

Forestry Jobs and Forestry Management in the Maritimes and Northeastern USA

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New Brunswick's new forestry Strategy¹ was released on 12 March 2014. The next day, provincial forestry leader, J.D. Irving (JDI), announced it would be making over 80% of the expected new investments in the industry. As highlighted in Table 1, a memorandum of agreement (MoA) between the government and JDI² indicates that JDI is to receive 62.1% of the additional wood fibre annually released from Crown lands, make over 85% of the expected new investments, and create 65.2% of the expected new jobs in the industry. While other important questions can be asked about the Strategy, the question we focus on here is: are these job figures a reasonable goal given the additional access to Crown lands? Could the public reasonably ask the government to do better?

Jobs are an important issue in New Brunswick. Recovery from the 2007-08 financial crisis has been slow and province-wide

province. Especially worrying is the near 20% unemployment rate for 15-24 year olds in the province.⁴ These depressing statistics coupled with an upcoming provincial election make the current government desperate to see employment increases. Indeed, a significant selling point of the Strategy, at least as advertised by the government, is the number of new jobs created in the near future.

It is not unreasonable for New Brunswickers to ask if the Strategy is a good deal for the province especially with so much of the newly released wood going to JDI. JDI is the largest single player in provincial Crown land forestry and owns a significant freehold (It is also true that JDI is a major forester in Maine and has forestry interests in Nova Scotia.). The goal of JDI is to make profits. JDI is not in the business of creating jobs or generating revenues for the province.

A firm that has market power in the purchase of an input is predicted to drive down the input price (thereby saving costs and increasing profits) by purchasing less of that input. Given JDI's size, access to Crown land leases, management contracts for Crown land, and large freehold, it is quite reasonable to expect that JDI has market power in the forestry products labour market and in establishing the purchase price of wood in the province. As it relates to employment in the forest products sector, one indicator that JDI has market power would be a low number of jobs created in the sector. In other words, there is sound economic reasoning for New Brunswickers to be worried

	Strategy	MoA with JDI	MoA/Strategy
Fibre (thousand m³)	660	410	62.1%
Investment (millions)	\$600	\$513	85.5%
Jobs	500	326	65.2%

Table 1 - New Forestry Strategy and the MoA with JDI - Figures at a glance

unemployment has generally been rising since 2007.³ The most recent Statistics Canada data suggest an increase in the provincial unemployment rate in the last month coupled with a decrease in the participation rate. Unemployment rates are higher in the northern part of the

about their government's recent Strategy for Crown lands as it may enhance the market power JDI likely has in the forest product sector, further limiting job-creation strategies in the future.

Are 500 jobs in return for annual removal of 660,000 cubic metres of Crown timber a good deal for New Brunswickers? To assess this Strategy, we must find comparative data, ensure that we define jobs in a common manner, and find a common way to assess different wood harvests and the conversion of harvest into jobs.

Fortunately, comparative provincial data is publicly available from the Canadian Forest Service⁵ and nearby American data is available from the North East State Foresters Association.⁶ Like Natural Resources Canada, in its *State of Canada's Forests* reports⁷ (see page 35 of the report), we adopt the language of a "direct" job in the forest product sector as being one that occurs within the forest product sector (in the woods, the mills, wood product manufacturing, and forestry support activities) as distinct from "indirect" jobs (such as investors and equipment manufacturers). These distinctions are clear in the data from both the Canadian Forest Service and the North East State Foresters Association. They are also clear in the MoA (see page 10), and in a JDI press release regarding investments at the St. Leonard's veneer mill.⁸ Oddly, it is only in the government's Strategy where such a distinction is not made. Like the *State of Canada's Forests* reports, we too will adopt a comparison of "direct" jobs because of data availability and to ensure comparability.

Different regions harvest different quantities of wood and employ different numbers of people in the forest products sector. We define employment intensity in a region as the number of direct jobs in the forest products sec-

tor divided by the thousands of cubic metres harvested (i.e., direct jobs/1000 m³). Further complicating the analysis, state-level data is measured in softwood, hardwood, and mixed cords and must be converted to cubic metres. This was done using industry-accepted methods.⁹

Figure 1 presents a graph of employment intensity in the forest products sector for New Brunswick and nearby regions for 2011, the latest year for complete data. Prince Edward Island data is dropped because of its small harvest and lack of data availability. Note that New Brunswick (at 1.376) is at the bottom of the intensity ranking in this group, followed by Maine (1.581), and Nova Scotia (1.640). This ordering may be coincidental in 2011, but it is worthy to note that these three jurisdictions are closer to each other in terms of employment intensity than they are to the next lowest jurisdiction - New Hampshire (2.428) - and well below the regional average of 2.815. It could be that market power in labour demand in the forest product sector has helped to keep New Brunswick's employment intensity low.

