

**Submission
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**INQUIRY INTO MANAGEMENT OF PUBLIC LAND IN
NEW SOUTH WALES**

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The Director
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Inquiry into the Management of Public Land in New South Wales

Dear Sir

I am pleased to have the opportunity to offer some suggestions to the Inquiry. My unifying tenet is that public land management in NSW is hampered by public perceptions and governance issues rather than by a lack of ecosystem science. Of course, there are some examples in NSW of unintended outcomes that could be informed by more science, but equally, there are many examples to support the assertion that we (as a society) know enough about NSW's public lands to manage them adequately most of the time, if there are adequate resources and incentives. So I'd like to canvass perceptions, policy and incentives, and suggest that if we get these right, they will drive any additional scientific research that may be needed to inform decisions. I'll side-step any detailed discussion about the purpose of public land, and simply assume two roles: that it is held in trust for future generations, and that it should provide goods and services valued by the public but not well served by the market economy.

I'd like to begin by offering a few insightful anecdotes drawn from my experience in Australia and overseas. I've been very fortunate to have gained diverse overseas experience following the completion of my higher doctorate in forestry (D.Sc.For., University of Queensland, 1992). I've lived and worked in Denmark and Indonesia for about 4 years each, and gained short-term experience in Africa, Latin America, South-East Asia and the Pacific through projects and consultancies. This experience has strongly influenced my views on the possibilities and challenges of public land management, through first-hand experience with innovative solutions and intractable problems. It may also be appropriate to mention that my views are held in high regard by my peers, and that I have been nominated as a member of IUCN's Commission on Education and Communication (2009-2012), and have received the Queen's Award for Forestry (1997) by the Commonwealth Forestry Association, and the Scientific Achievement Award (2010) by the International Union of Forest Research Organizations.

The key to understanding some of the landuse debate in Australia is the retrospective viewpoint prevalent amongst most land managers and environmentalists. I had an epiphany the first time I returned from my new base in Denmark to participate in an ecological conference in Australia: the

leader of a field trip explained an effort to re-create pre-European vegetation, and I suddenly realized that this is a uniquely antipodian view. On the other side of Wallace's line, vegetation managers tend to have a vision for the future, recognise that the present environment is a legacy of much disturbance (especially in Europe), and articulate how they are going to create a habitat for certain organisms, how that habitat will evolve over a long period of time, and eventually achieve the desired outcome. Thus, I label them 'forward looking', because they are creating something for the future. In contrast, Australian (and NZ) land managers tend to be 'backward looking' seeking to recreate something from the past. Not only is there a desire to restore, but also a belief that if we just 'fence and forget', mother nature will restore the land to its primeval condition.

This is a double fallacy. The assumption of 'primeval forest' fails to acknowledge that forests are constantly changing, and overlooks anthropogenic effects of both aboriginal and western societies. The assumption that we can recreate by 'fence and forget' ignores the reality that much has changed – today's forests are fragmented islands in a sea of agriculture and urbanization, hampered by weeds and feral animals, hindered by the exclusion or extinction of some native species, and influenced by altered fire regimes. This reality requires a change of mindset to recognise the need for active management on all land, public and private. Wise land use requires a deliberate strategy for weeds, feral animals, fire, and fragmentation.

Fire is the easiest issue to discuss, if not to resolve and control. Ideally, we want a patchwork of fire history and intensity to provide a diverse range of habitat across the landscape. In pre-European Australia, this probably happened at a grand scale that is no longer possible or desirable. In pre-European Australia, a 15000 ha fire was probably not uncommon and not detrimental. However, the 15000 ha fire that burned in Royal National Park in 1994 consumed over 95% of the land area of this 'island' park surrounded by urbanity, not a good outcome for the fauna or flora. Clearly Royal National Park needs (and has) a plan to manage fire – to prescribe some fire to create post-fire habitat, and to control major fires to ensure that the whole 'island' is not consumed in a single event. This thinking and planning that we now routinely apply to fire also needs to be applied to other formative processes such as feral animals, weeds and fragmentation – they are not always undesirable or significant, but managers should consider their potential impact and manage accordingly.

The recognition that fire needs to be managed is the first step toward recognition that more generally, *habitat* needs to be managed. Most animals, and most plants don't depend on a *place*; they interact with a habitat. If the habitat changes, the fauna and flora also change, with less-adaptable organisms migrating away or dying out. I've seen this first-hand: spring wallum flowers were widespread and spectacular when I commenced my forestry career at Beerburrum (just north of Brisbane) in the late 1970s, but the change in fire regimes, the draining of swamps, and the encroachment of agriculture and urbanization all conspired to reduce the display, with many once-common species becoming rarer, and some rare species no longer found in their former haunts (even within the Glasshouse Mountains National Park). This recognition that species depend on habitat, not on place, challenges the dominant approach to National Parks which tend to be places gazetted inflexibly and managed conservatively (both their greatest strength and greatest weakness). Inflexible tenure systems have served our society well, so this reality of habitat-dependence implies that we need to manage public lands actively to create and maintain desired habitats. How best do we inspire such management?

It's not enough just to create a *suitable* habitat, there also needs to be *sufficient* habitat to support a viable population for each species. Often it is impossible to provide enough habitat within a given park or reserve, so it may be important to provide habitat on private land, to increase the habitat area, to provide connectivity between reserves, and to provide a buffer between potentially conflicting land uses. These are ideas enshrined in UNESCO's Biosphere reserves, which are pursued enthusiastically elsewhere but embraced only modestly in Australia (with three such reserves in NSW). While NSW reserves need not be affiliated with this particular international scheme, the concept is good, particularly the whole-of-landscape approach to land management, minimizing discontinuities at tenure boundaries, and encouraging adjoining public private landholders to collaborate to achieve mutual goals.

