Managing our Forests into the 21st Century

A discussion paper prepared for the 2013 conference of the Institute of Foresters of Australia[1]

This document is designed to generate discussion on the future of Australian forest management of public and private natural forests and plantations. Forests in Australia are managed for multiple values and must be considered within the context of a global forest resource whilst balancing the demands and needs of local society. Of concern is the decline in the Australian forest industry and decline in sawlog production from natural forests. Published information clearly highlights that the production of hardwood sawlogs from Australian plantations is currently unable to provide a sufficient sawlog resource to adequately supplement high-value wood products from natural forests. Therefore, given projected population growth and associated demand, it is likely that Australia will have to increase and rely more heavily on wood imports into the future. Further to this issue, there is a downward trend in our ability to garner new knowledge about our forests and their management due to reduced research, inventory, monitoring, extension services, training and management resources.

In formulating policies governing the management and use of forests, the most critical question relates to the balance between the conservation and sustainable use of forest values. Values include biodiversity, water, carbon, recreational service, aesthetics, heritage and wood and non-wood forest products. There are those who argue that Australia should move towards an entirely passive, reserve-style system of management within its natural forests and that wood production should be withdrawn altogether. This could, however, lead to several adverse outcomes, including lost economic opportunity and a decreased ability to actively manage natural forests for other important values including fire regimes, water production and carbon sequestration. The Institute of Foresters of Australia believe that the management objectives of wood production and conservation of environmental values can be complementary when based on appropriate planning and operational standards. Against this background this document discusses six key issues facing forests in the 21st century. These issues are:

1. Forestry and its vision
2. Why are forests important and what is the right balance?
3. Natural forest management
4. Plantations—where to from here?
5. Carbon and the role of forestry
6. Forest research, inventory and education.

1. Forestry and its vision

A 21st century vision for Australia's forests

Australia's forests should be abundant, healthy, accessible, productive, diverse and valued.

- *Abundant*. Although there will be increased land-use competition pressures for forest land because of the greatly increased value placed on forests, there will be little incentive to further clear forests and woodlands. All land, including forests, will be used more effectively; therefore land use assessments must evaluate and determine best uses for land across all tenures.
- *Healthy*. Forest managers will appreciate and manage the sensitivity of forest species and communities to the environmental impacts of changes in fire regimes, timber harvesting, pests and disease and potentially, climate change. On this basis all forests will be managed to maintain their biological diversity, ecosystem processes, health and productivity.

[1] Potential discussion topics are indicated at a number of points in the text.

- *Accessible*. Where appropriate to the conservation of forest values, all forests will be accessible for the sustainable use of forest values including wood and non wood forest products and recreation.

- *Productive*. All forests will be productive in terms of their goods and services, and a proportion will be managed for product removal.

- *Diverse*. Forests will be managed for their diversity, ecology and genetic variability.
- *Valued*. Society recognises the true value of wood and non-wood forest products and their harvest within forests will be based on the full potential range of products, goods and services. Forests will be highly regarded and valued by the public and policy-makers for their values. Industries and business will use them extensively for carbon and biodiversity markets and for carbon sequestration. Forest owners will find it profitable to keep their land forested and to afforest marginal lands. Reconstituted wood products will continue to be substituted for sawn products, so trees can be harvested at a much younger age, enhancing the economics of plantations and thinning operations. High-quality sawn products will have a premium price. The large urbanised human populations will look to escape to nearby forests for a respite from the clamour of the cities.

Forestry in the 21st century

- **Forestry** is the conservation, stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, ecosystem services, productivity, regeneration capacity, and vitality. Current and future ecological, economic and social functions are fulfilled and sustainable livelihoods at local, regional, national and/or global levels are maintained, whilst not causing damage to other ecosystems.
- **Forestry** as a profession encapsulates the science, art, and practice of creating, managing, utilisation, and conserving forests and associated resources in a sustainable manner to meet the desired goals, needs and values of society. Forestry brings together the biological, quantitative, managerial, economic and social sciences that underpin forest management, conservation and the development and establishment of forests.

In order to provide the full range of benefits from forests, now and into the future, it is necessary for the forestry profession to promote the sustainable management of Australian forests (natural forests and plantation forests) and assist other countries in their application of sustainable forest management. This requires a responsible balance between conservation and sustainable use of forests and ensuring social and economic benefits from forest resources are realised.

[Forum discussion on the vision, forestry and ways to promote a forestry vision for the 21st century]

2. Why are forests important and what is the right balance for society?

Governments domestically and internationally are constantly seeking to achieve an optimal balance between management for environmental, economic development and social values and outcomes to meet the needs of society on a sustainable basis. This is particularly the case for forests as they are important for (i) biodiversity conservation, (ii) wood production, (iii) water, (iv) carbon, (v) aesthetic, heritage and spiritual values and (vi) other ecosystem services. Forests have to be managed to meet these multiple objectives in a balanced way. ***Balance in the context of this document refers to the harmonisation, equilibrium and optimisation of multiple forest values and objectives.***

Australian governments endorsed a National Forest Policy Statement (NFPS) in 1992. The Statement provides for ecologically sustainable development of forests based on the principles of maintaining ecological processes, maintaining biological diversity, and optimising the benefits to the community from all uses of forests within ecological constraints. It seeks a balanced return to the community from all forest uses within a regionally-based planning framework that integrates environmental,

commercial, social and heritage objectives. It is Australia's national strategy for the sustainable forest management and use of forests as envisaged under the 1992 Convention on Biological Diversity.

The NFPS remains current, and should indeed remain, as the basis of Australian forest management for conservation, wood production, natural resource management, sustainable development and sustainable livelihoods.

> The Australian concept of ecologically sustainable forest management can be defined as the integration of commercial and non-commercial values of forests so that the welfare of society (both material and non-material) is improved, whilst ensuring that the values of forests, both as a resource for commercial use and for conservation are not lost or degraded for current and future generations. The concept formed a primary basis for all Regional Forest Agreements.[2]

Incorporated into ecologically sustainable forest management is the concept of sustainable use; that is:

> sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

Forest biodiversity provides the essential underpinning for ecological, social and economic sustainability typically provided in the form of ecosystem services whereby the production of goods, provision of regeneration and stabilising processes for ecosystems, life-fulfilling functions and preservation of opportunities to generations of human societies are implied and assumed.

Ecological sustainable forest management as espoused in the NFPS requires a strategy for the integrated management of forest resources that promotes conservation and sustainable use of biological diversity in an equitable way. It requires the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among biological organisms and their physical environment. It recognises that humans, with their cultural diversity, are an integral component of many ecosystems. It requires adaptive management to deal with the complex and dynamic nature of ecosystems and in the absence of complete knowledge or understanding of their functioning. Sustainable forest management now and in the future will be based on the principle of ecological sustainability that integrates consideration of biodiversity, ecosystem health and vitality, ecological productivity, and socio-economic sustainability within a framework of intergenerational equity and a precautionary approach to forest management.

In planning and decision-making, governments, on behalf of society, should establish robust processes that enable recognition of the economic, environmental, social and other contributions the managed forest can make to society. Multiple benefits of forests need to be emphasised, managed and planned in ways to optimally balance the full range of forest values and to meet societal requirements. It will include determining the optimum balance of ecosystem services across the whole forest estate.

States and territories have a duty of care to publicly-owned natural forests to ensure the maintenance of biologically and structurally diverse, productive and healthy ecosystems, and their role in public recreation and appreciation. It is questionable whether this can be achieved simply by placing them in reserves with a philosophy of minimal expenditure on active management. Whilst the Institute supports an adequate and comprehensive reserve system, it believes that a mix of reserves and production forests will, in an integrated way, provide optimum benefits to society.

What are these benefits? Natural forests managed for sustainable wood production can help support (i) rural populations and industries, (ii) structurally and biologically diverse and aesthetically attractive forests, (iii) the construction and maintenance of forest roads and trails, and (iv) the treatment of forests to maintain their productivity and, in some circumstances, to enhance water yield.

A greater focus on fire management is particularly pertinent at a time of great uncertainty about climate change and its potential impacts on the future of our forests and rural communities. A continuing professional focus on fire management with a range of activities directed to limiting the

[2] http://www.cbd.int/doc/case-studies/for/cs-ecofor-au-management.pdf

spread of wildfires remains a critical requirement. Another consideration is that our society will continue to demand wood products, and if we do not produce these domestically, the supply of wood products will, by necessity, be sourced from other countries where production may not be undertaken on a proven sustainable basis.

It is recognised that the costs involved in achieving the full range of benefits to society will not be met through revenue from log sales alone and there will be an additional cost to the state in meeting its duty of care to the management of our forests. Governments are urged to accept this cost and address essential resource management funding. Sustainably produced timber is, by nature, expensive. Where founded on active and well resourced planning and management, the nation can look forward to a new and dynamic era in its approach to forestry.

[Forum discussion on (i) ways to ensuring optimal balance in forest values are met for current and future societal needs; (ii) a government's duty of care for public forests, the role of the managed forests and the funding of this management.]

3. Native forest management

The response of the profession and forest managers must be to better inform the public and decision-makers that under multiple-purpose forest management, native forests can provide a wide range of values together with wood production.

