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Specifying Plantation Native Hardwoods

On a daily basis we field requests for plantation hardwood options in high-value timber applications. As recyclers dealing with a finite resource, we would logically also retail the *next best option* if it existed. The plantation option for appearance-grade native hardwoods doesn't exist - but will exist given a long establishment period. No group or interest seems capable of outlining in detail a viable future for plantation hardwood sawlog and valuable time is spent barracking for the model as if it was a present and realistic option in specifying.

The specifications continue to arrive as if the well-intentioned had a conversation with no one but themselves. After 20 years of false starts it may be time for a real conversation to take place between all people with a belief and a purpose in the task of hardwood sustainability. We would like to start a conversation with an outline of this impasse - the problems to now.

Plantation Sawlog Production: Problems of Scale and Type

About 20 years ago, reformists looking at the timber industry insisted that plantations were the best way forward for native hardwood sawlog production. However, there was a key understanding that any review of this outstanding natural resource needed to deal with. Appearance-grade native hardwoods for flooring or furniture require 80-100 year old natural stand sawlogs and, in the real world, no private investment model can be produced for hardwood sawlog plantations if a return to the investors was to take any longer than 25 years.

This is the main reason plantation establishment has failed to eventuate on any significant scale in the two subsequent decades - whereas in softwood sawlog and hardwood pulplog production, the forests are well established and some are flourishing. Over the 20-year period, the structural role of timber has increasingly been dominated by softwoods and engineered products while the range of hardwood use shrinks towards appearance grade and high value applications. As well as a general shift towards sustainability, this makes the replacement target a smaller one. Advances in plant science, plantationists hint, mean that seed and growth tip developments will bring the growth cycle down closer to 50 years - and this, you suspect, is possible.

Even so, no advance - no clear initiative - in the 20 years has changed the rate of HS plantation establishment. And it is worth looking at the difficulties the plantation ideal has faced to now.

Scale of Plantation

The first difficulty was always scale. Farm forestry production 50 years from now would not support even a handful of existing modern hardwood drymills in NSW. Yet this expensive infrastructure is required for timber to achieve best value and a minimum scale of production is required for plant efficiency.

a) Replacement of state forest sawlog (Publicly funded).

As a realistic proposal for NSW, if the industry were to retain the ability to use a resource, which does not exceed 50% of current logging, then an annual quota of 200,000 cubic metres would supply at least 5 modern mills. If the proposal also allowed a 50-year ramp-in for plantation replacement of more than 50% of this volume, it is probable the project would both begin and proceed in sustainable terms.

The physical scale of such plantation - based on an eventual 150,000 m³ annual production - would be impressive. It would be the equivalent of much of the present coastal state forests of NSW. Whereas state forests merge effortlessly with national parks and remnant woodlands, areas of mechanised plantings in rows of single-species eucalypt would stretch for many kilometres along our major highways and replace cleared farmlands and hillsides. In habitat and visible form, they would change our landscape forever.

b) Supplement state forest sawlog

If the reformist idea was that plantation HS production was never to replace State Forest volumes but only to supplement log production, then two scenarios arise.

- As plantation sawlog comes on stream, logging state forests reduces to a sustainable level and two streams of sawlog are sent to mill to form a single supply of sawn product.
- Plantation sawlog maintains a distinct retail identity in a reduced log-supply market. Mills struggle to survive with split volumes.

Varieties of Eucalypt

The second difficulty for HS plantations is hardwood species selection. If durable north coast species - Ironbarks, Spotted Gum, Blackbutt - with their popular deeper timber colours are selected, then the land required to be planted is high-value, high-rainfall coastal valleys and riverflats as well as any untimbered hillsides. Kyoto and local sensitivities would exclude cleared native forest and irrigated land.

If less popular timbers such as *E. grandis*, *E. nitens*, *E. viminialis*, and *E. saligna* are chosen for plantations, markets would need to be rigorously developed for these timbers - in order to pay for the model, or more popular timbers restricted to the public to force consumers to buy readily-available plantation choices. Denying choice in a free market is always a difficult act. While lower rainfall zones and less valuable land would be required, competition with agriculture would still be keen.

If low rainfall species were selected - *E. crebra*, *Callitris glauca* (softwood) and *E. cladocalyx* - the competition for land would be less, but the monoculture plantation model is much less successful than mixed species. In fact it becomes difficult for the plantation form to compete against the regrowth forest model in these forest types. They are much better adapted to dry areas, and the risk of dieback and subsequent fire are the real downsides of large plantations. Woodlots established on the boundaries of existing national parks using indigent regional understorey plants with a silviculture regime of thinning and some burning would represent best forest management for both the land and these species. But the model would vary greatly with type and region.

Faced with these issues of scale, species, location, market and the plantation model, the following conclusions seem evident:

- Public funded woodlots: It would be far easier to reform the existing regrowth forest model to accord with Kyoto principles and global principles of sustainability - including third party accreditation, rather than impose a new and foreign form of forestry on the landscape.
- Mixed-species forests with natural synergies such as the ability to fix nitrogen in poor soil types and with greater biodiversity are preferable to plantation monocultures in the landscape.
- It would be difficult to find political support for this intensity of large-scale plantations in the rural communities where government would be purchasing farmland. The more that forestry dominates a farming region, the greater the community resistance.
- Private investment models for plantation HS woodlots will never work until ultimate values are factored in. i.e. the value of sawlog in 50 yrs. An addendum to this is that the state government price of native forest log sold to woodchip is keeping the price of native hardwood artificially low.
- Woodlots on the plantation model will increase because of carbon storage schemes and they may be sawlog-dedicated if all stakeholders agree. This has the advantage of being a funded model.
- Smaller scale farm forestry models will only set sawlog targets as part of a multi-objective, mixed business model including carbon storage plantings (paid for by carbon emitters), pulplog, firewood as well as landcare objectives such as shelterbelts, linked corridor plantings and watercourse protection. Farm forestry is always a 'bet each way'.
- The current call for a supply of plantation hardwood differentiated from accredited state forest timber of the same species, may ensure a permanent divide in the marketplace - rather than act as an incentive to be compliant. And the 'eco-badging' of 'competing' products at point of sale will be ultimately counter-productive for a small, single-identity industry attempting to realise hardwood sawlog sustainability.