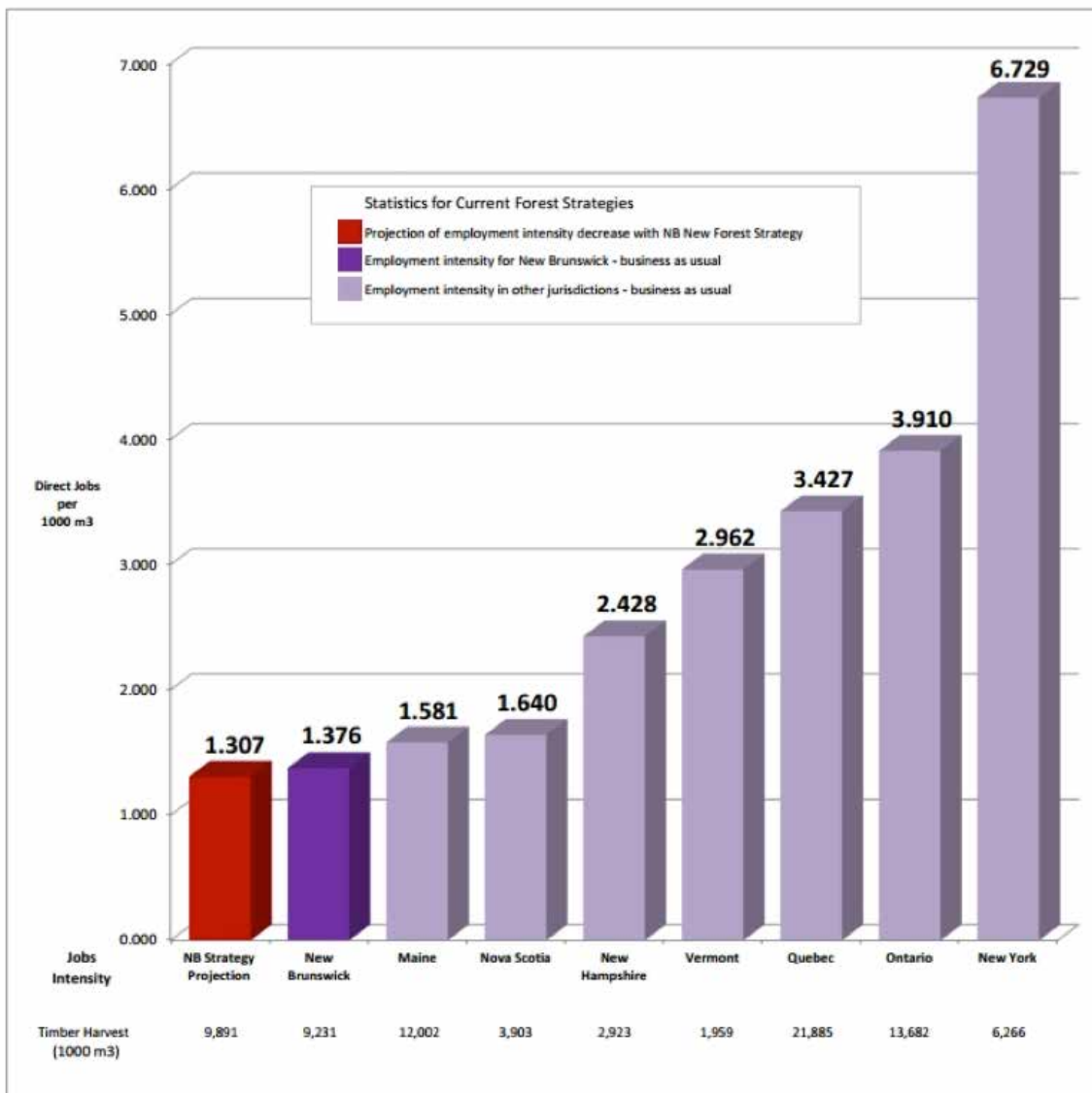
Greater detail can be gleaned from a detailed look at the sub-categories within the forest products sector (refer to Table 2 on page 39). "Jobs in the woods" show both lower intensity and lower variance than "jobs in the mills." It seems that if job expansion was the goal, it would have to happen in mills and other secondary manufacturing plants. Some very preliminary research suggests that in jurisdictions with a large amount of timber resources devoted to pulp production, employment intensity is lower, but more data and analysis is needed to draw a firm conclusion. Note, however, that of the \$513 million of new investments as outlined in the MoA (Table 1), JDI has announced that \$450 million will go to upgrade the pulp