High standards of multiple-purpose management planning and implementation will be fundamental to public acceptance of continuing natural forest wood production. It is appropriate to focus on:

- *Wood production and environmental values.* An appropriate balance between wood production and environmental values can be achieved by (i) designating 'informal reserves', (ii) maintaining natural community patterns and conserving biodiversity within harvested forests, (iii) managing forests for wood production and wildlife on an equal priority basis by retaining appropriate habitat elements, (iv) recognising the importance of structural diversity in terms of both wildlife and the visual attractiveness and recreation potential of the forest; and (v) accepting the importance of even-aged units of forest in achieving economically viable levels of production. The compatibility of wood production and wildlife conservation has been well demonstrated in Pine Creek State Forest (NSW), Kioloa State Forest (NSW) and Warra (Tasmania).
- *Enhancing wood production through regrowth thinning.* The aim of thinning is to manage the growing stock to promote wood production. This should be done as early as technically and financially feasible to maintain dynamic stands. This can involve a range of products including pulpwood and panel boards.

- *Restoring forest in degraded condition.* Where previous landuse has resulted in a forest of degraded condition, restoration can play a critical role in the management of eucalypt forests - and will normally be based on standard silvicultural and harvesting techniques. Examples are found in NSW forests where the restoration of extensive areas of forest subject to 'Bell-miner associated dieback' occurs in both state forests and national parks.

Several states have a substantial private natural forest resource. This resource has not generally been managed for sustainable timber production, and much is in a degraded condition. Current policies in some states actually discourage landowners from managing their forests for sustainable timber production and conservation. In seeking to achieve desirable social, environmental and economic outcomes within this sector it is necessary to better appreciate the value and attributes of the resource and mechanisms for realising its potential.

The Institute believes there is much that governments can do to improve the management of the private forest resource, for example, through (i) an inventory of the private forest resource, (ii) a regulatory framework that encourages private owners to commit to sustainable management, (iii) access to professional advice and possibly financial support for forest improvement treatment, and

(iv) a greater integration of public and private forest resources in environmental and wood production planning.

It is appropriate to question (i) the extent to which a country with Australia's land, climate and financial resources should forego domestic wood production and viable forest industries in favour of imports, (ii) the extent to which imports might be maintained in the long term—particularly where currently based on illegal harvesting or countries with unsustainable rates of harvesting, (iii) the extent to which continuing withdrawal of harvesting from natural forests will impact on the government's duty of care for the forests and the benefits to society which can accrue from conservatively and sustainably managed forests, and (iv) the wood supply required by domestic forest industries to remain internationally competitive

[Forum discussion focusing on the questions: (i) are changes needed to improve multiple purpose management of the forests, (ii) the contribution private natural forests can play in enhancing wood supply and conservation, and (iii) issues around wood imports.]

4. Plantations—where to from here?

Currently around 75% of Australia's wood production volume comes from plantations. However, neither public nor private sectors have established significant new areas of softwood or hardwood sawlog plantation in recent years. Establishment rates for new plantations are at a historical low and Australia's plantation estate is likely to contract over the next few years. There are many reasons for this: low rates of return on investment in sawlog plantations; the way most managed investment schemes have been aimed at short-rotation pulpwood production; perceptions and concerns within rural communities about conversion of agricultural land to timber plantations and diversion of water from already over-allocated rivers; and negative environmental and social experiences of forestry associated with failed managed investment scheme plantations. Given the critical role that plantations play in Australia's forest economy it is vital that governments and private forest-based enterprises cooperate. Specifically to determine how the plantation estate can be maintained and ideally expanded to meet shortfalls caused by a growing population's demand for wood products relative to the expected supply, particularly high-quality hardwood sawlogs. Expansion of the plantation program may for example be through private/public partnerships. Incentives may be required to promote longer-rotation hardwood plantations.

[Forum discussion on ways to stimulate the plantation sector and the role of plantations in agricultural landscapes. Should hardwood plantation sawlogs be promoted and how can they be financially viable?]

5. Carbon and the role of forestry

The greenhouse benefits of conservation reserves commonly cited by special interest groups are, at least, highly uncertain. Decision-makers need to be aware of the thinking of the Intergovernmental Panel on Climate Change: the sustainable management of forests, including a mixed strategy of conservation and timber production, is likely to be optimal for reducing atmospheric carbon. Where mature trees are harvested a significant part of the carbon will be stored in manufactured goods, and carbon will be sequestered rapidly within the regrowth (with appropriate management), particularly where stands are thinned to enhance crown development and bole increment.

Any consideration of the impact of harvesting forests on atmospheric carbon should also take into account the implications for greenhouse gas emissions if we were to increase use of substitute products in construction—such as steel, concrete and plastic.

Governments need to investigate and project the carbon benefits of the managed forest, and to commit to management regimes that optimise the storage of carbon within forests and timber products and recognise their potential to substitute products with high embedded energy. Circumstances need to be considered where timber plantations and natural forest management might be included within the Carbon Farming Initiative. Consideration should be given to how biomass energy from forests is accepted as part of the Clean Energy Future.

[Forum discussion on an appropriate response to the carbon issue.]

6. Forest research, inventory and education

The capacity to conduct forest research, monitoring, inventory and health surveillance is basic to underpin sustainable forest management and internationally competitive forest industries. Much of the forest research conducted in Australia over the last century and in recent decades has had a very high degree of public benefit. However, in recent years, state agencies managing forests for timber and conservation have substantially reduced their forest research, monitoring programs and inventory capacity. In parallel and at a national level, the CSIRO has substantially reduced its forest and forest products research capacity.

As a result there is a real crisis in Australia's capacity to undertake high-quality forest research and this will ultimately adversely affect the quality of forest management and the viability of forest industries. While this is serious for natural forests it is a crisis for the plantation sector. There will not be a long-term viable plantation-based forest industry without an adequate level of investment in forest research and development. This applies particularly to the hardwood sawlog plantation sector where integration of forest research with forest products research and development is vital for quality product supply.

The Institute recommends governments and industry identify (i) the forest research needed to ensure Australia's natural forests and plantations are sustainably managed for conservation and wood production to meet community expectation, and to ensure the forest industries remain internationally competitive, (ii) what research is to be funded by industry and what level of ongoing research will be funded by governments to better understand and monitor forest values, and (iii) commission agencies to undertake forest research, monitoring, inventory and health surveillance that enables the knowledge to be used to meet society's multiple objectives of Australian forests and realise the vision for Australian forests in the 21st century.

There has been in recent years a significant decline in the numbers of professionally trained foresters and, in consequence, a serious decline both in the number of students enrolling in forestry courses and in the teaching staff. A great deal of expertise in the disciplines underpinning forest resource management is being lost in this way. The restoration of tertiary forestry courses will be essential if forest management authorities for conservation and wood production (including managing fire) are to apply and raise standards of multi-purpose forest management, and continue to develop the scientific basis of that management. This will occur only if there is sufficient student demand to create enrolment numbers consistent with financially viable courses, and so in turn depends on a repositioning of the role of forests, forestry and forest management in the public eye to enable the realisation of the vision for Australian forests in the 21st century.

[Forum discussion on enhancing community interest in, and public and private sector involvement in, forest education, research, monitoring, inventory and health surveillance.]

Report on the IFA Future Forest Forum

Canberra, 11 April 2013

As part of the 2013 national conference, the Institute of Foresters of Australia (IFA) held a one-day forum on 11 April 2013 to discuss the decline in Australian forestry and to recommend to governments actions needed to support forest management within a socially and environmentally acceptable management framework, and to stimulate domestic wood production.

A guiding question was used to facilitate discussion: 'How can we as forest managers regain/rekindle/reshape/re-establish our social contract with the Australian community to deliver healthy forests that meet Australian society's current and future needs?' A document titled *Managing our forests into the 21st century*[3] was prepared to underpin the question and to generate discussion on this theme. This document discussed many of the issues currently faced by the sector.

Over 80 people attended the forum, representing a broad demographical cross-section of the forestry sector. A small-group format with periodic reporting in plenary was used to generate and facilitate forum discussion. Discussion around the tables was animated, and the pace was maintained by the facilitator who did an admirable job of drawing in the all participants, many of whom were young and will be the ones who will be 'managing our forests into the 21st century'.

The forum focused not on issues of wood production, but on the nature of the forestry profession and a perceived need to re-define the nature of 'forestry' and therefore the role of the Institute. It is possible that all present agreed largely with the arguments covered in the discussion document and it was clear that 'business as usual' was no longer an option for the sector and the professionals within it.

Given the forum's emphasis on 'change' in the way forest management and the Institute is approached, it is appropriate to comment on forestry and the Institute in an historical context.

The Institute of Foresters of Australia (IFA) was established in 1935, nearly eighty years ago, and grew rapidly during the post-WW II decades of rapid economic growth. At this time all Australian governments recognised an impending wood supply crisis and committed themselves to (i) minimising wood imports in order to keep housing costs as low as possible, (ii) maintaining wood supply from native forests to the greatest possible extent, and (iii) rapidly establishing a national softwood plantation resource.

Through its membership the IFA contributed to the successful achievement of what are principally wood supply objectives—though it is recognised that, in so doing, standards of forest resource management were set below those now regarded as socially and environmentally acceptable.

Circumstances have changed appreciably and governments no longer actively support forestry as in the past. There are many reasons for this including: (i) the success of the softwood program in appearing to resolve the immediate wood supply crisis, (ii) the impact on governments and the public of sustained anti-forestry campaigns, (iii) the cost of forest management at a time when financial demands on governments have been increasing in many ways—and leading, for example, to the privatisation of the softwood plantation resource, (iv) in sharp contrast to earlier decades, the willingness of governments to open wood production to market forces and unrestricted wood imports, and (v) society requiring the management of forests for a broad range of conservation values.

