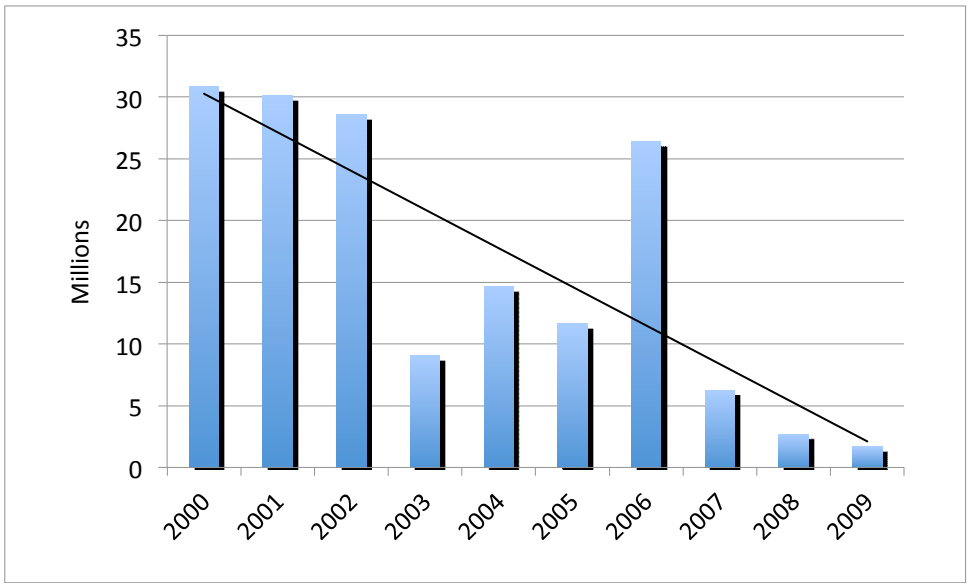
Figure 11: Forest Product Exports, Wood Product Manufacturing



Source: Statistics Canada

The export performance of wood product manufacturing is clearly driving that industry's trade balance [Figure 12]. The previous decade has seen a decline of approximately $29 million in net exports, or 95 percent of its value in 2000.

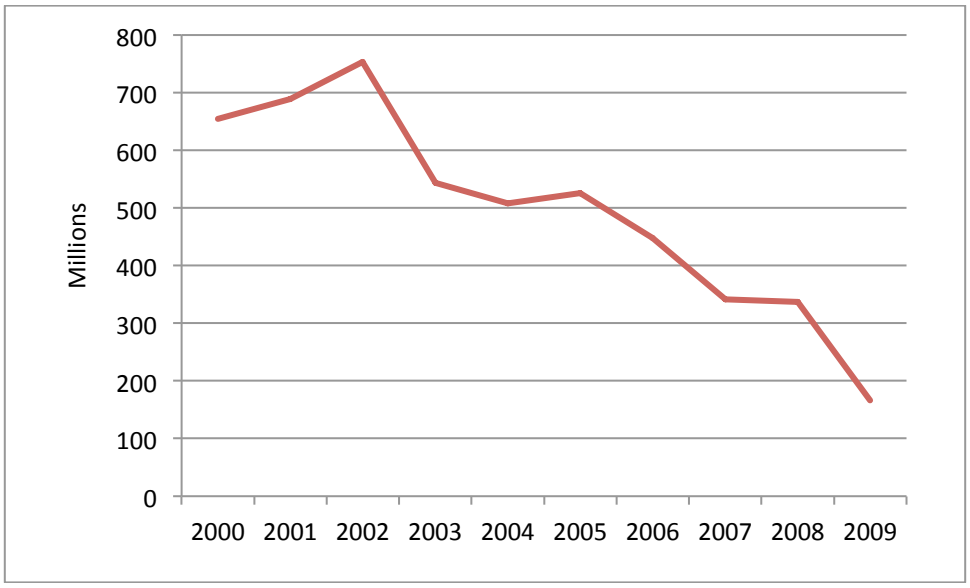
Figure 12: Trade Balance, Wood Product Manufacturing



Source: Statistics Canada

Paper products manufacturing has traditionally been a major exporting industry in the Province. Although shrinking, its dominant role in the forest sector remains unrivaled. It is not surprising therefore that the survival of this industry continues to be a focal point for public policy. Exports of paper products peaked in 2002 at $753 million dollars and have subsequently declined by $488 million (75 percent) to $166.3 million as of 2009 [Figure 13]. Unlike wood products, paper product exports have not seen any substantial periodic rebound, but have been in steady and sharp decline since 2002.

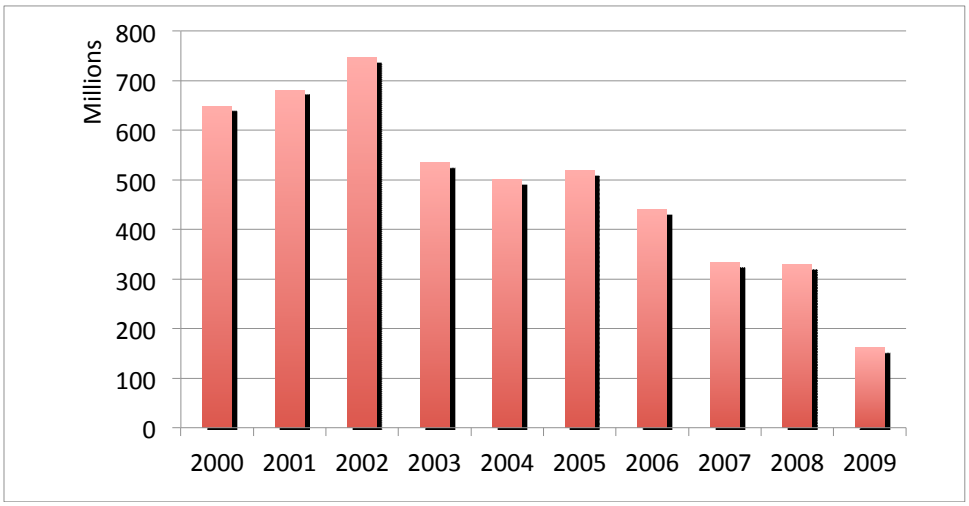
Figure 13: Forestry Product Exports, Paper Products



Source: Statistics Canada

The trade balance for paper manufacturing records the largest decrease in the forest sector during the past decade, falling by $487 million dollars, or 75 percent [Figure 14]. Having peaked in 2002, the trade balance has been in steady decline with few signs of recovery.

Figure 14: Trade Balance, Paper Manufacturing

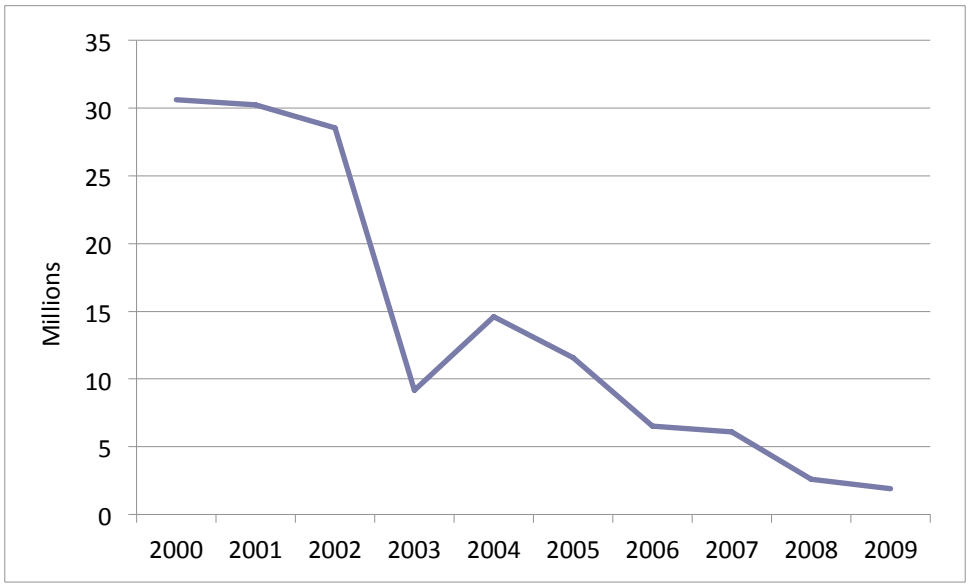


Source: Statistics Canada

Sawmilling and paper milling are the most prevalent forest operations in the Province. These operations provide employment in a large number of remote locations where little else exists in the form of recorded economic activity. From a regional policy perspective, it is thus of concern that all mills have suffered a similar fate over the past decade as evidenced by the parallel decline in the exports for both types of mill. Exports by sawmills

and wood preservation firms have plummeted since the year 2000, decreasing by approximately $29 million (or 94 percent), leaving exports at only $1.9 million in 2009 [Figure 15].

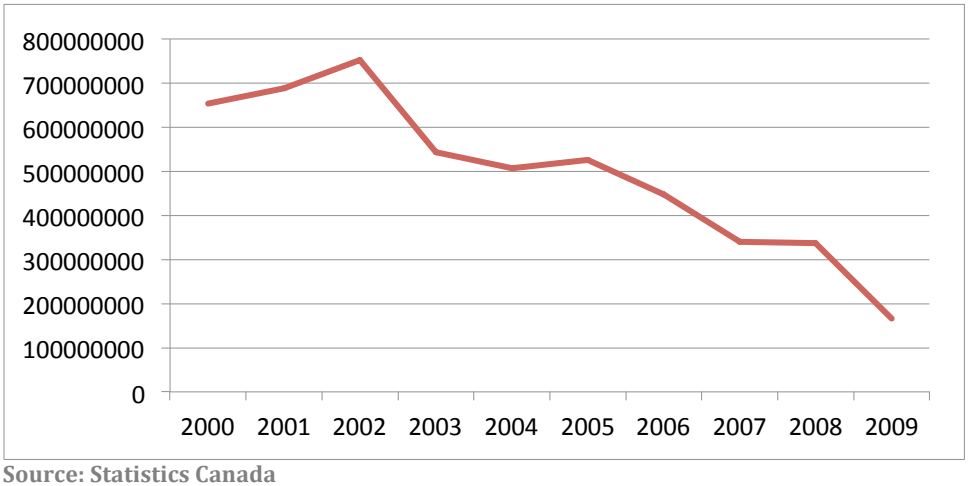
Figure 15: Exports, Sawmills and Wood Preservation



Source: Statistics Canada

As important as sawmilling is for many small communities, the main export commodity of the province's forest sector is paper products. Within paper product manufacturing, the most important industrial category is pulp, paper and paperboard milling. Once again, the trend shows steep and consistent decline in the output exported by these operations [Figure 16]. Over the past decade, exports by these mills have fallen by approximate $488 million dollars or 75 percent of their value in 2000. Exports stood at $166.2 million in 2009, having fallen 51 percent since 2008 alone.

Figure 16: Exports, Pulp and Paperboard Mills



Source: Statistics Canada

The third major forest industry group – primary forestry – has negligible direct exposure to international markets. Yet, this has not spared the industry from effects of the global downturn in commercial forestry activity. At its peak in 2002, primary forestry exports (logs) amounted to only $48,402 [Figure A1]. Exports of primary forest products from this Province have historically been low and sporadic, and the trade balance has not always been in surplus. Net exports totaled a mere $38,679 during 2000-2009 [Figure A2]. These low values reflect the fact that primary forestry is small compared with wood- and paper manufacturing. The small-scale operations in this industry are largely dependent on the activity levels in the secondary processing industries for which they produce provide inputs. The data suggest that firms in primary forestry supply local processors, rather than ship raw logs for processing outside the Province. This is encouraging as it keeps value-added creation and jobs in the Province that would otherwise go elsewhere. With regard to the export of raw materials, it should be noted that pulp exports, much like logs, have been a marginal export [Figure A3]. Apart from the outlier in 2004 of $3.6 million, pulp exports have been intermittent and very small indeed. This indicates that pulp produced in the Province is indeed used for paper production locally, rather than exported.

This section has shown that the contribution of the forest industry to the balance of trade is in long-term decline. Exports and trade balances show persistent downward trends. In some cases, the trends show increasing rates of decline over the past decade. Given the export-orientation of the industry, this is indicative of the predicament in which the entire forest sector finds itself. There can be little doubt that the challenges facing the forest industry in this Province and nationally has weakened the industry by adversely affecting its ability to compete in shrinking markets. If these trends continue (and demand remains weak), the competitive position of the industry will be undermined further as the sands of comparative advantage continue to shift against the forest sector in Newfoundland and Labrador.

Provincial Forest Industry Profile

The Context

While the preponderance of indicators examined in this study suggests a continuing weakening of commercial forestry, this decline has likely been more gradual than it would have been in the absence of subsidization in all its forms. Nevertheless, the mill closures by major producers during the past several years point to the limitations and escalating costs of using subsidies to protect jobs that are under threat from the structural adjustments that in the longer term will likely see fewer workers in timber-related industries, and more workers in non-timber endeavors.

Although much of the decline can be attributed to difficulties faced worldwide, it is clear that characteristics specific to the forest sector in the Province have over time contributed to bringing commercial forestry to a crossroads – a decision point where a strategic vision

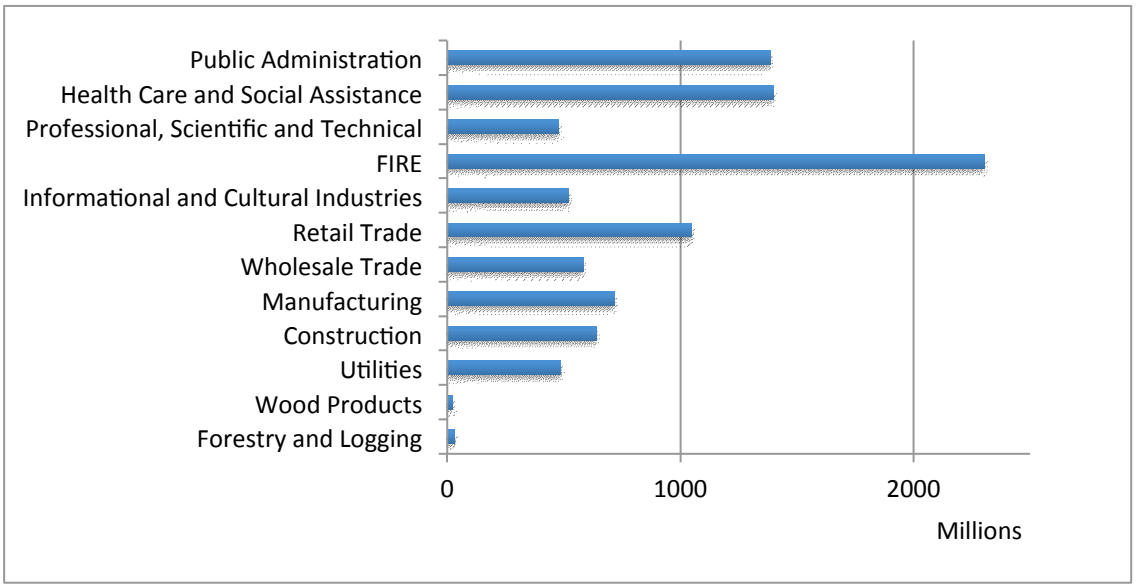
of the sector's future needs to be crafted and embraced by the principal stakeholders. Such a vision cannot and should not eschew market forces. Rather, it should aim to harness those forces so that the efficiency and equity outcomes of inevitable structural reform are in line with overall policy objectives.

In observing the current state of the forest industry in the Province, it appears that a lack of coordination between industries within the sector, coupled with on-going government subsidization in various forms may have retarded consolidation and adjustment of operations to a smaller but more efficient scale. The objective of 'restructuring' should be better utilization of the interdependence of the various forest industries, and a more narrow focus on what the producers in the Province do best. At the same time, attention must be paid to how best to utilize the publicly owned forest resource – the trees in the ground and the associated ecosystem of which we are all an integral part. The forest ecosystem and the services it provides are particularly rich in potential. This potential must be harnessed in the common interest, but in a way that is sustainable from both an ecological and a socioeconomic standpoint. At a time when commercial forestry appears to be in long-term decline it is critical that the restructuring of commercial forestry not amount to a desperate attempt to cling to old ways. Restructuring involves a search for improved efficiency in production as well as in forest resource utilization. This will likely involve technical change, and some form of consolidation. But there are other sources of efficiency gains that could come from a re-orientation of commercial activity to include the emerging and sometimes competing demands on the vital resource that is the forest. The present section will review statistical trends that point in this direction.

Direct GDP Contribution

The direct contribution to the provincial economy in 2009 of primary forestry and wood product manufacturing combined was about $52 million ($29.8 and $22.2 million, respectively). Of all industries (sectors) in the economy, these two industries contribute by far the least to the provincial gross domestic product [Figure 17]. Their direct impact on the economy of the province was about 0.3 percent of total GDP in 2009. This figure is down from 0.9 percent in 2003 and 0.5 percent in 2008.

Figure 17: GDP by Industry ($2002), NL, 2009



Source: Statistics Canada

The contribution of forest industries to GDP stands in stark relief against that of the other natural resource industries in the provincial economy (Table 1). In this account of GDP contributions, forestry and logging account for $100 million and the remainder of the forest industry is subsumed under 'Manufacturing – Other'. The exact forest sector impact by forest industries in the manufacturing sector is unavailable from Statistics Canada for reasons of confidentiality. However, CBPP reports that its direct contribution to provincial GDP in 2009 was $153 million. Since it is the only active paper producer in the province, this contribution effectively represents all newsprint mill activity. This suggests that the forest sector in aggregate contributed (directly) approximately 0.9% to provincial GDP in 2009.

Table 1: Gross Domestic Product, NL, 2008e, $ Millions and % of Total

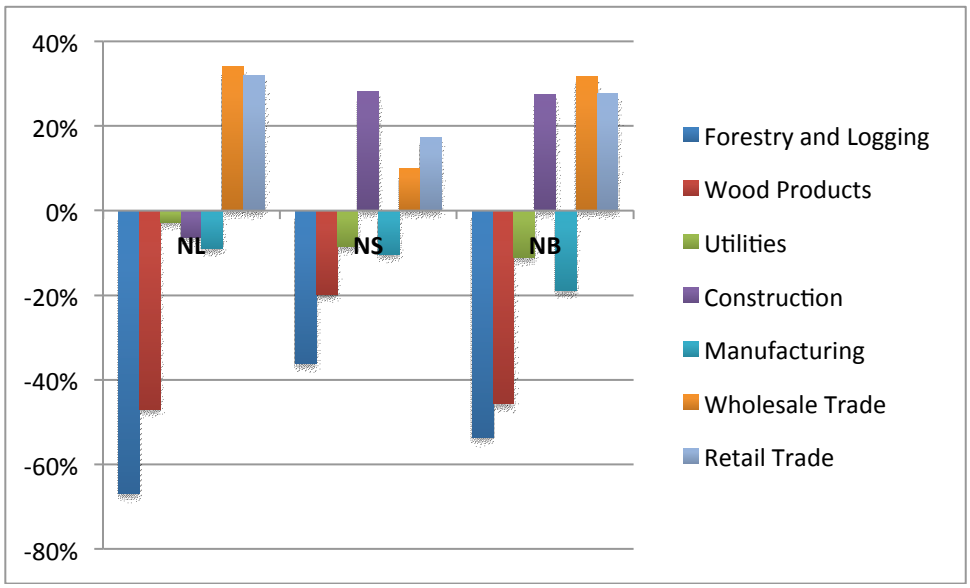
Goods-Producing Sector	18,175.5	61.4%
Agriculture	59.9	0.2%
Forestry & Logging	100.0	0.3%
Fishing, Hunting & Trapping	188.8	0.6%
Mining	3,402.4	11.5%
Oil Extraction and Support Activities*	11,731.0	39.6%
Manufacturing	1,105.9	3.7%
Fish Products	249.8	0.8%
Other	856.1	2.9%
Construction	841.6	2.8%
Utilities	745.9	2.5%
Services-Producing Sector	11,449.6	38.6%

*Includes support activities for mining and oil and gas
Source: The Economy 2010, Government of Newfoundland and Labrador

Not only has the contribution of the forest sector to GDP declined over time, but also it appears that the forest sector has also experienced a much larger proportional decline in output than other sectors between 2002 and 2008 [Figure 18]. However, it is also clear (from Figure 18) that the adverse forestry related developments are not specific to this Province. In Atlantic Canada at least two other provinces where forestry has also been economically important historically, New Brunswick and Nova Scotia, show the same negative trends. Whether Newfoundland and Labrador is worse off in this regard than other Atlantic provinces is hard to say.

In this Province, wood product manufacturing declined 47 percent over the sample period. Though shocking, this decline is not significantly higher than the 46 percent decline seen in New Brunswick over the same period. In the case of primary forestry, Newfoundland saw a decrease of 67 percent. This exceeds the drop of 60 percent and 54 percent seen in Prince Edward Island and New Brunswick, respectively.

Figure 18: Real GDP Growth, 2002-2008



Source: Statistics Canada

Whilst the direct GDP contribution of forest sector is unquestionably in decline, the sectors indirect effects on the economy in rural areas and communities must also be taken into account in assessing the overall economic importance of forestry activity. In rural communities where few alternative means of employment exist, sawmills and paper mills provide unionized employment at a considerably higher wages and better benefits than is available for jobs in retailing and other service industries where such jobs exist. Because of the limited alternative employment in rural areas, the direct and indirect impact of forest-related economic activity, albeit small, is undoubtedly critical to the sustainability of some communities. This issue is discussed in detail in a subsequent section of this report.

