

IMPACT OF THE MOUNTAIN PINE BEETLE ON THE ECONOMY OF BRITISH COLUMBIA

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My task in this paper is to outline for you some of the actual and/or potential economic impacts of the mountain pine beetle in western Canada and what we know and don't know about these impacts. My comments will largely be aimed at the situation in British Columbia, as that is currently the main focus of the epidemic in western Canada.

The statistics presented by Allan Van Sickle are devastating and more than adequately indicate the physical impact of the mountain pine beetle in Canada. There is little need to repeat them.

The economic impact, real or imaginary, actual or potential, revolves around the basic question of who manages the forest—little black beetles or foresters. The exact composition of this impact will vary but may be divided into five major components: (1) impact on allowable cut and value of output, (2) impact on resource flows, (3) impact on product values, (4) changes in protection costs, and (5) changes in forest management costs.

There are relatively few statistics in my presentation. This is because what we do not know about the economic impact of the mountain pine beetle far exceeds what we do know, and figures developed from panicky, half-baked analyses have a way of becoming "gospel".

The one set of figures we have developed, which I suspect are rather exaggerated, relates to the impact on allowable cut. They will at least serve to highlight my previous warning!

If, as one report suggests, there is no economically available uncommitted timber in British Columbia,

each thousand metres³ decline in allowable cut caused by the mountain pine beetle results in a loss of 1.87 jobs in the logging and sawmilling industries, with an income loss of \$35,230 from forest industry employment. Applying a local multiplier of 2, the employment loss is 3.74 and the dollar loss is \$70,460. To this must be added lost revenue from stumpage (\$0.30-\$16.16/m³) and tax revenue losses (provincial losses of \$3.45/m³, federal losses of \$3.42/m³), though these might not be incurred in total.

On the basis of these values and the estimated 5 million metres³ loss in 1981, the economic impact from Annual Allowable Cut (AAC) losses in this single year was a possible \$450 million.

Now, just because an acre is infested, it does not fall out of the allowable cut. Further, in calculating allowable cuts, some allowance is usually made for anticipated, unsalvageable losses. In one timber supply area (TSA), Invermere, this figure for insects and disease is nearly 3%. It is very unfortunate that we don't know the unsalvageable losses and their relation to the loss allowance, but it is highly unlikely that the actual economic loss due to allowable cut impact in 1981 was anything like \$450 million. The previous statements are not to be taken as an attempt to gloss-over the impact of the pine beetle. In the case of individual TSAs or individual firms, the impacts can be devastating.

On a regional basis, the impact may be shown for the Nelson Forest Region, where only 10% of the volume of mature timber is lodgepole pine, while in excess of 25% of the harvest consists of pine. Companies such as Crowsnest and Crestbrook, whose

resources lean heavily to pine, will undoubtedly feel the pinch. One industrial case in point is the reported breakdown in the negotiations for sale of Crowsnest Industries (in Fernie) to Canfor. The reason given was excessive pine beetle infestation in Crowsnest's cutting area.

The wrap-up question is the extent of curtailment of planned regional economic expansion. At this point, we can fairly safely indicate loss, given the usual economist's assumption of "all other things being equal". The values lost by curtailment of expansion are approximately the same as those mentioned for allowable cut impact, or nearly \$90,000 per thousand metres³.

The loss due to impact on resource flow (the problem of timing) may well be more important. The forest economy is a very cyclical thing. At present, we're in the midst of the worst slump in 25 years, according to some industry analysts. In the face of the slump, the beetles keep munching away. That which is salvageable must be salvaged or lost. Beetle-kill can't be stored on the stump. This wood, if not harvested, does represent a real loss, the value of which we can estimate if we know the volumes involved.

The question of product values must also be briefly mentioned. The value of products from beetle-kill logs is probably not as high as from green logs. The main culprit is blue-stain. A secondary problem is that pulpmills prefer chips from green wood for their superior pulping characteristics. Again, we must confess that we don't know the extent of the value loss.

There are two parts to the impact of increased protection costs. The first is the cost of the attempt

to head off increased infestation. Other speakers will go into considerable detail on this point. The other part of the cost is increased fire protection costs. Extensive areas of fresh red beetle-kill appear to be an inferno waiting to happen. There is probably some marginal increase in fire protection costs due to pine beetle, but increased public awareness has, so far, kept increased suppression costs to a minimum.

Another impact to be briefly mentioned is that on forest management costs. A major component of this impact is increased road costs to salvage beetle-kill. Because the beetle dictates harvest patterns, orderly development of road networks is precluded. It is not uncommon for roads to be pushed for miles through harvestable, noninfested timber to reach a salvage area; or for roads to noninfested areas to be built and then sit idle as the beetle forces other roads to be built. This all costs government, industry, and ultimately the consumer a considerable but indeterminate amount.

I do not wish to go into the question of "nonmarket" impacts at this time. We are aware that there is the possibility of some impact on esthetic, hydrological, and recreational values. Further, there is the impact on wildlife, which should also be addressed at some time. However, the identification and measurement of these "nonmarket" impacts will require some indepth review, which we do not have time to perform here.

If the foregoing sounds like an economist's litany of woe, it is. We have more "don't knows" than "knows". We know that there is an economic impact and that locally it may be severe. Because of the many facets of this impact, we cannot accurately estimate it at this time.