

## Technical Reports

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BC Coastal Forest Sector Hem-Fir Initiative

<b>PROGRAM:</b>	Products and Markets Program
<b>PROJECT #:</b>	P.02
<b>PROJECT TITLE:</b>	Market Fit Analysis of Coastal Hemlock: A Comparison between Coastal British Columbia, Washington and Oregon
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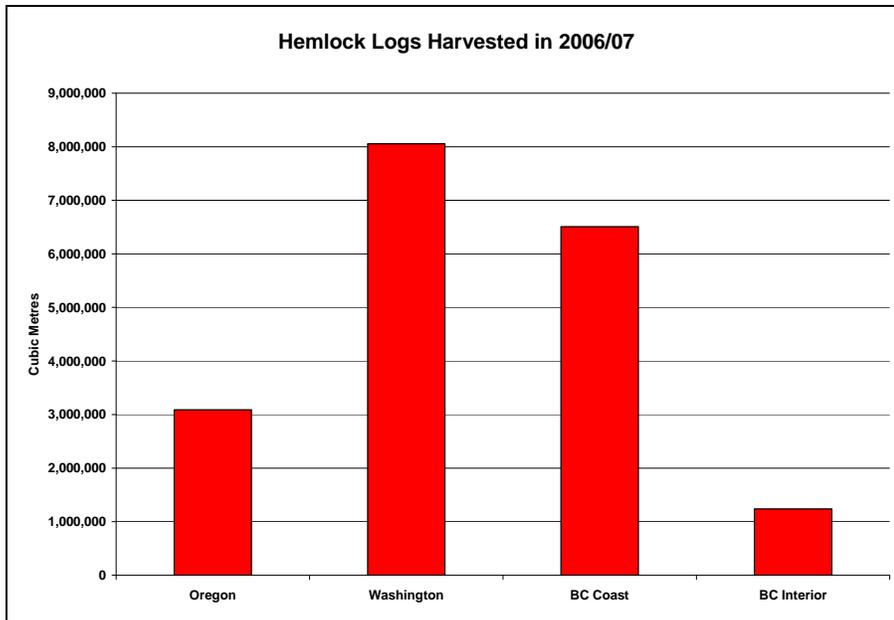
### Abstract

Western hemlock (*Tsuga heterophylla*) and amabilis fir (*Abies amabilis*) constitute the greatest proportion of the forest inventory in the Coastal B.C. region. These lumber is primarily sold as a species group, named hem-fir. Hem-fir also constitutes a great proportion of Washington and Oregon. British Columbia hem-fir is the least valued commercial species in the region in terms of product markets.

This study explores options that may help to increase the value of B.C.'s Coastal hem-fir resource and markets, through a comparative case study with the hem-fir industry of Washington and Oregon. To achieve this, the report was split into two primary sections. The first section provides a quantitative review of various wood market statistics between the B.C. Coast, Washington and Oregon. Since the regions have a bountiful hem-fir resource, it was thought that a comparison between the three regions' forest sectors may provide useful insights in developing future strategies for B.C.'s Coastal hem-fir industry. The second section reports results of interviews conducted in late 2008 with producers and other key players in the regions who use hem-fir. Consequently, analyses of both the literature review and interview results provide some lessons for Coastal B.C.