Additionally, the viability of several other industries depends (in) directly on the forest sector. Firms in manufacturing, construction, and retail trade throughout the economy use forest products of various kinds as inputs in the production process. The heaviest users of primary forest commodities are firms in construction and manufacturing. About 84 percent of forest-related inputs are used by the manufacturing industry alone [Table 2]. A similar proportion of all lumber and wood products produced are used by the Province's construction industry. Fully 92 percent of wood pulp, paper and paper products produced are used by construction, manufacturing, wholesale trade, retail trade, operating, office, cafeteria, and laboratory supplies. Although the forest sectors direct contribution to provincial GDP is small in relative as well as absolute terms, these data speak to the level of integration of the forest sector in the economy. It is clear that the forest sector provides input to a wide range of local industries throughout the economy that would have difficulty sourcing these inputs competitively from outside the Province.

Table 2: Forest-Related Input Usage, as percentage of Total Inputs, by Category, NL, 2006

	Input Category		
Industry	Forestry Products	Lumber and Wood Products	Wood Pulp, Paper and Paper Products
Crop and animal production	0.00	0.11	0.18
Forestry and logging	15.68	0.00	0.00
Fishing, hunting and trapping	0.00	2.06	0.00
Construction	0.40	83.04	13.41
Manufacturing	83.85	11.81	41.92
Wholesale trade	0.07	0.63	3.53
Retail trade	0.00	0.23	5.03
Transportation and warehousing	0.00	0.06	0.54
Information and cultural industries	0.00	0.00	2.28
Finance, insurance, real estate and leasing	0.00	1.83	0.06
Professional, scientific and technical services	0.00	0.00	0.72
Administrative and support, waste management and remediation services	0.00	0.00	0.42
Health care and social assistance	0.00	0.00	0.06
Accommodation and food services	0.00	0.00	2.22
Other services [except public administration]	0.00	0.00	0.42
Operating, office, cafeteria, and laboratory supplies	0.00	0.34	28.08
Travel and entertainment	0.00	0.00	0.54
Non-profit organizations serving households	0.00	0.00	0.30
Government sector	0.00	0.00	0.48
Total industries	100.00	100.00	100.00

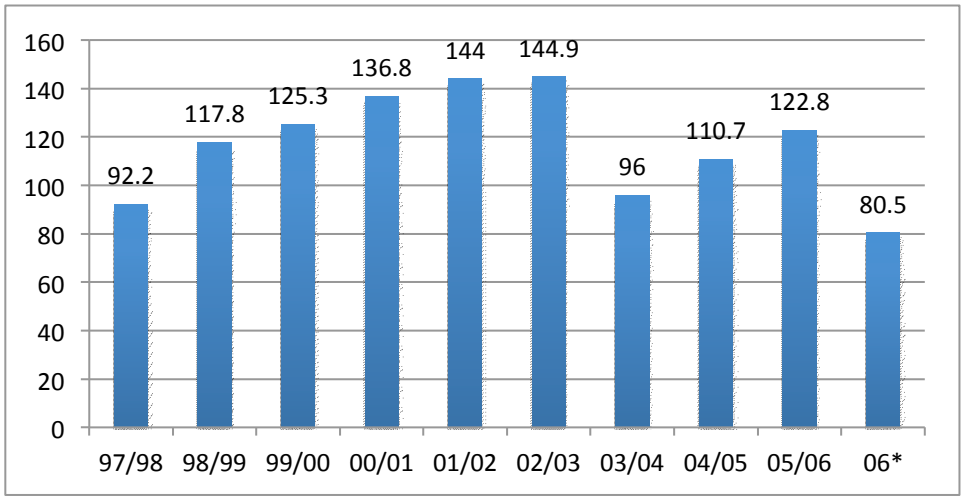
Source: The Input-Output Structure of the Canadian Economy, Statistics Canada

Production, Capacity and Capitalization

Industry output and capacity utilization are important indicators of the performance of the forest sector. For reason discussed above, forest products now account for a much smaller share of economic output than historically. The decline in lumber and sawmill production began before the more recent exchange rate appreciation that saw the Canadian dollar edge closer to parity with the US dollar, and before the onset of the 2008 recession [Figure 19]. Production peaked in the 2002/03. By 2006, it had declined to 111.2 MMFBM, a drop

of approximately 23 percent.[6] As of August 2008, the province produced only about 40 MMFBM, all of which came from a single mill (Sexton Lumber of Bloomfield).[7]

Figure 19: Lumber/Sawmill Production, MMFBM



Source: Department of Natural Resources

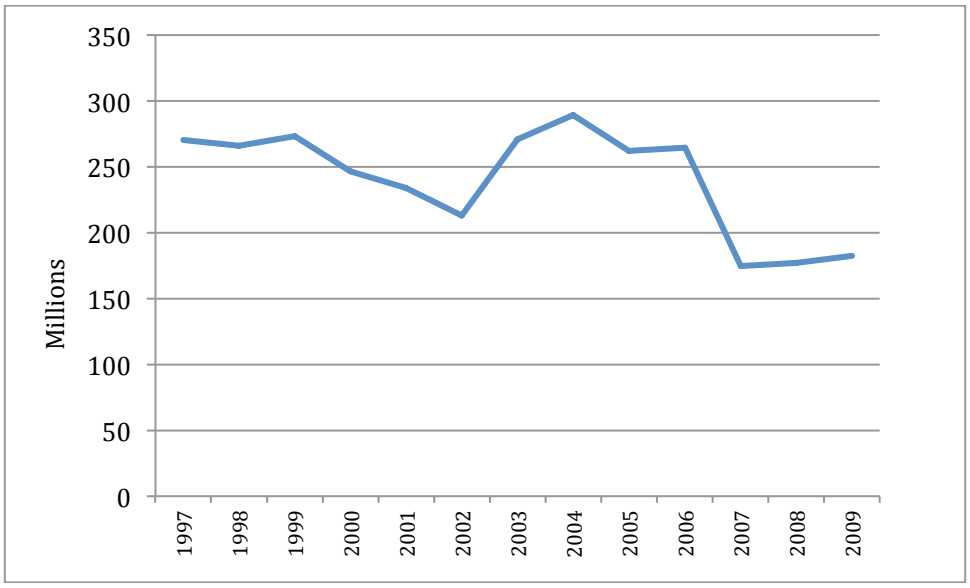
Primary forestry has fared relatively better in that periods of decline have been partly offset by periods of recovery. However, this subsector has seen a net decline over the period 2004 to 2009 of about $107 million or 33 percent [Figure 20]. This occurred alongside decreased activity by sawmills, and pulp and paper mills. The seasonal nature of primary forestry has variability in supply. Recent mill closures in conjunction with the seasonal nature of primary forestry have led to what has been called 'an unstable' wood supply – a term referring to variability in supply of sawmill residue for pulp mills.[8]

[6] The 06* figure noted in Figure 10 is for the 9 months of 2006 not included in the 2005/06 fiscal year. The figure quoted in the text is thus annualized for 2006.

[7] APEC (2008)

[8] APEC (2008)

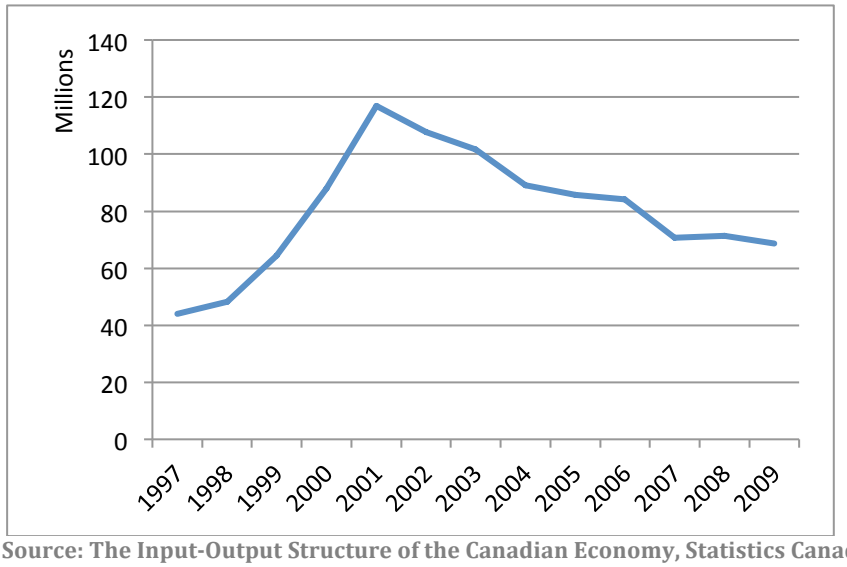
Figure 20: Output, Forestry and Logging



Source: The Input-Output Structure of the Canadian Economy, Statistics Canada, 2007-2009: Author's Estimates [a]

Less logging activity means lower production of lumber and manufactured wood products [Figure 21]. Since 2005, output has fallen by about $18 million, a decline of 39 percent. Since the peak in 2001, production has fallen by $51.2 million. This is a principal source of the decline in the forest sector's contribution to GDP.

Figure 21: Output, Lumber and Wood Product Manufacturing



Source: The Input-Output Structure of the Canadian Economy, Statistics Canada, 2007-2009: Author Estimates [b]

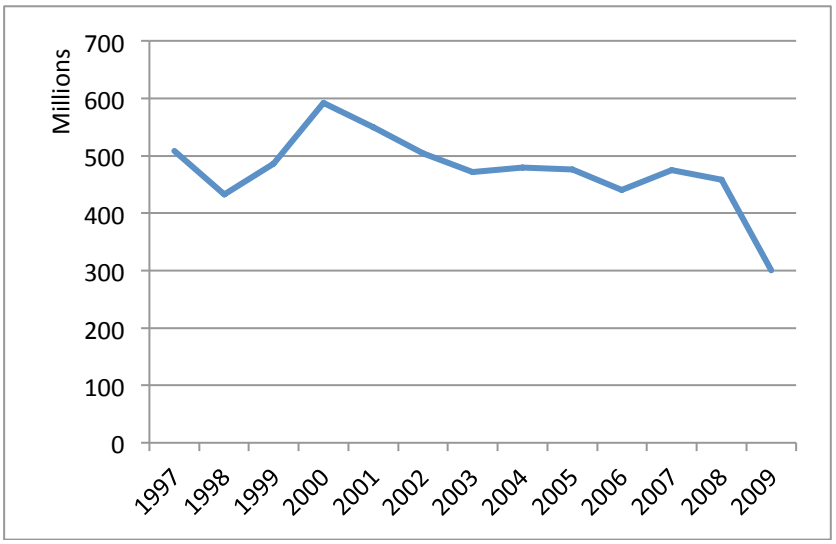
[a] See Appendix

[b] See Appendix

However, nowhere is the overall downturn in the forest sector more noticable than in the production of wood pulp, paper and paper products. Since 2005, industry output has fallen by $105.1 million, or 35 percent [Figure 22]. This is directly attributable to the closures of the Province's two largest paper mills in 2005 and 2009. Since the product prices are largely set in international markets, it is not surprising that the reduction in capacity following the mill closures have done little to shore up the prices of pulp and paper. Despite government support in various forms, it is unlikely that paper milling is as profitable as it once was.

It is safe to say that the pulp and paper industry in the Province would not be viable without the on-going support bestowed upon it by the Provincial Government. This industry (read: Corner Brook Pulp and Paper Ltd) is the primary beneficiary of support that affects the corporate bottom line both directly and indirectly. It comes in the form of cash infusions, tax relief and relief from forest management obligations, nominal stumpage fees, and indirectly in the form of government expenditure on forest management, and a benign view of the industry's environmental impact. This raises the larger question (addressed below) whether continued government support is warranted, and if so to what extent and in what form. With the closure of two of the province's three major paper mills comes the inevitable result of lower production of paper products, and the spill-over effects that this has on employment and activity levels in other industries inside and outside the forest sector.

Figure 22: Output, Wood Pulp, Paper and Paper Products



Source: The Input-Output Structure of the Canadian Economy, Statistics Canada, 2007-2009: Author Estimates [c]

[c] See Appendix B.

Paper Mills

In October of 2005, Abitibi Consolidated, now Abitibi-Bowater (ABH), closed its Stephenville mill. This was followed by the closure of the ABH mill in Grand-Falls-Windsor (GFW) in March of 2009. At the time of writing, ABH and the Province are still involved in legal dispute related to this matter.

The Province's only remaining paper mill, Corner Brook Pulp and Paper Ltd (CBPP), is owned and operated by Kruger International [Table 3]. Though still in operation, this mill has also experienced losses in recent years, highlighted by the shutdown of its oldest machine in November of 2007.

Table 3: Profile: Corner Brook Pulp and Paper

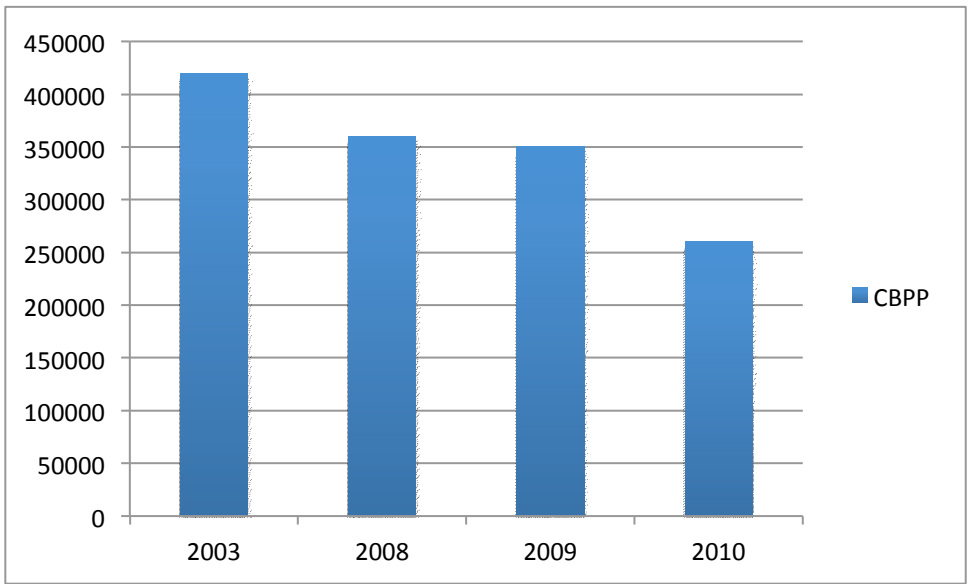
Kruger	
Corner Brook Pulp and Paper: Mill Profile	
2009	
Direct Economic Impact	$135 million spent on goods and services in NL
	$50 million in direct wages; $20 million in employee fringe benefits
Direct Employment	Approximately 700 people employed at mill in Corner Brook
	Approximately 600 people employed in harvest and silvicultural activities spanning 50 communities
Indirect Economic Impact	Approximately $322 million in multiplier effects
Indirect Employment	Approximately 890 jobs (including seasonal) in multiplier effects

Source: Authors' estimates based on information on Company website

Production capacity has consistently declined in paper mills in Newfoundland and Labrador. Despite the fact that the ABH GFW mill maintained capacity at 211,000 tonnes per year before it closed (1,000 tonnes more than its 2003 capacity), the closure of both ABH mills substantially reduced capacity of the pulp and paper industry in the province as a whole. At the same time, CBPP has continued to scale back production and negotiate concessions with unionized workers to keep the mill afloat. CBPP's production capacity has declined about 38 percent since 2003 and by 25 percent (or 90,000 tonnes) since 2009 alone. The reduction in output between 2003 and 2008 is relatively small compared with

the reduction over the entire period 2003 – 2010 [Figure 23]. This suggests that the shutdown of CBPP's oldest and lowest producing machine in 2007 was not the sole source of capacity reduction within CBPP.

Figure 23: Capacity, Paper Mills, tonnes



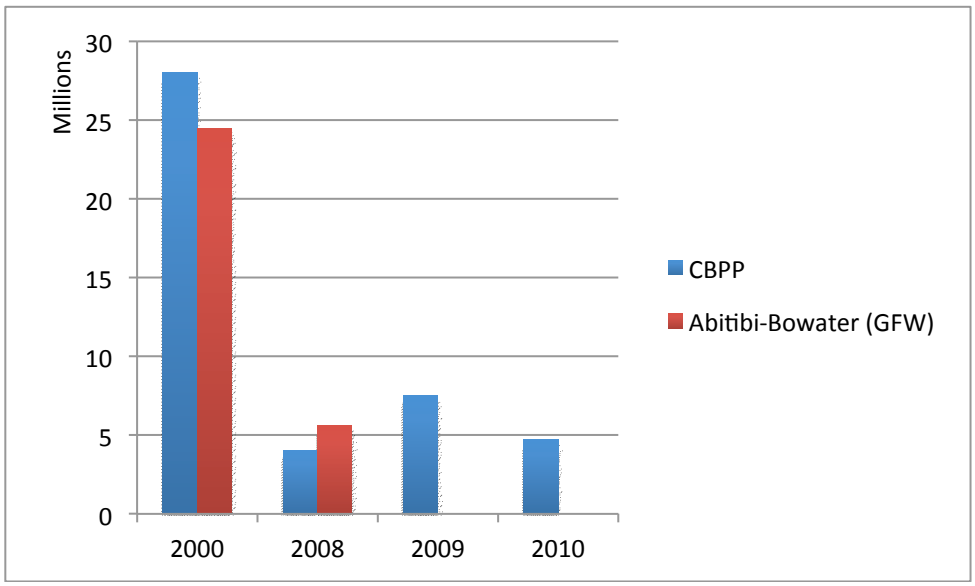
Source: *The Economy*/ APEC (2008)

Capital expenditure by the paper mills has decreased historically [Figure 24]. Both CBPP and ABH GFW (until its closure) reduced their capital budgets over time. In 2000, both mills invested substantially in capital goods. As of 2008, shortly before the closure of the ABH GFW mill, capital investment had declined by 77 percent from the level in 2000.

Over the past decade, the capital budget of CBPP decreased by $23.3 million or 83 percent. The $3.5 million increase in CBPP's capital budget from 2008 to 2009 is likely part of the $11 million committed to infrastructure under the Provincial Government's Forest Industry Diversification (FID) program in the 2008. According to the provincial budget, $9.55 million[9] of this amount was used for loans, advances and investments. That this subsidization would have affected CBPP's bottom line favourably is clear, but the nature of the subsidy make it makes it difficult to isolate the effect on CBPP's productivity, and return on capital.

[9] $4 million from the Federal Community Development Trust, from which the Province received $23.4 million in 2008

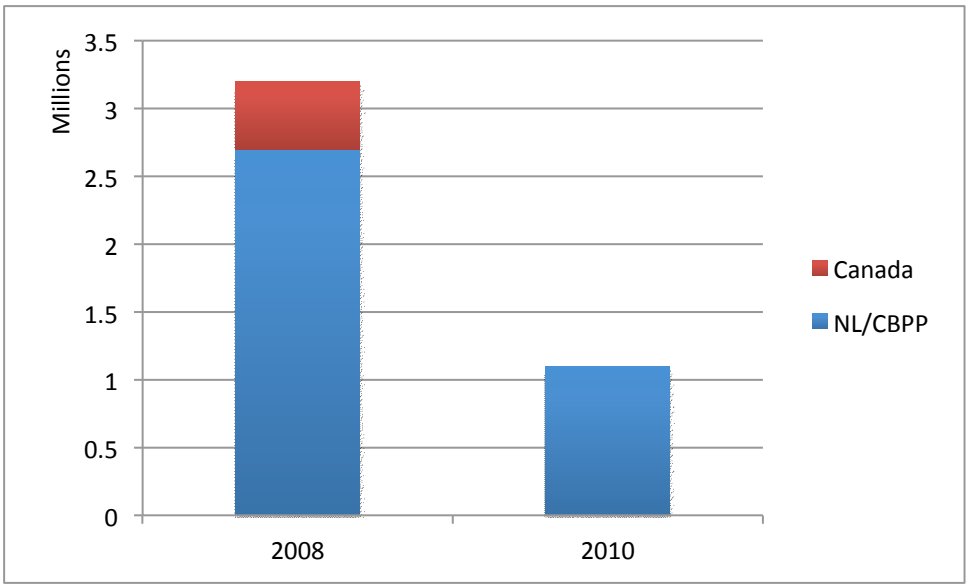
Figure 24: Budgeted Capital Expenditure, Paper Mills



Source: *The Economy*

Given the predicament of the industry and its reduced capital budget, it is not surprising that the R&D expenditure by CBPP has also declined in recent years. Even the Federal Government's subsidy has dried up [Figure 25]. Aside from the $1.1 million dollars received from the federal government in 2008, CBPP's own R&D budget was reduced by 81 percent (about $2.2 million) between 2008 and 2010.

Figure 25: Budgeted R&D Expenditure, Paper Mills, $



Source: *The Economy*

Markets for Labour and Other Inputs

A major challenge facing the forest sector globally is the increasing cost of inputs. In every input category ranging from labour to wood- and energy supply, forestry firms are faced with increasing production costs and lower prices for the output sold to users. Newfoundland and Labrador is no exception.

Employment

The pulp and paper industry is the largest employer in the forest sector. This explains why the industry is the focal point of public policy in the forest sector. The role of the industry is magnified by its close relations to primary forestry (mainly contract logging), where employment varies directly with the production level in the pulp and paper industry, and to sawmilling. Profits in sawmilling are derived partially from the sale production residue (mainly wood chips).[10] The main buyers of production residue are the paper mills. As these mills have scaled back capacity, negative employment effects have been felt throughout the supply chain.

Wood product manufacturing has performed better than the pulp and paper mill, in relative terms, as increases in value-added production have helped offset falling employment in sawmilling in the face of decreased demand for sawmill residue and lumber.

It is reductions in capacity, rather than labour-saving technological change, which drives the downward trend in forest sector employment [Figure 26]. From 2000-2007 alone 1200 jobs were lost, which translates into an employment reduction 30 percent. This bulk of this loss occurred in primary forestry, which registered a loss of 800 jobs, or 63 percent of its employment in 2000. Pulp and paper employment was a close second with a loss of no less than 600 jobs or 27 percent of its employment in 2000.