and paper mill in west Saint John¹⁰ – that is almost 88% of the contracted investment. While the company’s press release indicates the number of construction jobs created, no mention is made of new permanent positions at the mill itself. That is in stark contrast to JDI’s announcement at the St. Leonard’s mill.⁸ Pulp mill investment is typically capital intensive.

Equally telling, however, is what is missing from these provincial data as compared

to their American counterparts. The North East State Foresters data provide employment information on wood energy (1,795 jobs across the four states), Christmas trees and maple products (1,898 jobs), and forest-related tourism and recreation (72,576 jobs). These states seem to have a broader concept of forest management; a forest is something greater than a source for fibre generation. More research and policy exploration

Figure 1 – Direct Jobs: Forest Products Employment Intensity by Jurisdiction. See Table 2 for details



in this area is definitely warranted.

How will the new Strategy impact the already-low employment intensity in New Brunswick? The MoA clearly delineates “direct” and “indirect” jobs (see p. 10). Of the 326 jobs expected to be created in total, 178 (or 54.6%) are “direct.” The Strategy makes no such division, but given that over 60% of the annual timber volume is contracted to JDI through the MoA, it is a reasonable first approximation to apply the MoA percentage to the Strategy’s total jobs figure of 500. In this case, the Strategy is predicted to create approximately 273 direct jobs (i.e., $178/326 \times 500$) in the forest products sector. In other words, the Strategy has an employment intensity of 0.414. But, the Strategy is also only incremental to existing harvests in New Brunswick.

Adding the Strategy to existing management is comparable to having a passing grade on a series of quizzes in a class, but then failing the next quiz. Your average will fall; not to the value of your latest quiz, but it will fall. Using a weighted average technique, we can cumulate the existing employment intensity in 2011 with the Strategy’s intensity and get a projected intensity of 1.307. In other words, this Strategy is using Crown land to make New Brunswick less job intensive in the forest products sector.

Employment intensity in the forest product sector has been declining in New Brunswick for the last few decades.¹¹ The government’s new Strategy only enhances this trend. In part this reflects the increasing capital intensity that has taken place in the existing forestry industry. In part this reflects the government’s decision to implement a Strategy that, for the most part, has been negotiated as a contract (the MoA) with the largest forestry firm in the province. Moreover, that firm

likely has the ability to exercise market power in the relevant labour market that would serve to lower employment intensity. The use of Crown land (i.e., land jointly owned by all New Brunswickers) to implement such a Strategy and further enhance this market dominance seems misguided. Finally, this Strategy might be classified as lacking in creativity. It seems to be more-of-the-same with no public consultation and no analysis of what other options might exist for dealing with Crown land management and licensing, industry structure, and a broader concept of the role a forest plays in society.

A study like this raises additional questions that deserve further analysis:

- Are there additional reasons for New Brunswick having the lowest forest products sector employment intensity in the northeastern region of North America, and how can this inform forestry policy?
- Does New Brunswick keep statistics on alternative forestry uses such as maple syrup products, Christmas tree and wreath production, and forest-

*Caledonia Gorge
Photo by D.F. McAlpine/New Brunswick Museum*



related tourism and recreation? If so, why are these revenue-generating and job-creating uses not integrated into the province's forest management plan and especially into the Crown land management plan?

- Has New Brunswick's government explored the strategies used in nearby jurisdictions to compare alternatives for Crown land management?
- Would the government consider setting aside Crown land timber allotment to explore forest management innovation and study employment intensity performance?
- Should New Brunswick more carefully explore the uses of its Crown timber resources? For instance, should so much of the fibre be devoted to the manufacture of pulp?

