

b) that conventional economic theory concerning tropical forests is threadbare in the face of the world's diminishing natural resources.

As far as the first point is concerned, it is widely acknowledged that the apparent failure to develop silviculture and management in natural tropical forests is not due to technical reasons, but derives from what is termed a "lack of political will". That is to say, technical treatments and procedures have been developed, but the forests in which they have been applied have been sacrificed to short-term political objectives.

With regard to the second point, I suggest readers should peruse an article in *The Economist* of August 26, 1989 and a paper by Ehrlich which appeared in the *Journal of Ecological Economics*, Volume 1, 1989.

These two articles show clearly that conventional economics will be obliged to widen its horizons, coming to regard the value of a nation's resource base and its environment as an integral part of a national accounting system. For example, the dredging of alluvial gold earns foreign exchange (recognised by conventional economics), but at the same time reduces the store of national assets and permanently damages the environment in a matter and to a degree not considered by conventional economics.

It is interesting to note that the Governments of Britain, Canada, France, and Norway are investigating this new school of national accounting and economic theory. Perhaps it would be appropriate for all of us to follow suit.

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Editor's Note:

Ian Hutchinson raises an important economic issue. The two articles referred to both point to the need to value natural resources. The *Economist* article emphasises that National Income Accounts do not allow for changes in a country's natural capital and therefore have nothing to do with 'sustainable' income. Paul Ehrlich notes that many industries dealing with biological resources were not necessarily concerned with achieving long-term sustainable yields from them, but were only concerned with maximising return on capital – even if it meant extermination of the resource. He argued that ecologists and economists need to get together.

For those interested in a broader perspective of the economic dilemma I would recommend reading Marilyn Waring's book 'Counting for Nothing' (Allen and Unwin, 1988)

Another recent article, which looks at values of non-wood products, is 'Valuation of an Amazonian Rainforest' by Charles Peters, Alwyn Gentry and Robert Mendelsohn (*Nature* 339, June 1989).

Don Mead

Paper* on yields in early thinned stands

Sir,

I wish to correct a misquotation in the Woollons and Whyte paper in the November 1989 issue of *N.Z. Forestry*.

In their opening paragraph they quote me as claiming a projected mean dbh of 64.5 cm for the 200 stems per hectare at age 26. As was clearly stated, my 1976 paper was a summary of an earlier publication.** In both my paper and in the original reference the 64.5 cm was given as the diameter which we achieved by stand height 36.6 metres. (No year was actually mentioned.) The diameter estimate (as given in both papers) for age 26 was only 61.7 cm. In the original 1968 Fenton and Sutton*** paper the mean dbh estimate for age 26 was 55.9 to 58.4 cm (22 to 23 inches).

Others more qualified than I can comment on the applicability of results from regeneration stands to stands planted with genetically proven stock. There is

ample other evidence from both trials and practice that supports the current practices of heavier and early thinning.

W.R.J. Sutton

References:

- * Woollon R.C. Whyte A.G.D. 1989 Analysis of growth and yield from three Kain-garoa thinning experiments. *N.Z. Forestry* 34(2): 12-15.
- ** Fenton R.T., James R.N. Knowles R.L. and Sutton W.R.J. 1972: Growth silviculture and the implications of two tending regimens for radiata pine. Proceedings Seventh Geography Conference, New Zealand. *N.Z. Forestry Service reprint* 635.
- *** Fenton R.T., Sutton W.R.J., 1968: Silviculture proposals for radiata pine on high quality sites. *N.Z. Journal of Forestry* 13(2): 220-8.

Swedish visit

Thirty-four graduating students and School of Forestry teachers from Umea, Sweden, visited New Zealand recently. Their three-week trip was organised by Jessica Hunter of the Forest Research Institute, Rotorua; Jessica had recently worked in Sweden.

Mike Orchard said their visit to Westland was a great success as they had both brilliant sunshine and heavy rain – the latter is excellent to appreciate the kind of climate needed for sub-tropical rain-forest growth.



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