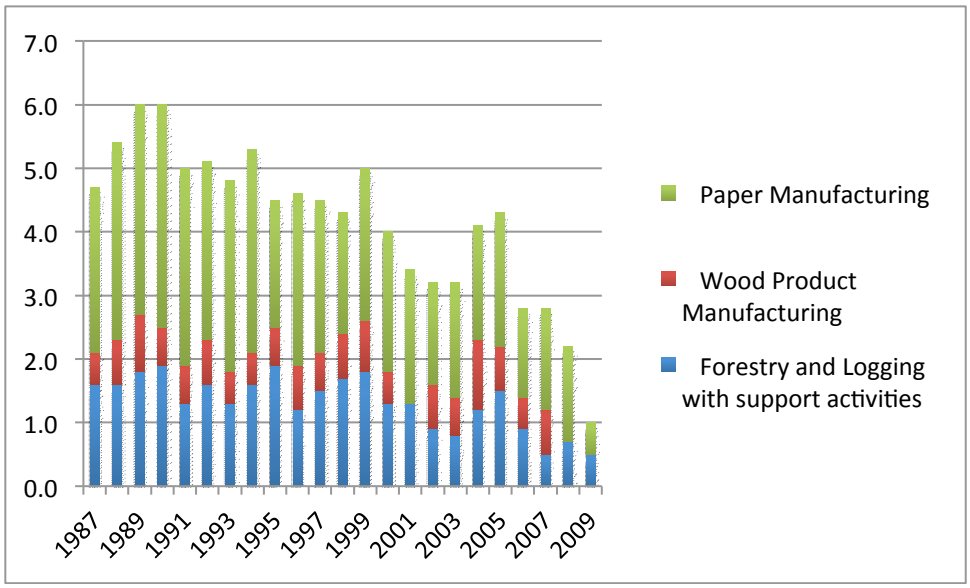
The principal events behind this loss of jobs were as follows. First, in November 2007 CBPP shut down PM. No. 1, its oldest and least efficient machine. The estimated impact of this capacity reduction was 100 jobs.[11] Second, in March 2009 ABH shut down its last mill in the Province, located in Grand-Falls-Windsor. As a result, 410 mill jobs were lost. Also affected were 345 people employed by ABH's woodlands operation associated with this mill.[12]

The wood product manufacturing industry bucked the trend by registering a net increase in employment of 40 percent, or 200 jobs since 2000. This increase is attributable to an increase in the value-added in wood manufacturing such as cabinetmakers, furniture makers and general woodworking operations. Nonetheless, the number of locations

[10] NL Forest Sector Strategy: Final Report (2008), p.15
[11] APEC (2008)
[12] Newfoundland Forest Sector Strategy: Final Report (2008), p. 22

(establishments) in wood product manufacturing has decreased steadily. As of November 2008, there were approximately 100 such operations in the Province.[13] By December 2009, this number had fallen to 46 according to Statistics Canada. The number of sawmills in the province has also fallen – from 74 operations in 2004 to 47 in 2009.

Figure 26: Employment



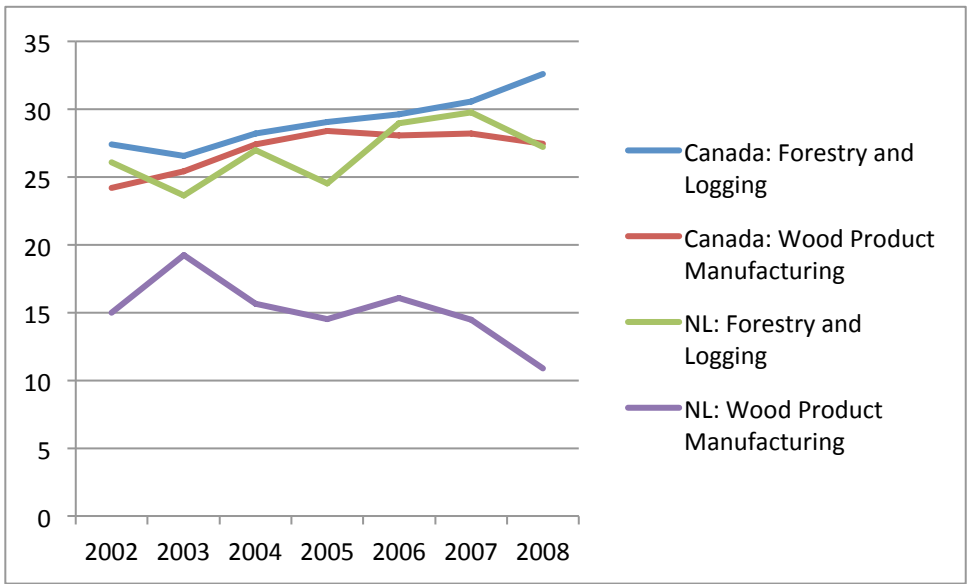
Source: Statistics Canada

Wages

The distress caused by job losses has been magnified by wage rates well below the comparable national average. The discrepancy in hourly compensation between the Province and the nation has increased since 2005 [Figure 27]. As of 2008, workers in primary forestry in the Province earned $5.38 less per hour than the national average. Workers in wood product manufacturing earned $16.56 less than the national average per hour. Compensation in primary forestry and wood products in Newfoundland and Labrador has thus been reduced to about 84 and 40 percent, respectively, of the Canadian average.

[13] NL Forest Sector Strategy: Final Report (2008), p. 23

Figure 27: Total Compensation per Hours Worked, $



Source: Statistics Canada

Not only has the level of compensation in the Province fallen below the national average. So has its growth rate. During 2002-2008, wages in primary forestry and wood product manufacturing in Canada increased 19 percent and 14 percent, respectively. In Newfoundland and Labrador, wages in primary forestry increased 5 percent, but actually decreased 27 percent in wood product manufacturing. This decrease is likely attributable to the smaller number of unionized sawmilling operations, and the increase in small-scale, non-unionized production units.

In the case of paper mills and major sawmilling operations in the Province, the wages paid tend to be substantially higher than in alternative local employment opportunities where such are available. In 2009, mill workers at CBPP earned an average hourly wage of $29.68, or 1.56 times the average hourly wage in Newfoundland and Labrador of $19.04 in 2009. It was 1.46 times the 2010 average hourly wage of $20.27, higher also than the average unionized hourly wage of $23.81.[14]

Unionized woodlands CBPP employees earned an average hourly wage of $24.32. This wage is also higher than the average union wage, and well above the Province's average hourly wage. By contrast, a non-unionized woodlands worker currently earns about $16 per hour, or $1.85 less than the provincial average for non-unionized workers. The discrepancy may be related, in part, to the seasonality of woodlands work.

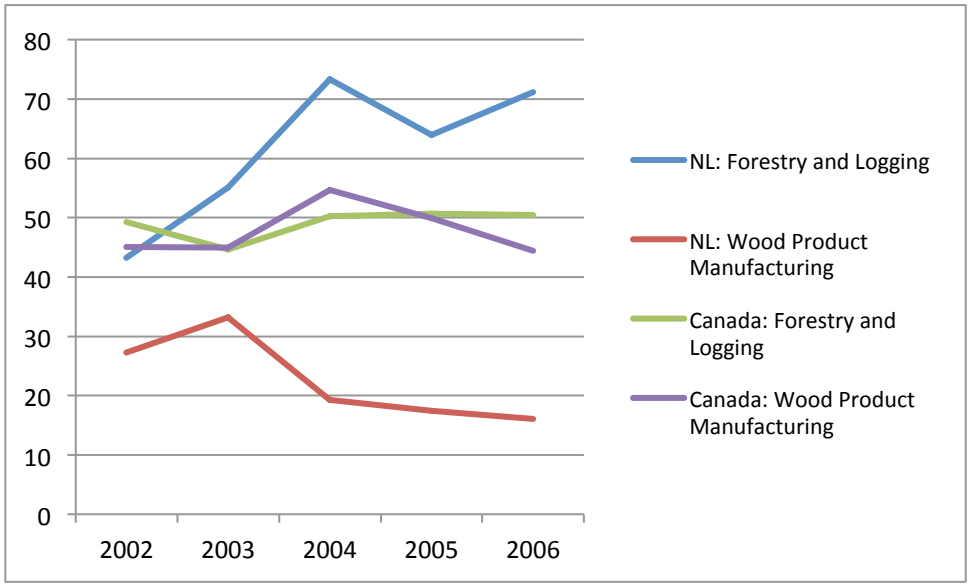
[14] Statistics Canada

Productivity

A standard measure of labour productivity at the aggregate level is real GDP per hour worked. On this measure, primary forestry in Newfoundland and Labrador has performed better than the national average. In primary forestry, productivity has increased 75 percent since 2002. This would have been encouraging if the main source of it were not the concomitant reduction of 44 percent in the number of hours worked. However, it is likely that some of the productivity improvement stem from efficiency gains resulting from more efficient utilization of the remaining work force (especially contract labour).

The productivity performance in wood product manufacturing is not encouraging. Labour productivity has fallen 46 percent over the sample period [Figure 28]. All of this cannot be attributed to increased employment as the hours worked increased only 12 percent. The balance is due to a fall in the value of this industry's output.

Figure 28: Labour Productivity, Real GDP per Hours Worked, $



Source: Statistics Canada

The decline in employment and compensation are two of the most important indicators of the decline of the forest sector. Although each industry faces its own challenges, the conditions imposed by falling demand in the external markets where the relevant prices are largely determined is common to all. The decline in employment in one industry has ramifications for all the others in the sector because of inter-industry linkages. In the first instance, the industries involved are those that produce output using inputs from the forest sector (see Table 2 above). However, contraction within the forest sector eventually 'spills over' into the wider economy as there is a kind of run-on effect at play that ripples through the entire economy. In the final analysis, contraction in the forest sector therefore

contributes to lower overall employment, and in turn, lower tax revenues, and lower multiplier effects of public spending.

Labour Supply Issues

An all too common theme in the economic history of Newfoundland and Labrador is outmigration in search for higher wages and better employment opportunities. In the 1980s, manufacturing employment opportunities in Ontario amounted to a major drain on the Province's labour force. The high wages presently offered in Alberta's booming oil sands economy is today's manifestation of the same theme. There can be little doubt that the lucrative opportunities elsewhere have tapped the pool of labour on which forest sector firms in the Province have depended. This appears to have taken a toll on sawmilling in particular.

According to the Newfoundland Forest Sector Strategy Report, sawmill operators in the Province note that workforce retention in the face of higher wages (in Alberta) is a major problem. Additionally, operators state that the general population decline in rural areas has also impeded their ability to find employees. The transferability of skills of sawmill workers also permits employment in other local industries.

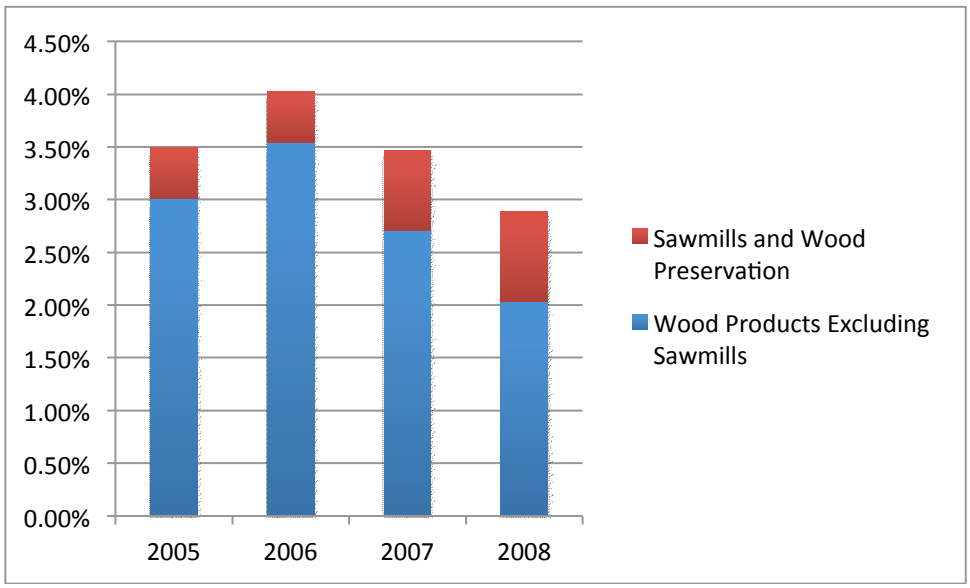
Employment insurance (EI) eligibility has also been identified as a concern. Seasonal operations often do not provide enough hours of work to qualify for EI. And for some employees of year-round operations, EI is nevertheless seen as an alternative to work once sufficient hours have been collected to qualify for EI.[15] This incentive puts a strain on the viability of year-round operations (which tend to be larger in scale), not to mention the EI system in general.

Energy Costs

Rising real energy costs have been a major problem in the forest sector globally. Curiously, local producers seem to have fared somewhat better on this account. In wood product manufacturing, total energy costs (water and fuel) have in fact fallen recently in nominal terms, despite rising costs of oil and other primary energy materials [Figure 29]. This is likely due to implementation of more recent standards regarding the environment and energy use. It has undoubtedly provided a measure of relief for wood product manufacturers as compared with their competitors abroad. In the pulp and paper sector, few firms are as fortunate as CBPP to have tenure arrangements including hydroelectric power generation resources. For CBPP, this generating capacity has been a significant contributor to the viability of the mill.

[15] NL Forest Sector Strategy: Final Report (2008), p. 18

Figure 29: Total Cost of Energy, Water Utility and Vehicle Fuel as a Proportion of Output



Source: Statistics Canada

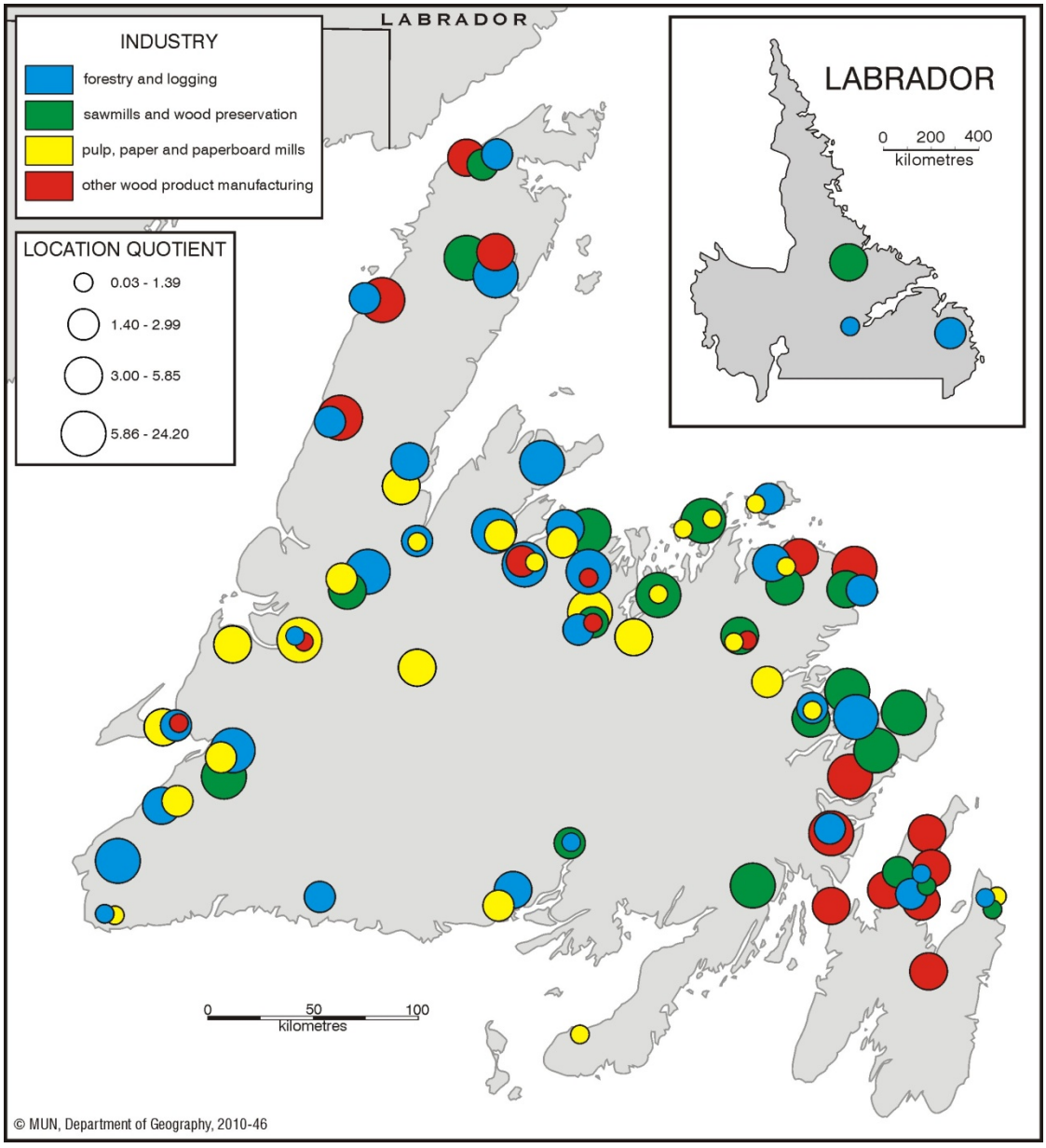
Industry Structure and Geography

This section considers the geographical distribution of employment and establishments by industry in the forest sector.

With few large establishments (employers) remaining in urban areas, and fewer still in rural areas, the smaller operations in rural areas can have a disproportionately large effect because of the lack of alternative employment in many places. Forest activity provides a regional economic base, which generate the income required to sustain many rural communities. The geographical distribution of forestry firms is therefore important in assessing the overall impact of the sector on the provincial economy. Changes in the distribution of forest firm locations provide a good indicator of the dynamics in the forest sector. Consider employment first.

Much like in the fishery, employment in the forest sector is distributed primarily across coastal communities like uneven-sized pearls on a string [Map 1]. Depicted here are the so-called location quotients. They quotient serves as a simple but useful measure of relative employment concentration by industry and location. As such, the location quotient is a device for comparing a community's share of employment in a particular industry with its percentage share on a provincial basis. If community A, for instance account for 10 percent of the Province's logging activity, and community A's total employment is 2 percent of the province's total, community A's location quotient is 5. Simply put, a location quotient exceeding 1 indicates a higher than 'average' proportion of employment in that industry and location.

Map 1: Employment by Community, Location Quotients, Forest Industries, 2006



Source: Census data, Statistics Canada, provided by the NL Statistics Agency

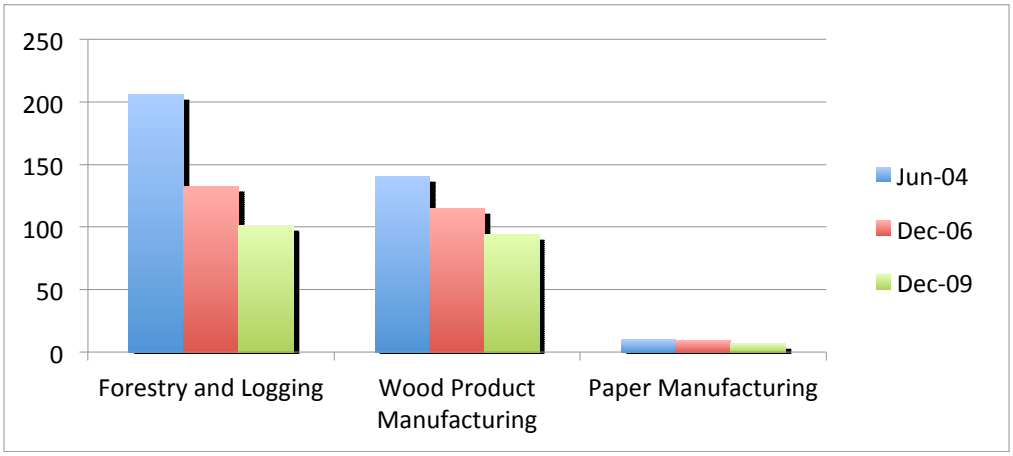
The map shows that most communities have concentrations of forest-related employment in more than one industry. This speaks directly to the community dependence on forestry in rural Newfoundland, and to some extent in Labrador as well. It also suggests that there may be limited scope for further integration of the industries, at least at a community level. However, this issue needs further investigation.

Turning next to the number of establishments (locations) in the forest sector, we find that they have declined steadily in recent years [Figure 30]. Paper product manufacturing stands out with a loss of 7 out of 10 establishments. It represents the largest proportional

decrease of any of the three forest industry groups. Two of the seven closures represent the shutdown of the ABH locations in Grand Falls-Windsor and Stephenville. These closures are the most significant ones as hundreds of people were put out of work as a result.

Establishments in primary forestry fell by 105, or 51 percent during the period 2004-2009. This decline is in the main attributable to the reduction in the number of paper mills. Wood product manufacturing in the province also registered a substantial decline – 46 establishments, or 33 percent over the same period. Much like primary forestry, wood product manufacturing is also affected by the activity level in the paper product industry due to the nature of the tenure arrangements on productive forestlands.