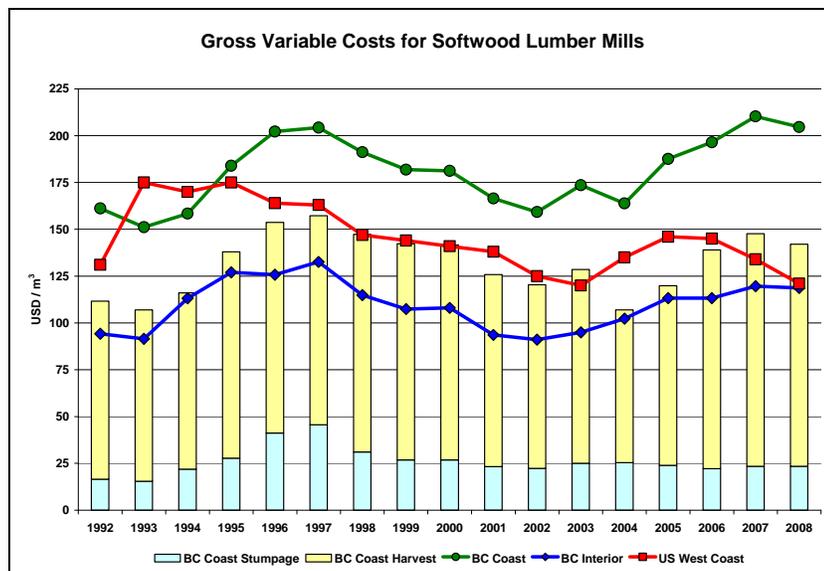
Within this study, the three most outstanding statistics found between Coastal B.C., Washington and Oregon were related to log harvested, cost of lumber production and the employment created per volume harvested.

For a 12 month period during 2006/07, harvest levels of hemlock in Coastal B.C. were 6.5 million m<sup>3</sup> - almost half the 11.1 m<sup>3</sup> harvested in Washington and Oregon. There was a similar proportion of true firs harvested in these two states (3.4 m<sup>3</sup>) compared to Coastal B.C. (2.0 m<sup>3</sup>). Both regions, PNW and B.C. as a whole, exported 5-10% of their harvests as logs with Douglas-fir making up the majority of these exports. It should also be noted that close to 75% of B.C. log exports come from private land, which is not controlled by the province. (B.C. Ministry of Forests and Range, 2008).



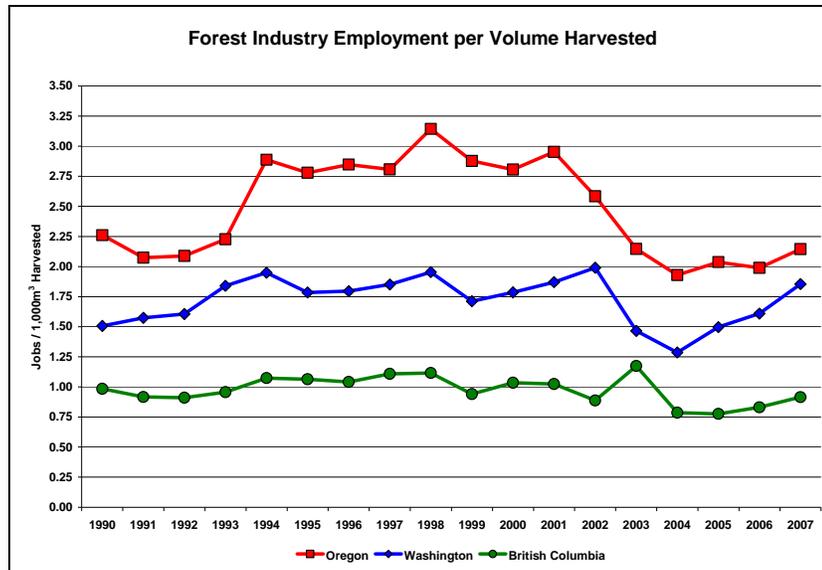
Source: B.C. Ministry of Forests and Range, U.S. Forest Service

It has been well documented that it costs B.C. Coastal lumber mills more to produce the same volume of lumber than the mills in Washington and Oregon, as well as its interior counterparts. According to the 2008 data, it required the coastal mills approximately \$84 more to do so. What is more shocking is that the sum of the stumpage cost and the harvest cost alone in the B.C. Coast, neglecting all other required input costs such as labour and energy, is more than the total cost for the B.C. Interior mills as well as the U.S. West Coast mills.



Source: RISI

Despite the fact that the production costs in the U.S. West Coast is less than that of British Columbia, mills in the U.S. West Coast have managed to create more jobs per cubic metre of wood harvested (>1.7 jobs / m<sup>3</sup>, compared to <1 jobs / m<sup>3</sup> in B.C.).



