



## Massive power in a tiny beetle

This summer, I had the holiday opportunity to drive through a good deal of British Columbia, and I was struck as always by the awe-inspiring scenery. This year, however, part of the awe came from the mountain pine beetle.

This tiny insect, less than one centimetre in length, has had a dramatic impact on the landscape of BC's interior. In many areas, the province looks rusted out, with huge swaths of forest killed or dying. It inspires awe the same way flash floods and hurricanes do.

The devastation shows up everywhere. In my hometown of Prince George, parks and golf courses have been all but stripped of trees. Large chunks of the city are denuded, while others remain marked by blocks of dead trees.

The pine beetle is not new to British Columbia. It is part of the natural ecosystem and traditionally afflicts mature pines 80 years of age or older. However, since 1997, the beetle infestation has taken on epidemic proportions.

Current estimates are that it will destroy 80 percent of the lodgepole pine forest by 2013.

This forest, of course, provides the backbone for British Columbia's multibillion-dollar forestry industry, and the mainstay of logging communities sprinkled across the BC interior.

In the short term, the beetle infestation is a spur to commercial activity, because the dead trees retain their structural integrity for between 2 and 15 years, depending on their product use.

However, even a frantic rate of cutting cannot absorb the wood that the beetles have made available; at most 10 to 20 percent might be salvaged.

In the longer term, the capital stock will be diminished, given that newly planted forests take 30 to 60 years to reach maturity.

What struck me more than anything else as I drove past entire mountainsides of dead and dying trees is how powerless we are to roll back this onslaught, or to stop its spread.

Except for small measures, such as controlled burns, this is a disaster beyond the reach of modern science. The spread of the pine beetle infestation is linked to the unusually warm weather British Columbia has experienced in recent years. Any hope of turning the infestation around is also to be found in the weather.

This could take the form of an early fall or spring cold snap of minus 30°C for as little as a day, or a much more prolonged winter deep freeze of minus minus 40°C for two weeks or longer. However, such weather seems to be increasingly rare.

The last time the beetles met a killing cold snap was in the fall of 1985, when the temperature around the central Interior community of Vanderhoof fell to minus 37°C. Moreover, the farther south the beetles march (assuming that beetles march), the less likely they are to be exposed to frigid weather.

Some will see the beetle epidemic as nature's revenge for global warming,

and indeed as a harbinger of natural calamities to come. However, it is not necessary to read a morality play into the beetle epidemic to appreciate just how fragile our ecosystems can be, and thus how fragile the economies that rest on those ecosystems can be.

Western Canadians take a great deal of pride in their natural landscapes, which attract tourists from around the world. Now, however, many of those landscapes are blighted, and full recovery will take decades.

It is unlikely the pine beetle epidemic will be contained within BC. It is already spilling over into the Peace River Country and through the mountain passes, as a quick drive through the western edges of Banff National Park will confirm.

Although the cold winter climate of the mountains contained the beetle in the past, openings have been found.

If Alberta is the next site of infestation, it is unlikely to be the last as the beetle advances across the boreal forests to the east and south.

My reaction to the beetle has been a humbling one. I am awestruck at the path of devastation this little beetle leaves in its wake.

At a time when news stories about Afghanistan, terrorism and war in Lebanon remind us hourly of our political world's fragile nature, the pine beetle provides a useful reminder of the fragile nature of our natural world.

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