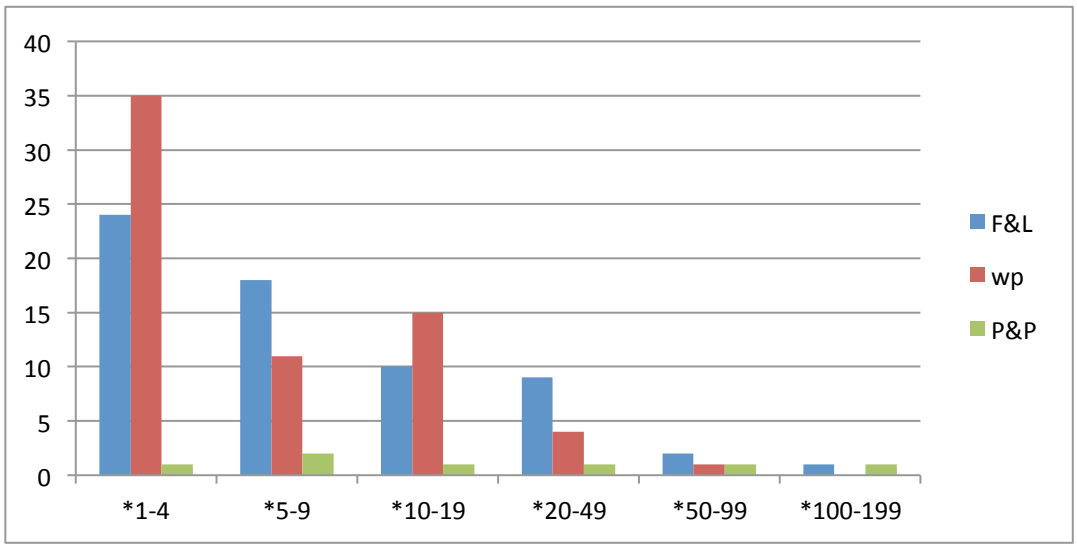
Figure 30: Number of Establishments (locations), by Industry



Source: Canada Statistics Canada

The size of the establishment, or production unit, (measured in number of employees) differs substantially by industry. Most establishments in the forest sector have fewer than 20 employees. In primary forestry and wood product manufacturing most establishments employ fewer than 10 [Figure 31].

Figure 31: Number of Establishments (locations), by Employment Size Class, and Industry, 2009

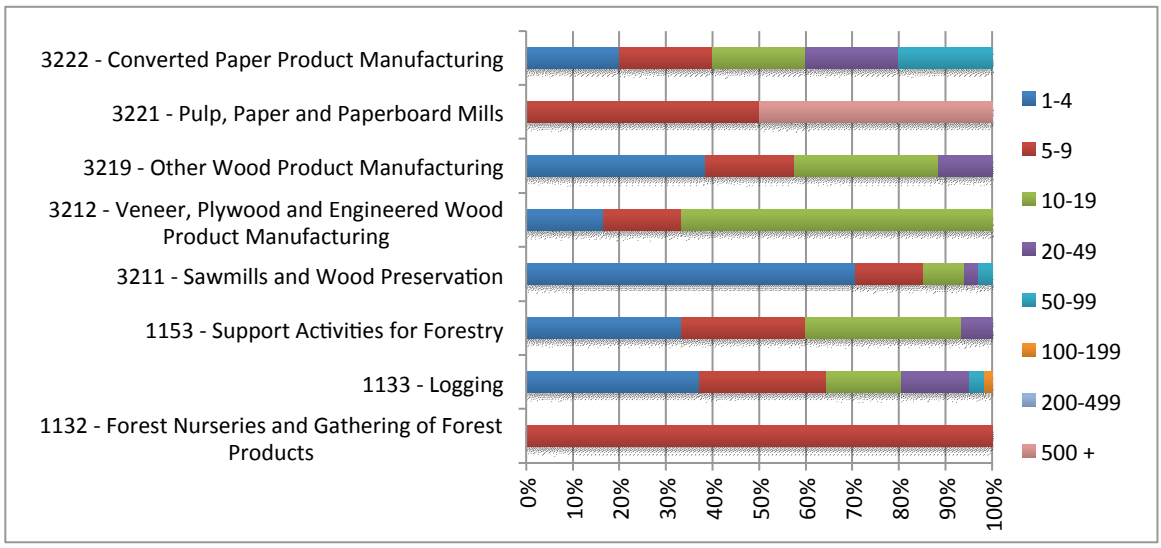


Source: Canadian Business Patterns, Statistics Canada

If one disaggregates the three main industries further, a more nuanced picture emerges of how the sizes of the establishments differ between industries [Figure 32]. For example, Converted Paper Products has approximately the same proportion of establishments in each of five (the smallest) employment size classes. By contrast, the establishments in Forest Nurseries are all of the same size (with 5-9 employees each).

The largest operations in terms of scale are typically found in newsprint, and logging and sawmilling. Nevertheless, the only industry that employs 500+ people is pulp, paper and paperboard mills. Of the two current operations in the province, one is obviously CBPP and the other is a smaller operation of recent vintage – likely paperboard. Every other establishment employs less than 100 people, with the exception of one large-scale logging operation which employees between 100 and 200 people. While the employment impact of the forest sector is relatively small in terms of the economy as a whole, the contribution of the many small forest sector firms to employment is clearly very important to those rural communities where it is present.

Figure 32: Establishments (%) by Employment Size Class, and Industry, 2009



Source: Canadian Business Patterns, Statistics Canada

It is therefore noteworthy that the number of establishments in each of the three main forest industry aggregations has decreased consistently in recent years [Table 3]. The only category that saw an increase in the number locations during the period 2004-09 was Forest Nurseries and Gathering of Forest Products. This increase is attributable to the government's recently increased funding for silvicultural activities, which has grown by an average of 10 percent per year since the 1999/2000 fiscal year. It should be noted that the Statistics Canada data for pulp, paper and paperboard mills does not show the impact of the closure of both the ABH mills, as a smaller paperboard mill (mentioned above) has opened during the period in question. The data presented [in Table 4] has been adjusted to reflect the closure of the ABH GFW mill.

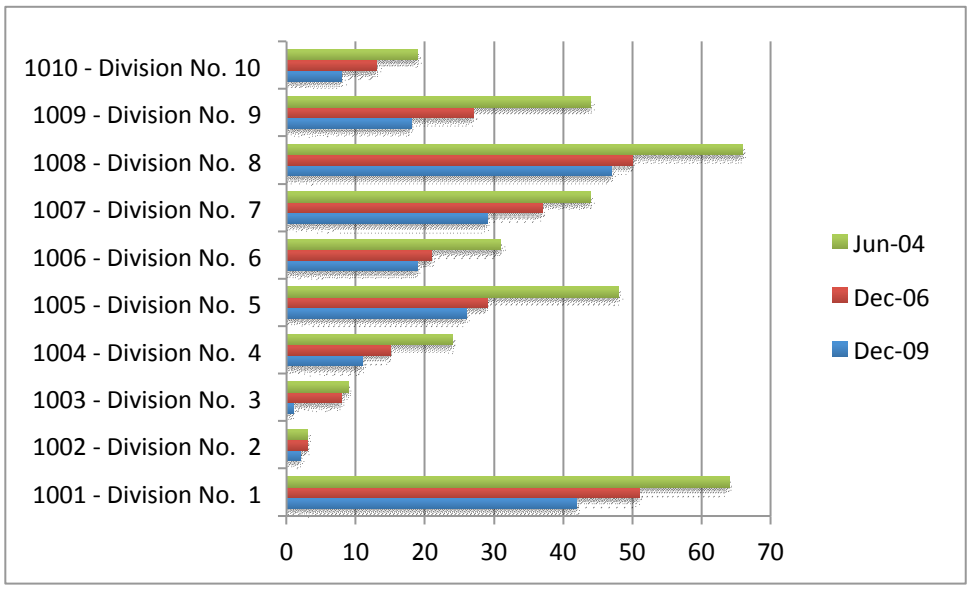
Table 4: Number of Establishments (locations), and Change, by 4-digit Industry

Locations	Dec-09	Δ Since June-04
1132 - Forest Nurseries and Gathering of Forest Products	3	2
1133 - Logging	97	-105
3211 - Sawmills and Wood Preservation	48	-36
3212 - Veneer, Plywood and Engineered Wood Product Manufacturing	10	-1
3219 - Other Wood Product Manufacturing	36	-9
3221 - Pulp, Paper and Paperboard Mills	2	-1
3222 - Converted Paper Product Manufacturing	5	-2

Source: Canadian Business Patterns, Statistics Canada

Consider once more the distribution of forestry operations across space. It is clear that every region of the Province has been affected by a marked loss of operations over time [Figure 33]. In some areas such as Census Division 9, the reduction in the number of establishment locations has been particularly stark. The data suggest that the general decline of commercial forestry is having a substantial negative effect on employment, and hence economic well-being in every corner of the Province. The decline is pervasive and sustained.

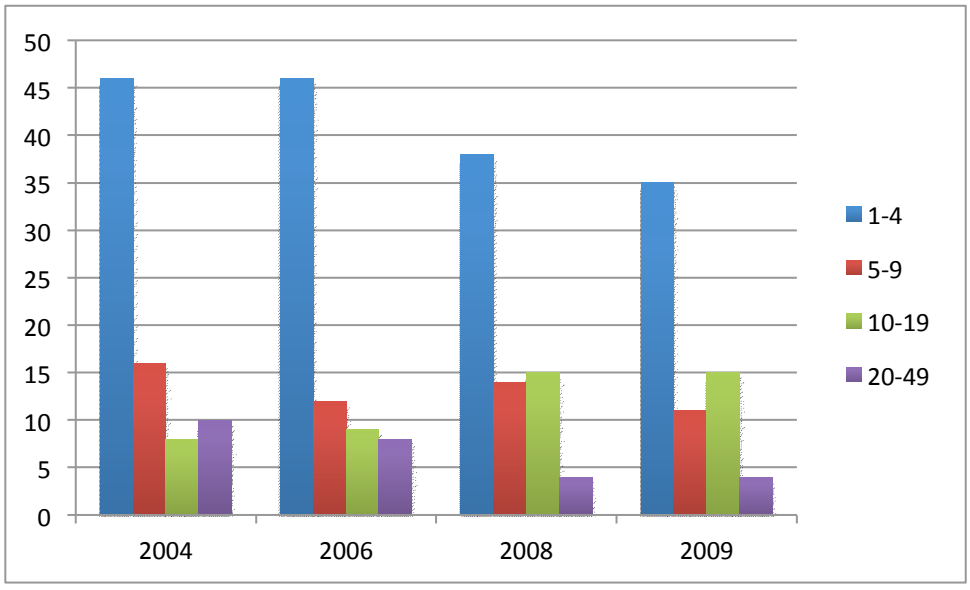
Figure 33: Locations by Census Division, Forest Sector



Source: Canadian Business Patterns, Statistics Canada

It is hard to find cause for optimism in these data, but one bright spot is the apparent resilience of wood product operations. The smallest operations (1 - 4 employees), and the largest (20 – 49) have decreased in numbers, whereas the number of medium size establishments have increased slightly [Figure 34]. These value-added manufacturing establishments are important to rural communities in that wood product manufacturing is labour-intensive, skills preserving, and require little by way of capital expenditure.

Figure 34: Number of Establishments (location), Wood Product Manufacturing



Source: Statistics Canada

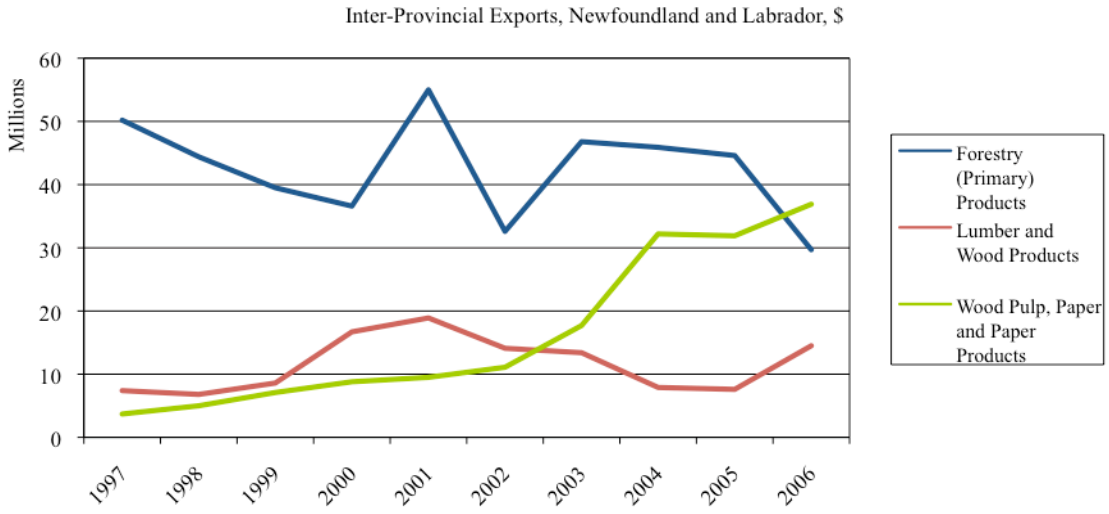
Previous sections of this report have outlined the serious long-term challenges facing the forest sector. It has been argued that, local industry inefficiencies notwithstanding, the reasons for the predicament of the forest sector are ultimately traceable to the external environment, specifically prices and developments on international markets for forest products. To understand how to meet the challenge of declining exports, it useful to take a closer look at the trading relations the forest industry has with specific partners, nationally and internationally. Identifying the size and destination of the export flows from the Province highlights where the stiffest competition is found. That is, the markets in which the exchange rate has moved against domestic producers, and the markets where competition from low-cost producers is most apparent.

Domestic (Inter-Provincial) Trade

Within Canada, forestry product exports from Newfoundland and Labrador are primarily destined for Ontario, Quebec, Nova Scotia, New Brunswick and Prince Edward Island. The major forest exports for the province are primary forestry products to New Brunswick, and wood pulp, paper and paper products to Ontario. This trade totaled $49.6 million in 2006. PEI was the less significant market. Only $700,000 worth of exports of wood and paper products went to PEI in 2006. While data that are more recent are unavailable at the time of writing, it is reasonable to assume that domestic exports declined in trend with total exports as noted in a previous section. Exports of paper products have likely decreased as well given the closure of the ABH GFW mill, and the reduced capacity of CBPP since 2007.

Inter-provincial forestry exports have not been entirely consistent with the trend of total forestry exports however. Exports to other provinces have increased in some industries and declined in others [Figure 35]. In particular, primary forestry exports have declined sharply (by $20.5 million, or 41 percent). By contrast, wood product and paper product exports to other provinces increased by $7.2 million (or 96 percent), and $33.2 million (about 900 percent), respectively. Note that the staggering increases recorded by wood and paper products between 1997 and 2006 do not reflect the more recent closure of the ABH GWF mill, or the shutdown of CBPP's oldest producing machine. We speculate that the increase in exports may be due, in part, to new value-added producers of medium size that have emerged in recent time, the (net) decline in establishments reported above notwithstanding.

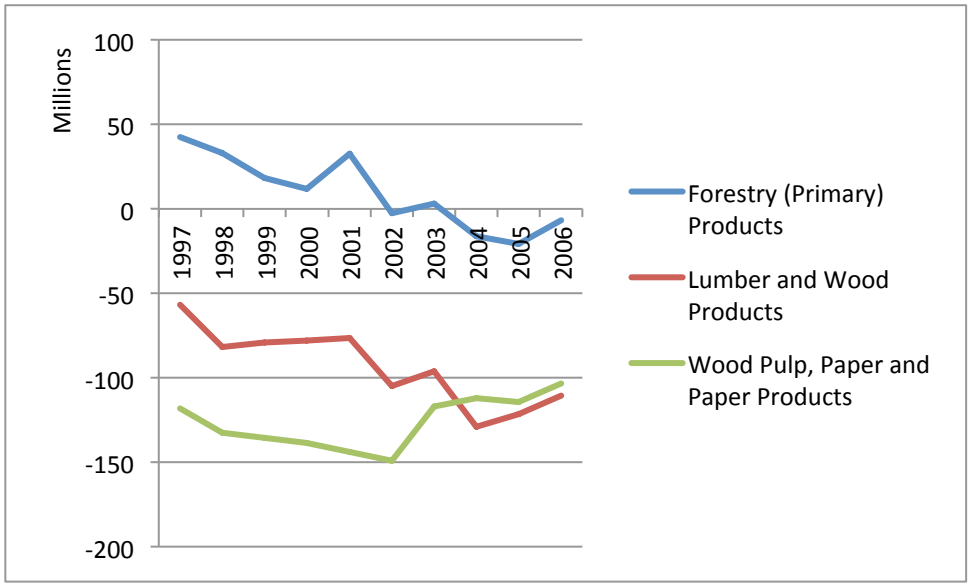
Figure 35: Domestic Export Markets, 2006



Source: Statistics Canada

Despite the impressive growth from 1997-2006 in domestic wood and paper products exports, the overall trade balance for inter-provincial trade in forestry products has consistently been negative. Wood and paper products have been in deficit since 1997 [Figure 36]. There has since been some improvement in this trade balance since, but the Province still imports more wood and paper products than it exports.

Figure 36: Inter-Provincial Trade Balance



Source: Statistics Canada

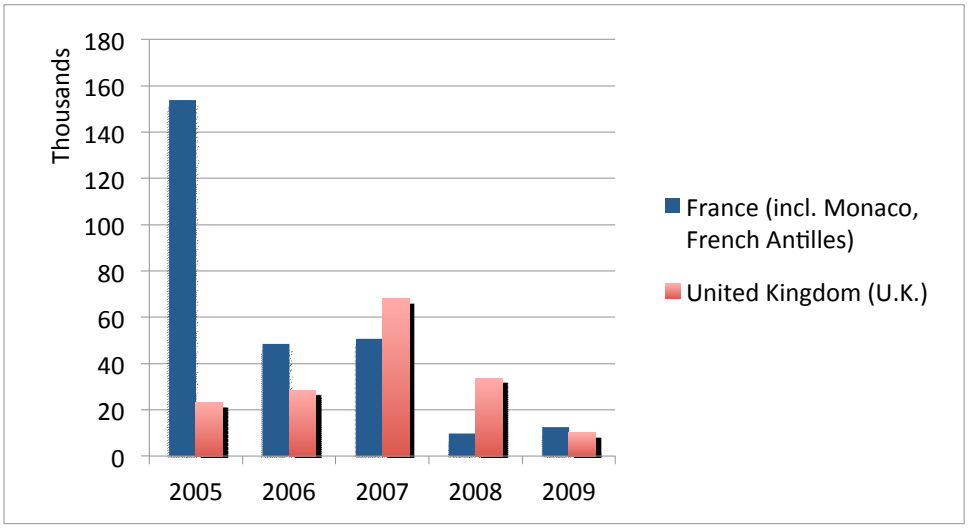
International Trade

As noted above, the international scenario facing the forest sector is bleak. Exports have fallen in several major markets, as low-cost emerging economies such as China and India have made inroads into markets where Canadian producers have long been established. Competition has also increased from low-cost producers in the EU (Germany, UK, and Denmark). European producers tend to operate more efficient mills (i.e., with lower production costs). Operations in China have lower labour costs.

The most important export markets for the province are the US, the EU, South and Central America, the Middle East and India. Between 2003 and 2009, exports to the EU and the US have declined by $141 million (75 percent) and $129 million (60 percent), respectively. Smaller export markets such as South and Central America and the Middle East recorded even larger drops in percentage terms - 82 percent in each case. This has obviously had an adverse impact on provincial GDP.

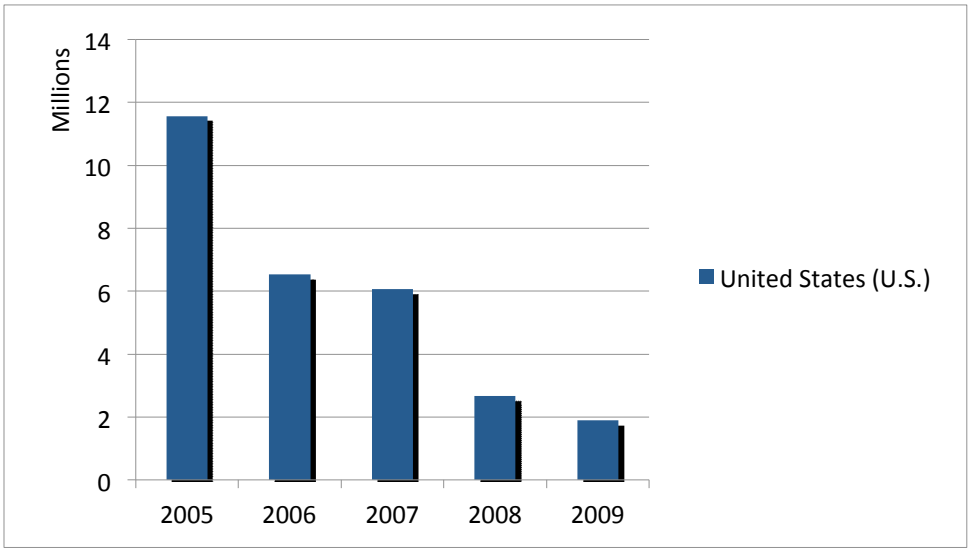
In the EU, the United Kingdom and France are the major export markets for wood products. Both markets have registered net decreases in exports since 2005 [Figure 37]. The value of wood product exports to France fell 92 percent to $12,405. Exports to the UK fell 57 percent from $23,304 to $10,134. While wood product exports to the EU are negligible, wood product exports to the US are substantial. Exports dropped from $12 million in 2005 to about $1.9 million in 2009 – a drop of 84 percent over four years in the province's largest export market [Figure 44]. Since this drop of 84 percent exceeds the 60 percent decrease in total exports, it appears that on world markets, the export performance of wood product manufacturing is below the average export performance of the forest industries in the Province.