Source: USDA, Oregon Employment Department 1965–2007, B.C. Stats, National Forestry Database Program

Additional differences between the two regions included:

- Oregon and Washington had 107 sawmills (in 2008) with a capacity of 32.7 million m<sup>3</sup> while Coastal B.C. had 32 sawmills with a capacity of 6.4 million m<sup>3</sup>.
- Oregon and Washington harvest much more Douglas-fir (37.5 million m<sup>3</sup>) than Hemlock (11.1), while Coastal B.C. harvests approximately the same amount of Hemlock (4.4) and Douglas-fir (4.3), as well as a substantial volume of western red cedar (3.9).
- Variable costs are higher in Coastal B.C. predominantly due to higher harvesting costs.
- The B.C. Coast exports a much higher proportion of their lumber production (>36% compared to <6% for Washington and Oregon).
- Exports to Japan have been declining for both regions.
- Panel production in Coastal B.C., Washington and Oregon is exclusively plywood and has been in gradual decline for over a decade.

In the last section of the project report, a survey involving primary and secondary wood manufacturers in Washington and Oregon was initiated, with a key focus on hem-fir utilization. A total of 26 telephone interviews were completed during the last quarter of 2008 with producers (16), distributors (5) and others based in the two U.S. regions of interest. All respondents used Hemlock, but none of them used the species exclusively. The vast majority of hem-fir logs were sourced from the U.S. PNW – none of which were old growth; all Hemlock logs were second, third or even fourth growth. Key products for domestic consumption included: kiln dried dimension lumber, treated wood and low grade products for Asian markets. Some smaller producers manufactured specialty products such as mouldings, treated guardrails and machine stress rated (MSR) lumber. Most of the manufacturers interviewed kiln dried their Hemlock. The clear competitive advantage identified for using Hemlock was its low price relative to other local alternatives, such as Douglas-fir. In addition, respondents mentioned availability, treatability and customer familiarity. The negatives stated (specific to green hemlock) included inconvenience in nailing, difficulty in drying and twisting. The main competition was identified to be SPF and respondents expected to pick up market share as blue stain and supply issues reduce the market attractiveness of SPF. Washington and Oregon sell Hemlock products mostly into the I5 corridor (plus California) with only a few specialty players exporting to Japan.

Respondents considered local Hemlock to be at a disadvantage to B.C. suppliers due to its better design values and ability to produce large dimension timbers.

Based upon the analysis performed, numerous lessons for B.C., particularly from the point of targeting the U.S. market were gleaned:

- Hemlock from the B.C. Coast must have its delivered log costs at the low end of the competitive scale especially as it switches to second growth logs.
- The B.C. Coast needs to use its two current advantages for market entry: fine grained old growth that can substitute for hardwoods and higher strength properties. These can also feed an emerging secondary sector on the B.C. Coast. The second advantage is higher strength values creating niches for engineered wood products.
- There is an opportunity to promote a more diversified manufacturing base (and ownership) of processing facilities to broaden the product offerings through more flexible mills.
- Success in the PNW is dependent on basic business skills, not sawmilling knowledge. There is a need to strengthen the basic business skills of those working in the wood products sector. The key message is that the human resource is as important as the forest resource in building a successful coastal sector.
- Most of the firms interviewed had a long lasting commitment to their local markets while B.C. Coastal producers have shifted markets based on best return (e.g. from California construction to traditional Japanese house components such as posts, back to the U.S. residential market). B.C. Coastal producers may want to select the best long term market and commit resources and time to developing this market to establish and grow long term distributor and customer relations.

Increased capacity for hem-fir production in the PNW is a two edged sword: increased competition from modern sawmills for markets is balanced by growing customer awareness of the positive attribute of products made from hem-fir. The PNW has sufficient resource to increase its manufacturing capacity and will continue to provide cost effective competition within this species group to B.C. producers.

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