Whilst the Institute acknowledges and values the contribution its members have made to the development of Australian forestry, the forum discussion showed a grave concern about the impacts the above changes have had on public perceptions of forestry and forestry professionals.

[3] Also included in these proceedings

What is generally not well recognized or promoted is the deep expertise in managing natural forests which has built up over time, and the many benefits, beyond wood production, which have accrued under these management regimes, such as conservation of biodiversity; the contribution to rural industries and employment; enhanced fire management; and other improvements. It was noted at the Forum that it is 21 years since governments signed the National Forest Policy Statement and that much of the Statement remains current. The future can be found in acknowledging and nurturing the good that has been attained and to take it forward to build new forestry systems and regimes.

The forum outcomes are detailed below with direct quotes sorted under the following four headings:

- Beyond timber
- Social licence
- Being heard
- How the Institute can help bring about change.

Beyond timber

There was general agreement that wood production was 'often given undue prominence therefore biasing the community focus on forestry', especially when considering that of Australia's 149 million hectares of forest less than 10% is actively managed for wood production. Whilst foresters might continue to address current and future wood needs it should be 'within a framework which is broader, more culturally relevant, more closely aligned to related land management disciplines.' In future 'we need to consider the broader role of the forestry profession beyond timber production, addressing all forest values and ecosystem services'. In achieving the above there was a call to 'stop talking about a "balance" between production and conservation; talk instead about ecologically sustainable forest management across all tenures and goals'. Foresters know well how often they are called upon to address environmental issues such as 'climate change adaptation and mitigation; and fire management and control'.

This idea was taken further with some participants positing that 'forest management needs to be touted as a special case of land management and [foresters] take a broader landscape and ecosystem approach'.

More should be made of foresters as 'forest-carers and nurturers, and in promoting healthy forests' and the 'Forestcare program', though we may first need to define what constitutes a 'healthy forest'.

Social licence

In the past the forestry profession had a 'social contract' (a term used by a number of participants) for being a benign force environmentally, as well as in the economy. This contract has been 'broken' by government policies, historical events and the profession's 'apparent' alignment with the timber industry, and forest conservation has been 'captured' by the green groups. Forestry professionals are now seen as representatives of organisations (government and industrial), the missions of which are not well-favoured by the public, particularly in regards to harvesting.

A new 'social contract' is needed, emphasising what foresters can contribute, for example, professionalism, a social conscience, evidence-based knowledge, a broad view of multiple values of forests and a global, long-term perspective and appreciation of rural and urban environments.

In discussing how this might be done, emphasis was placed on the 'importance of engagement with key stakeholders, including environmental NGOs'. There was also a call for reconnecting the public to forests through urban forestry, community forests, arboreta and field experiences. Other ideas were to 'maintain and support regional centres and rural communities' and 'devolve control of public forests'.

Engagement can be gained by 'reaching out to like-minded groups and key communities of practice'. This can be done by 'developing effective communication with regional communities about management for the full range of forest values, including use of the internet and field days to explain multiple purpose management strategies and practices'.

Other ideas were for forest industries to continue to 'develop socially and environmentally acceptable forest management planning and practice'; and 'project the reality that funding the considerable social and environmental benefits of the managed forest may not be met from wood sales alone, but as for national parks, should be based, in part, on government grants'.

Being heard

At present foresters feel unheard and admit they are in part responsible for this situation. 'The public doesn't understand forest management and especially when things go wrong, for example managed investment schemes (MISs) and the profession has been reluctant to admit mistakes'. Often foresters don't speak out 'because of restrictions by employers' and a 'reluctance to be criticised'.

'The public is largely now disconnected from the forest and forest management, with much of the public's perception of forest issues being captured and shaped by what they see, hear and read in the media'.

The profession needs to 'project the greater role that forest science, research and education must play in re-defining the social contract between foresters, governments and the public'. To do this we need to 'improve the quality of forester's own communication skills', to 'be relevant to all forest managers and scientists and to consider 'the significance of terminology in communicating about the profession'.

There were calls to provide access to 'reliable information' to the public, to 'inform public policy' and 'promote research which is independent and relevant'. There was an identified need to move forest discussion from one of the politics of combativeness to one of resolving issues based on evidence.

How the Institute can help bring about change

Being an IFA event is was not surprising that participants looked to the Institute to help address the above problems. They called for a 'repositioning the Institute as a credible and reliable voice on forest management and forest values' and 'most importantly, make the Institute and organisation one that professionals aspire to and want to be a member of'.

To do this we need to 'encourage a broader range in membership—by admitting membership of specialists from a range of disciplines bearing on the practice of forestry (e.g. those related to water protection, carbon sequestration, wildlife conservation, forest health, fire protection and others)'. This would help to 'support the generation of forest-based evidence and knowledge through facilitating active networks nationally and internationally in professional fields of forest research, management and policy'.

There were suggestions to 'do away with state Divisions… an anachronism from a time when most members were attached to a state forest service' and instead 'encourage formation of more specialist groups within IFA such as water, fire, land restoration, research, park management, biodiversity, rangelands, urban issues, carbon issues and sustainability'. These specialist groups could 'advise on the Institute's responses to issues bearing on the practice of forestry'.

There was still plenty of support for the Institute's role in 'bringing together professionals' for networking, learning and communications, and being 'an independent voice advocating best practice in forest management'.

Looking outwards there was a call for 'a patron and champions' and 'developing linkages with other relevant professional organisations in pursuit of common goals'.

The Institute needs to be clearer about 'its strengths and what it does and to evaluate its own effectiveness'. It was asked if we know 'where we want to be and what the measures of success are apart from member numbers?' It also 'needs a communications plan that is clear about what are we going to say, who are we going to say it to, and how are we going to say it'. It was recommended to 'be passionate but professional' and 'use more social media'. An approach to the public resolution of forest issues needs to be developed, keeping in mind that conservation, and the economic and sustainable use of forests, are not opposing values and are indeed complementary, serving the wellbeing of all Australians.

And finally, to celebrate change there were calls to 'rename the Institute to better reflect the changing circumstances and to raise its public profile in forest management, conservation and research (e.g. Institute of Forest Science and Management)'.

Conclusion

The compilation of this report coincided with the release by the IFA Board of a new draft Strategic Plan for member comment, and it was affirming to see the high degree of congruence between the forum outcomes and the plan.

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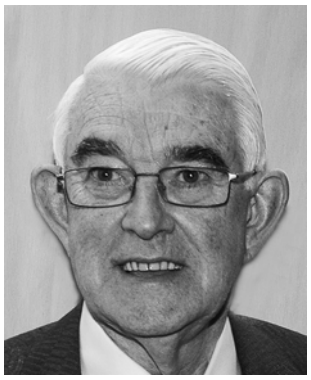
Institute of Foresters of Australia
PO Box 7002, Yarralumla ACT 2600
Phone: (02) 6281 3992
Email: alison.carmichael@forestry.org.au
Web: www.forestry.org.au & www.forestryconference.org.au



Reflections on the past and future of Australian forestry

Reminiscences of a failed forestry minister

The Hon. John Kerin[4]

I thank you for the invitation to say a few words about my reflections and reminiscences as a former minister for forestry. I am writing a book on my life and times and the making of agricultural and natural resource management policy, 1983–1991. The chapter on land, water and forests is only 125 pages long, but there is more to add if you want a good read. After-dinner speeches are not meant to be deadly serious. If you want misery, read, or better still, buy, the book when and if it is ever finished. I'll autograph it for you!

Earning the qualifications to be forestry minister

I was uniquely qualified to be a Minister for Agriculture and Forestry. I was born on a small struggling farm and plucked chickens and planted an orchard. When I left school, just before turning 15, I swung an axe, hammered in wedges to make fence posts and served my apprenticeship behind a Hargan saw. The axes were Hytest or Plumb and I knew what crosscut saws, cant hooks, splitting guns, sledge-hammers and wedges were for. Remarkably, I escaped 'death by Hargan'. A fellow named George Quigg, from my area on the NSW Southern Highlands, was once a world champion axeman but I never went into showground competitions. Most of the great axemen came from Tasmania. Doug Youd is a name I can remember. I was one of the original Patrons of the Axeman's Hall of Fame at Latrobe in Tasmania. By the time I was 17 or 18, I could swing an axe all day, cutting pulpwood for CSR's masonite mill at Pyrmont. In the mid-1950s, how to use an axe, a shovel and a scythe correctly were all very important. Strangely, these were not skills shared with many of my later parliamentary colleagues, backstabbing being the only physical skill in evidence. I once shared a crosscut saw with David Foster at an exhibition in Tasmania. I had to carry him a bit, but we won.

A bloke down the road had a contract with the Army in the 1950s to supply block-wood, which the old man and I cut for him. We would load his WWII, five-ton blitz truck and he would park it outside the local pub and put a hose into the load all night. The wood was not all that dry so I don't know how effective his strategy was. The next day he would cart the load to the Casula weighbridge near Sydney and then into the Ingleburn Army Camp. His mother lived in nearby Liverpool so sometimes he would drop off some blocks at his mum's place. His greatest coup was when his pub mates and he swapped his truck's engine for that of a near-new NSW Railways ex-army Ford blitz truck, over a weekend, without them knowing. I knew many rogues in the bush, some of whom lived rough, most dodging paying maintenance for ex-wives. I suspected two brothers were Sydney criminals, because of the weaponry they carried, but they certainly were good with an axe. We paid them so much a ton and carted their pulpwood for them. One bloke was named Goldfinch but he could not cut enough to feed one.

