

Timber Stumpage Values “Worth a closer look”!

“High Value Sawlog” what does that mean? From a Sawmiller’s perspective (usually the purchaser), looking at the developing private forestry sector “Farm Forestry” it must seem a bit odd. Does the high value add-on mean that there is some new market developing that they have not been aware of to date? In magazines, research papers, joint venture publications, “Farm Forestry” journals, political speak, etc the



mantra has caught on but never been defined or justified. From the landholders perspective there has been a dramatic response to the hype and sensationalism of “High Value” ‘everyone talks about it so it must be true’. For political reasons the sawlog has become the “be-all and end-all” of the government’s obligation under Regional Forestry Agreements i.e. to achieve a guaranteed supply of sawlog until 2024.

In the past when high value sawlogs were talked about it related to size, lack of defect, species, straightness, quality, and trueness of the grain. Now the discussion is often in relation to a sawn, dried, graded product that has been converted by the sawmiller or secondary processor. There are so many variables, hidden costs, additional skills, marketing knowledge, infrastructure issues and above all market dynamics that there is a need for a much broader paper to discuss forest products as a market reality not as hypothetical product that at present does not exist and may not even in the future.

The A grade sawlog is the backbone of the sawmilling industry and it must be stated that the sawlog has been and will continue to be a major resource need of this industry. In exploring comparative stumpage values it is not the intension of the author to diminish the important role of sawlog volume production. In fact, sawlogs play an essential role in supporting the supply of all other timber products apart from fencing and to a lesser degree poles and girders.

Nevertheless, if we consider that virtually all forest managers will sell their timber at stump regardless of whether it is from native forest or plantation, then stumpage value should be the major consideration in the forestry enterprise. In looking at stumpage seriously, most growers will be surprised to find that even higher quality sawlogs rank rather low in the “stumpage value hierarchy”.

Stumpage = Price received by the landholder for the forest products after all costs of cutting, snigging or haulage have been paid.



The first major point is that sawlogs are only one product forests provide. For the farm forester Sawlog should not be seen as the “be-all and end-all” of forestry. In fact by better understanding products and markets it is possible to merchandise a wider range of products and realise a higher return from higher value market options and improved utilisation.

A useful **indicator** of product value is called “Relative Value” i.e. The value comparison of one product to another based on its volume regardless of how it is sold or marketed i.e. \$/m³, which is equivalent to value per unit of biomass produced. Some products are valued and sold on a 'piece value' basis (eg poles, fence posts), while others are sold on a 'volume basis' (eg sawlogs) The grower needs to appreciate the relative values of trees destined for different grades of product regardless of any rhetoric of excellence and glamour. In other words, to realistically compare different types of forest products with one another it is necessary to find a common denominator. After all, when we sell timber products, even those that are traditionally sold per lineal metre or by the piece, we are still basically selling wood volume.

For each forest product there is a set of industry specifications, which must be met. The major three specifications taken for every timber species, size (diameter and any defects. For as poles these are defined by an standard and are not important to make this value hierarchy is only the products meet their For maximum value to thorough knowledge of specifications must be Depending on its limitations a log length potential to be a one product or multiple products.



The major three into account product are and length) products such specification Australian arbitrary. It is point, as the applicable if specifications. be achieved a product applied. qualities and has the converted into

To clarify these points we will use an example of a hypothetical forest at a set distance from a range of market types. The forest has a wide range of products able to be accessed and removed. Based on a set of pre-determined parameters all available forest products and their respective stumpage values will be recalculated to be expressed as \$/m³. We will then look at the true “stumpage value hierarchy” and see where sawlog fits into the picture (for this scenario). This is a complex topic and it must be clearly stated that the “**Value Hierarchy**” is **site and situation specific** i.e. the order of product values will vary from one property to the next. The variability in value is due to differences in haulage distance, access, forest structure, species, stand quality, bole length, etc.

Now let’s set the scene: Our hypothetical forest is within 100 km of the following markets: Sawlog, Poles, Piles, House Stumps, Sliced Veneer and Fencing Timbers. The property has reasonable access; undulating terrain and the distribution of standing volume would be considered uniformly accessible. In addition, the available volume of all products is sufficient to allow access to all proposed markets. All products are to be sold to a range of purchasers. The forest owner has engaged a contractor to harvest all products as an integrated harvest, present all products on log landings and then organised transport to the purchasers. The stumpage values presented below are the net return to the landholder.

