

always present, then the logical course of action is to reserve a part of the forest from logging, or to set arbitrary rotation ages to ensure that any coupe logging always retains mature forest. For instance, a rotation of 150 years in beech forest, and 300 years in non-beech forest, would ensure that mature trees are always present.

To control overcutting, not more than 1/30th of the area of beech forest, or 1/60th of the area of non-beech forest could be cut in any five-year period. A further constraint could be that in non-beech forest, coupe size could be restricted to less than say 1 ha, but there is no good scientific reason for having such a restriction in beech forest, and many good silvicultural reasons for not having such a restriction.

Ensuring that any production from indigenous forests is on a sustainable basis is only important if it is intended that production continue well into the future. Unsustainable production jeopardises future production, but it need not jeopardise the future existence of the forest, nor its value as wildlife habitat, if appropriate safeguards are adopted.

If sustainable production is an objective, then yield control on an area basis is probably the best option for coupe logging, provided that the forest is stratified into major yield types so that the most economic areas are not all logged first. In selection forests, the harvested yield, plus any natural mortality, should not exceed the gross increment, and this would require a periodic inventory check.

However, sustainable production involves more than just yield control. Regeneration after logging, whether natural or artificial, needs to be assured, the regeneration needs to be protected, and the new crop needs to be silviculturally treated to ensure that the quality of produce is at least maintained, and preferably enhanced. None of these issues is mentioned in the joint statement.

The whole tenor of the joint statement appears to be to control logging, but it does not address the real issues to which the Government claims to be committed – that of maintaining and enhancing existing areas of indigenous forest in New Zealand. Until the Government does address these issues, I think we are entitled to be sceptical of their commitment.

Dudley Franklin

'Flat earth' flavour

Sir,

Two articles in NZ Forestry Vol. 35(4) have a curiously "flat earth" flavour.

"Prospects for New Zealand Forestry" (p. 6) shows a naive belief in free market forces to provide future wood supplies, despite the fact that, since the dawn of civilisation, free market forces have treated forests as a mine to be exploited to extinction (being the most profitable option), a process which is still continuing. It is interesting to compare this simplistic belief with the article on p. 24, where it is said that the Chilean Government "adopted a free market approach in all areas of the economy **except for forestry**". And why, pray, do so many countries insist on statutory replanting of logged forests? Are we to assume they are daft?

The other example of "flat-earthery" (if I may call it so) is on p. 3, which exhibits a distressing belief that everything will continue as it is for ever. It is stated that the world's wood needs can be supplied from a land base of "little more than 10% of the present area of forest in the world". I suggest the originator of this strange idea should consult "State of the World", being the "Worldwatch Institute Report on Progress towards a Sustainable Society", published by Unwin in 1990.

World population in the year 2000 is expected to be 6.251 billion. There are something like three billion hectares of potential commercial forest, plus about 900 million hectares of savannah woodland, which I will leave out of account here, although it provides huge amounts of vital firewood. Wink Sutton gives a figure of 3.55 billion tonnes of wood used annually (about half of which is firewood). So let's say the world uses around 2 billion tonnes of industrial wood annually. World population (1990) is 5.292 billion, so per capita wood consumption is around 0.38 tonnes per annum, excluding firewood.

If we can provide that quantity from one-tenth of the potentially commercial forests (300 million hectares) the yield would need to be 6.67 tonnes per hectare per annum. It is, however, very doubtful if a mean worldwide figure of this magnitude would ever be achieved; a more likely maximum is 4 tonnes, which would require a commercial forest area of 500 million hectares, or 17% of the total forest area.

If, however, world demand reaches the New Zealand level of 2 tonnes per capita per annum, then the volume required world-wide would be, by the year 2000, 2×6.251 billion or 12.5 billion tonnes. At a yield of 4 tonnes per hectare per annum, this demand would require

the whole of the area of potential commercial forest, still excluding firewood.

And how much forest land will be cleared for food production in view of an increasing world population and ongoing degradation of farm land?

The article assumes that only present conventional uses of wood will continue indefinitely into the future. Say, however, that wood is needed for the production of all those articles now provided from mineral oil, including liquid fuels and a host of ligno-chemicals? Then prognostications based on an uncritical and cursory look at the present situation would be astronomically wrong.

I am loath to bandy figures of this kind around, but still I don't like to be hoodwinked and grossly misled into believing the unbelievable.

Geoffrey Chavasse

Global forest interactions

Sir,

The ideal of sustaining tropical forest yields is often mentioned. While it is true that experiments show that this is possible, if you examine the data you will see that building all weather roads, logging with ground-based heavy machinery, and logging lesser-known species are not referred to. However these activities are all mandatory for modern loggers if their operations are to be profitable. While the volume yielded by a second logging of any area may be similar, there will not be a similarity in species or quality.

The conservation of the remaining area of native forest cover must be supported but surely this is only one aspect! To ensure the survival of 5 billion people, who use wood every day to cook their food, requires the replanting of some 20 million hectares per year of fuelwood plantations. To offer economic opportunities to many people a further 15 million hectares of industrial plantations must be planted each year. To cater for roughly double the world population in about a generation's time these figures ought to be doubled.

K.D. Marten

Forestry or log farming

Sir,

Foresters in New Zealand, like those overseas, are prepared by education and training for a profession dedicated to managing forest and soils for a multitude of purposes. Yet to much of the public,