The old man and I did some contract work with the Hargan saw at Mt Jellore west of Mittagong, on a property owned by a bloke named Tuckwell. He was very interesting because he used to buy horses from the knackery and shoot them to feed his free-ranging pigs. I was always learning. This was my

[4] John Kerin has had a significant parliamentary career, holding Ministerial and Federal Government positions such as Minister for Trade and Overseas Development; Treasurer and Minister for Transport and Communications; and Minister for Primary Industries and Energy. Prior to entering parliament, he was an economist in the Bureau of Agricultural Economics (ABARE).

first experience with holistic, organic, bio-dynamic farming. It was enlightening to see pigs walking out of the rib cages of Clydesdales. The pigs tried to eat the tyres off the Hargan saw. Tuckwell slept with twin sisters and I asked him how he managed it. He told me he slept in the middle and did well. I didn't ask him what his nickname was.

I cut thousands of bloodwood fence posts for local dairy farmers–fifteen pounds a hundred; one pound for a strainer. Our competition for the local household block-wood market was a family named Angel, who lived seven miles from us. One day we were unloading three tons of blockwood at a house when the neighbour poked his head over the fence and asked if we were the Angels? We were pretty dirty but the bloke I was with assured him that, no, we were only (expletive deleted) fairies.

Working in the bush and then at a brickworks were directed to gaining funds to build up the farm. Working in the bush gave me a good idea of the recuperative power of dry sclerophyll forest and wildlife after natural disturbance, such as bushfires or man-made fires. I grew to have the idea that bushfire management was important in Australia. Hazard reduction burning seemed to make sense to me when I was a local bushfire brigade captain. I loved working in the bush. Working at the brickworks gave me a good idea of the views of working men, especially about politicians—views that were wholly negative.

When I first ran for the NSW Parliament in 1970, against Tom Lewis who later became Liberal Premier, some of the dairy farmers I had grown to know well asked me what my policy was for the dairy industry. I said that I promised rain. It subsequently rained wonderfully well but the votes in the small relevant booths did not change. This convinced me never to promise anything you can deliver—keep it vague.

One of my frustrations was personal. When I was young and had principles, I joined the Australian Conservation Foundation (ACF) and the NSW National Parks Association (NPA). I had formed a Branch of the NPA on the NSW Southern Highlands and campaigned in the late 1960s on such issues as the 'saving' of the Colong Caves and the Kanangra Boyd Plateau, and for extensions to the Morton National Park. I am still a member of both organisations, am a Governor of the World Wildlife Fund and have also been on the board of Birds Australia. The point I make is that I am more than taken with the need to be environmentally aware and that the criteria for forest and habitat management and protection need to be scientifically and professionally based. There is a need to understand our biodiversity.

I have no problem with protests as long as they are based on science, facts, experience, analysis, evaluation and reality, not under-graduate mischief or from the stance of an uncomprehending, single-issue ideology. Science and professional forest management were my touchstones and I could handle concepts that nowadays have become termed landscape ecology and conservation biology, with concepts of resilience. If any species was endangered I had no hesitation in trying to protect it.

Reality also comes into it. I still have the primitive idea that trees grow–a concept that is wholly beyond the comprehension of environmentalists, who assured me that production forests would be 'cut out'. I also have the weird idea that, dead or alive, trees store carbon, that there are many forest types, that all forests are neither wilderness nor unique, that trees are greenhouse-gas friendly, that the alternatives to the use of wood as building materials are often less so. Further, if we preserve all or most of our forests, we are merely shifting our need for wood and wood products onto other countries or are guaranteeing that we will tend to sub-optimally harvest what we have.

Forests also produce food, medicines, shelter and water and affect the microclimate as well as the climate itself. The supply of fuelwood is crucial to the developing world. We have a wood and wood products trade deficit of over $2 billion a year, yet still have the capacity to have a larger, environmentally friendly forestry industry. Perhaps we do not have any comparative advantage in wood and wood products—an idea I was never able to test. Due to many factors, not least of which are governments' vote driven environmental policy, employment in the forestry and forest products sector is shrinking. Today it might be less than 65 000 people, still far bigger than the subsidised car manufacturing industry but not larger than all the down-chain aspects of it.

My esteemed colleagues and who makes the decisions

After giving up the plucking machine and the axe, I was, effectively, Australian Minister for Forests as part of the portfolios of Primary Industry and then Primary Industries and Energy (1983–91), back in the Political Dreamtime. However, after 1987 when the larger ministry was created, my co-ministers, sequentially, Peter Morris, Peter Cook and Alan Griffiths, had more of an upfront day-to-day role in forestry issues. Poor buggers. We shared the brawls, fought the good cause and attempted to gain some sensible forestry policy prescriptions at a time when the environmental movement, never monolithic, was rampant. Our search was to find a bottom line in the ever-increasing demands of environmentalists.

The Environment Minister for part of the time (whose name I have forgotten) now writes for *The Australian* newspaper, bucketing the ALP and making erroneous predictions. He held the position for three years, 1987–1990, but worked seditiously behind the scenes for two years before becoming minister. He was only interested in votes, not sensible forestry policy. Pretty pictures and the wishes of Dr Bob Brown of the Greens, the Wilderness Society and whoever else got to him, became the basis for policy regardless of science, facts or any notion of professional natural resource or forest management. Eighty scientific reports over the years were of no consequence. It was the ecologists and environmental scientists who had armed the Greens movement but if the academics and researchers presented unwelcome facts about political green claims, they were ignored or denigrated.

My fellow forestry ministers and I were industry ministers in a government that had an industry policy **and** an environment policy. This seemed simple enough to follow and if agreement could not be reached on policy one sorted it out in cabinet. Facts come into it. There are policies, there is the law and there are rules. There are procedures and processes and it is important to govern on the basis of 'responsible cabinet government', a now somewhat distant principle. The reason why there are thousands of public servants working in this city is so that governments can take well-informed decisions based on knowledge and experience.

So far, so good. Then there is the Constitution and the states have the constitutional powers with respect to land, water, forests and primary production. The Commonwealth has export powers, the power of the purse, the possible power of positive consultation and negotiation, but also needs to adhere to and implement internationally binding agreements. World Heritage nominations and declarations, and dealing with the Australian Heritage Commission's nominations with respect to the National Estate, involved law, process and facts, not just pretty pictures. I understand that the Howard Government changed the powers of the AHC with respect to National Estate declarations. It was a pity that neither the Wilderness Society nor the Tasmanian Liberal Government ever read the bit about the Commonwealth being bound to protect National Estate values. Nearly every nominated National Estate value could have been protected and forestry operations sensibly carried out. In an area of 6000 hectares (as at Jackeys Marsh in Tasmania) it is not hard to protect a plant having a possible extent of one hectare.

As a member of the House of Representatives Conservation and Environment Committee in the Whitlam years we had examined the Softwoods Agreement, which was about the Commonwealth's financial encouragement and state funding for the growing of softwoods, mainly *Pinus radiata*. We visited every state and New Zealand. In the middle of a pine forest in South Australia was an experimental clump of blue gums. The SA forestry officials blanched when I said it might not be a bad idea to plant blue gum plantations. I had no idea I was so prescient. The first Australian Forestry Council meeting I chaired acquainted me with three of the six state forestry chiefs, named Quick, Sharp and Gentle, so I knew I had to keep on my toes. It was my job to try to negotiate a national forests policy and to exercise export controls on wood products. They had become too war-weary with protests to give anything away or go along with some amateur Labor Minister in Canberra. All I could ever get was a National Forest Policy Statement.

Having worked as a humble researcher in the Bureau of Agricultural Economics, I thought that there would be lots of interesting work in forestry economics and that instead of exporting low-value, high-volume woodchips and importing high-value pulp and paper we may be able to value-add. Every new minister 'discovers' value adding, generally in the first two weeks. Poor fool me.

Having been an economic researcher of little note, I thought I would find out how much forest we had, what was its quality, what harvesting was sustainable and what were forestry's prospects from a developmental point of view, given that most of Australia is a planed-down desert, or semi-arid continent with a wet margin. Believe it or not, I never saw sustainability or sustainable yield as a complete answer with respect to natural resource management, but at least it could be a step in the right direction when looking at a balance between the necessities for production and preservation of conservation values.

Species retention, habitat protection and forest management were the main matters to be addressed—so I first thought. I have yet to learn of a species extinguished due to managed forestry operations. I quickly found out that there were no agreed figures on forest inventory for whatever purpose designated. The state governments were still engaged in broad-scale land clearing and had little idea, quantitatively or qualitatively. Land clearing was still being subsidised. In my first speech as Minister, I said I was going to establish a Bureau of Resource Sciences. It took a while to get it established, and within it the Natural Resources Information Centre. From it also came the National Forest Inventory. I eventually gained a better idea of our forest estate and the possibility of a larger forestry industry, mainly hardwood plantations and the potential for breeding hybrid eucalypts and the potential for pulp and paper-making. The unions were on side and perceptive as to the resource agreements and capital needed.