Figure 37: Exports to EU, Wood Product Manufacturing



Source: Statistics Canada

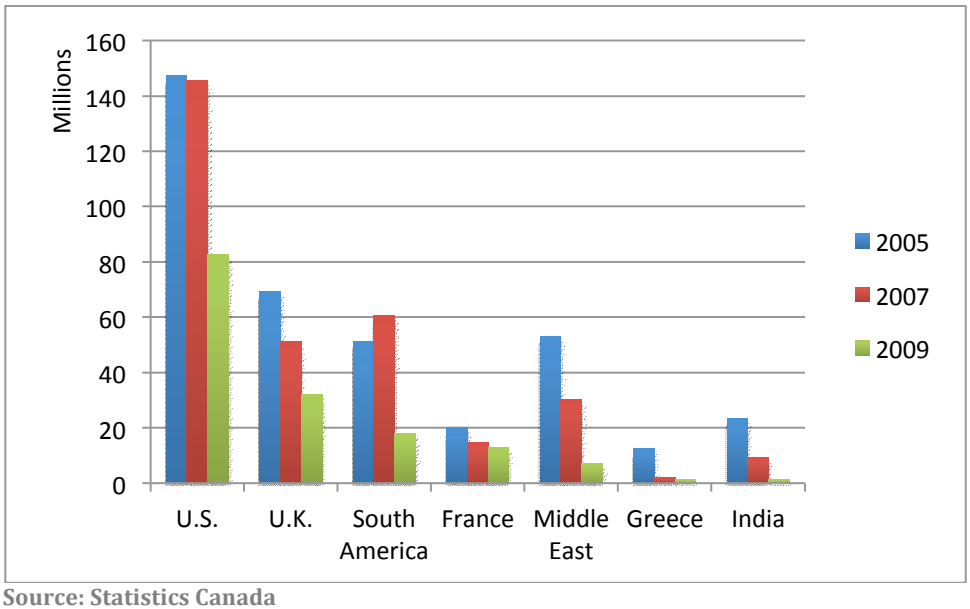
Figure 38: Wood Product Exports to US



Source: Statistics Canada

A different performance scenario emerges for paper products. Although exports of paper products to the US, the UK, and South America have also declined, this industry has had a stronger export performance compared with the rest of the forest sector [Figure 39]. (The exception to this trend is Africa, which imported no paper products from Newfoundland and Labrador in 2005, but imported $9.8 million worth in 2009 – not shown here.) Exports to the US declined $64.8 million to about $83 million over the sample period, a drop of about 44 percent. However, this decline was much smaller than the decline in total exports during 2005-2009, suggesting that local paper product manufacturers were performing relatively well on world markets.

Figure 39: Paper Product Exports



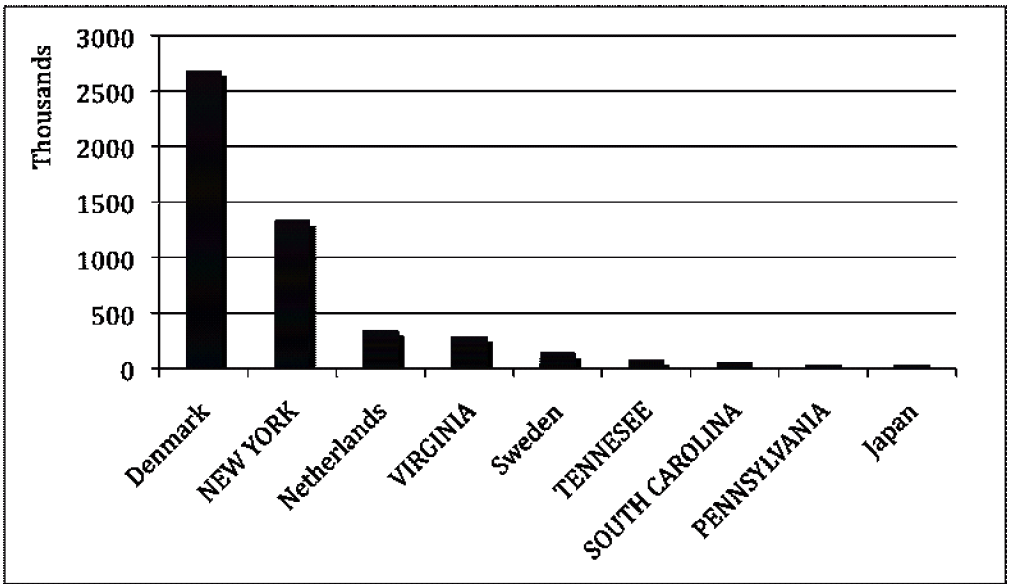
Source: Statistics Canada

For the UK, the decline in exports amounted to $33.7 million (54 percent). Exports to France declined $7.4 million (36 percent). Exports to South America and the Middle East, respectively, declined $33.3 million (64 percent) and $45.9 million (86 percent). By 2009 exports to the US still accounted for almost half of the Province's paper product market.

The trends in the import markets are also revealing of the outlook for the forest sector in the Province. Higher imports suggest that local producers face increasing competition from abroad. One way to tackle this is through productivity improvement. However, as noted above, labour productivity has been falling over the same period – thus compounding the difficulty for local industry.

The bulk of the paper products imports originate in Denmark and the United States (New York in particular) [Figure 40]. Imports of paper products from most of the individual states in the United States show some variability, but the overall trend is declining [Figure 41], despite a staggering 49-fold increase in imports from New York. Another curious exception to the declining trend in paper product imports is Japan from which imports have risen by 92 percent – still negligible however in dollar terms.

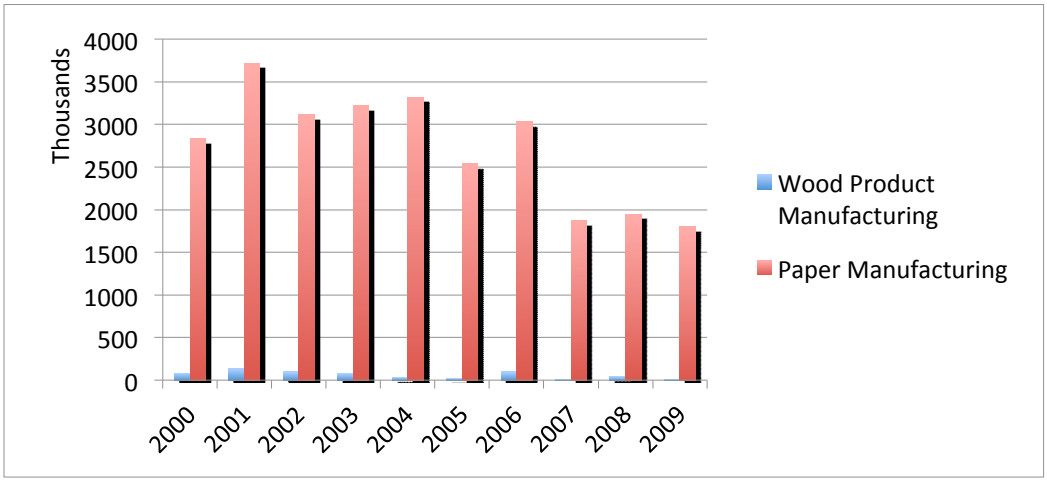
Figure 40: Paper Products Imports, by Origin, Newfoundland and Labrador, 2009



Source: Statistics Canada

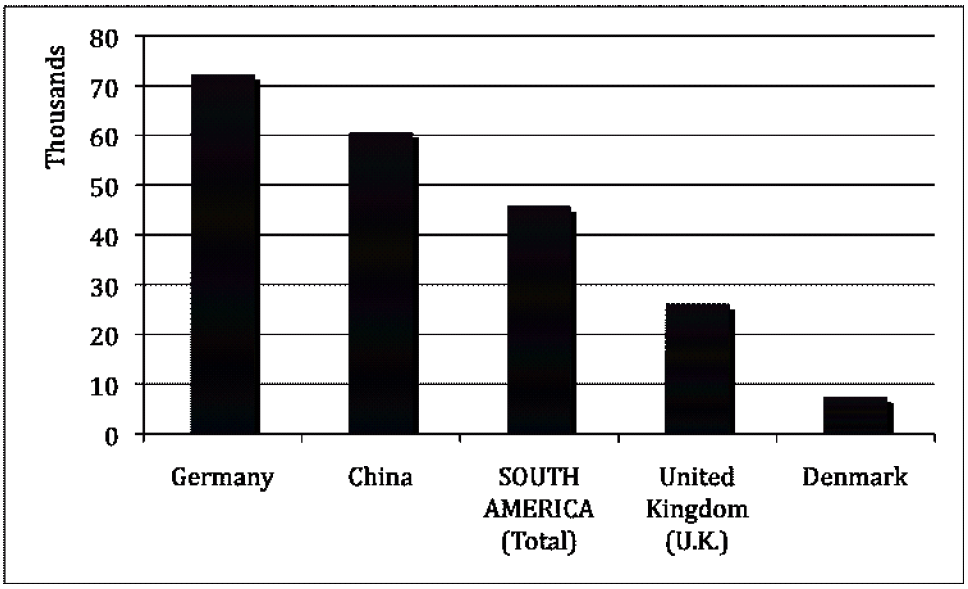
Wood product imports from the United States, the principal import market, have declined on average 3 percent per year during 2001-2009 [Figure 41]. Bucking this trend are wood product imports from the rest of the world, which are generally up. However, the increases on those markets are large only in percentage terms as imports are rising from very low levels. Imports from Germany are up 6 percent, from Denmark 58 percent, from the UK 112 percent, and from China 109 percent [Figure 42].

Figure 41: Forestry Product Imports from US



Source: Statistics Canada

Figure 42: Wood Products Imports, Newfoundland and Labrador, 2009



Source: Statistics Canada

This section has demonstrated that exports of forestry products from Newfoundland and Labrador are generally in decline, and imports are increasing. On the inter-provincial front, the Province has consistently run trade deficits in over the past decade. Internationally, exports of wood product manufactures to EU countries have declined. Exports of paper products to the United States are also in decline, indicating that the Province is facing stiff and increasing competition on its major international markets. It seems inevitable that these developments will force some restructuring of the industry and thus of the forest sector as a whole. The adjustments trickling down from the industry level to the floor of the individual establishment will involve a search for gains in

productivity. This means a more economical use of all inputs including labour, land and wood), better integration of firms in the supply chain for the purpose of utilizing but minimizing wood waste in production, and possibly consolidation with a view to finding a minimum-efficient-scale of operation suited to conditions that on the trends documented here seem likely to prevail. All else equal, this is set to make the protection of forest sector jobs harder, particularly in rural areas.

Some of the trends at issue are just emerging, but they are set to prove increasingly important in the future. With improvements in living standards in society as a whole comes a greater concern for sustainability of practices that involve the use of natural 'assets' such forests and the land on which they grow. The idea that the integrity of the ecosystem is the foundation on which sustainable economic activity is built is gaining widespread acceptance – even within the economics profession. One manifestation of this is recognition of the premise that forests produce goods and services *in situ* as well as for markets. That is, there are land uses alternative to timber production that can create employment, and generate income and thus economic well-being. The services that forests provide are not all priced in the market place (as there are no markets for them), but they are valued nonetheless. Policy documents produced by the Provincial Government in recent years indicate an awareness of the need to diversify not only the industry itself, but also the whole forest policy framework to embrace the changing needs and wants of all who depend in myriad ways on the integrity of the forest resource. The following section is an attempt to assess, albeit in a cursory fashion, the progress toward this end. We begin by characterizing the 'supply side' – the land use pattern, the forest inventory, and the timber supply.

Land Tenure, Timber Supply and Land Use Limitations

Tenure

The land area of the Island of Newfoundland is approximately 11.4 million hectares. 3.036 million hectares are considered productive forestland,[16] of which 1.935 million hectares is Class I. That is, the most productive forests make up 17 percent of the total land area.[17] All productive forestland is publicly owned, but much of it has been leased to the private sector on long-term leases in the interest of enabling commercial forestry. Stumpage fees for cutting timber (the means by which the Crown captures economic rent due the resource owner) have historically been nominal in this Province. The bulk of the Island's commercial wood inventory is softwood. An Annual Allowable Cut (AAC) is set every five years by the Department of Natural Resources to limit the amount of timber that can be harvested in each of the Province's forest management districts. The AAC thus places an upper bound on the economic softwood supply on public lands. A detailed history of the forest tenure arrangements on these lands can be found in *Newfoundland Forest Sector Strategy: Final Report* (2008) and its companion document *Newfoundland Forest Sector*

[16] Productive Forest Land is either completely or partially available for harvest.
[17] NL Forest Sector Strategy: Final Report (2008), p. 31

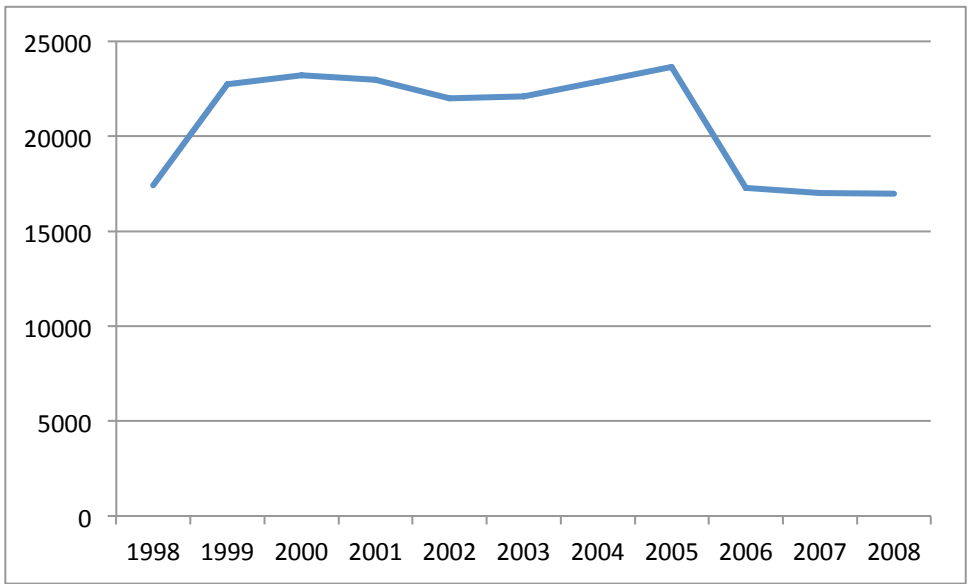
Strategy: Benchmarking and Background Information. Both documents identify the existing structure of tenure arrangements as a principal obstacle to diversification of the forest sector. To see why, it is necessary to consider first the implications of the land use pattern for timber supply.

CBPP has had forestland tenure agreements with the Crown since 1922.[18] The current tenure arrangements date to1938, and expire in November 2037. In 2008, CBPP's tenure covered 992,772 hectares (32.7 percent) of the total productive forestland on the Island.[19] In the same year, ABH and CBPP had rights to harvest 70.5 percent of the total softwood AAC (or 1,661,420 m^3.) The closure of the ABH GFW mill and expropriation in 2009 of the company's timber and water assets, leave CBPP as the sole forestland tenure holder. With ABH's timber rights returning to the Crown in December 2009, the share of the AAC controlled by the paper industry was 44% (or 1,038,760 m^3). That is, one firm – CBPP – now controls almost half of the total softwood AAC. Reportedly, CBPP currently requires about 950,000 m^3 of wood annually (or 91% of its AAC). Estimates for 2008 indicate that 700,000 m^3 of the required volume were harvested under CBPP's license. [20] In terms of the area harvested, CBPP reports that at the present time it has tenure on 928,524 hectares, of which it harvests 5,000 hectares annually – a mere 0.54 percent of its limits.
Whether CBPP has more land under tenure than it needs, or whether there exist currently an excess supply of harvestable wood on these lands cannot be answered categorically with reference to these data. This would depend on a host of factors such as the growth/yield conditions on its lands, the age/volume structure of the inventory, the species composition, and the operability (economic accessibility) of the inventory on the lands in question.

However, it appears that in recent years, CBPP has underutilized its AAC consistently. The data shows that the harvest area and harvest volume on productive lands have both declined [Figures 43-44]. This is despite the fact that the sawmill industry depends heavily on CBPP for access to raw material since harvesting rights must be obtained either from CBPP for cutting on its timber limits, or from the Crown for timber cutting on Crown lands. To ensure access, CBPP (and formerly ABH) have entered into agreements with the Crown to provide logs to the sawmill industry. However, these forest resources are managed on a pulpwood- first basis, meaning that the priority for CBPP is to feed first its own paper machines.

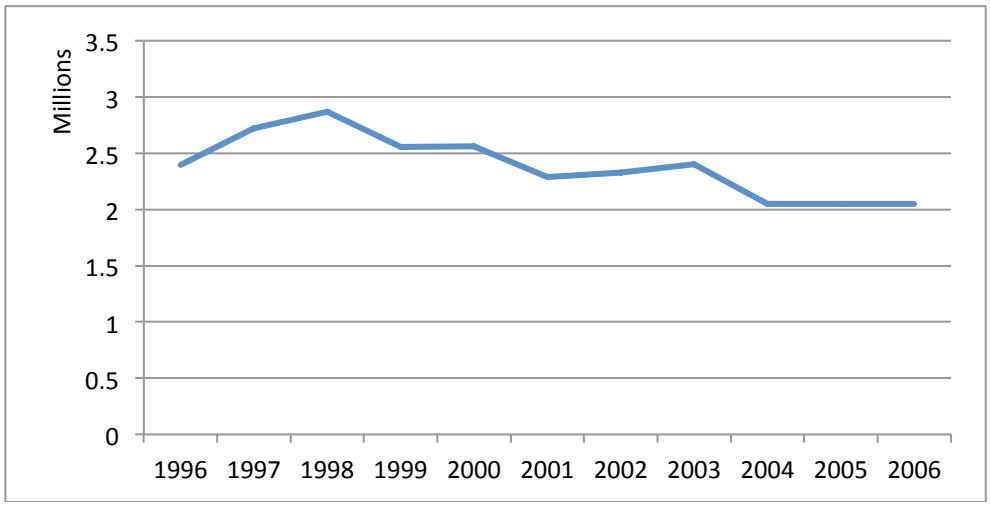
[18] In 1994, CBPP reverted approximately half of its timber rights to the Crown
[19] Newfoundland Forest Sector Strategy: Final Report (2008), p. 35.
[20] Newfoundland Forest Sector Strategy: Final Report (2008), p. 37.

Figure 43: Harvest Area, hectares



Source: Natural Resources Canada

Figure 44: Harvest Volume, m^3



Source: Natural Resources Canada

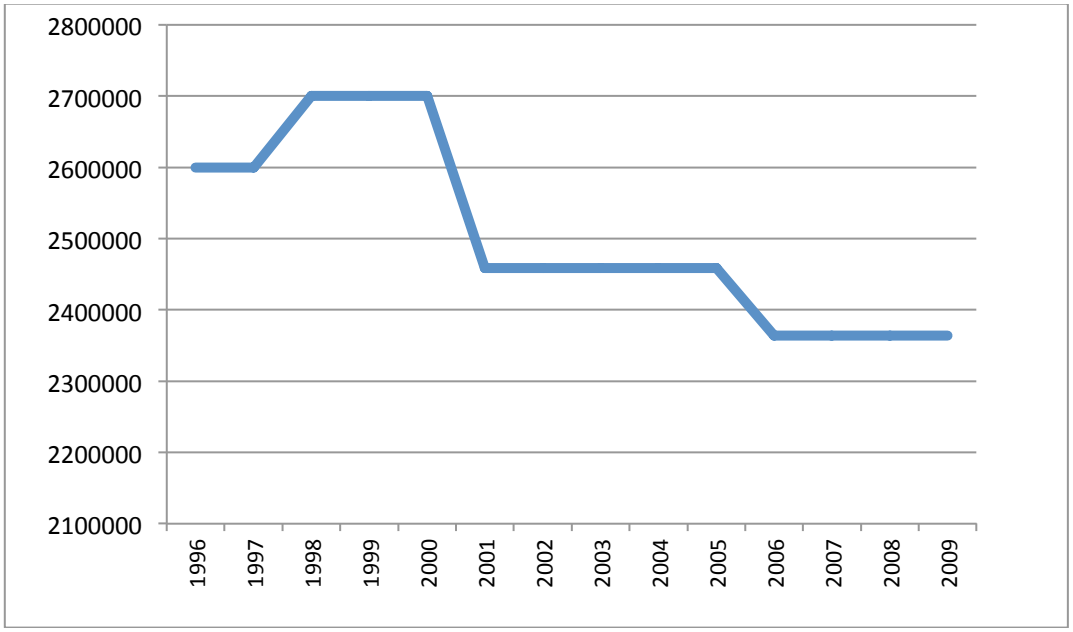
Timber supply

It is evident that the AAC has decreased consistently over the past decade [Figure 45]. The decline in the AAC may indicate an effort to match the timber inventory and the lands on which it sits to the needs of the forest industry. Hypothetically, it may also be part of an effort to regain public control of timber rights.

The AAC was reduced by 75,895 m^3 during the period 2001-2006. Ensuring a stable wood supply for the mills has since become increasingly difficult, deteriorating demand

conditions aside. It appears that the paper mills operated by CBPP and ABH GFW faced a shortage of roundwood leading up to the closure of the ABH GFW mill in 2009. This would have been the case given the estimated roundwood demand of 2,503,000 m^3 in 2007 and the currently applicable AAC of 2,311,430 m^3. It has been noted that the closure of the ABH Stephenville mill was related directly to an 'unstable' wood supply and high energy costs.[21] Total roundwood demand was reduced by an additional 543,000 m^3 when the ABH GFW mill closed in 2009.[22]

Figure 45: Annual Allowable Cut, m^3



Source: Department of Natural Resources, Newfoundland and Labrador

All else equal, the small operable (commercially viable) wood supply on the island is arguably a constraint on the long-term viability of the forest industry. If correct, then improved forest yield is needed (by R&D, and silviculture) to stabilize commercial forestry. Given the relatively poor productivity of most forestlands, and the emerging competing demands for more *in situ* uses of forests, improving the yield on some of the best lands seems imperative. However, this proposal is not clear-cut, so to speak, as it raises at least two major policy issues. The first is who pays for such investments on public lands. Silvicultural investments to promote growth and yield tend to be very expensive, and as with voluntary certification standards, they require secure tenure. The second policy issue arises from the likelihood that the lands most suitable for investment in silviculture are also some of the most important lands in terms of wildlife habitat protection.

