

## GUEST EDITORIAL

### AUSTRALIAN FORESTRY—AT THE CROSSROADS?

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In this opinion piece, I discuss a few current issues facing the forestry and wood industries sector in Australia. Not everybody will agree with these thoughts, the idea being to promote thinking, debate and discussion. Most outsiders associate Australia with sheep grazing in paddocks, and increasingly as a mineral supply powerhouse. Forestry and wood industries do, however, play an important role in regional economies and employment and have suffered setbacks in recent years due to a complex array of factors. Australia has a relatively short history of European colonisation resulting in significant removal, damage and major modification of its limited forest and woodlands. ‘Forest’ is surprisingly loosely defined as land area with any tree cover over 2 m in height and canopy coverage of above 20%; this category covers an estimated 19% of total land area or 149 million ha according to the last State of the Forests Report (2008). Tall closed forest represents only a small proportion of Australia’s ‘forest’ cover; just over 1% is pine and eucalypt plantations and a further 2% is now protected rainforest. The vast majority of Australia’s forest cover (80%) is low density, moderately to heavily modified eucalypt ‘woodland’ between 20 and 50% canopy coverage, most of which co-exists with grazing. Australia, therefore, has enormous opportunities to replenish lost native tree cover in a great variety of ways to serve both habitat conservation and renewal, and woody biomass production for timber and fuel.

Prior to European settlement forests covered an estimated 30% or more of the

continent, with evidence suggesting that the aborigines maintained large areas of grassy park-like estates with large trees with light, regular burning. This not only attracted and sustained grass-eating game animals such as kangaroos and wombats but allowed easy access and visibility for hunting. This management regime quickly disappeared with the collapse and relocation of aboriginal populations, and was replaced by a combination of clearing for settlement and agriculture, selective timber getting, and cessation of regular light burning allowing a much more wildfire-susceptible forest structure to develop. Rapid-pace clearing, modification and damage to forests and timber resources from wildfires throughout the 19<sup>th</sup> century lead to the establishment of state-based forestry commissions in the early 20<sup>th</sup> century as a framework for demarcating and managing crown forest as distinct from private land for protection, better control of timber production from native forests and the establishment of (mainly pine) plantations for future wood production.

Formal forestry education in Australia first started in South Australia at the University of Adelaide in 1911, moved to the new purpose-built Australian Forestry School campus in Canberra in 1927, and then subsequently to the Australian National University (ANU) campus also in Canberra in 1968. A second undergraduate degree in Forestry started at University of Melbourne in 1943. Today all undergraduate training in Forestry takes place solely at Southern Cross University (SCU) located at Lismore, New South Wales

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*This article is solely the opinion of the writer and in no way reflects the opinion of the editorial board; sources: MIS Schemes [http://en.wikipedia.org/wiki/Great\\_Southern\\_Group](http://en.wikipedia.org/wiki/Great_Southern_Group), Forestry Tasmania <http://theconversation.edu.au/scale-back-the-corporate-lessons-of-tasmanias-forestry-debacle-9215>*

(NSW) and at Mt Gambier, South Australia. Undergraduates in the four-year Forest Science and Management degree (1996–) number around 40 but fluctuate from year to year. A response to the long-term decline in undergraduate enrolments in Forestry in Australia, leading to the termination of the degrees at ANU and Melbourne, is the formation of the multi-institutional Australian Forestry Master's programme (2007–) where graduate students from a wide range of disciplines take Forestry science and related management courses at SCU, the ANU, The University of Melbourne, University of Queensland and The University of Tasmania.

A significant contributor to this decline has been the intense polarisation and politicisation of debate over logging in native forest and the negative perception of forestry and its industries, which form Australia's second largest manufacturing sector employing over 76,000 people, among the general public. This was exacerbated by a long legacy of government incentives for widespread, indiscriminate land clearing for agriculture and later clear felling schemes in the 1960's and 70's to open up remaining areas of biologically diverse old growth eucalypt and subtropical rainforest to intensive low-value pulpwood production requiring heavy State subsidisation to deliver woodchips into a highly competitive market. Today, almost 50% of Australia's forest product exports remain as woodchip, while its trade deficit in forest products (mainly processed paper, panels and lumber) is around AUD 2.2 billion annually. Unfortunately these issues have eclipsed a comparatively good track record of management of Australia's limited remaining native forest and development of pine plantations and processing industries to supply building materials. Australia, mainly through the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Division of Forestry and Forest Products, has also contributed enormously to establishment of wood and fibre supply plantations across the developing world through the supply of tree seeds and expertise. It is still an uphill battle to shift the attitude of Australians towards forestry as a legitimate, sustainable land use, and expand the management expertise needed to grow Australia's forestry and products processing sector.