How I failed as forestry minister

Being forestry minister was an entirely frustrating exercise.

My first decision as Minister was to arrange an $11m loan to the South Australian Government so that pine logs could be salvaged after a bushfire by tossing them into a lake. More of the logs salvaged following the 2003 Canberra bushfires could also have been saved, but the idea of using cyanogen gas in bunkers was ruled out on the grounds the public would think it was cyanide—the politics of perception.

The second decision was by the Hon. Barry Cohen, Minister for the Environment 1983–87, and me to ban *Eucalyptus. delegatensis* pulpwood harvested from the Lemonthyme Forest, in Tasmania, from being exported. The Lemonthyme Forest adjoined a national park, later to become a World Heritage area. It had been cleared and grazed in parts, had a mine and a road in it, had been logged over many years and much replanting had been carried out since 1975. Environmentalists had assured us that the dominant species being harvested, *E. delegatensis*, was rare and to be found nowhere else. A fierce campaign had been waged to stop all forest operations there. We later discovered that *E. delegatensis* occurred extensively in NSW, Victoria and Tasmania. The issue turned out to be one of bushwalkers' rights and 'visual amenity' and a desire to extend the World Heritage area. If one walked off the track from Cradle Mountain to Lake St Clair to a place named Forest Moor, one could look towards the Lemonthyme Forest and environmentalists, mainly bushwalkers, wished for their view to remain pristine. The Tasmanian Forestry Commission had no problem in landscaping harvesting operations and had employed an international expert to do so. The issue dragged on for so long that the Helsham Royal Commission was eventually convened, producing a comprehensive 611 page report. Neither Peter Cook nor I had any hand in picking the Commissioners or the terms of reference. The Wilderness Society, Dr Bob Brown and the media wiped out the report on release by stating that the 'world's tallest flowering plants were to be eliminated'.

I tried to gain some agreed definitions. 'Wilderness' proved too hard to define. 'Visual amenity' eventually became 'venerable majesty' and 'universal heritage values' were invoked for quite small patches of native forest. 'Old growth' ranged from 20 to 200 years, depending on the campaign in question.

The lies and misrepresentations one was subject to are legend. We were told that the universities taught no ecology in forestry degrees, that Dr Jamie Fitzpatrick knew nothing about eucalypts, that *Glycine latrobiana* existed nowhere else but near Jackeys Marsh, that a rare fish *Galaxias fontanus* could not be saved, etc., etc. (Incidentally, *Galaxias maculata* is common). The AHC found patches of

Glycine further south; those were protected and the normal stream buffers used in forestry planning safeguarded all the native fish.

I was told Jackeys Marsh was old-growth forest; it was 60-year-old regrowth and all that was unique about it was the number of green activists living in the area. The AHC stated that old growth in Tasmania had to be at least 200 years old. It did not matter who had a different story to that of activists—the AHC, the CSIRO, the universities or the Australian National Parks Service—all was denied and the media happily printed it all from an activist environmental perspective. At the time plantations were still regarded as evil 'ecological deserts'.

Then there was Wesley Vale, where there was already a pulpmill, and the concern about dioxin being emitted from the Kraft process to be used in the new modern mill to be built. I had no doubt that dioxin was bad stuff. When the Prime Minister asked me in Cabinet if the Environmental Impact Statement was all right, I said that my advice was that there were still some issues with air and water quality but that a pre-operational phase agreement could be entered into. A Minister, who I will not name, immediately went out to the slathering media hordes and hanging-on reptiles and announced that 'once Kerin said the EIS was ratshit it was all over'. Cabinet Ministers are not supposed to brief the media on Cabinet discussions; so I had been told. The existing, less environmentally pure plant, continued until 2007. When I went to Sweden, chemical engineers in their pulp mills advised that there was no problem with dioxin. When the Visy mill at Tumut was opened the Australian Conservation Foundation lauded the use of plantation pine to make pulp. Plantations had by now become Godly. I asked the chemical engineers about dioxin and was advised that the problem had been technically overcome.

Then there was the chip export licence renewal for the Eden chipmill. I asked G. Edwards, an eminent forester, and environmentalist Professor Henry Nix to carry out a biological survey of the NSW south-east forests. I addressed a public meeting in Eden on the findings. I was told by one earnest young woman that the report was flawed because it did not take into account rock orchids growing out of vertical rock faces. I advised her that vertical cliff faces were not generally logged, but that I would look into it. The next issue that came up was the endangered long-footed potoroo, *Potorous longipes*. No one had seen one but it was said that bones found in a fox scat could be of that species. NSW State Forests kept looking and the more we looked the more species, and good indicator species, were found, but no long-footed potoroos. The issue of arboreal marsupials in the Coolangubra Forest and the sponge of the Tantawangello watershed were resolved but then an endangered frog was found. The environment minister who succeeded the unspeakable one I won't mention drew a line on a map for the cabinet so that the frog's habitat would not be threatened. This was acceptable to me, but I thought the scale of the map being used meant that that the size of the pencil mark was about two miles wide and perhaps we should have biologists determine it! The frogs survived. Victoria, with Joan Kirner as Minister for Conservation, Forests and Lands actually changed forestry policy quite sensibly from a preservationist to a conservationist approach, including not leaving massive forest litter on the forest floor after sawlog harvesting.

People come into it. Contractors to Harris Daishowa in Eden had to spend over a million dollars to equip themselves with no guarantee of continuous work. The number of employees under threat of losing their jobs in Tasmania was up to 4000. The claim that horny-handed mill workers could be retrained as drink waiters and share in Tasmania's bushwalker-led recovery never captured my imagination. The Tasmanian Government was losing royalty money it was dependent on, small towns were losing populations and small businesses were losing viability. When Peter Cook finally negotiated an agreement with Tasmania, after the Helsham Inquiry, in November 1988, the Tasmanian Government was given $50m in compensation. Tasmania, as a client state, will always take the money and has gained a lot more since then.

The hunt for the bottom line resulted in Alan Griffiths, with John Brumby on his staff, negotiating the various Regional Forest Agreements with the states. This pulled some of the teeth on environmentalist claims, but they still thought that no tree should fall.

You have had enough misery by now, so I will only give you a bit more. By the late 1980s I was becoming desperate about the nonsensical way we were determining environmental issues. I talked

Prime Minister Bob Hawke into the 'Sustainable Development Process'. When this went to Cabinet, it was decided to make it the 'Ecologically Sustainable Development Process'. In the real world I thought sustainable development would be hard enough and that ESD was almost a contradiction in terms, but acceptable. ESD soon seemed to appear in all kinds of legislation.

The Resource Assessment Commission was as much Hawke's idea as mine. Both bodies went ahead and both carried out excellent work on forestry. To some extent the power of independent enquiry blunted some of the craziness of political environmentalist claims. I was told by the Department of Prime Minister and Cabinet that the RAC was running out of references so I gave them some more. I faded from the scene and I do not know who to blame for their closure. It is sensible to terminate some bodies before they become part of the furniture.

Misery after ministries

After I also failed as Treasurer for getting a word wrong in an acronym, I gave the game away and chaired the CRC for Plantation Forestry. The main areas of endeavour were silviculture, clonal selection and hybrid investigation and resource protection—all good work. We were mainly working on *E. globulus* and *E. nitens*, and I was keen for work to be done on *E. pilularis*. The CRC has now finished but it also turned out some excellent post-graduates. I was somewhat responsible for the agricultural research and development corporations, but am concerned about on-going forestry research. It would seem to me that private forestry in Australia is no longer prepared to back the research I see as necessary, due to the situation the forest products industry is in.

My last bit of misery concerns becoming chair of the management board of Forests NSW in the 1990s. The organisation had statutory requirements, was beholden to the Corporations Act, and was expected to make a profit. The research division was carrying out good work but its refereed reports were in learned journals. I had the idea that we should make the findings more accessible to the public. We thought we might be able to cross *E. camaldulensis* with *E. grandis* to make a more salinity-tolerant tree with better wood production potential and to plant *Pinus pinaster* on the south-west slopes. Much work was being carried out on issues such as ways to finance plantations, indicator species (the more we looked, the more we found), forest diseases, imaging and what was being found from inspecting compartments prior to logging. We were subject to two regulating authorities, the Environment Protection Authority and the National Parks and Wildlife Service, who were working from old databases. In the string of bushfires lit by storms on 8 January 2003, 11 hectares of state forests were burned in the country at the back of Canberra. Canberra lost four lives, 500 houses and most of its pine forests. Forests NSW, like all forest service agencies knew about and prepared for fires. Unlike some environmentalists, they do not believe holocaust fires are good because they are natural. Now that the Pilliga has been virtually shut down, one can expect holocaust fires.

Before an election, our political masters advised the Forests NSW management board that 120 000 hectares, the exact area wanted by the Total Environmental Centre, were to be placed in national parks and that we were to publically agree to this. We had two independent reports saying that the sawlog volume required to meet contractual commitments could not be produced if that area was excluded. We could have sensibly nominated an alternative 150 000 hectares for national parks, to gain contiguity, but not in the area specified. The board advised the NSW Government that the sawlog resource required was not available from the reduced area, and that we were not prepared to be in breach of the Trade Practices Act. After the election we were all sacked and the research division was closed down.

