Job Change in the Forest Sector

Science Alliance for Forestry Transformation

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Over the past three decades, forest sector employment has decreased by about half, from about 100,000 jobs in 1991-1999 to about 50,000 in 2010-2018.[1] Various factors have been proposed as responsible for this loss including mechanisation, loss of accessible fibre, increased wildfire and beetle disturbance, increased raw log export, increased area in protection, etc. It's possible to use federal statistics to tease apart some of these factors. If increased protection, increased natural disturbance or loss of accessible timber were responsible for most of the job loss, the volume and/or area harvested would decrease. However, if increased mechanisation and/or raw log export were responsible, the jobs would decrease while volume and area harvested remained stable (i.e., jobs per unit volume would decrease).

Although the volume harvested per year has fluctuated somewhat (with a drop around the 2008-2009 recession), volume per decade has remained relatively constant at about 70 million cubic metres over the past three decades. Volume harvested has decreased somewhat in the last decade, about 10% from the 1990s and 2000s, partly due to decreased cut post-beetle and partly due to regional shortages of accessible, merchantable fibre (and subsequent mill closures). This small drop contrasts strongly with the larger drop in the number of jobs per volume. The **number of jobs per unit volume harvested has dropped from an average of 1.3 jobs per thousand cubic metres in the 1990s to three quarters of a job per thousand cubic metres from 2010-2018** (Figure 1).

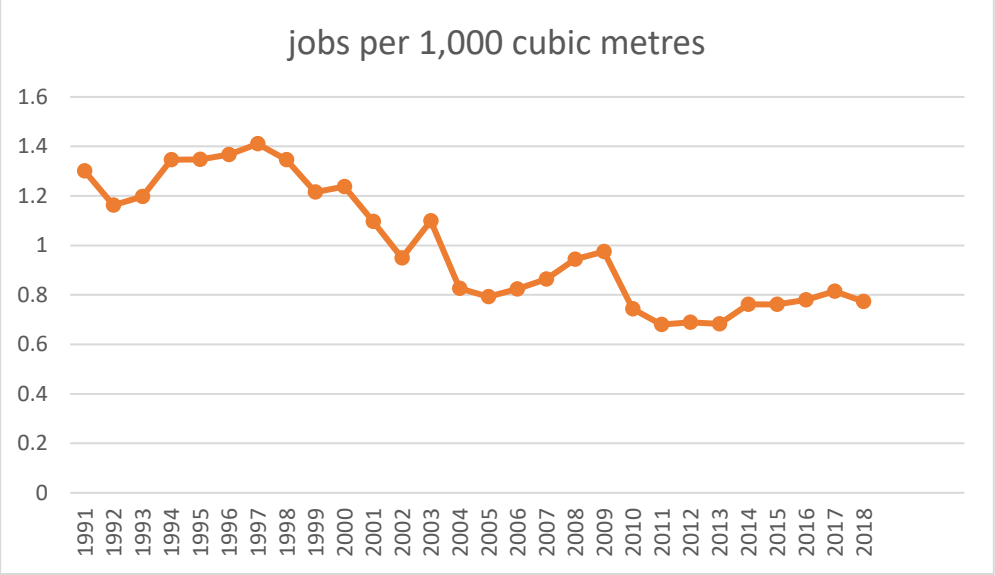

Figure 1. Annual jobs per thousand cubic metres of wood harvested. Calculated based on data available from management and employment pages in https://cfs.nrcan.gc.ca/statsprofile/employment/BC

[1] Forestry and logging, pulp and paper manufacturing, wood product manufacturing and support activities for forestry; https://cfs.nrcan.gc.ca/statsprofile/employment/BC. Survey of employment, payrolls and hours. Data are publicly available from 1991 – 2018 for most factors.

This decline in jobs per unit volume suggests that mechanisation, and perhaps raw log exports, are responsible for most of the loss rather than decreased area available for harvest due to protection, loss of fibre or increased disturbance (which would reduce volume harvested not jobs per volume).