A political 'easy way out' of the logging debate over the past decade has been to reduce the area of native forest under sustainable and long-term management for wood production and other amenities. Regional Forest Agreements or RFAs were set up in the late 1990s/early 2000s in a final attempt to bury once and for all the demons of decades of protracted conflict over timber extraction from Australia's remaining non-plantation forest estate. RFAs on a state-by-state and region-by-region basis established a new balance between production forest and a series of better connected parks and conservation reserves. Quotas for timber production and supply to remaining native forest-dependent industries (mainly sawmills and pulpwood) were set out on 50-year timelines, from a considerably reduced area of native forest from which harvesting could take place. The area now available for timber production has fallen to 25% of the total area considered suitable for timber production. In some states such as Queensland, dramatic shifts in state-level politics eliminated almost all timber extraction from native forest. With it went future opportunities for continued use of timbers from forest already modified and under management for selective timber extraction and unique in their hardness and natural resistance to termites such as cypress pine (*Callitrus glaucophylla*) from the woodlands west of the Great Divide or to marine borers, such as the silica-rich turpentine (*Syncarpia glomulifera*) from the coastal and hinterland forests of northern NSW and Queensland. In other states, including Western Australia, Victoria and NSW the area of native forest from which timber can be extracted has greatly reduced. Several smaller hardwood sawmills and secondary manufacturing facilities have closed and others are unable to expand to serve a growing market due to increasing cost and reduced volumes and consistency of hardwood log supplies. Continued demand for durable hardwood products for construction, decking, flooring and furniture means supply shifts offshore to other places where poverty, corruption and lack of governance lead to dubious, highly exploitative and unsustainable timber extraction practices. Paradoxically, with the de-funding and closure of CSIRO's Forest Products division several years ago, Australia

no longer has the infrastructure in place (i.e. a centralised wood and products laboratory) to address even basic questions about the identity and source of suspect timber imports.

With the RFA process, state-level environment and forest management agencies were progressively de-funded and corporatised, with expectations that they run as a profit-making enterprise in close partnership with the private resource extraction companies they provide the infrastructure and management services to in exchange for log royalties. Forestry Tasmania is an example of a Government-Business-Enterprise (GBE) that was expected to pay dividends to the State but is seeing only growing losses on its balance sheets. During the 1990's and 2000's, Forestry Tasmania's corporate structure grew in tandem with private industry's mostly credit-based conglomeration that absorbed a range of smaller companies including Boral Timber, North Forest Products, Auspine and ITC Timber. During that time, titanic market shifts have occurred undermining the profitability of the traditional core business model of the Tasmanian forestry industry, native hardwood woodchips including a soaring Australian dollar, increased supply of cheap, quality, FSC-certified plantation eucalypt woodchips from overseas and declining per-capita demand for paper. For various planning and public consent reasons, a new pulp mill at Bell Bay, Tasmania has not materialised and Forestry Tasmania finds itself in dire need of restructuring and re-focusing on core commercial operations. The structural and financial problems in Tasmania's forestry sector have sent a domino-effect through the entire timber industry of that State with job losses, unpaid contracts and failure of small enterprises ranging from logging and haulage contractors to small sawmills. This is on an island with almost 50% forest cover and a manufacturing sector reliant on a variety of small and large timber companies for over a quarter of its wage earnings.