[21] APEC (2008)
[22] NL Forest Sector Strategy: Final Report (2008), p. 37

Land Use Limitations

In the past, the Provincial Government has on occasion declared land 'unmanaged,' and transferred the associated timber rights back to the Crown. However, existing tenure arrangements are in general not conducive to reallocation of lands to alternative or multiple uses. In 2008, the Government indicated that it would not pressure CBPP to harvest more of its available land, unless necessary in order to prevent a decrease in the future availability of harvestable wood volume. In 2010, in exchange for the reversion of certain timber rights to the Crown, the Government announced a transfer of $30.6 million over two years to Kruger Inc as a 'a lifeline' for CBPP. This arrangement can be seen as a mechanism for returning timber rights to the Crown for the benefit of other long-term uses, while helping protect at least temporarily the direct and indirect jobs related to the economic activity of the mill.

An additional problem of the tenure arrangements is that they stifle diversification of the forest sector in that licensees can hold timber rights regardless of whether the facilities are in operation or not. For example, if CBPP were to close, the owner, Kruger Inc, may be in a position to retain timber rights in the Province unless the Government challenges those rights in court. Given the high costs of litigation and expropriation, the Provincial Government may be inclined toward status quo. Consequently, if CBPP's financial viability were at risk, the Government would face an intractable choice: inactivity of a significant portion of the resource base; expensive legal proceedings; or throwing the industry another lifeline.

The agreements that ensure the flow of wood supply between sawmills and the pulp and paper industry contributes to the viability of commercial forestry. As the pulp and paper industry shrinks, these agreements continue to provide the sawmill industry with the stability of wood supply it needs to operate and expand. However, in the context of forest sector diversification, there may be a trade-off involved. In some cases, these timber access agreements may constrain or prevent alternative valued uses of the land.

The conclusion is inescapable that the long-term land tenure arrangements pose an obstacle to forest sector diversification – a topic discussed further below. [23] Whilst the Government can enact laws and enable polices to promote sustainable harvesting and ensure adequate wood supply for non-pulpwood uses, it is in so doing constrained by the existing framework of tenure arrangements. It follows that even with the best of intentions, planning for and coordinating alternative uses is a difficult exercise.

The problem is compounded by the fact that there is no explicit land use policy currently in place for the Province's forestlands – a crucial point made in the Newfoundland Forest Sector Strategy: Final Report (2008). Hence, land use conflicts cannot be addressed through any existing framework. To help guide the allocation of forestland amongst alternative or competing uses, stakeholders have recommended the adoption of a transparent framework for land use management. The development of such a framework

[23] Newfoundland Forest Sector Strategy: Final Report (2008), p. 3

would be timely as the long-term decline of commercial forestry is coinciding with the emergence of demands for alternative, or multiple (and simultaneous) land uses. Once again, this is the 'cross-roads' at which a strategic direction for the sector as a whole needs to be charted. This is the policy challenge facing decision-makers. It calls for forging a consensus – a vision – for how to maximize the value of the forest resource given the disparate interests of the stakeholders in the Province.

Emerging Trends in Forest Policy

Public policy typically involves strategy implementation and direct expenditure. This section examines the purpose and direction of the public policy effort in the forest sector in recent years.

The Provincial Government has begun the process of addressing the challenges faced by the forest sector. Consultations with stakeholders have been initiated, and this has lead to the development of several strategies aimed at guiding forest policy and land management. To date, the principal documents outlining the Government's current stance on forest policy are

- Provincial Sustainable Forest Management Strategy (2003)
- Newfoundland Forest Sector Strategy: Final Report (2008)

These and other relevant government documents have been cited earlier in this report. However, the main findings and recommendations of the 2003 and 2008 studies merit a summary here, as further implementation of the recommendations is needed.

Provincial Sustainable Forest Management Strategy

Released in 2003 by the former Department of Forest Resources and Agrifoods, this document defines sustainable forest management as

> "… maintaining the long term health of forest ecosystems, while providing ecological, economic and cultural opportunities for the benefit of present and future generations."

The objective of the document is to provide a framework in order to manage the Province's forests in a way such that both ecological and economic needs are met. In particular, the strategy identifies the need to conserve forest ecosystems and maintain biodiversity while maximizing economic benefits. The evolution of forest use from exploitation to sustainable forest management is acknowledged. Specifically, is recognized that forest management entails many alternative uses for forests and land, spanning environmental, ecological and economic alternatives. Realization of these values calls for ecologically-based management with a view to biodiversity protection, forest health, and the role of forests as carbon sinks. Yet, the forest sector must continue to provide employment and other economic benefits, particularly in rural areas.

Newfoundland Forest Sector Strategy

Beginning in 2007, the Government launched the first of a series of initiatives aimed at forest industry diversification. One such initiative is the development of a forest sector strategy. The objective of the consulting report that underpins this initiative was to assess the current state of the forest industry and outline the best path towards a more sustainable forest sector.

The Strategy Report notes two major problems in addition to global market conditions, which affect the viability of the forest sector. First, no explicit land use policy or planning framework exists through which competing land use alternatives can be resolved. Second, the long-term nature of forestland tenure arrangements inhibits the growth of the non-pulp industry on the island. Because of the expropriation of ABH's timber and water rights, this is now less of a concern. While the Province has opened some of ABH's former land to domestic cutting and fuelwood harvesting, there has been no publicly documented effort to direct fiber from this land towards new industries in the forest sector.

The findings of the 2008 Strategy Report can be summarized as follows[24],

- Neither the two newsprint mills nor the seven significant sawmills in the province are economically viable in the long-term
- The Province's lack of command over its forest resources is a hindrance on the diversification of the forest sector, particularly in the wood product manufacturing industry
- The limited fiber supply on the island is a constraint on the growth of the forest sector
- Policies concerning sustainability generally focus on maintaining existing levels of a resource and do not stress the importance of implementing technology to enhance stocks

Based on these findings the Report recommends that:

- the Crown should initiate a process resulting in the return of timber harvest licenses to Crown control that compensates both ABH and CBPP, as well as ensure that both companies have access to raw materials needed to sustain operations
- a harvest allocation system be developed and implemented (i) to allow forest product manufacturers to obtain sufficient timber; (ii) to integrate each industry's production process to facilitate the efficient flow of timber between primary forestry, wood product manufacturing and paper mills; and (iii) to allow for convenient transfer of harvesting licenses should a firm exit the industry, so as to allow for community control of forest resources where possible

[24] Further details concerning the consultant's depiction of a sustainable forest sector can be found in NL Forest Sector Strategy: Final Report (2008), pp. 62-65.

- Government should (i) provide financial support for sawmills and wood product manufacturers wishing to acquire new technology; (ii) initiate the development of a land-use conflict resolution system and process that relies on educational resources and institutions that already exist in the Province; and (iii) establish working groups to increase the input of rural communities and other regional stakeholders into the management of community forest resources

These findings and recommendations suggest useful policy responses to many, if not all policy challenges faced by decision-makers. As such, the recommendations serve as benchmarks against which progress on the forest policy front can be measured. We are in agreement with the tenets of these recommendations. The remainder of this section outlines changes and trends in the forest policy environment since 2008.

The Canadian Boreal Forest Agreement

Environmentally sound business practices are becoming 'core values' in many industries and the forest industry is not exempt from this trend. In May 2010 the Forest Products Association of Canada (FPAC), which represents twenty-one companies (including ABH and Kruger), partnered with nine environmental organizations to sign the Canadian Boreal Forest Agreement (CBFA). The general aim of the agreement is to put a more environmentally friendly face on the forest industry.

The Canadian Boreal Forest Agreement is the world's largest forest protection agreement, covering two-thirds of Canada's certified forest land or about 72 million hectares. The total land area covered by the Agreement is equivalent to the forest land lost globally to other uses between 1990 and 2005.[25] The major environmental concern expressed by the groups involved is the protection of woodland caribou – an endangered species. FPAC hopes the agreement will appeal to wildlife-conscious consumers and help jumpstart the recovery of Canada's forest sector. The agreement suspends logging on 29 million hectares of boreal forest nation-wide, and establishes ecosystem-friendly management regimes on the rest of the protected land. The agreement guarantees that producers receive an uninterrupted wood supply for mill operations. The estimated carbon savings total billions of tonnes, much more than the 572 million tonnes Canada currently emits annually. The CBFA thus promises major, much needed reform of the forest sector.

The six goals targeted in the CBFA are

- Forest Practices
- Protected Areas
- Species at Risk
- Climate-Friendly Practices
- Industry Competitiveness

[25] BBC News, "World's Biggest Forest Protection Deal for Canada" May 18th, 2010

- Marketplace Recognition

The detailed goals in each target area are found in *The Canadian Boreal Forest Agreement* (2010), in which the milestones are stated along with the suggested means of reaching them.

What are the implications of the CBFA for Newfoundland and Labrador? CBPP is the only company affected by the CBFA, as the mill is the only tenure holder on provincial forestland as of December 2009. The CBFA applies to the entire land currently managed by CBPP. However, none of this land will be committed to the exclusive preservation of woodland caribou, an issue over which the Government has faced criticism.

The CBFA is significant because it re-shapes the future development of Canada's forest sector entirely. The agreement acknowledges that the sector must adapt to the changing values concerning the environment. Consequently, the forest industry is expected to adapt their practices, and forest policy should reflect that new norms apply regarding the environment. For example, the obligation to 'clean up' applies across the board, but attention is focused on the pulp and paper industry in the first instance. Forest policies have thus started to reflect these new norms. However, it necessarily takes time for practices to follow suit. Vigilance in the form of sustained pressure on the industry to comply, paired wherever possible with appropriate incentives, is vital for timely progress towards the CBFA goals.

The implications for this Province are clear: CBPP and the abandoned ABH mill in GFW are both old and require significant capital investment (expenditure) in order to achieve compliance with the CBFA. If an investor can be found to take over the GFW mill, which seems unlikely under the circumstances, replacement of the existing technology at that mill will be required.

Re-shaping of the forest sector in the Province as envisioned under the CBFA is constrained by the long-term nature of tenure arrangements. Since lease holders control the land under their tenure, whether it is managed for harvest or not, it cannot be managed for non-timber uses by another agency. This places obvious constraints on the expansion of non-timber uses on some of the land best suited for such uses. A prime example is caribou habitat preservation. It has been alleged that logging practices conflict with caribou preservation on some land that has been recommended for the preservation of woodland caribou. This is said to have arisen as a substantial proportion of CBPP's managed land is in fact within the buffer zones, calving areas and migration corridors identified by the Government. Perhaps as a result, the Government has made efforts to regain timber rights from ABH and Kruger Inc, and it has stepped up various land management activities. However, it is unclear to what extent these measures substitute for 'infringements' on habitat that is known to serve the woodland caribou. To the extent that such infringements occur, they can reasonably be expected to problematic, perhaps critical, given the endangered state of the population.

Alternative Land Uses

The long-standing primary use of forests for commercial purposes has come in for increasing criticism by environmental- and special interest groups in the Province. This is not an attack on commercial forestry per se. The criticism focuses on the lack of consideration given, directly or indirectly, the alternative and sometimes competing uses that the standing trees provide, such as

- buffer zones around outfitters camps to aid hunting and fishing activity
- ecosystem and wildlife preservation
- landscape for residential developments
- areas to support recreation and sport; unique wilderness and parks
- buffer zones around communities and/or waterways

These non-timber land uses were identified in consultation with stakeholders and reported in Newfoundland Forest Sector Strategy: Final Report (2008), but no attempt is made to estimate or reference values of non-timber uses. We argue that it is essential to informed debate on these matters that a proper valuation of these non-timber objectives be undertaken. Such an effort is well beyond the scope of the present paper however. Yet, it is evident from the Strategy Report that such an evaluation by a disinterested third party is needed since tenure holders observe that

- special interest group surveys that measure the value of land use alternatives are biased, and this is not accounted for by government when influencing policy
- community watershed projects have been established on tenured land that has been allocated for timber harvests in the future
- hunting activity may be also be an impediment to the preservation of wildlife and ecosystems[26]

It is important to note that because of the debate regarding land use conflict, harvesting on over 50 percent of CBPP's managed land is now reported to be limited in some way. CBPP's own Sustainable Forest Management Plan (2004) acknowledges the non-timber uses of the mill's managed land. These include tourism and recreation, mining, agriculture, outfitting, cabin development and hunting. The company notes that 'adventure tourism' is a burgeoning industry in the province and that hiking, skiing and snowmobiling all take place on CBPP's defined forest area (DFA). Furthermore, any mining activity that occurs on the DFA is regulated by the Provincial Government. When mining exploration permits are issued by the Government, CBPP is notified so that any conflicts can be resolved.

CBPP also has a memorandum of understanding with the Newfoundland and Labrador Outfitters Association in which both parties commit to reaching a compromise on land-use conflict issues. No fewer than 26 species of mammals and about 70 species of bird occupy the DFA. The mammals include caribou, lynx, Newfoundland pine marten, beaver, moose

[26] NL Forest Sector Strategy: Final Report (2008), p. 44

and arctic hare. CBPP's Sustainable Forest Management Plan outlines the company's aims and progress concerning the development of 'special sites:' areas identified as having value in addition to timber. Special sites comprise rare plants, wetlands, important ecological values, unique geological features, cultural or historical significance and aesthetic appeal.

Woodland Caribou

As already noted, the preservation of woodland caribou on the island has become a contentious issue in the public discourse in recent years. The woodland caribou population has declined from 90,000 individuals in the mid 1990s to 37,000 in 2008.[27] Several environmental groups have noted that caribou require old growth forests for calving and shelter and will vacate their habitat if clearcutting comes within a 10-kilometre buffer zone.[28]

A document entitled Forest Management Guidelines for Woodland Caribou for the Island of Newfoundland (2007) was prepared by the Wildlife Division to 'ensure that adequate caribou habitat is available at all times.' Several recommendations of this report would, if implemented, impede commercial forestry. For example, the Report recommends that

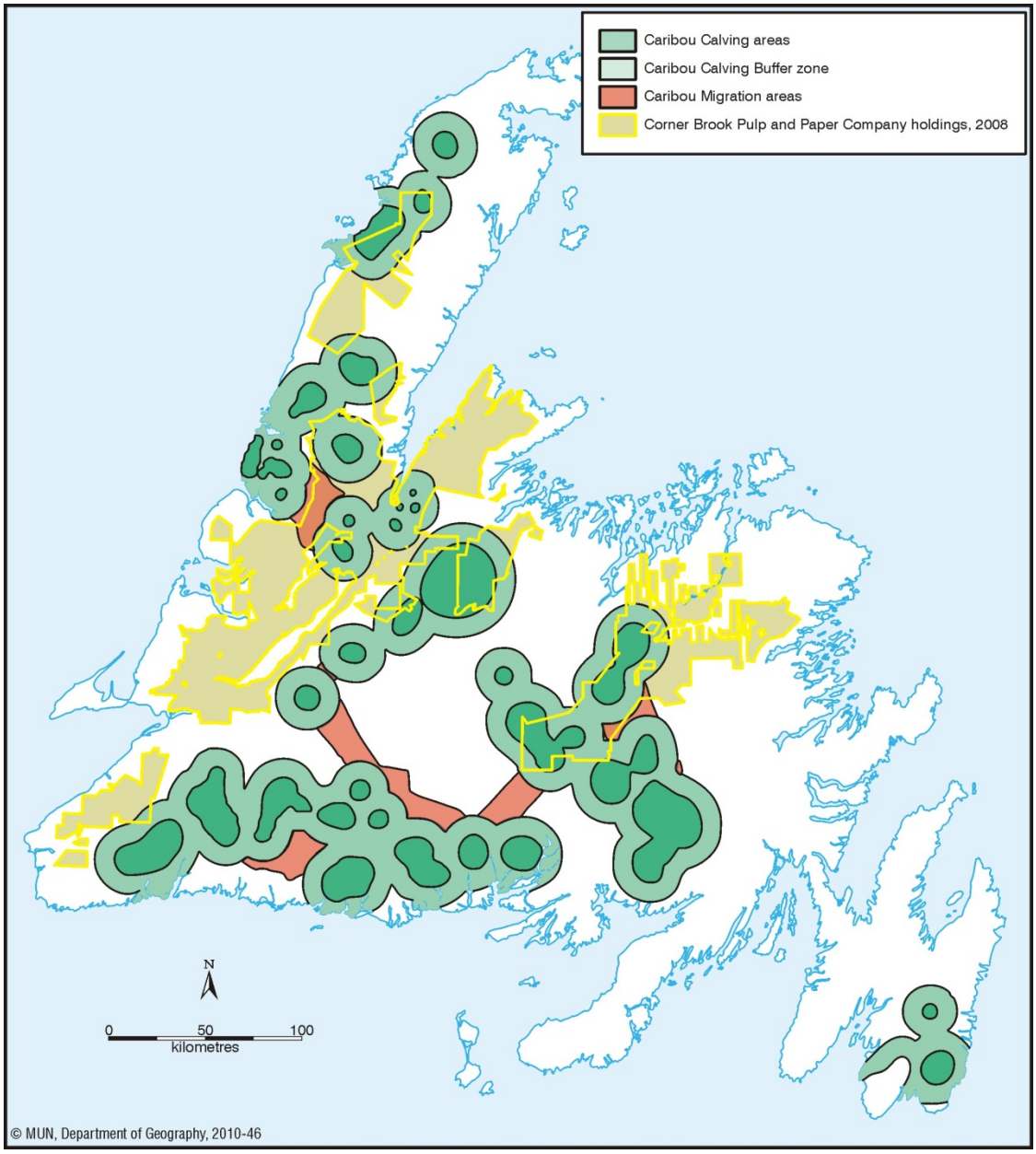
- primary roads be planned to avoid traditional winter and calving grounds
- a continuous supply of overmature forest distributed across the landscape be maintained
- selected harvest systems that retain lichen values should be preserved
- roads should be constructed in an irregular pattern where vegetation is left such that it does not leave a recognizable trail
- harvest areas should be avoided during the calving period May 15-July 30 and the wintering period December 1-April 30

It is also recommended that within *core calving areas*, 75 percent of over mature forest (80+ years) should be maintained. Forest roads should be of a temporary nature. This would amount to the preservation of 43,941 hectares of old growth forest in the Province as a whole. (Old growth forests would normally be prime timber for commercial purposes, as they comprise large-diameter trees from which products that are more valuable can be manufactured.) For *buffer zones*, the Wildlife Division recommends that a minimum 30 percent of old growth forest be maintained, and likewise for caribou *migration corridors*. Taken together these requirements would set aside 56,951 hectares. Thus, based on the Wildlife Division's study, 100,892 hectares are needed to preserve woodland caribou on the island. This corresponds to almost 10 percent of the total productive forestland on the island. Approximately 4.4 percent of CBPP's managed land intersects caribou protection land. The overlap, though significant, should not be an insurmountable obstacle to progress.

[27] 'Plan Drafted for Dwindling Newfoundland Caribou,' CBC News, February 8, 2008.
[28] ' Requiem for Caribou,' The Telegram, April 26th, 2010

To get a spatial sense of the extent to which the areas managed for timber by CBPP overlap with areas identified as buffer zones, calving areas, and migration corridors for caribou, we digitized information contained in the Wildlife Division document and projected it onto a map of the relevant timber inventory. The result [Map 2] shows that the extent of contested areas is indeed considerable. Since the two land uses, timber production and caribou habitat preservation, are essentially incompatible if not mutually exclusive, and given the endangered state of the caribou population, it is not surprising that the cries of protest from environmental groups are growing louder as the Government is considering the options.

MAP 2: Caribou Habitat on Productive Forest Land



Source: Digitized from data published by the Department of Environment and Conservation, Wildlife Division, Government of Newfoundland and Labrador. Authors' compilation.

Yet time is of essence. There is ample evidence from studies of population dynamics that even incremental violation of habitat integrity can lead to sudden and unpredictable collapse. With only one major paper mill operating (whose long-term viability is in question), it would seem prudent to seek a negotiated solution as soon as possible. It would take political will and a heightened sense of urgency to affect substitutions of land that can adequately protect the caribou, while not unduly disadvantage the operation of the mill. Under existing tenure arrangements and the precarious economics of the mill, a creative and practicable solution is needed. It should not be beyond the realm of possibility to find such a solution given what is at stake – the preservation of an iconic species that is of great cultural significance to this Province.
In February 2008, having undertaken analysis of how to preserve the woodland caribou population, the Provincial Government launched a five-year caribou strategy. The $15.3 million strategy seeks to reduce the number of predators affecting woodland caribou and incorporates both scientific and management research. However, the initiative has been met with criticism for citing predation as the only factor contributing to population decline. In particular, it has been argued that logging has infringed on the recommended buffer zones intended to protect caribou habitat.[29]

The protection of woodland caribou is an important issue in Labrador as well. The George River herd in Labrador was recently described as being in "continuous, serious decline" by the Honorable Charlene Johnson, Minister of Environment and Conservation in reference to preliminary results of a July 2010 population survey.[30] As the final survey results have not been released at the time of writing, the decline in the population since its 2001 level of 350,000 individuals is not yet known. The herd was once the world's largest, reported to have had about 750,000 individuals as recently as the early 1990s. As a first practical step towards protecting the George River herd, the Government has delayed the start of the hunting season. In the case of this herd at least, it would appear that predation and environmental factors may have contributed more to the decline than habitat destruction from logging operation since there is no significant commercial forestry in Labrador at present.