This again exemplifies the problem the forest products industry has while ever governments chase votes at the expense of science and professional forest management. I still believe Australia could have an environmentally sensible forestry policy and not depend on the rest of the world beggaring its forests for us and costing us foreign exchange into the bargain. With less than 0.3% of the world's population we still need to convince our population of what we can be good at—if the politicians let us. We can have a very green future, and that would involve trees.

I have now been out of politics for longer than I was in it, and I have hardly a clue about what goes on now in the big white building on yonder hill. I understand that the current government is to be praised

for having such an outstanding and experienced backbench. As a non-innocent bystander, I am fortified by reading newspapers and by what I absorb from the social media-blogs, texts, face-book messages, etc. I am assured one can implicitly believe that the conventional media is wholly truthful and that only facts are reported. The most recent poll says about 12% to 14% of the public believe them; seems a bit high. On all issues now, scepticism and contrarian views have been raised to absolute certainty as our prejudices are polled and are fed by 'shock-jocks' and people, for example, of such eminence as Lord Monckton.

This is because it is no longer important to believe anyone in authority, all politicians are crooks or drongos, businessmen are crooks only interested in profits, public servants are dolts, scientists are only after research money and economists gave us the global financial crisis. We are not a contented lot and it is a worry that we have had only 21 years of economic growth. It is important to keep us excited about politics until we follow the United States into its next invasion of some country desperately needing democracy, preferably having oil, and then there will be some real news again. I understand that wars are God's way of teaching Americans geography.

Some things don't change

I am now a relic, but one cannot help but gain feelings of déjà vu with respect to some current issues. The 'Tarkine' was known as Tasmania's north-west forests in my time. I set aside 83 500 hectares from logging by banning any export of woodchips from the area in 1986. I once visited most of the mines in the mineral-rich area. In the south of Tasmania, the same names keep coming up—Florentine, Styx, Picton Valleys—with the 'world's tallest flowering plants' and people still living up trees, etc., etc. The current Commonwealth Environment Minister, Tony Burke, announced last year that a 'final solution' had been reached in Tasmania. However, subsequently, he did not give in to the Wilderness Society's ambit claims on the Tarkine and the Greens are now after his blood, accusing him of 'selling out to the miners' (mining is another industry that needs to be eliminated). One also notes that the Tasmanian Parliament is now amending the Tasmanian Forests Agreement Bill, which is an unsatisfactory Bill, particularly relating to the forest products industry—nothing much changes. It looks like Gunns and/or any pulp mill in Tasmania is history.

I hasten to assure you that I do not blame the Greens for those forestry decisions, which I regarded as based on lies, or of dubious scientific or ecological validity, or ideology, or were crazy. I blame governments who have the task of balancing competing demands in the real world and who should not delegate decisions to outside forces.

I conclude by advising that I have learnt my lesson and that I am now a more sensitive, environmentally aware soul. You may not have noticed but my unique suit is of the finest cashmere. It was hand-woven on traditional khadi looms from the best virgin saddle hair, obtained by hand-combing Achmed, a free-range goat, from a humanely reared pashmina herd. The herd was responsibly grazed on organic pastures from a once-opium poppy and mine-field, in Pashtun, Afghanistan. Luckily, we have now made the place safe for democracy and goats, but not for women. The dying process is secret but rare ochres and mordants were used and the stitching was done with ethical silk twine. The suit is near carbon neutral, but luckily climate change is 'crap' and only a beat-up by the ABC.

I thank you for listening to my many miseries and failures.

Posters

Early colonial artwork as an indicator of the nature of the pre-European forests of south-eastern Australia

Michael Ryan

This study explored early colonial Australian artwork and its use in assessing the nature and structure of the pre-European forests and woodlands of south-eastern Australia.

A significant body of art, dating from soon after first settlement, depicts forested landscapes. Much of this work was examined and, where possible, the sites portrayed were visited to assess the likelihood that the depiction of forests present at the time was accurate. Results of the study suggest that the work of many artists can provide an excellent guide as to what the pre-European forests and woodlands of south-eastern Australia were like.

A system for tracking changes In the condition of Australia's forest

Richard Thackway

The poster elaborated the main points of the full paper of the same title presented at this conference.

About the Commonwealth Forestry Association

Commonwealth Forestry Association

http://www.cfa-international.org/

Michael Bleby

The IFA has National Forestry Association membership of the Commonwealth Forestry Association. The poster informed readers of CFA activities, awards, the I*nternational Forestry Review* journal, newsletter, etc.

National Foresters Grove

Robert Newman

The grove, of about 3 ha, is in the suburb of Lavington, adjacent to the old main highway to Sydney, about 2 km from North Albury junction, NSW. The Albury City Council owns the land and is advised on maintenance by a committee headed by Peter Crowe FIFA and other members of the IFA, the North-east Hoo-Hoo Club led by Lindsay Bohun, the Lions Club and local industry. The original organising committee consisted of Bob Newman OAM, Peter Crowe, Bernie Evans, Paul Wells, Peter Rutherford and the staff of the Albury City Committee, Messrs S. Campbell and M. Skin, and a representative of the NE Hoo-Hoo Club.

Facilities include an under-cover automatic barbecue with seating, and a nearby childrens playground. For large parties there is a covered bandstand and also toilets.

Tree species planted so for include *Eucalyptus sideroxylon*, *E. leucoxylon*, *E. melliodora*, *E. polyanthemos*, *E. camaldulensis*, *Casuarina cunninghamia* and *Melaleuca stypheloides*. Dedication

of trees initially took place in 1988 as an endorsed Bicentennial activity at the time of the International Bicentennial Forestry Conference. This dedication and planting was by Michael Hall AM, representing the IFA and Australian Forest Growers (AFG). Since then there have been seven further dedications—in 1989, 1991, 1994, 1995, 1999, 2004 and 2008—to bring the total number of trees dedicated to forest industry people, as well as foresters and AFG members, to nearly 200.

A further dedication took place on Saturday 6 April 2013 just prior to the start of the IFA conference on 7 April. Peter Crowe and Phil Clements can advise on who has had a tree dedicated to them, and on the dedication of new trees.

Contacts are peter.crowe2@bigpond.com , and Phil Clements, pandac@bigpond.net.au .

Institute of Australian Consulting Arboriculturists—The role of the project arborist

www.IACA.org.au

Australian Standard AS4970-2009 *Protection of Trees on Development Sites* is the 'best practice' guideline document for protecting existing trees on development sites in Australia.

The role of the project arborist (arboriculturist) in the implementation of AS4970-2009 is vital in achieving positive urban forestry outcomes.

The tree management stages are:

PLANNING
- Preliminary arboricultural report
- Design review
- Arboricultural impact assessment report

PRE-CONSTRUCTION
- Consent compliance
- Certification of protection measures

CONSTRUCTION
- Certification of protection measures at key stages

POST-CONSTRUCTION
- Monitor/certify tree condition

Woodcraft Guild ACT

http://www.woodcraftguild.org.au/

The Guild displayed beautiful, diverse samples of members' work, and members staffed the display.

Robin Cromer kindly assisted the conference organisers in arranging and presenting this display.

Conference field tours, Wednesday 10 April

Two field tours were offered to conference participants—one of forestry in urban Canberra, and the other of forestry beyond the city itself. Both began with a joint visit to the National Arboretum.

National Arboretum Canberra

This large arboretum (250 ha), opened to the public in 2013, has been established since fires in 2001 and 2003 killed the radiata pine in the former Green Hills plantation. The site is adjacent to Lake Burley Griffin and Government House, and affords commanding views of the lake. The design of the development was chosen from entries submitted to a national competition; some 100 species from around the world, many considered rare or noteworthy for other reasons, have been used. It is also the home of the National Bonsai and Penjing Collection. Planting commenced in 2005 and is now largely complete. Despite initial severe drought, intensive care ensured good survival and in some cases rapid growth of new plantings. Facilities for visitors include a cafe and interpretive exhibition housed in a building that features large laminated wooden beams in the roof structure.[5]

Urban forestry tour

Mount Ainslie—John Gray presented an overview of the treed landscape. In the 1980s John was Director, Landscape Architecture at the National Capital Development Commission. Currently he is an adviser to the National Capital Authority on the development of the Lindsay Pryor National Arboretum, which lies between the National Arboretum and Lake Burley Griffin. John's thesis on Weston's role in Canberra is available on the web[6].

During the past couple of years there has been an increased focus on managing the future of Canberra's urban forest of more than 700,000 trees; the age of many, and drought in the last decade, has drawn public attention to both the amenity they provide for the city and the need to invest in their maintenance. Improved community engagement processes have been introduced and greater use is being made of information technology to better manage work programming, contract management , etc.

The tour inspected Yarralumla Heritage Nursery, established by Charles Weston a century ago: it was for decades the key supplier of planting stock used throughout the city.

Lunch was taken in Japanese-themed Lennox Gardens, a park on the south side of Lake Burley Griffin and close to Commonwealth Avenue Bridge and Albert Hall in Yarralumla.

The next stop was the new CIT School of Horticulture, Landscape (Arboriculture) and Landscape Architecture in Bruce. This has been the site of horticultural training since only 2010, so the campus looks relatively new—a lot of tree planting and garden development is still in progress. The previous campus, where training was delivered for 30 years, was at Weston Creek. There are about 300 horticulture students enrolled in any one year, and a large fraction of these are apprentices.