Meanwhile, large areas of 'protected' native forest, some of which has had a long history of modification and management for log production, sit locked up in a network of new parks for which future management challenges will include wildfire mitigation and other challenges to forest health induced by

climate change including heat stress, dieback and insect attack. Eucalypt forest is adapted to fires at regular or irregular intervals and if left alone will burn eventually at a severity depending on fuel load, distribution and dryness, and prevailing weather conditions. Victoria's Black Saturday fires of 2008 are a horrific recent example of this. Former production forest transferred to parks no longer has periodic staggered timber removal and fuel reduction burning regimes designed to protect standing timber from the most severe fires nor the density and maintenance of fire access trails and observation towers. Declining log royalties mean either reduced budgets for forest land management or an increased reliance on the public purse. Contrast this decline in forestry with the expansion in coal and mineral mining and proposed coal seam/shale gas industry (CSG) development from which few areas, including water catchments and agricultural land, are immune from exploration. Australia's response to the challenges of climate change should be to expand and adequately fund management of sustainable woody biomass resources (and other renewable such as solar) for energy, and reduce economic reliance on export coal, gas and mineral mining, rather than the other way round.

Well-intentioned efforts to expand the plantation resource base in recent years have been marred by a slew of flawed business and accounting practices relied on to finance it. A policy initiative called Plantations 2020 was devised in 1997 with the objective of trebling the area under timber plantations to 3 million ha by the year 2020. The manifestation of this and its future viability is compromised since a sustainable business model, sound forestry science and an adequate breadth of vision for establishing the new plantation estate have been lacking. The vision was too narrowly focused on fast-growing eucalypt pulpwood monocultures, namely Tasmanian bluegum (*E. globulus*/*E. bicostata*) and shining gum (*E. nitens*), and the business models based on private investment fundings and tax minimisation loopholes. Throughout the 2000s a handful of poorly diversified Managed Investment Scheme (MIS) companies invested large sums of private tax-sheltered funds into land acquisition for tree farms, creating a

land price bubble that distorted agricultural land and commodity markets, removed prime agricultural land from food production and eventually undermined the economic viability of MIS. As in Ponzi schemes, early investor returns were cross-subsidised by subsequent funds acquired by the growing enterprises and the land bubble meant late-comer funds could no longer buy as much land for trees or only marginal land producing a fraction of the wood production returns promised to investors based on productivity of prime land. This overlaid with seed and site quality issues and persistent drought left many investors having to settle for as little as AUD 1500 in pulpwood sales after 10 years and an initial investment of AUD 3000 for a ¼ ha woodlot. These losses were of course absorbed or ‘hidden’ in the tax system. Lack of attention to integrity and diversity meant two giant MIS companies, Great Southern and Timbercorp managed almost half of all MIS schemes and were concentrated in almost 100% forestry MIS; both companies are now defunct, victims of the land cost squeeze, low returns and loss of investor confidence. Both relied heavily on accountants and financial planners with no knowledge of forestry to sell MIS packages via 10% commissions and glossy marketing. One co-founder of Great Southern liquidated AUD 32 million in shares at their peak of almost AUD 5 in 2004; just five years later the company was in receivership with its shares valued at AUD 0.12. Speculative profiteering, detachment from reality, blurry yield projection figures and constantly shifting tax rules further undermined the long term business model of MIS.

All this has certainly not helped to renew the Australian public’s confidence in forestry. MIS were often hurriedly established with scant regard for local community concerns over tree thirst for water, pesticide use for establishment,

ongoing management, monocultures and more importantly future fire conflagration risks. Large swaths of prime agricultural land were snapped up by the highest bidder and deep ripped and mounded for tree establishment, and deep tap rootstocks left after tree harvesting making it uneconomic to sell and convert back to agriculture if desired. It is arguable that the long-term delayed-return nature of forestry means that new purpose-designed industrial plantations should also be established and managed as public infrastructure as are native crown forests that have never been privatised. There also needs to be a lot more mixed commodity production that merges forestry with agriculture. Instead of sustainably integrating trees into the agricultural landscape through participation of farmers, the MIS model for the most part further exacerbated the agriculture–forestry dividing lines by simply replacing farmland with tree crop monocultures. In addition to industrial plantations, a much broader range of plantation types could be established within the agricultural landscape through a more diverse range of public–private partnerships with farmers and landholders. Australia could also learn from countries such as Sweden where over 30% of domestic energy consumption is generated from biomass which provides a viable market for tree growers and waste recyclers. Australia can do better than it has in recent years to establish and restore confidence in the forestry sector.

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