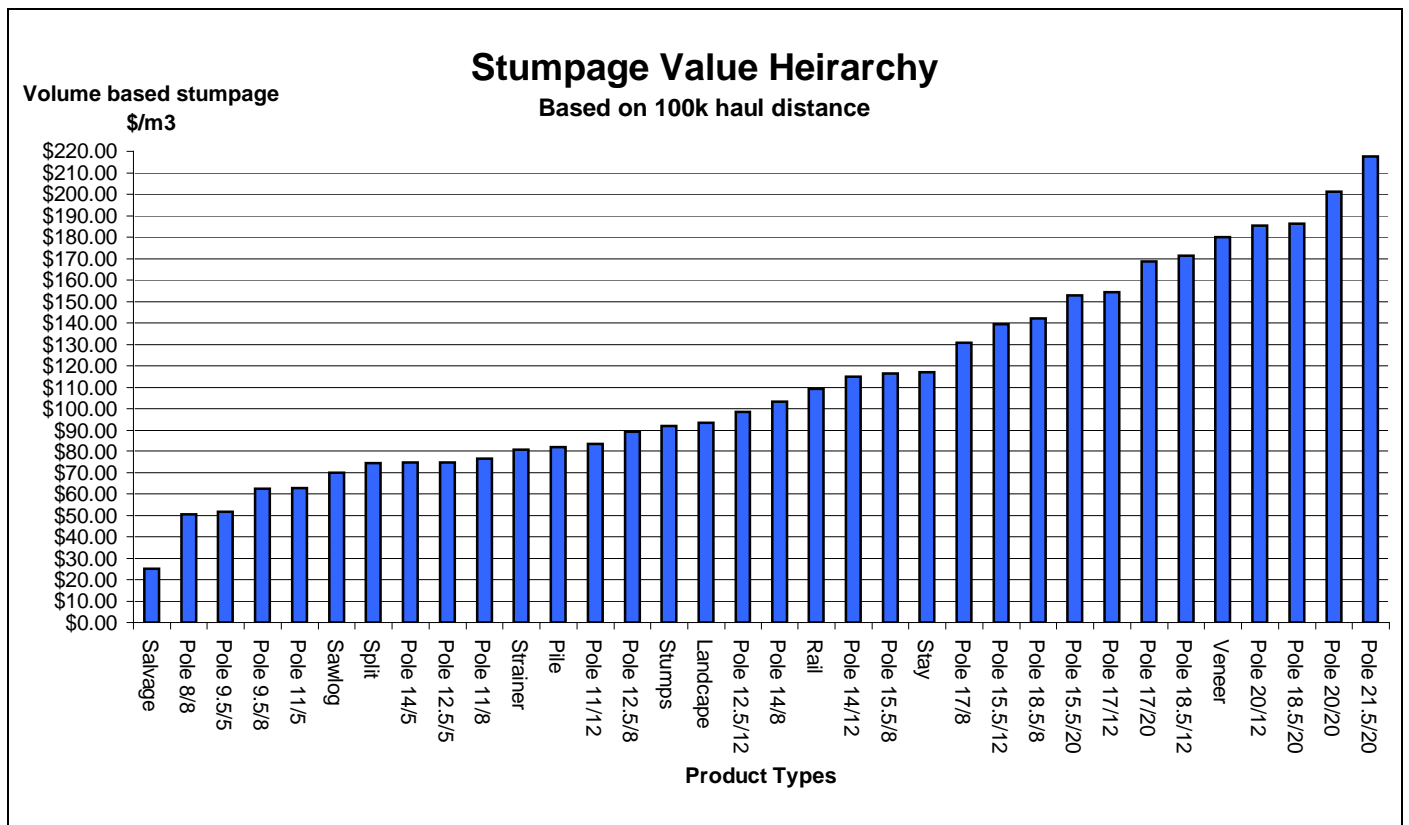
Stumpage Values Achieved

Product Type	Length m	Small end diameter cm	Volume m ³	Stumpage per piece \$/unit	Stumpage relative to the volume of the product \$/m ³
Strainer	2.1	25.0	0.1119	\$10.00	\$80.45
Stay	3.0	15.0	0.0641	\$7.50	\$116.98
Split	1.8	15.0	0.0318	\$2.36	\$74.23
Pile	9.5	15.0	0.2909	\$23.75	\$81.65
Stumps	3.0	20.0	0.1089	\$10.00	\$91.86
Landscape	3.0	15.0	0.0641	\$6.00	\$93.58
Veneer	6.0	44.0	1.0	\$180.00	\$180.00
Sawlog	6.0	44.0	1.0	\$70.00	\$70.00
Salvage	12.0	27.0	1.0	\$25.00	\$25.00
Pole	8.0	17.5	0.367	\$18.45	\$50.30
Pole	9.5	15.0	0.353	\$18.27	\$51.79
Pole	9.5	18.5	0.487	\$30.39	\$62.34
Pole	11.0	15.0	0.437	\$27.41	\$62.70
Pole	11.0	18.5	0.598	\$45.73	\$76.53
Pole	11.0	22.0	0.783	\$65.46	\$83.61
Pole	12.5	15.0	0.517	\$38.64	\$74.75
Pole	12.5	18.5	0.718	\$63.97	\$89.11
Pole	12.5	21.5	0.921	\$90.66	\$98.40
Pole	14.0	16.5	0.715	\$53.25	\$74.51
Pole	14.0	18.5	0.831	\$85.89	\$103.34
Pole	14.0	21.5	1.082	\$124.29	\$114.89
Pole	15.5	19.5	1.001	\$116.55	\$116.49
Pole	15.5	23.0	1.305	\$181.91	\$139.39
Pole	15.5	28.5	1.861	\$284.67	\$152.95
Pole	17.0	20.0	1.151	\$150.53	\$130.80
Pole	17.0	23.5	1.517	\$234.28	\$154.43
Pole	17.0	28.5	2.119	\$357.62	\$168.75
Pole	18.5	21.0	1.332	\$189.34	\$142.12
Pole	18.5	24.0	1.719	\$294.86	\$171.49
Pole	18.5	29.0	2.419	\$450.74	\$186.35
Pole	20.0	25.0	1.960	\$363.19	\$185.30
Pole	20.0	29.5	2.704	\$544.38	\$201.33
Pole	21.5	30.5	3.077	\$669.26	\$217.50