Estimates of Caribou Value

It is beyond the scope of this paper to estimate values of alternative land uses such as recreation or wildlife preservation. However, estimates for many of such alternatives, albeit for different locations, can be found in the scientific literature, as well as in various consulting reports. For example, Martín-López, Montes and Benayas (2007) provide a mean estimate for woodland caribou in northwestern Saskatchewan and west central Alberta of about $CDN 54.09 (in $2005) per animal. Based on this value and the caribou population estimate above, a back-of-the-envelope extrapolation puts the value of the population in Newfoundland and Labrador at about $2,001,330 in 2005 dollars. It must be

[29] 'Woodcutting Affecting N.L. Caribou Population,' CBC News, April 8, 2010
[30] On the Go, CBC Radio, August 10, 2010

emphasized that this estimate is very crude in that the average value of the caribou was not estimated for the local caribou stock specifically. Nor has the estimate presented here been adjusted for differences in incomes, hunting value, cultural and social values, and other factors that have a bearing on the valuation in this Province. The adjustment for such factors can be expected to increase the above estimate considerably. Having a more reliable estimate to hand would be most helpful in mapping strategies that involve the intersection of forestland use and wildlife management. The same holds for a multiplicity of other land uses. For quite some time, methodologies have been available for the estimation of a wide variety of forestland values that are not priced in the marketplace. These methodologies have been vastly improved in recent years.

Forest Sector Diversification

The Provincial Budget 2007 provides increased funding of $4.8 million for the Forest and Agrifoods Agency to manage forest resources, create new opportunities in the sector, and implement the strategies for the Province recommended by consultants. Of this amount, $150,000 is for an awareness campaign intended to educate the public about the value of the forest resource, and about the manufacturing of wood products on the Island.

The Provincial Budget 2008 announces the development of a forest industry diversification initiative. This program derives in part from the findings and recommendations of the Newfoundland Forest Sector Strategy: Final Report (2008). $14 million is allocated to forest industry diversification ($4 million of which is federal funding). The initiative aims to increase the industry's competitiveness, diversify its products and access new markets. The objective is to structure "an industry that will be strong and sustainable and one that will be able to compete in today's new global market." The components of the program are as follows:

- $11 million for infrastructure to diversify products and find new markets
- $1 million to fund a cost-shared study with CBPP on decreasing the mill's reliance on Bunker C oil, with estimated savings of 32,800 barrels annually
- $500,000 for sawmill diagnostics, to assess the technical and financial well-being of sawmills in the province
- $500,000 to develop the market for wood pellets, a residue of sawmill production. This comes in the form of a 25 percent rebate for households that invest in the appropriate technology to use wood pellets for home heating
- $1 million for a marketing program to help the sawmill industry access new markets

In the Provincial Budget 2009 expenditure on forest industry diversification totaled $9.55 million. This included continuation of the wood pellet rebate program (405 rebates have been granted since 2008 at an average value of $580); $500,000 to modernize Burton's Cove Logging and Lumber Ltd in White Bay; and $9 million for Holson Forest Products Ltd in Roddickton. The forest diversification expenditure for the fiscal year 2010/11 is $6.5 million, including another $500,000 dollars for the wood pellet rebate program. The wood

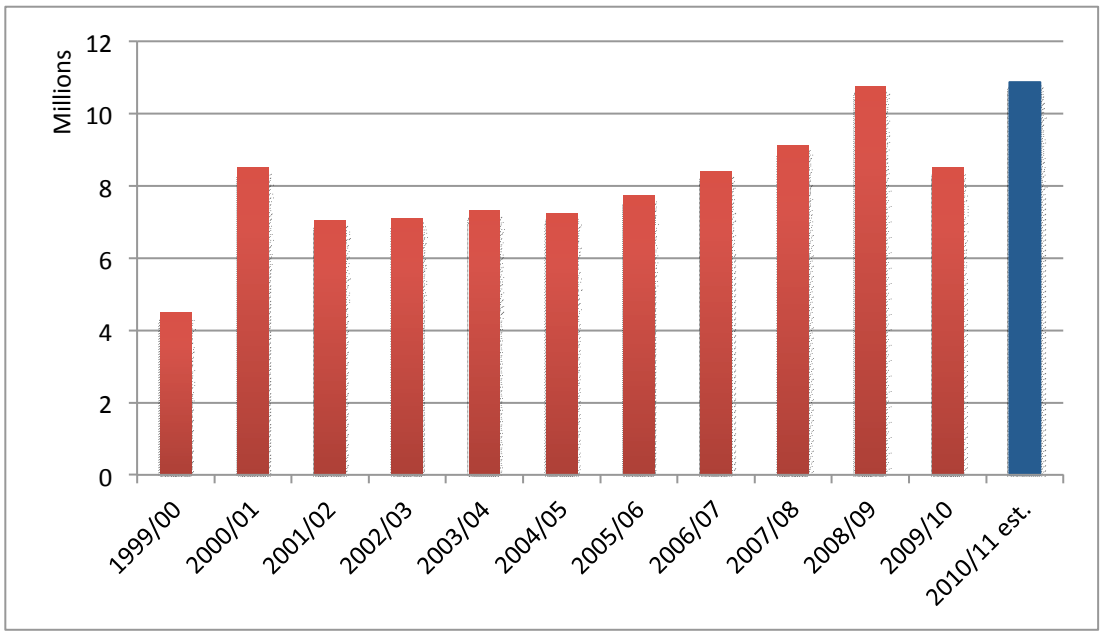
pellet rebate is an important component of this program because it encourages the restructuring of the sector through a closer integration of the various industries in the forest sector. The aim is to stimulate production of wood chips by creating a residential demand for wood chips. Wood chips can also be used as inputs for paper mills, decreasing the industry's reliance on imports. This kind of integration was recommended in the Forest Sector Strategy document commissioned by the Government. We see this as a step in the right direction.

Public Expenditure and Taxation Measures

In addition to the diversification initiative, the Government has continued to undertake, and subsidize, forest management and protection activities related to silviculture, resource-road construction, insect control, fire suppression, communications, and various program planning activities. A case in point is the 2008 cost-sharing of CBPP's $4 million silviculture program.

Provincial expenditure on silviculture has increased steadily from 1999-2011 [Figure 46]. Expenditures rose by over $4 million or 89 percent from 1999-2009.

Figure 46: Public Silviculture Expenditure



Source: Budget Estimates, Government of Newfoundland and Labrador

Of the Province's forest management expenditures, resource-road construction is the only category in which expenditure has declined over the past decade [Figure 47]. Expenditure on resource roads has declined by $23 million since the 2003/04 fiscal year – an 84 percent drop. Several factors may account for this. First, expenditures will necessarily vary from year to year with the level of maintenance required, and new roads are not always required

each year. Second, the closure of the ABH Stephenville and GFW mills in 2005 and 2009 would have reduced the Province's obligations. Third, given the reduced demand for wood and paper products, firms may no longer require the same level of new road construction and maintenance.

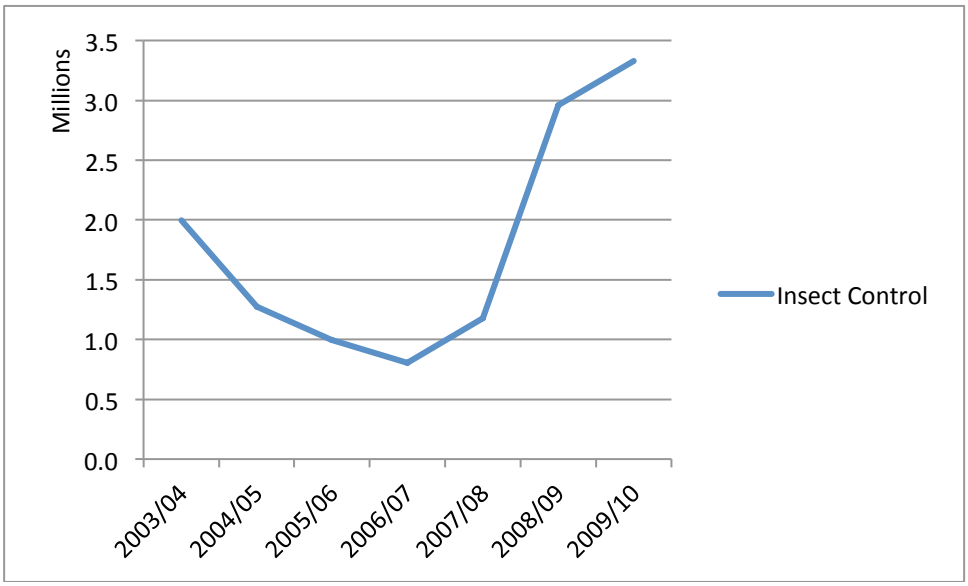
Figure 47: Public Resource-Road Construction Expenditure, $

Source: Budget Estimates, Government of Newfoundland and Labrador

Expenditure on insect control has increased by $1.34 million (67 percent) since the 2003/04 fiscal year [Figure 48]. Since the 2006/07 fiscal year, the commitment to insect control has grown substantially after a period of slow and steady decline. The reasons are two-fold. First, the area of forestland defoliated by insects more than doubled between 1998 and 2008.[31] Second, the declining output of the forest sector and the closure of major paper mills (ABH GFW and ABH S) have likely left significant portions of forestland unmanaged. It seems that the Government has opted to manage at least some of this land in hopes of protecting the inventory by, effectively, increasing the area treated.

[31] Natural Resources Canada

Figure 48: Public Insect Control Expenditure, $



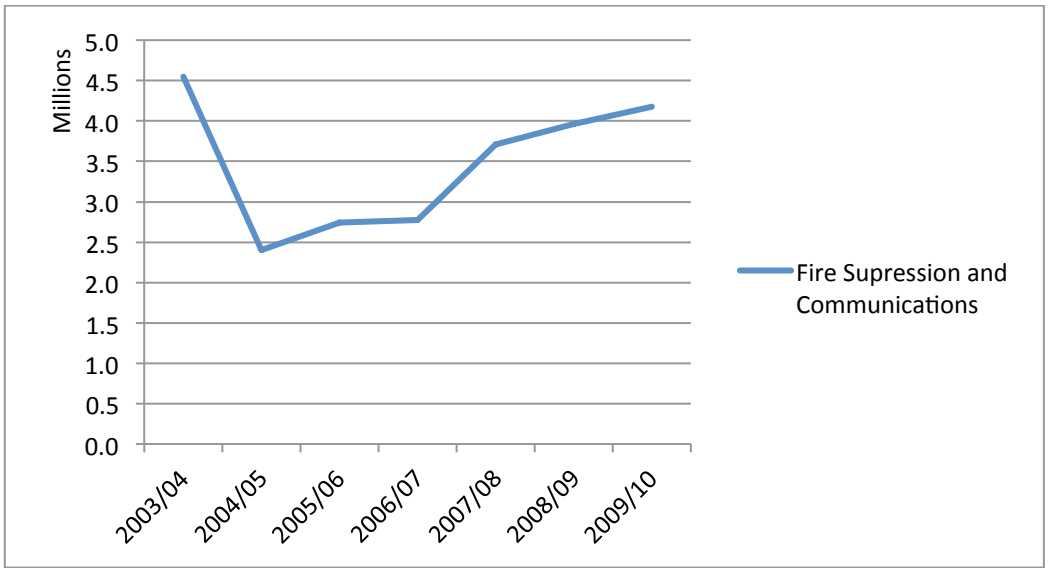
Source: Budget Estimates, Government of Newfoundland and Labrador

Public expenditure on fire suppression and communications have been trending down and reached a low in 2006/07. Since then expenditures have been rising sharply [Figure 49]. It is likely that this reflects the Government assuming forest management responsibilities that previously rested with the now closed mills. Unlike the area of forestland affected by insect infestation, the total area burned by wildfire has decreased since 1998[32]. This suggests that increased expenditure for fire suppression were not attributable to an increase in wildfires during this period, but rather to a commitment to prevent fires.

As mentioned earlier, the forest sector is an important employer in many rural communities where little alternative employment is available. The impact of recent resource road and silvicultural projects on community incomes and employment alike can therefore be important at the margin even if the duration of these is very short term [Table 5]. The Government has also committed to assist displaced workers from the ABH GFW mill in finding new employment. Aid has come in the form of career counseling, transition supports and job-search skills training. In June 2009, $35 million were provided in severance payments to displaced workers. This included pension commitments as ABH could refuse severance payments under its bankruptcy protection arrangement.

[32] Natural Resources Canada

Figure 49: Public Fire Suppression and Communications Expenditure, $



Source: Budget Estimates, Government of Newfoundland and Labrador

Table 5: Recent Public Silviculture and Road Construction Projects

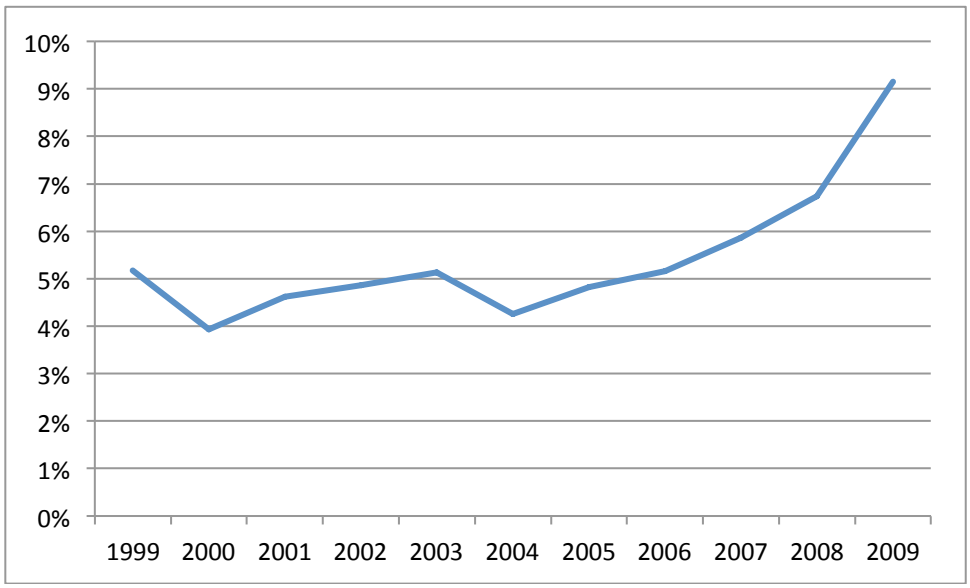
Year	Location	Project	Value	Employment
2008	Chouse Brook/Faulkner's Flat	Silviculture	$80,400	10 people for 8 weeks
2008	Chain Lakes	Silviculture	$85,600	10 people for 10 weeks
2008	Kennedy Lake North	Silviculture	$51,500	n/a
2008	St. George's	Silviculture	$21,000	n/a
2008	Seal Bay/Badger Burn	Silviculture	$50,000	10 people for 7 weeks
2008	Lewisporte	Silviculture	$156,000	128 person-weeks
2008	Trinity North	Silviculture	$37,000	n/a
2008	Terra Nova	Silviculture	$43,400	n/a
2008	Baie-Verte Springdale	Resource Roads/Bridges	$210,000	6 people for 10 weeks
2008	Point Leamington/Fortune Harbour	Resource Roads	$320,000	12 people for 3 months
2008	Humber Valley	Resource Roads/Bridges	$320,000	n/a
2008	Lewisporte	Resource Roads	$300,000	19 people for 5 months
2008	Terra Nova	Resource Roads	$365,000	n/a
2008	White Hills	Resource Roads	$100,000	7 people for 6 weeks
2008	Beaver Pond	Resource Roads	$127,000	4 people for 6 weeks
2008	Blue Gull Pond West	Resource Roads	$90,000	6 people for 4 weeks
2008	Port-Hope Simpson	Silviculture	$60,000	12 people for 2 weeks
2009	Grand-Falls Winsor/Buchans	Silviculture	$72,400	n/a
2009	Lewisporte	Silviculture	$235,000	16 person-weeks, 10 people for 80 person-weeks
2009	Bonavista	Silviculture	$156,000	n/a
2009	Grand Lake Road	Silviculture	$92,000	80 person-weeks
2009	Ferryland		$34,000	6 people, 24 person-weeks

Source: Various News Releases, Government of Newfoundland and Labrador

Each of the forest management categories discussed has in the budget a special sub-category called grants and subsidies. (Figures 47-49 above show the total expenditure in each category.) Figure 50 shows the sum of grants and subsidies for all forest management categories taken together as a proportion of the value of forest sector output. This is a proxy for the rate of subsidization.

Prior to 2005, the expenditure on grants and subsidies related to forest management were constant at around $100,000 annually. It was steady also as a proportion of output. However, since 2006 this expenditure has increased precipitously. Since 1999, grants and subsidies have seen a net increase of $7.2 million, or a full 655 percent. This rise is attributable to expenditure on administration and program planning, and fire suppression and communications. Subsidies for administration and program planning accounted for most of this increase. The rise in subsidies is correlated in time with the closure of the two ABH mills and the trend in global market conditions that have adversely affected the forest industry.

Figure 50: Grants and Subsidies as a Proportion of Output, Forest Sector



Source: Budget Estimates, Government of Newfoundland and Labrador

Tax Relief

The long-standing and important presence of the forest industry in the provincial economy as an employer and a source of income particularly in rural areas have made it a beneficiary of a variety of support measures when market conditions have turned against it. These measures include direct and indirect subsidies, cost-sharing arrangements, tax relief, and exemptions of various kinds including relief from forest management obligations mandated by tenure agreements. A detailed discussion of tax savings benefiting pulp and paper companies can be found in *Newfoundland Forest Sector Strategy: Benchmarking and Background Information* (2008, pp. 35-37). It is estimated by the authors of that document that after adjusting for taxes incurred by operating in the Province, the pulp and paper industry is granted approximately $1.7 million in net tax savings annually.

Subsidies

Forest protection and management expenditures have increased in some categories and fallen in others over the past decade. A full explanation of this requires more detailed information than we have to hand. However, reasons for the general trends are fairly clear. Reduced expenditure on resource road construction is not surprising given the lower demand for wood and recent reductions in the production capacity of the industry. Once built, these roads require relatively little upkeep and continue to provide access to the inventory harvest after harvest. Increased expenditure on insect control and fire suppression protect forest resources for one use as well as another. It protects timber production, and serves diversification in a general sense. The silviculture program enhances the quality and growth of the standing timber primarily for commercial

harvesting, but recreational uses and certain wildlife habitat benefit as well. It is harder to see why in the current environment of reduced economic activity in the forest sector, administration and program planning continues to be the major beneficiary of subsidy expenditure, and why this category has expanded steadily over the past decade.

In our view, forest policy should aim to structure incentives so as to promote reform of the forest sector. Government can help set the direction, and enable restructuring that in the final analysis must be driven by the individual firms that make up the private forest sector. A top policy priority is thus to separate 'bad' subsidies from 'good' subsidies. Bad subsidies are those that directly or indirectly inhibit the structural adjustments that need to take place. In effect, they provide a disincentive to reform. They not only conserve bad (read: wasteful) practices, but they drain resources away from efficient deployments and undermine the effects of 'good' subsides. Good subsidies facilitate reform directly or indirectly. As such, they provide an incentive for restructuring. They are by definition limited in duration, and preferably sector-wide rather than firm-specific so as not to tilt the competitive playing field. Good subsidies seek to harness the forces of entrepreneurship to drive the quest for viability, sustainability, and responsible resource utilization in a general sense.

In distinguishing the good subsidies from bad ones it can be tempting to label some subsides 'neutral' because their interference with structural reform was neither intended nor apparent. However, upon closer scrutiny, such subsidies are more likely than not 'bad' because, if for no other reason, they divert resources away from more highly valued uses. No subsidy, surely, *intends* to inhibit reform. The trouble is that the connection between intent and consequence is easily blurred, and it can change over time. Hence the need for comprehensive stock-taking of the entire structure of expenditure and subsidy support that benefits the forest sector. Is this benefit 'optimized'? Does the current subsidization of forestry activities align the interest of the public owner of the forest resource with that of the industry, which depends upon that resource? Is the rising trend in subsidization (as % of forest sector output) justified?

Discussion

An indication of new thinking on the policy front is the emphasis on diversification of the forest sector. Diversification has become the centerpiece of forest policy in recent years. It is driven primarily by the economic decline of commercial forestry and the associated ramifications for employment and incomes in the forest sector. Diversification efforts to date have thus been focused less on alternative uses of forest lands, and rather more on diversifying the production of forest products in the Province, finding new (or reviving) export markets, and providing stop-gap measures ('life-lines') to help major producers survive what the parties seem to hope is a temporary downturn.

The Provincial Government has provided more than $42 million in direct financial assistance to Kruger's Corner Brook mill since 2006 alone. This amounts to $8.4 million

annually, or $12,000 per mill worker. If the mill's direct employment in logging operations in 50 communities is included, the annual subsidy per worker is $6,460. Taking the total direct and indirect (spin-off) employment into account, the amount per worker is $3,835. Whether this level of subsidization is sustainable is a political question, bearing in mind that this does not represent but a fraction of all forestry related spending (administrative and operational).

Former Premier Danny Williams indicated in 2010 that his government "… would be there again to provide assistance…" to the mill as needed, but he also asked the workers to shoulder some of the burden of adjustment to circumstances that lie outside the control of CBPP.[33] Former Premier Williams did however refrain from seeking an equity stake in the industry as he did in some other natural resource industries during his tenure. There is no reason to think that the current Dunderdale administration has a penchant for equity stakes, but the commitment to subsidize the industry in the form of cash infusions, tax relief and so on is likely to remain intact in the near future. The operative question is whether this kind of use of taxpayers' money is conducive to the Government's overall (short-term and long-term) objective in the forest sector.