Clearly the forestry Strategy for Crown lands management will create some additional jobs in New Brunswick at a time when the province is desperate for jobs. But, does desperation necessarily lead to good decisions? We need to ask if this is the best we can do with our crown timber resource? Could we create more jobs for New Brunstickers and more revenue for New Brunswick with a better strategy that might allocate more of our timber resources across many small, medium and large business partners in new and diverse projects? The data suggest that New Brunswick is at the bottom of the regional heap when it comes to turning trees into jobs and the analysis here indicates that implementing the Strategy will put New Brunswick further behind. It may not be wise to use additional Crown timber for this purpose.

Jacquet River Gorge
Photo by D.F. McAlpine/ New Brunswick Museum



	Jurisdiction								Proposed NB	
	NB	NS	QC	ON	ME	NH	VT	NY	Strategy	MoA
Year	2011	2011	2011	2011	2011	2011	2011	2011	2014	2014
Harvest (thousand m³)	9,231	3,903	21,885	13,682	12,002	2,923	1,959	6,266	660	410
"Direct" Jobs	12,700	6,400	75,000	53,500	18,980	7,096	5,802	42,166	273	178
<i>Forestry and Logging</i>	2,200	1,200	9,200	3,900	5,200	2,860	875	2,300		
<i>Pulp and Paper</i>	3,300	1,800	28,100	23,800	7,300	1,100	1,000	16,500		
<i>Support Activities for Forestry</i>	1,100	1,300	3,300	3,400	n/a	n/a	n/a	n/a		
<i>Wood Product Manufacturing</i>	6,000	2,100	34,400	22,300	6,480	3,136	3,927	23,366		
	Jobs per 000's m³									
Direct	1.376	1.640	3.427	3.910	1.581	2.428	2.962	6.729	0.414	0.434
<i>Forestry and Logging*</i>	0.238	0.307	0.420	0.285	0.433	0.978	0.447	0.367		
<i>Pulp and Paper</i>	0.357	0.461	1.284	1.740	0.608	0.376	0.510	2.633		
<i>Support Activities for Forestry</i>	0.119	0.333	0.151	0.249						
<i>Wood Product Manufacturing**</i>	0.650	0.538	1.572	1.630	0.540	1.073	2.005	3.729		

TABLE 2: FOREST PRODUCTS EMPLOYMENT INTENSITY ACROSS NORTH EASTERN NORTH AMERICA

* US state data includes Forestry, Logging, and Trucking while Canadian data separates Forestry and Logging from Support Activities for Forestry. As a first approximation, one should add these two intensity measures for the Canadian data before comparing it to American data. This does not change the result.

** US state data here include furniture manufacturing. It is not clear if provincial data do the same. Removing furniture manufacturing from the data changes quantitative results but not rank ordering nor qualitative conclusions.

References

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- 2 <http://www.conservationcouncil.ca/wp-content/uploads/2014/04/Memorandum-of-Agreement-with-JDI-1.pdf> accessed on 24 May 2014.
- 3 <http://www.statcan.gc.ca/daily-quotidien/140509/t140509a003-eng.htm> accessed on 24 May 2014.
- 4 Statistics Canada Table 282-0087 (Labour Force Survey)
- 5 <http://cfs.nrcan.gc.ca/statsprofile/forest/ca> accessed on 24 May 2014.
- 6 <http://www.nefainfo.org/publications.html> accessed on 24 May 2014.
- 7 <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/35191.pdf> accessed on 24 May 2014.
- 8 <http://www.jdiving.com/article.aspx?id=5394> accessed on 24 May 2014.
- 9 Harvests are stated in cords and separately for softwoods and hardwoods. Conversion factors to cubic metres are done using <http://novascotia.ca/natr/FORESTRY/registry/annual/2002/ConversionFactors.PDF> (accessed 10 May 2014) for both softwood and hardwood and <http://www.snbwc.ca/snbwood/markets/SPECO.html> (accessed 10 May 2014) for mixed volumes.
- 10 <http://www.jdiving.com/article.aspx?id=5296> accessed on 24 May 2014.
- 11 Wuest, L.J. (2003). Suggestions for Elements of an Alternative Vision of Management of New Brunswick's Forests. Submission to the New Brunswick Legislature Select Committee on Wood Supply. 3 Dec. 2003. Fredericton, NB; available at <http://users.xplornet.com/~wuestl/jaakko/jaakko6.htm> accessed on 24 May 2014.