There are now a number of critical points needed to ensure correct data interpretation.

1. Only Durability Class 1 species such as Ironbark, White Mahogany, Bloodwood, Tallowwood, Grey Gum, etc are suitable for in-ground contact without preservative treatment.
2. The degree of work involved to “present” each product does not come into this equation as all products are **compared as stumpage value**.
3. None of the stumpage values include G.S.T
4. Veneer stumpage in this scenario is based on Spotted Gum, 450 mm small end diameter under bark, presented in multiples of 2.7 and 3.0 billets.
5. The Pole classes include in this scenario are the most common classes sold in the current market.
6. The pole stumpage used is current for the year 2003 and based on 100k haul.
7. Stumpage values are not set in stone, but will vary according to the locality and the prevailing market. Local markets may not exist for some product types

- Realising the optimal value from a timber harvest will generally require (especially in the case of a native forest) an 'integrated harvesting operation', rather than just the conversion of all harvested trees into a single product type (or two) eg sawlogs



Major points for consideration

- Sawlog is within the lower one third of all product values for this property. It is obvious that if any log has the length, diameter and meets defect specifications there are opportunities to receive a significantly higher stumpage as a pole, girder or sliced veneer billet.
- Notice that a split post is achieving only a stumpage of \$2.36 per post. When the relative value is calculated, this product compares favourably with sawlog on a volume basis.
- Salvage grade sawlogs are the very last option and should be considered as split post material if they are durability class 1 species of suitable quality, e.g. adequate diameter without too many limbs. (Pipe can be a bonus for ripping if it is not excessive.)
- There are many pole classes that return less stumpage than landscape, stumps and piles! The lower pole classes can be presented as multiple products out of the one length and achieve significantly higher stumpage.
- For timber that is durability class 1 species there are more options in the smaller diameter classes to achieve higher stumpage as a combination of fencing stays and strainers.
- At a stumpage of \$70/m³ a 15.5 m sawlog with a centre diameter of 39.11 cm would return \$130.27 (volume of 1.861m³). If the product were able to meet pole specifications the log would be reclassified as 15.5m 20kN Pole with a stumpage value of \$284.67 or a relative value of \$153.00/m³. In this scenario the reclassification of the exact same volume of wood has more than doubled the stumpage.

There are many other examples where it is possible to optimise stumpage value. The major point of this article is not to provide some definitive formula for deciphering the optimal utilisation of each tree you may harvest. The message to be emphasised is that there are more regime and product options available in plantation and native forest management than most landholders currently realise. Farm forestry is a developing industry and one of the major issues faced by those contemplating establishment of plantations is the length of time between investment and return. One of the major limiting factors for forest managers

is the way forestry has been presented in the past. Rather than follow a restrictive mindset that “Sawlog” is the only worthwhile focus for plantations or native forest management, investigate the opportunities to “step out of the box”.



There is plenty of scope for plantations that are design purely for fencing material production. Other plantations could have a regime designed for piles or poles. In many cases sawlog production would come from stems too crooked or defect-affected to qualify as poles or girders i.e. the long-term final crop after more valuable products had been extracted. A regime for fencing material would need to select species of durability class one, but the rotation could be as low as 10 – 15 years for line posts, small strainers and stays. The volume production for such a regime may be far less than in a 30 - 70 year rotation for sawlogs. The net return would be extremely similar when you compare multiple fencing regime rotations to one for sawlogs, especially if discounted cash flow is applied. Product knowledge is essential from the beginnings of planning, through to the final sale and reforestation.

Written by: K. R. Matthews 2003

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For further information on product specifications, integrated harvests and forest management you may like to visit the following web site: www.pfsq.net or call: 5483 6535