The final stop was at Haig Park that straddles Northbourne Avenue, and was initially planted in 1921 as a shelterbelt to protect planned suburbs just north of Civic Centre. Radiata pine was conspicuous among the several species planted. The park marked the northern boundary of the city until the 1950s. It has since exemplified the processes entailed in managing aging urban plantings; these have been recorded in a series of management plans, public comment on the latest of which is now being sought[7].

Speakers in the course of this tour included Jane Cottee, Martin Dallen, Bede Richardson, Olivia Edgar, Michael Brice, John Gray and George Dashwood.

[5] http://www.nationalarboretum.act.gov.au/home and http://en.wikipedia.org/wiki/National_Arboretum_Canberra

[6] < http://webpac.canberra.edu.au/record=b1207820~S4> When this site opens click on 'Full text via UC Research Repository' and when that opens go to the bottom of the page and click on 'Full text.pdf'.

[7] http://www.tams.act.gov.au/__data/assets/pdf_file/0020/392303/Haig_Park_draft_master_plan.pdf

Cotter River catchment tour

The Cotter River was named after an Irish stockman, Garrett Cotter, who came to the area in the early 1800s. The entire catchment was included within the Australian Capital Territory and reserved from settlement and farming to provide water for Canberra. The original Cotter Dam was built between 1912 and 1916. The height of the dam was raised in 1951 to increase its capacity to about 4 GL. Additional dams were constructed upstream on the Cotter River—Bendora Dam in 1961 and Corin Dam in 1968. Googong Dam was built on the Queanbeyan River in 1979.

In 2007, faced with record low rainfall and inflows to the dams, the ACT Government decided to enlarge the Cotter Dam. The reasons stated for this location include the reliable, clean flow in the Cotter River and the resilience of the river to drought.

Enlarging the Cotter Dam has involved building a new dam 80 m high with a 280 m crest length about 100 m downstream of the existing dam, and two earth embankment dams adjacent to the main dam. The new dam increases the capacity from 4 GL to78 GL, which increases total ACT water storage capacity by 35% to about 280 GL. Water from Bendora and Corin dams flows under gravity to the treatment plant at Stromlo. The Cotter dam is lower than the treatment plant and water must therefore be pumped. The cost of the expansion is about $400 million.

Softwood plantations

A policy that the territory should develop softwood plantations as a source of timber and a means of establishing a manufacturing industry was adopted soon after the formation of the ACT and a 'Chief Forester' was appointed in 1925. Reforestation with softwoods was also used as a means of catchment protection, because it was effective in reducing erosion caused by grazing and rabbits, which was a particular cause for concern at that time in the Mount Stromlo area. Plantations were first established on previously cleared grazing land and later by clearing native forest in areas including the Cotter River catchment. The total plantation area had stabilised at about 15 000 ha by 1975; yearly log production had reached about 150 000 m^3 by the turn of the century.

Fires in 2001 and 2003[8]

A fire that started a few kilometres to the west of Lake Burley Griffin on 24 December 2001 burned several hundred hectares of radiata pine plantation before stopping at the edge of the lake.

On about 8 January 2003, lightning started fires in the Brindabella (NSW) and Namadgi (ACT) national parks, west of the city. At that time much of south-eastern Australia, was suffering a prolonged drought. Control efforts in the following several days were ineffectual. By 18 January 2003 weather conditions were extreme. A number of fires merged and burned rapidly through the Cotter River catchment (including all radiata pine plantations in the catchment), across the Murrumbidgee River, through bushland, heavily grazed farmland and the Stromlo plantation. By mid-afternoon on 18 January the fire had reached the fringe of the urban area. Four people died as a result of this fire and more than 500 homes were destroyed.

The fire destroyed about two-thirds of the ACT's pine plantations. The surviving area, about 5000 ha, predominantly comprises the Kowen plantation on the eastern side of the territory.

Post-fire rehabilitation

The post-fire rehabilitation efforts had to deal with the risk of massive soil erosion in a water supply catchment, salvage harvesting to keep the local sawmilling industry going and minimise financial loss, replanting of commercial plantations, replanting with native species and management of natural regeneration. All of this was going on under media scrutiny and with keen interest from the urban population.

[8] http://en.wikipedia.org/wiki/2003_Canberra_bushfires and http://www.courts.act.gov.au/resources/attachments/Canberra_Firestorm_%28VOL_I%29.pdf

Replanting of plantations in the Cotter River catchment proceeded for the following few years but ceased when about 3000 ha had been replanted. Plantations in the Mount Stromlo area and other areas between the Murrumbidgee River and the urban area will not be re-established due to the perceived fire risk plantations in those areas pose to the urban area.

Hydrological research

The Forest Research Institute began research on sediment loads in streams in the catchment in 1962 at the request of the National Capital Development Commission, and by 1972 sixteen small catchments had been instrumented. It became apparent that the five main soils of the Cotter varied greatly in their response to rainfall; those with abundant dispersible clays, and roadworks, were major sources of sediment[9]. Water quality was not much affected by forest operations in plantations, but water yield rose greatly following clearfelling. Models of stormflow responses of catchments were developed.

Land use and management history

An understanding of the disturbance history of a site strongly influences opportunities for improvements in vegetation condition. The disturbance history of every site will be different, although some sites are expected to share histories at the bioregional level. At a vantage point overlooking Blundells Farm, Richard Thackway discussed the application of 'VAST' to a site that had been in turn native forest, farm, plantation and now native forest again[10]. The system is described in a paper to the proceedings of this conference.

Dendrochronology

Matthew Brookhouse described his use of snow gum (*Eucalyptus pauciflora*) to develop dendrohydrological reconstructions of river flow in two rivers—Victoria's Thomson River and the ACT's Cotter River. In collaboration with NSW Department of Environment, Climate Change and Water, he is also developing a network of tree-ring chronologies throughout the Australian Alps, based upon mountain plum pine (*Podocarpus lawrencei*). This research is supported by the Australian Alps National Parks program and aims to deliver multicentury-scale reconstructions of temperature variability.

Eucalypt species distribution and response to fire

Lyndsey Vivian's honours work investigated how fire severity influenced the distribution of two eucalypts: alpine ash (*E. delegatensis*) and brown barrel (*E. fastigata*) in the Cotter catchment. These two species grow on similar sheltered south-easterly aspects, with alpine ash found at slightly higher altitudes than brown barrel. They respond differently to severe fire, but it is less clear how they respond to mild fire. Alpine ash is an obligate seeder and brown barrel is a facultative resprouter.

The project had two research questions: what is the effect of fire severity on the vegetative and recruitment response of the eucalypt species in the study area? And is there evidence that stands of *E. delegatensis* may expand into stands dominated by *E.fastigata* by means of seed shed and seedling establishment beyond their pre-fire stand boundaries?

Speakers in the course of this tour included Mark Adams, Leon Bren, Matthew Brookhouse, Tony Bartlett, Neil Cooper, Richard Thackway and Lyndsey Vivian.

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[10] Thackway, R. Transformation of Australia's vegetated Landscapes, Blundells Flat, ex-coupe 424, ACT. ACEAS. doi: 10.4227/05/S088F11002843.http://dx.doi. QrgI10.4227/0S/S088F11002843

Delegates

The Institute of Foresters of Australia National Conference

ADAMS, Jim	
ADAMS, Mark	University of Sydney
ADSHEAD, Dominic	GHD Pty Ltd
AMATI, Marco	La Trobe University
ANDERSON, Michael	
BARNES, Ian	
BARR, Brad	Wespine Industries
BARTLETT, Tony	ACIAR
BEATTY, Peter	Forest Products Commission WA
BISHWOKAMA, Dipak	Australia National University
BLEBY, Michael Freelance Forester	
BLUNDELL, Rebecca	ACT Parks and Conservation Service
BRACK, Cris	Australian National University
BRATBY, Warwick	Forestry Corporation of NSW
BREN, Leon	University of Melbourne
BROOKHOUSE, Matthew	Australian National University
BROWN, Alan	Institute of Foresters of Australia
BROWN, Mark	FIRC, University of Southern Cross
BROWNSTEIN, Rachael	Forest Industries Policy, Department of Primary Industries
BUCKMAN, Wayne	Department of Sustainability and Environment
CAMERON, Nick	Forestry Corporation of NSW
CAMPBELL, Emma	Department of Sustainability, Environment, Water, Population
CARMICHAEL, Alison	Institute of Foresters of Australia
CASSELLS, David	
CHALISE, Manoj	Australian National University
CHALMERS, Ed	Institute of Foresters of Australia
CHENEY, Ellen	Australian National University
CLARKE, John	Self Actualised Foresters Inc.
COLBECK, Richard	
COLLET, Steve	Collet Timber Consultancy
COOPER, Neil	ACT Parks and Conservation Service
COTTERILL, Paul	Gene Technics
CUNNINGHAM, David	ABARES DAFF
DAHL, Stephen	GHD Pty Ltd
DANG, Kien	Australian National University
DASHWOOD, George	Dan and Dan Forestry Services Pty Ltd
DAVEY, Stuart	Institute of Foresters of Australia
DAVIS, Jan	Tasmanian Farmers and Graziers Association
DE FÉGELY, Rob	Institute of Foresters of Australia
DE MAR, Paul	GHD Pty Ltd
DRAPER, Danny	Institute of Australian Consulting Arboriculturists
EDWARDS, Mark	Department of Agriculture, Fisheries and Forestry
FEARNSIDE, Tony	
FEATHERSTON, Gary	Forest Strategy Pty Ltd
FERGUSON, Ian	
FLANAGAN, Aidan	
FLORENCE, Ross	
FREEMAN, Blair	URS Australia Pty Ltd
FREEMAN, Michelle	Institute of Foresters of Australia
FREWIN, Heath	Ergon Energy
GAO, Riva	Australian National University
GARSDEN, Ross	NCS International Pty Ltd
GASCOIGNE, Toss	Toss Gascoigne and Associate
GOLDSPINK, Dallas	PF Olsen Australia
GRALLELIS, Steven	Forestry Corporation of NSW
GRIST, Peter	Australian Forest Products Association
HAIRSINE, Peter	CSIRO
HARDING, Kevin	University of the Sunshine Coast
HARRIS-ADAMS, Keely	ABARES DAFF
HART, Richard	GHD Pty Ltd
HARTMAN, Michael	ForestWorks
HAWKE, Darryl	Insurance Facilitators