Properly quantifying the effects of mechanisation and log exports on job loss requires accounting for the effects of volume harvested. Using the jobs/cubic metre average for the 1990s as a baseline (1.3 jobs per thousand cubic metres) and projecting expected jobs forward from 2000 to 2018 based on the volume harvested per year estimates that **25,000 jobs were lost to mechanisation and perhaps raw log export by the 2000s and 38,000 jobs were lost by the 2010s** (lost jobs calculated as the average difference between projected jobs and actual jobs over the decade in Figure 2).

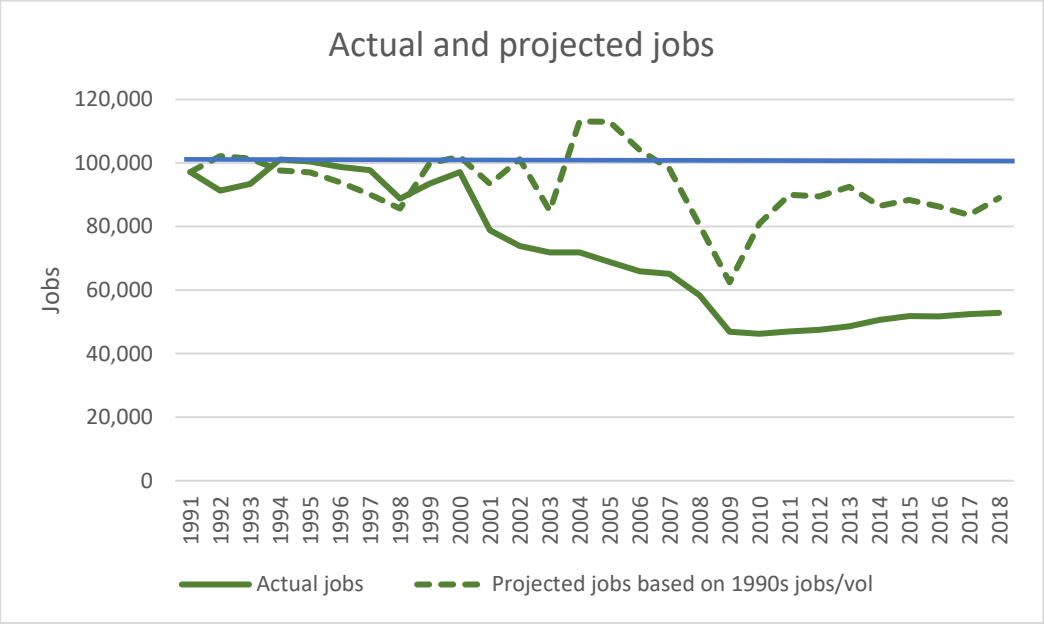

Figure 2. Jobs projected based on annual volume harvested and jobs per cubic metre values (1.3 jobs/thousand cubic metres 1990s baseline) compared to actual jobs. The blue line represents the maximum jobs in the past three decades.

From a high of about 100,000 jobs, decreased volume was only responsible for a large part of decreased jobs during the 2008-2009 recession (compare the dotted line to the blue horizontal line); a decrease in jobs per unit volume was responsible for most of the job loss. This change was likely due primarily to increased efficiency in mills and increased mechanisation of harvest. Analyses done elsewhere suggest an annual loss of 3,600 jobs due to raw log export.[2]

Increased natural disturbance may reduce volume available for harvest, contributing to job loss. Natural disturbances are salvaged where possible. The increased volume harvested around 2005 was due to uplifts in AACs for mountain pine beetle salvage.

Wildfires burned 3.5 million hectares of forest in the past decade, about half in the THLB. While much of the merchantable THLB may be salvaged, some will be inaccessible and some volume will be lost to char. If a quarter of disturbed THLB area cannot be salvaged, for example, fires will remove about 21,000 hectares of harvestable timber per year based on trends over the last decade. Assuming the current jobs per hectare (0.75 jobs per thousand cubic metres) and stocking of 350 cubic metres per hectare, wildfires can be inferred to be responsible for a loss of 5,500 jobs each year.

[2] https://www.policynote.ca/log-export-drain/