

FARM FORESTRY

Plantation Income

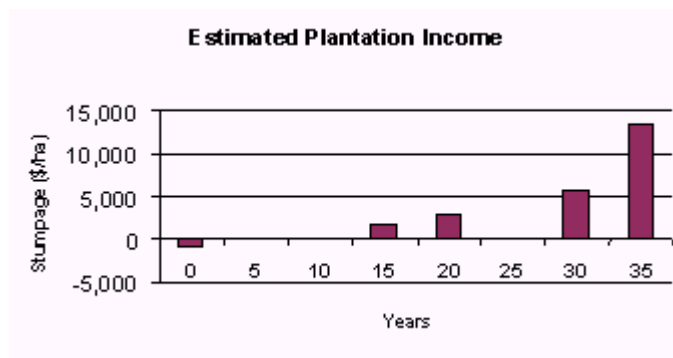
Wood Prices

The price forest owners receive for wood sales reflects what the consumer will pay for the finished product. In the timber industry, harvesting, carting, primary processing and manufacturing costs are generally fixed for specific wood products. The timber industry, like other buyers of raw materials, will attempt to pay the lowest price for logs.

Trees are often sold as a standing crop. *Stumpage* is the price a buyer will pay the owner of a stand of trees. It does not include harvesting or cartage costs - these are borne by the buyer. *Mill door price* is the value of the tree delivered to the processing plant (e.g. sawmill). Wood is sold either by weight (tonnes) or volume (cubic metres). Often size classes for logs are set by the buyer and a different stumpage applies to each size class. Log size classes specify the diameter of the log and account for log length, straightness, branch size, amount of solid wood etc.

Returns will vary with time, tree species, quality and quantity of wood, topography and distance from the mill as well as economic factors.

Time



Income from forests is only obtainable when a sufficient quantity of wood is available for sale and meets the buyers requirements. In plantations, income will begin at time of first thinning at 12 – 18 years. Each subsequent thinning will produce greater income as the trees increase in size. About 60% of the total income will be received at final harvest at 30 – 40 years.

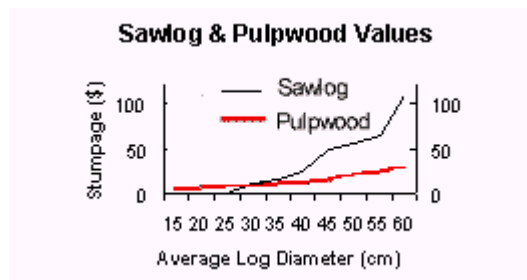
Tree Species

Tree species which can be converted into high quality products command high prices. Blackwood is an example.

Quality and Volume

Better quality means higher prices. Veneer logs (big, fat, straight, branch free logs) command the highest price whereas firewood returns a very low price. Well managed forests (which have been pruned and thinned on time) will return more than unmanaged ones. Where large areas of forest are harvested stumpage may reflect economies of scale. As a well managed plantation grows, age and tree size increase, and the value of the plantation accelerates.

Wood in standing trees is sold by volume, ie cubic metres. For example, a 5 metre long log with a 55 centimetre diameter midway along its length and with bark 2.5 cm thick has a volume of 1.0 cubic metre. The formula is: $\text{Volume} = \text{Length} \times 3.1417 \times (\text{diameter}/2)^2$ or $5.0 \times 3.1417 \times (0.5/2)^2$ where length and diameter are expressed in metres.



Log value increases with log size and quality. Large, high quality sawlogs are worth much more than pulpwood. The value of low quality logs is not affected much by log size. In fact pulpwood is not sold by log size but by weight.

Topography and Site Conditions

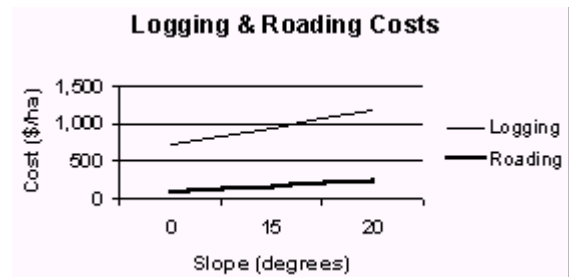
Harvesting costs affect stumpages. Lower stumpages will be paid for steep or rocky sites or sites requiring road construction. Flat accessible sites, needing little road construction, will attract higher stumpage.

Distance from Processors

The further the logs are from the mill, then the lower stumpage the buyer will pay.

Investment Returns

Returns on forestry investment are often expressed as dollars per hectare (\$/ha), rate of return on investment before tax (e.g. 6.5%). Computers are used to compare different forestry options using "Present Net Value" i.e. All costs and returns are accounted for from planting to harvest and expressed in today's dollars. Inflation is not included in these calculations. There are many factors to consider when calculating investment returns including interest and discount rates, cash flow requirements, insurance and taxation.



Note: The examples used here are general and do not refer to any particular site or situation.

Author, Arthur Lyons, March 1997



Private Forests Tasmania, the government authority specifically established to foster and assist private landholders manage their forests in a sustainable manner and to encourage the expansion of plantations.

This information has been prepared as an introduction to Farm Forestry. More comprehensive information on a range of topics is available Private Forests Tasmania.

Burnie	6434 6285
Hobart	6233 7445
Launceston	6336 5300