HAY, Peter	ForestWorks
HAYWOOD, Andrew	Department of Sustainability and Environment
HERD, Darren	Gunns Forest Products
HEYMANN, Marius	Newells Creek Sawmilling Co.
HOLMGREN, Peter	Center for International Forestry Research
HOULDEN, Susan	Department of Sustainability and Environment
HOWAT, Matt	Forestry Corporation of NSW
HOWELL, Claire	ABARES DAFF
HUMPHREYS, Curly	
HUNT, Mark	University of Tasmania
IRVINE, Ross	Forestry Corporation of NSW
JACKSON, Bill	Parks Victoria
JACKSON, William	Parks Victoria
JAKTMAN, Johan	Scandinavian Forestry & Engineering Pty Ltd
JANSSEN, Mike	Cloudy Bay Sustainable Forestry Ltd
JENKIN, Braden	Sylva Systems Pty Ltd
JENNINGS, Keith	IFA Queensland Division
JOHNSON, Bindu	Australian National University
JOHNSON, Courtney	Department of Sustainability and Environment
JURSKIS, Vic	Australian Environment Foundation
KACHENKO, Anthony	Nursery & Garden Industry Australia
KANOWSKI, Peter	CENTER FOR INTERNATIONAL FORESTRY RESEARCH (CIFOR)
KATALINIC, Anne	Institute of Foresters of Australia
KAVANAGH, Rod	Niche Environment and Heritage
KEENAN, Rod	University of Melbourne
KELLAS, John	
KENYON, Ben	Homewood Consulting
KERRUISH, Bill	
KOVACEVIC, Michelle	Center for International Forestry Research (CIFOR)
KUIPER, Rob	Murrumbidgee Catchment Management Authority
KUJINGA, Kennedy	Forestry Corporation of NSW
LACY, Phil	PF Olsen Australia
LENGENBERG, Belinda	Hyne Timber
LINDSAY, Alex	Private forestry consultant
LOHR, Virginia	Australian National University
LOXTON, Edwina	Australian National University
MASSEY-REED, Paul	
MCCARTHY, Ciara	VicForests
MCCARTHY, Greg	DSE Orbost
MCEWEN, Andrew	New Zealand Institute of Forestry
MCEWEN, Mary	
MCLEAN, Dale	Forestry Corporation of NSW
MIDGLEY, Stephen	Salwood Asia Pacific Pty Ltd
MONTGOMERY, Philip	GHD Pty Ltd
MOORE, Gerard	Moore Global
MORGAN, Gary	Bushfire Cooperative Research Centre (CRC)
MURRAY, John	Forestry Corporation of NSW
MUTENDEUDZI, Martin	ABARES DAFF
NAMBIAR, Sadanandan	CSIRO Ecosystem Sciences
NEAL, Carol	Forest Management Services Queensland
NEWMAN, Bob	Southern Cross University
O'HEHIR, Jim	ForestrySA
O'REILLY, Damien	Forestry Corporation of NSW
PARKER, Mal	PF Olsen Australia
PARSONS, Mark	Institute of Foresters of Australia
PARSONS, Michael	Trees Impact Pty Limited
PATTISELANNO, Freddy	Universitas Negeri Papua
PEACHEY, Kevin	National Timber Councils Association
PEACOCK, Ross	NSW Office of Environment and Heritage
PEGG, Richard	Consultancy Bureau Pty Ltd
PHELAN, Tuesday	Independent
PIERCY, Kevin	Australian Paper
POTTER, Ross	VicForests
PRITCHARD, Phil	ABARES DAFF
PROSSER, Ian	Water for a Healthy Country Flagship, CSIRO
PROVIS, Arran	Homewood Consulting
RAISON, John	Ecosystem Sciences, CSIRO

RAYSON, Stephen	Forests NSW
READ, Steve	ABARES, DAFF
RETIEF, Lauren	Center for International Economics
RICHARDSON, Matthew	Niche Environment and Heritage
RINGK, Chris	Timberlands Pacific
ROBERTS, Geoff	Department of Climate Change and Energy Efficiency
ROBERTS, Nick	Forestry Corporation of NSW
ROBSON, Gordon	Cengea Solutions
ROLFE, Dennis	Dennis Rolfe
ROSCOE, Jillian	Victorian Association of Forest Industries
RYAN, Michael	VicForests
RYAN, Therese	VicForests
RYAN, Vanessa	Consec Conference Management
RYAN, Zoe	Environmental Accounting Services (EAS)
SCOTT, Robyn	Forestry Tasmania
SEDUNARY, Dan	VicForests
SHEARS, Ian	Urban Landscapes
SHIRLEY, Jim	Shirley & Werner Associates
SINCLAIR, Ric	Forest and Wood Products Australia
SMITH, Hilary	Latitude Forest Services
SOLICHIN	Fenner School of Environment and Society, Australian National University
SORAYA, Emma	Fenner School of Environment And Society, Australian National University
SPENCER, Lachlan	VicForests
STANTON, Richard	Australian Forestry Standard Ltd
STELLING, Phil	Global Forest Partners
STEPHENS, Michael	Australian Forest Products Association
STEWART, Rob	DSE Victoria
TACCONI, Luca	Australian National University
TAYLOR, Andrew	Department of Sustainability and Environment
THACKWAY, Richard	VAST Transformations
TRACEY, Jacquie	Natural Resources Commission
TRELOAR, Shannon	Department of Sustainability and Environment
TURNER, Brian	Institute of Foresters of Australia
VANCLAY, Jerry	Southern Cross University
VERCOE, Tim	3rd Man Innovation PL
VOLKER, Peter	Institute of Foresters of Australia
WALKER, Stephen	SFM Forest Products
WALKER, Stephen	South West Fibre Pty Ltd
WALLER, Ewan	
WANG, Mingzhu	Macquarie University
WHITELEY, Steve	Forestry Tasmania
WILKINSON, Graham	Forest Practices Authority Tasmania
WILLETT, Anthony	ForFire Training
WILLIAMS, David	David Williams Consulting
WILLIAMS, Mike	Michael Williams & Associates Pty Ltd
WILSON, Jim	Gunns Limited
WILSON, Mick	Forestry Corporation of NSW
WILSON, Ronald	AgriWealth Pty Limited
YATES, Andrew	ACT Parks and Conservation Services

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National conferences of the Institute of Foresters of Australia

1954 1st Institute of Foresters of Australia [national] conference, Canberra, 29 May–5 June 1954. Proceedings: individual papers.

1958 2nd Institute of Foresters of Australia [national] conference, Canberra, September 1958. Proceedings: individual papers.

1962 3rd Institute of Foresters of Australia [national] conference, Melbourne, 28 May–1 June 1962

1965 4th Institute of Foresters of Australia [national] conference, Hobart, 24–29 May 1965 [Papers are listed in Mar 65 *Newsletter*]

1968 5th Institute of Foresters of Australia [national] conference, Perth, 14–18 October 1968 *Increasing forest productivity.* [Several papers appeared in *Aust. For.* 32(4), 185–204, 1968]

1971 6th Institute of Foresters of Australia [national] conference, Thredbo, 10–14 May 1971 *Man and his forests—conservation and multiple use policies.* [Several papers appeared in *Aust. For.* 35(2), 65–83, 1971]

1974 7th Institute of Foresters of Australia [national] conference, Caloundra, Qld, 2–6 September 1974. Vol 1 Working papers 577 pp; Vol. 2 Proceedings 259 pp.

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1980 1st [ANZIF] Institute of Foresters of Australia and New Zealand Institute of Foresters combined conference, Rotorua, New Zealand, 12–16 May 1980 *Plantation forestry—what future?* Contributed papers 559 pp. [9th IFA national conference]

1983 10th Institute of Foresters of Australia [national] conference, University of Melbourne, Victoria, 29 August–2 September 1983. *Facing forestry's future.* Proceedings edited and compiled by P.J. O'Shaughnessy and J.C. Westoby [pre-prints, v. 1] ISBN 0 959459227, 192 pp.; booklet [v.2] [Westoby keynote address].

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1991 4th [ANZIF] Institute of Foresters of Australia [14th national] and the New Zealand Institute of Forestry combined conference, Christchurch, New Zealand, 30 September–5 October 1991, *New directions in forestry*. Compilers J.C. Allen and G.D. Whyte, 461 pp.

1993 15th Institute of Foresters of Australia [national] conference, Alexandra Headland, Queensland, 19–24 September 1993, *Forestry and the global environment.* Proceedings edited by R.N. Thwaites and B.J. Schaumberg. 275 pp.

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