FOREST ROAD PLANNING

A. A. Rowan. Forestry Commission Booklet No. 43. 75p

THIS is a very comprehensive and concise document covering the whole aspect of Forest Road Planning, but concentrating mostly on the road as a means of access for the extraction of timber. The planning of all roads is dealt with by using cost benefit analysis methods.

The cost of pre-planting roads is offset against savings in establishment operations, no recognition being given to the part this road will play at the harvesting stage. The table given for general

guidance for pre-planting road densities (page 16) is very limiting, but it does highlight the need for careful consideration of the quantity and quality of the roads necessary at this time.

The calculation of optimum road spacing (from which the optimum road density can be calculated) for harvest roads, is based on the general principal that the combination of extraction cost per cubic metre of timber and the road construction cost per cubic metre of timber served is a minimum. Once the method of extraction has been decided, this can be reduced to a formula by equating the movement cost to the road construction cost (page 12 and graph, page 4).

The choice of road standard must be given careful consideration as it has a direct bearing on the road construction cost. The timing of road construction is closely related to the timing of first thinning. Delaying thinning or making roads to low-specification is recommended in areas of low yield class and high road costs.

The movement costs quoted, at page 10, are very low even by 1975 standards. Low movement costs give wide road spacing. There must be physical limits, especially at the early thinning stages, to the distance and number of times a vehicle can travel over the same track on the poorer soil types, but no mention is made of this. The range of the cable-crane automatically fixes the road spacing and therefore there is no need to use the forumla, but the cost of cable-crane extraction is such that it should only be used where vehicular extraction is impossible. Access to isolated blocks, road improvement schemes and the roading of small blocks are dealt with in some detail. The inclusion of a brief road specification is very helpful, and the illustrative cases given at the end of the book are most informative.

Overall this booklet is an excellent guide to the problem of forest road planning, and the method can be applied, with revised inputs, to suit any conditions. However, if the timber grower does not extract by direct labour to the forest road, he may have difficulty in convincing the timber merchant that extraction over long distances can be done economically. Remember also, that in the final analysis the theoretical figure for road spacing can only be taken as a guide to the actual layout in the field.

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