

THE VALUE OF WOOD: A STATE FORESTER'S VIEWPOINT

P. F. OLSEN*

The value of wood, as seen by a regional State forester who has to administer sales and provide additional forest area for the future, should, in theory, bear some relation to the view taken by economists and company foresters, to mention only two groups professionally interested in this topic. Before any comment can be made on apparent differences of viewpoint of these groups, definition of the term "value of wood" is essential. I have searched some of the appropriate literature for a definition without obtaining much assistance. Hiley (1954) is prepared to discuss "devastation value", "cost value" and "replacement value" in the context of measuring profitability of forestry. However, this does not appear to adequately define the topic. In the absence of a published authority, therefore, I have put forward my own definition. From the welter of factors which assist in defining "wood" and the elements to be considered in finding out if it is worth growing, the following rationalization has been arrived at: the value of wood may be defined in the New Zealand forest economy as its marketability in relation to its growing cost.

Economists and company foresters will regard the value of wood thus defined in a different light from a regional State forester. They will generally be able to ignore factors not usually associated with business decision-making, which, however, loom large in the considerations a regional State forester has to bear in mind. There are many inconsistencies in the decisions handed down to him either from "on high" or from predecessors in office. To reconcile these is often difficult. For instance, his fiscal masters may demand with apparently ingenuous vigour that he maintain a return of, say, 7% compound interest on forest investment while pressing him not only to supply industry with cheap raw material but also to prosecute major planting programmes on erosion-prone unstable sites distant from every facility, other than an embarrassing pool of unemployed labour. To add to his difficulties, he may be forced to use species which he regards as anathema, provenances he knows to be inadequate and sites characterized by their unpalatability to other land users. Market problems will be rendered more complex by such factors as the Japanese log trade pushing sawlog royalties to a level with which his local mills, whom he is committed to supply, may be neither equipped nor prepared to compete. And when he attempts to plan, hanging over all other considerations is the Damocles sword of the significant cost inflation of recent years.

These uncertainties limit the ability of the State forester to evaluate the economic effectiveness of alternative solutions to his problems. However, there are some elements in these economic equations that can be relied on to have reasonable stability.

*Principal Forester, N.Z. Forest Service, Rotorua.

- (1) Pulpwood will not rise in relative value above its present level. The Director General of Forests is quoted in the *Daily Post* of 4 April, 1966, as being of the opinion that current stumpage rates of Kaingaroa logs being supplied to Tasman were at that date a fair market value. Although this judgement may be said to lack objectivity, in that he was viewing his own handiwork, it does appear to be valid in regard to pulpwood. Current trends will, I consider, tend to confirm this view. Pulping company foresters, assisted by an advantageous tax structure, can grow wood at approximately half the apparent net cost that a State forester will incur. As pulping companies are strenuously endeavouring to acquire land close to their plants, it is obvious that they have the best and probably only opportunity to grow pulpwood at a cheap price. Rydholm (1965) comments, "The wood costs constitute 50-75% of the manufacturing costs of pulp." Hiley (1954), commenting on the price of timber in Britain, suggests that the price is more a reflection of the costs of alternative timber supplies than the costs of growing it. In view of these opinions, it seems logical to conclude that pulpwood will tend to be produced in large quantity on advantageous financial terms and sites by the pulping company foresters, to ensure that the market price tends to remain relatively low.
- (2) Sawlog prices will tend to rise in relation to the present value of sawlogs. To the extent that the forest investment capacity of the larger companies will tend to be channelled to pulpwood production, their production of sawlogs should not therefore constitute a large volume of cheap wood which could have a depressant effect on sawlog market prices. Moreover, the Japanese pressure on softwood sawlog markets in New Zealand, U.S.A. and U.S.S.R. is tending to force domestic prices up and reduce the volume of uncommitted private sawlog resources. This latter trend is particularly evident in New Zealand and the State forester is preparing for a very marked increase in the demand for State sawlogs from the smaller forest product companies. Thus, the present evidence suggests support for the view forcefully expressed by the late A. R. Entrican at this Institute's 1961 Annual General Meeting, that sawlog royalties will have to carry a low pulpwood royalty.
- (3) The other major factors that the State forester can be sure of is that he will need to temper the possibilities of open market royalties for his sawlogs with the cool comprehension that should prices become too high, alternative materials will appear. Smith (1961) emphasized the necessity of devising methods of log sales which will ensure that timber purchasers can conduct their operations profitably without hampering or even bankrupting their suppliers. Although we may now be seeing the other side of the coin, his advice still holds good for both parties.
- (4) Finally, decisions on maximization of financial yield by manipulation of the rotation length are not yet of significant importance to the State forester. Even assuming the most buoyant

of markets for all produce, rotation length of current planting tends to be determined more by the volume remaining of the old 1922-37 unmanaged stands than by the demands of compound interest.

In the light of the above reasonably safe assumptions, a regional State forester can make certain decisions regarding the value of wood and his techniques of providing for future supplies:

- (1) He should not at present commit more of his forests' growth capacity to satisfy the demands of pulping companies than can be accommodated as a by-product of sawlog production. However, by adopting a flexible stance, by pruning and thinning, he can plan for any unexpected rises in pulpwood royalty, which he may find opportune or politic to take advantage of in the future. A rise in the volume of pulpwood demand and his ability to offer attractive logs capable of producing bright long fibred relatively defect-free pulping material could change the present balance of relative values between pulp logs and sawlogs.
- (2) He should concern himself with *Pinus radiata* and to a lesser extent *Pseudotsuga menziesii*. Fenton (1967) has noted that current State practice favours 20 to 25% of the latter species and the logic of adopting this proportion appears valid. On colder sites, he can employ only *Pinus contorta*, which largely constitutes an act of faith, although backed by some evidence that the value of this wood has a reasonable future expectation.
- (3) Within the political and social limits laid down for him, log sales should be of short enough duration to inhibit the tendency of inflation to erode the values obtained in real money terms. Long-term sales should be tied to adequate short-term price revisions. This is particularly necessary where clear-fellings are concerned and investment in the next rotation constitutes an alarming and increasing demand on current cash flow.
- (4) He must be continually cost conscious. This is currently more necessary in the indirect cost sector which is growing much faster than the relatively static direct costs. The cost elements of silviculture and their interaction with logging costs, together with the planning of planting layout and roading, should all be tailored to enhance production of the most desirable log product at the most advantageous total cost.
- (5) He can fairly depend on some indigenous wood being available. To ignore the continuing contribution that indigenous species will make to meeting demand for wood, for some time to come, is not valid.

My definition of the value of wood as its marketability in relation to its growing cost can hardly be twisted to fit this last category. This problem can be overcome if species are examined which are fully capable of meeting the same end-use demands as the indigenous species met. This area of discussion, however, becomes relatively barren once market rates of interest are mentioned.

A subject such as "The value of wood" can be difficult to grapple with. However, during the process of such grappling, the opportunity to examine economic problems of forestry constitutes a valuable and salutary exercise. There are many throughout the forest industry who would insist that all regional State foresters should do this at least once a week.

R E F E R E N C E S

- Fenton, R., 1967. The role of Douglas fir in Australasian forestry. *N.Z. J. For.*, 12 (1): 37.
Hiley, W. E., 1954. *Woodland Management*: 147-267. Faber & Faber.
Rydholm, S. A., 1965. *Pulping Processes*: 257. Interscience Publishers.
Smith, C. M., 1961. The standing timber market. *N.Z. J. For.*, 8 (3): 404-14.