

Evolutionary risks

John Purey-Cust

Watching from the sideline now, there are two things that still puzzle me about New Zealand's plantation forest industry. One is its total dependence on one species and the other is log exports. Both in their way threaten the public view of production forestry.

Only one winner?

I recently read something on the evolutionary development of giant pandas. Giant pandas are bears; bears belong to the order carnivora – predominantly meat eating – yet this one, taking another path, is now an obligate herbivore with a taste only for bamboo. It is now very rare and its habitat is threatened. Extinction looms.

Are we not in the same position as the giant panda? After an adult lifetime in forestry I find myself a member of an Institute of Forestry that, possibly unique in the world, devotes itself almost entirely to one species of tree.

We have arrived at this position in a perfectly logical way, as a result of many years of observation and trial whittled down, leaving radiata pine as simply the best general plantation tree we have. I admire radiata – it supported both my career and my fortune and I spent the last 25 years of my active life in a perfect house entirely constructed of radiata timber – but I do question its share (approximately 90%) of our production forest estate.

Is this wise? Adaptable, vigorous radiata pine ticks most of the boxes, but already it is susceptible in the warmer and wetter parts of its range to at least three fungal pests of its foliage (cyclaneusma, dothistroma and red needle cast) requiring aerial spraying for control. How will these react to the predicted general warming associated with climate change? The stem fungus nectria flute canker has affected management practice, reducing pruning and with it local industry, market opportunity and value.

In these times of wide travel and trade and shifting climate patterns, as always nothing is certain. Myrtle rust came to us on the wind. Mycoplasma bovis arrived in the dairy herd despite deep industry knowledge of known disease risks and intense biosecurity regulation, PSA on kiwifruit much the same. The epidemic death of Canadian lodgepole pine due to bark beetle infestations set free by warming winters, Dutch elm disease a worldwide total wipe-out – the list goes on and why should it stop?

Radiata has become our Golden Calf. We know our god, and as a consequence the need for thinking stops. We turn a blind eye to the possibility of failure, but what are the alternatives? Who is looking for them? Who measures the risk?

Who is interested? Well, some seem to be. The NZ Forest Owners Association, the NZ Farm Forestry Association and the Ministry for Primary Industries sponsored Scion's two recent reports, on cypress and eucalypts, looking at their long-term vulnerability to pest attacks and market future, finding cypress good but eucalypts risky. Douglas fir is suggested widely elsewhere and I have seen mention of redwood.

Do we still pin our faith on science – tree breeding and agricultural methods of pest control, and the watchful eye of Biosecurity NZ? Or is New Zealand forestry set to become the province of farm forestry, of species diversity, local markets for wood, and the source of local knowledge, while the corporate side becomes more and more the single diet vegan, ultimately to collapse entirely?

Log exports

We process about half our annual wood harvest and export the rest as logs. We long argued the case for plantation forests as a base for future industry. We proclaim their virtues in our publicity, but what people see and talk about is the endless stream of log trucks headed for the port.

We preach the virtues of wood the raw material. We have a big national housing need and a government priority to fill it. We have well-established skills in prefabricating warm and robust wooden houses (Fraemohs and Lockwood for example), but we do not push the case for wood very hard.

Peter Casey's paper in the February 2019 issue of this Journal makes forestry's case for counterbalancing our agricultural greenhouse debt, but doesn't mention wood's considerable potential role in the construction industry.

Others do. A leader in *The Economist* (5 January 2019) spoke for wood as the construction material par excellence of the future ("The house made of wood") and expounded at length on its greenhouse virtues further on ("Home truths about climate change"). The essence of the argument in both cases is that wood's virtue lies in more than just growing trees to soak up greenhouse gases, but goes far beyond that, to reduce the greenhouse debt owed by the construction industry's predominant use of the big emitters, concrete and steel.

In both areas – housing and greenhouse gas debt reduction – forestry has government support. Why do we not seek it? Is there not a contradiction here between national priorities and simplistic 'market forces'?

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