It is political reality that short term and long term objectives must be juggled. It is not equally evident that the trade-off between these objectives also resides strictly in the political realm. We argue that the entire program of expenditure and subsidization in forestry, including the open-ended subsidies to Kruger Inc, is in need of re-evaluation. Anticipating objection to this idea, the case *against* it is easily stated. Given that the rest of the forest sector is in various degrees dependent on the operation of the mill (sometimes admittedly critically so) for access to timber, wood chips and so on, the mill subsidies are indispensible: stop them and commercial forestry as we know it will be no more. The effect on the provincial economy will be devastating, to say nothing of the effect on rural life. This argument is seductive but facile and ultimately unpersuasive. The forest sector as we have known it is unlikely to return. This is not necessarily a bad thing. The industry needs modernization, restructuring, and adjustment to a size that it at once economically and environmentally sustainable. There is likely going to be little choice in this matter. The forest sector is thus at a 'cross-roads' where a new strategic direction needs to be taken. Research work to this end commissioned by the Government from consultants has been cited throughout the present report.

Our main concern is that short-term political objectives may retard, if not derail the inevitable restructuring and downsizing of commercial forestry necessary to achieve the efficiencies that can render viable and sustain the industry well into the future. A commitment to sustainability is per definition a long-term commitment. A commitment to sustainability in forestry is a *very* long term commitment given the timber production times (rotation periods) involved. Thus it is imperative that forest policy in the widest sense (including all related expenditure/subsidy programs et cetera) be internally consistent to prevent short-term goals (due prior to the next election) from conflicting with long-term goals (that extend well beyond the next election). Starting with CBPP, how much of

[33] Western Star, online edition, 15 January 2010.

taxpayers' money should be devoted to the purpose of keeping the mill open. Put differently, is there a 'strategic' purpose in the subsidization of Kruger Inc, or is it strictly 'tactical'? What are the longer-term consequences (effects) of this subsidization on the industry itself? What are the longer-term effects of the mill subsidies on forest sector restructuring and diversification? Is the simultaneous subsidization of the mill and the diversification initiatives at cross-purposes? Since Kruger Inc is not a publicly traded company, financial information about its operation is extremely scarce. This leaves a closer assessment of the effects of subsidies to CBPP in the hands of Cabinet and Executive Officers at Kruger Inc.

Some of the assistance provided to industry because of weak markets, low prices, and mill closures has resulted in the Crown re-acquiring timber rights held by ABH and CBPP. This incidental reclamation of timber rights is fortuitous in that it allows the Crown control of more productive forestland, while potentially setting the stage for designating this land for multiple-use. A move in this direction would address another dimension of forest sector diversification that has not received much attention – namely the utilization of forestland for alternative or non-timber uses. There are indications that the Government recognizes this aspect of diversification, and possibly also the potential that multiple-use management can have, particularly for rural communities. Yet, to date the emphasis has been on economic diversification of timber uses, rather than on uses that would compete directly with timber production. Arguably, policy makers have been slow to embrace in practice a more contemporary view of the multiple ways in which the publicly owned forest resource can serve the people of the Province.

In part, this may be because little is currently known about the values that alternative forest uses can provide in this Province. For alternative or multiple-uses to enter the decision calculus, more must be known about the nature, scope, and potential the 'in situ' uses of non-timber industries. Moreover, an analytical framework is needed for policy making that allows the trade-offs between timber and non-timber to be made explicit and quantified. The analytical framework envisioned here is one in which land use conflicts can be measured and evaluated. At present no such framework exits in the Province, although a proposal in the same vein has been made in the Forest Sector Strategy document cited above.

It is probable that the main reason for the lack of attention paid alternative land uses is pragmatic. There is evidently a desire to modernize the forest policy framework and this includes diversification of the forest sector in a general sense. However, the most pressing task appears to be shoring up an industry the viability of which is in question. Subsidization of the industry is thus increasing while output is falling. Whether the Government thinks fortune will again shine on the forest industry in the future is unclear. What is clear is the perceived need to stanch the loss of jobs and incomes that the decline of the sector is leaving in its wake. This poses a trade-off and an intractable policy dilemma. The dilemma is this. Subsidize the industry now, which delays the inevitable restructuring and downsizing, but saves a (larger) number of jobs in the short term. Alternatively, pro-actively facilitate restructuring and embrace diversification including the promotion of

non-timber industries and alternative forestland uses, which will necessarily create (fewer) jobs in the short term.

Put differently, subsidizing a single source – the pulp and paper industry (read: CBPP) – is easier to do and more likely to yield political dividends in the short term, than subsidizing a range of activities the value of which are largely unknown and which may be in conflict with established timber interests. In trying to do both – supporting existing industry and promoting diversification – alternative land uses have fallen by the wayside because they are not properly valued. Until the contribution such values make to employment, income and the general well-being of the citizens of the Province, they are likely to take a backseat to timber.

Conclusions

The current impact of commercial forestry on the provincial economy can be summarized as follows,

- The direct GDP impact of commercial forestry is approximately $205 million ($2009), relatively small compared to other industries; Primary forestry and wood product manufacturing have seen a much larger decline than other industries during 2002-2008
- Estimates indicate that overall output in the forest sector has declined over the past decade; Sawmill output and lumber production began to decrease before the onset of the 2008/09 recession and the appreciation of the Canadian dollar
- Paper mills have seen a consistent decrease in capacity in recent years
- Overall employment in commercial forestry in the province has declined consistently since 2005
- Hourly compensation in wood product manufacturing has declined and is well below the Canadian average; Wages offered by paper mills in NL are higher than the Canadian average for unionized and non-unionized positions
- The dollar-for-dollar impact of paper mills, sawmills and value-added wood product manufacturing is greater in rural areas because of little alternative employment
- The number of commercial forestry establishments has fallen in every census division since 2004, although small establishments in wood product manufacturing have fared relatively well due to the emergence of some new establishments manufacturing cabinets, guitars and doorframes
- Paper product manufacturing operations vary in size; Wood product manufacturing and primary forestry operations tend to be small scale
- Exports to all destinations are down, and the trade balance in the forest sector has deteriorated drastically in recent years as buyers is the US and elsewhere have turned to low-cost Chinese and European producers
- Forest product exports as a share of total provincial exports has now fallen well below the Canadian average, whereas it was once above it.

Against this backdrop, there can be little doubt that that commercial forestry in the Province is in long-term decline. Previous studies reviewed for this report and the data examined above unequivocally indicate decline. More than 50 indicators of the economic health of the sector point in this direction. It is from this review that the reasons originate outside the Province, particularly in the relevant export markets. The waning fortunes of the industry and its diminished contribution to the provincial GDP is taking a toll that is felt across the Province, and perhaps primarily by those who have lost their job in locations where little other employment is available. It is not surprising therefore, that subsidies have been rising over the past decade as industry output has fallen. These subsidies have benefited forest sector firms across the board, but the main beneficiary of financial support has been CBPP. Yet, the pulp and paper production is not, of course, the only beleaguered industry in the forest sector. All three major industry aggregations including wood product manufacturing and logging production are also adversely affected by the long term trends in demand for forest products.

The decline of the forest sector comes on the heels of the calamity that befell the fishery in the early 1990s. The collapse of the cod fishery – the mainstay of the Provincial economy at the time, set in motion a process of costly and painful adjustment to new circumstances that is on-going to this day. Important policy lessons were (and are) made about what works and what does not work in terms of government intervention in the reform and transition of an entire natural resource sector. The stakeholders in the fishery agree that restructuring is needed, but cannot agree on what restructuring means or whose responsibility it is to achieve it. The obvious dissimilarities between forestry and the fishery aside, it is important that the policy lessons learned in relation to the ways and means of intervention in the fishery be examined in relation to the forest sector. Downsizing and restructuring are current watchwords in this sector as well.

Unlike the fishery where the closure was sudden, the onset of stress in the forest sector has been gradual. But on all accounts the condition is worsening. The pulp and paper industry – once a flagship industry in the Province – is near 'collapse' to use an unhappy analogy from the cod fishery. Output and employment in logging production and wood product manufacturing are down as well. The most immediate reason being the inter-industry linkages in the forest sector, but ultimately, of course, it is the weak prices and low demand on export markets for forest products that are at issue. The appreciation of the Canadian dollar against the US dollar in recent time has contributed to a worsening of the performance of international exporters in the Province on its largest export markets, particularly pulp and paper products, where Chinese firms compete on labour costs and European firms compete on technology. These factors have caused structural problems to arise in the domestic industry. But cyclical factors in domestic markets are also at play. The recession in 2008 led to fall in housing starts in Canada, which reduced the demand for domestic lumber (Canada, and Newfoundland and Labrador import little lumber from abroad).

Will prices of forest products on world markets rebound? It is probable that prices will recover somewhat from their present levels at some point. A recovery in the Canadian forest sector can by no means be ruled out by the current state of affairs. It is however

very unlikely that such a recovery will return the forest sector in this province to its glory days. Any recovery will likely be relative and benefit the most efficient producers operating the most productive and economically accessible timber lands in the country. These are the producers most likely to benefit from the increase in demand for construction lumber that can be expected to result from the massive rebuilding effort required in Japan following the 9.0 magnitude earthquake and ensuing tsunami in March 2011.

The need to restructure is therefore not limited to this Province – it is an imperative world-wide. Restructuring is already occurring in the local industry. In short order it has reduced the pulp and paper industry in the Province to a single major plant in Corner Brook. Even this facility has scaled back its production capacity recently when it closed its oldest paper making machine. This helped adjust the scale of CBPP's facility towards its minimum efficient scale of operation. But the question remains whether demand for CBPP's output, in Canada and world-wide, is sufficient to permit even one plant of minimum efficient scale to operate in the Province. At present this seems doubtful. More capacity must likely be shed in the industry nation-wide before the industry can regain competitiveness.

Judging by the expenditure data and the policy documents reviewed for the present report, the Government is taking a two-pronged approach in its attempt to alleviate the problems of the forest sector. On the one hand subsidization is ramped up, on the other diversification of the sector is actively encouraged. Political pressure to provide financial assistance to protect jobs in existing industry has been mounting. The Government has responded by providing such assistance at the same time as it promotes diversification of forestry-related activities. The diversification effort has so far been directed at timber-related ventures, although in principle it should include diversification in a broader sense. In this regard it needs to be stated that forest policy in the Province has undergone historic change in that it now recognizes, in guidelines if not in law, the legitimacy of alternative land uses and a broader set of management objectives.

The Canadian Boreal Forest Agreement is at once a manifestation of new thinking on forest policy and an important benchmark against which future progress towards implementation can be measured. The signing of the CBFA has legitimately raised expectations by environmental- and other interest groups that Government now also act in accordance with its resolutions. Having reviewed the evidence to date, such as it is, we find that the Government has been slow in responding to the call by NGOs for implementation of revised objectives of forest management. This is a thorny issue as not all contemplated uses are complementary. Most of the contention has centered on conflicting uses, in particular that between timber production and wildlife habitat protection. For example, the Government has come in for criticism for not adequately monitoring commercial cutting of timber on land identified as buffer zones for woodland caribou.

In light of the CBFA and other commitments made, there is now a legitimate public expectation that Government replace antiquated forest management guidelines with modern, ecosystem-based guidelines that include metrics for assessing progress towards

sustainable utilization of all forest land – existing tenure arrangements notwithstanding. It is a precondition that systematic monitoring and verification of logging practices take place so as to ensure that records for harvest levels and harvest areas are consistent and in compliance with tenure regulations and applicable forest protection agreements, guidelines, and certification standards.

The long term nature of existing tenure arrangements necessarily restricts the reallocation of forest land, even though tenure holders need not 'actively' manage land under lease. However, we recognize that the forest management standards to which the principal forest tenure holder in the Province, CBPP, is voluntarily certified, is a commitment to active management on timber limits it expects to harvest.[34] Importantly, Kruger Inc – the owner of CBPP – is also one of the 21 FPAC signatories to the Boreal Forest Agreement.

Although some progress has been made in determining the scope and extent of land use conflicts, finding a solution will require a political commitment to developing a comprehensive framework for evaluating and resolving such conflicts. Developing such a framework should be policy priority in the Government's commitment to renewal in the forest sector. In this regard we echo the recommendations of Forest Sector Strategy work commissioned by Government and cited in this report.

We strongly support efforts to place the forest sector on firmer footing by encouraging restructuring and downsizing in order to realize the efficiencies that in the end are the best guarantors of competitiveness, financial viability and environmental sustainability of the industry in the long term. This involves taking into account timber as well as non-timber uses. It involves accepting multiple-use forestry where warranted, and alternative uses on other lands that can gainfully sustain emerging non-timber 'industries.' From this stem our two principal concerns:

1) It is paramount that subsidization be judicious if it is to promote rather than impede the complex process of rationalization and restructuring.

2) On the principle that forest land ought to be allocated to its highest valued use(s), all else equal, there is an urgent need to assess the trade-offs between competing uses of land on which the Crown exercises some form of control. This in turn requires proper valuation of alternative uses, and a transparent framework within which competing uses can be reconciled.

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[34] "As part of its commitment to sustainable forests, Corner Brook Pulp and Paper is certified to two environmental standards, the ISO 14001 Environmental Management System and the CSA Z-809 Sustainable Forest Management. By satisfying the requirements for both standards Corner Brook Pulp and Paper is ensuring its timber limits are being managed in an environmentally-sound manner while considering all the values of the forest. "According to its website, CBPP has formed a Public Advisory Committee to provide organized and regular input into the Company's Sustainable Forest Management Plan. http://www.cbppl.com/sustainable%20forest%20management.htm Accessed 16 March 2011

Recommendations

Based on the discussion above, it is recommended that Government

- re-evaluate the nature and extent the entire program of forestry expenditure and subsidization (operational and administrative) to ensure that short term political objectives of job preservation do not conflict with (what we argue should be) long term objectives of promoting structural change in the forest industry, and bringing the practice of commercial forestry into line with ecosystem-based management principles;

- reclaim and/or limit timber rights in exchange for future financial support to the forest industry;

- undertake the development of an analytical and policy framework for the assessment of non-timber values and the evaluation of land use conflicts;

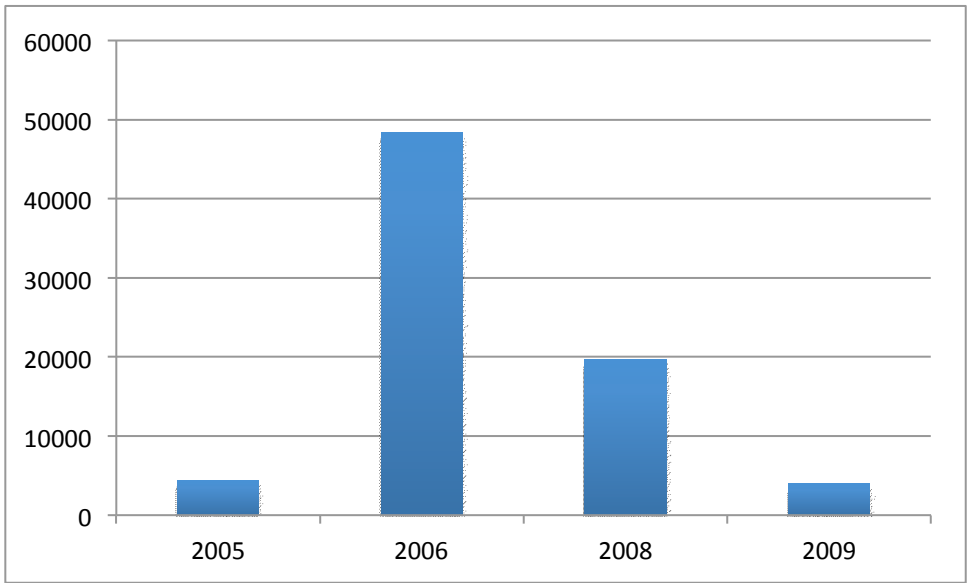
- let diversification efforts aim at the emergence of a joint timber and non-timber economy in which commercial forestry is integrated, efficient, self-sustaining, and market driven, and where emerging non-timber 'industries' help balance long term objectives for timber, employment, and multiple-use for the forest sector as a whole;

- systematically monitor harvest levels and harvest areas to (a) confirm the accuracy and consistency of data reported to Statistics Canada; (b) ensure compliance with tenure terms and conditions; (c) improve control of the inventory and its age structure so as to improve supply forecasts; and (d) protect wildlife habitat.

Appendix A: Trade in Primary Forestry Commodities

As noted above, primary forestry has traditionally been a negligible export industry. Historically, the Province rarely exports primary forest products and logs and when it has the magnitude has varied [Figure A1]. In recent years, exports have declined, though this is likely more attributable to the stochastic nature of trade in primary forestry rather than a trend arising from industry activity. Additionally, exports in primary forestry are negligible, even at the province's peak of $48,402 in 2006.

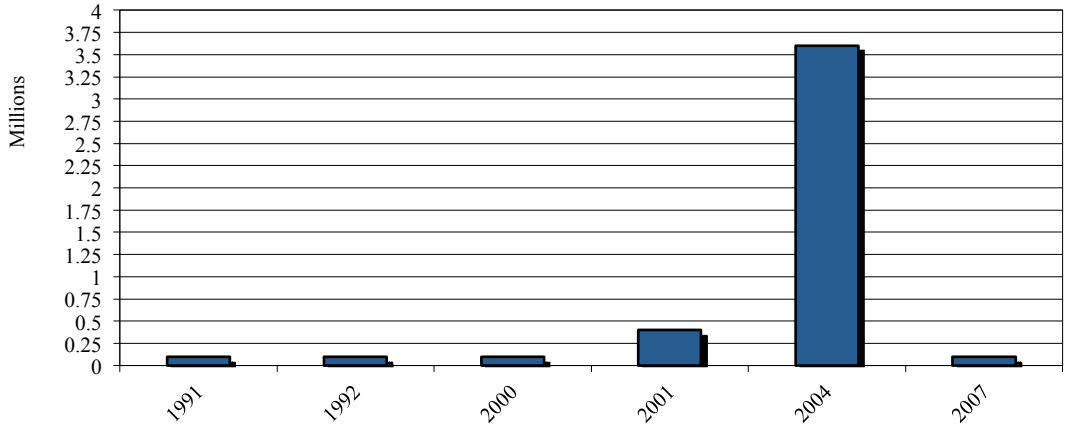
Figure A1: Forestry Product Exports, Forestry and Logging, $



Source: Statistics Canada

As a sub-category of paper products, pulp exports are also a negligible export for the province, yielding consistently small numbers [Figure A2]. With $3.6 million as an outlier in 2004, pulp exports have been small in magnitude, when the province exported pulp at all. This is very clearly the result of pulp produced in the province being used for paper production.

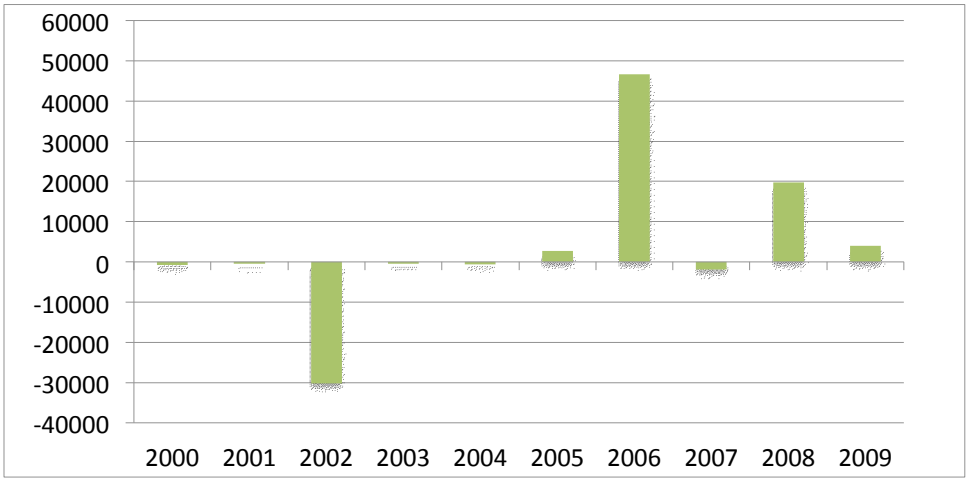
Figure A2: Pulp Exports, $



Source: Statistics Canada

These declining export figures are also captured in the trade balances for each forest industry. The trade balance for primary forestry in NL is sporadic and generally small if a surplus [Figure A3]. NL's net exports in primary forestry total only $38,679 from 2000 to 2009. This small number is reflective of the small-scale operations that constitute primary forestry in NL. Compared to wood and paper product manufacturing, primary forestry is small and largely dependent on the activity of these larger operations, for which it produces inputs.

Figure A3: Trade Balance, Forestry and Logging, $



Source: Statistics Canada

Appendix B: Data and Estimation Details

The most recent edition of *The Input-Output Structure of the Canadian Economy* published by Statistics Canada is for 2005-06. Thus, the most recent output data available for NL's forest sector is for 2006. Since 2006, the province has seen the closure of a major paper mill (ABH GFW), as well as reduced capacity at CBPP. Needless to say, 2006 output data does not reflect these changes. The authors consequently opted for a simple estimation of output for primary forestry, wood product manufacturing and paper product manufacturing in the province, to quantify the impact of these changes.

Methods

2007-2009 output figures were estimated for each industry using ordinary least squares (OLS) regression. Explanatory variables included employment, output in other industries and a time trend. Because of the small sample size (10 observations), the model was not corrected for autocorrelation or tested for unit roots in the dependent variable. These estimates were generated simply to predict output based on a linear relationship with employment (data on which has shown a drastic decline up to 2009).

Further details, data and statistical output are available upon request.

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