

Interior Fibre Flow Statistics

About Fibre Flow Statistics

Overview

The information on this site characterises, quantifies and presents the way in which timber is shipped throughout the interior forest districts of British Columbia. There are also summaries provided for the harvest and species characteristics for each interior forest district.

Introduction

Trees in British Columbia can be harvested and processed in the same geographical area or be shipped from the point of harvest to be processed in a different area. The terminology used to describe this movement from the point of harvest to the point of processing henceforth used on this website is “fibre flow”.

Fibre flow most often results from the need to match harvest to input requirements of different processing facilities. These input needs might be driven by, among other things, the volume requirements to achieve economies of scale or by specific species or quality required for different products. For example, the type of trees used to produce dimension lumber (e.g. 2x4s) can be quite different from the types of trees used to produce plywood or oriented strand board (OSB).

Characterising the fibre flow of each tree in the province could potentially be a difficult and onerous task. One could imagine having to gather information on each tree in the province and then track it from its point of harvest to the destination at which it is processed. With an interior harvest of around 60 million cubic meters of logs in 2006, this might present some serious challenges. Fortunately the Ministry of Forests and Range maintains a database of information for all trees harvested in the province. This database combined with certain assumptions provides the basis and ability to conduct a fibre flow analysis.

In a nutshell, the fibre flow analysis uses the database information on where trees are harvested and where trees end up in order to determine fibre flow. If these two places are different a flow has been identified. For this analysis, the harvest location is the forest district it is harvested in and where the tree ends up is determined by the district in which it is scaled.

Harvesting will be familiar to most everyone; this is where the tree is cut down. Scaling is less intuitive to those not accustomed to speaking in forestry terms. Basically scaling is the process of measuring the volume, species and quality of logs. This is required so that the crown can charge the stumpage for the wood harvested from the provincially owned forests and for determining the value of any given market transaction. It should be noted

that harvest and scaling information is recorded for trees harvested on provincially owned, private and federally owned lands in B.C.

Those who have prior knowledge of BC's forest sector know that there are large differences between the Coastal and Interior forest industries. For purposes of analysis, these regions are often separated, which is the case here as well. This is where a key assumption of this analysis factors in. Because there isn't a data point in the database that identifies exactly where a tree is processed, the assumption used is that the forest district in which a tree is scaled is where it is processed. On the Coast this assumption cannot be used with any certainty due to the complicated manner in which trees are scaled, boomed, re-boomed and transported back and forth in the coastal tide waters. In the interior, this assumption can be used with much more certainty as it is most often the case that the location of the scale sites corresponds to a mill location where the trees are processed, i.e. the logs do not often get moved shipped somewhere else once they are scaled. This assumption has been checked and is viewed as valid. As a result, only the Interior fibre flow is examined.

Characterising Fibre Flow

Armed with the database information and the assumption around equating the district of scale with the district of processing, the fibre flow can be examined.

As mentioned above, the analysis only examines the interior volumes. Furthermore, the data used is constrained to include only the volumes that are harvested and scaled in forest districts in the Northern and Southern Interior forest regions. This excludes trees that are harvested in the Interior and scaled in the Coast and vice versa. These volumes are not large and are avoided for reasons of convenience. These volumes are likely more significant for certain Coast/Interior border forest districts, but are not material on an Interior wide basis.

The Fibre Flow Model

There are four main terms used in the fibre flow analysis. These are "Harvested", "Scaled", "Outflow" and "Inflow".

These terms are best explained using an example. Here assume there are 3 forest districts in the model labelled A, B and C.

For A:

Harvested = All volume harvested in A

Outflow = All volume harvested in A that is scaled in either B or C

Inflow = All volume harvested in either B or C that is scaled in A

Scaled = All volume scaled in A (this could have been harvested in A, B or C)

For any given forest district, the following “fibre flow equation” must hold by definition:

Scaled = Total Harvest – Outflow + Inflow

The term “**Net Fibre Flow**” is also used in this work and is defined as: Outflow + Inflow.

For a given district, the Total Scaled volume provides an approximation of the fibre processed by the mills located within that district. There is no clear relationship between the Total Scaled and Total Harvest volumes with the differences varying greatly across districts. The factors creating the differences will be the subject of future work using the results contained here. At this point the differences have only been identified and have not been analysed. One could imagine processing capacity and transportation costs being the types of variables that would determine the different volumes of fibre flows. One notes that on an interior wide basis the Total Scaled volume equals the Total Harvested Volume. This must be true given the above equations.

Viewing Fibre Flow Analyses by District

The rest of the information in this website provides more detailed information on the harvest for a given district and its fibre flow. The harvest volumes are broken down into species and land type (crown, private and federal land). The fibre flow analysis for each district gives the volume of each type of flow and represents them both graphically and in tabular form. A fibre flow map has also been generated to provide a pictorial representation of the Outflows and Inflows from all interior forest districts. Please refer to the footnotes throughout for further information on all figures.