The success of Biosphere reserves contradicts several common assumptions about conservation. In Australia, many people assume that conservation is a binary choice: that conservation happens in National Parks, and production happens on agricultural lands, and that never the twain shall meet. But clearly, Biosphere reserves (and many other examples) demonstrate that land can provide both conservation and production simultaneously. Thus, wildlife habitat and sylvan scenery are just two of the many non-consumptive services that forest landscapes can provide simultaneously with other goods and services. This conflicts with the views of some high-profile celebrities (e.g., who call for all native forest to be national park, and for all timber production to come from plantations on agricultural land), but is consistent with the European groundswell for 'close-to-nature' silviculture in which existing plantations are transformed to become uneven-aged and mixed-species rather like Australia's existing managed regrowth native forests, trading off some wood production for an increase in non-wood values.

The realization that conservation need not be a binary decision is a provocative one, particularly when funding restrictions hamper the ability to adequately service regional conservation reserves. For instance, fire is a real threat to cypress pine reserves in western NSW, and conservation funds are insufficient to employ sufficient staff with local knowledge and fire-fighting ability, posing a dilemma: employ few staff and risk an uncontrollable fire, or sell goods and services (e.g., harvest timber) to fund the staff needed to provide fire protection. The latter (conservation with production) offers societal benefits, as it helps maintain rural towns needed to service pastoral and tourist industries.

For over a decade, NSW has relied on 'duty of care' to regulate activities of private landholders who retain conservation values on their land, in effect penalising those who have cared and forgiving those who have destroyed conservation values. This 'duty of care' principle is unfair and ineffective in promoting good land use: unfair because it penalises past diligence, and ineffective because breaches are either undetected or difficult to remedy. Furthermore, the regulations underpinning this approach rarely offer the flexibility needed to achieve the best outcome given the wide range of environments within NSW. My view is that it is more effective and fairer to drive landholder behaviour through incentives rather than through regulation, and indications are that even modest incentives can be effective, and would not be difficult to implement¹. Incentives are likely to be most effective if offered as annual payments for outcomes achieved.

¹ Southern Cross Group, 2006. A proposal for stewardship support to private native forests in NSW. ISBN 0-9775976-0-1. <http://jkv.50megs.com/SCG.pdf>

The private forestry sector in Denmark offers an illustration of the utility of annual payments. In contrast to Australia, some two-thirds of forest in Denmark is privately owned, mostly by smallholders with less than 20 ha, and many individuals aspire to owning a forest. Wood production tends to be unprofitable, with most forest owners experiencing fluctuating returns culminating in a small loss on timber production. But most forest owners enjoy alternative sources of income (often revenue from hunting rights) making forest management profitable and encouraging forest owners to manage for other values (e.g., scenery, wildlife). This modest annual income from hunting and other sources completely changes the business model for smallholder forestry, making forests profitable and encouraging owners to focus on the multiple values and services of forests. Such incentives, offered as biodiversity, carbon, recreation, water or other credits, could strongly influence forest management, especially if offered as annual payments for delivery of services rather than up-front payments for future deliveries.

When I relate this illustration about the influence of hunting on forest management in Denmark, many listeners get distracted into an irrelevant tangent about hunting. The issue is about the additional annual income, not about hunting as such, but it reflects an unfortunate Australian tendency to micromanage 'hot topics' and overlook the big picture, the whole-of-landscape outcomes. When moved to Denmark twenty years ago, I was surprised to find WWF working closely with the Danish Hunters Association, until a WWF member explained that they had more in common than in difference – they were united in wanting more game, more habitat, and better habitat and in this perspective their difference (sustainable harvest versus no harvest) was relatively minor. This ability to find common ground and work together towards shared objectives is regrettably less prevalent in Australia, hampering our ability to find win-win outcomes.

Our national trait of focussing on differences rather than on shared objectives hampers our 'duty of care'. In many cases, the benefit from a minor breach of a code may be attractive to a landholder, and the chance of detection and any penalty relatively small, so the current system appears to be insufficient as deterrent. However, it does provide a basis to pursue personal vendettas, and there are anecdotes that suggest some activists attempt to hamper legitimate land use activities. Whilst these issues of detection and dobbing are unhelpful, there is a more serious limitation of our prescriptive 'duty of care' approach: state-wide prescriptions enshrine mediocrity because they can never deal adequately with local site-specific issues, and because regulations inevitably lag behind innovation. In developing its new 787 Dreamliner, Boeing relaxed the tight specifications it had imposed on suppliers to earlier models, and instead emphasised the outcomes that needed to be delivered and allowed its suppliers to innovate, and to contribute collectively to a new generation of aircraft. I advocate a similar approach to vegetation management, with fewer prescriptive regulations, better definition of desired outcomes, and incentives to reward attainment of these outcomes.

Australian governments have trialled several tender-based schemes to achieve specified conservation outcomes on private lands. Whilst there has been some success, the scheme also suffers several drawbacks: it tends to concentrate funding in few places, continuing the national park approach of offering a few small patches of excellent conservation, where what is needed is better outcomes everywhere across the whole landscape. Tenders also tend to offer an up-front payment for promises of future outcomes, an uncertain approach discredited by the difficulties evident in some MIS schemes. Many landholders appear reluctant to participate in tender schemes,

some taking the view that the chance of success is too low to warrant an application, and others reluctant to disclose information about their property that may lead to an additional bureaucratic burden. Indeed, it appears that some tenders have been below cost, rewarding landholders who were already initiating remediation activities, and undercutting marginal landholders who need support to initiate an action. Given these weaknesses, I cannot support tender schemes, and advocate for outcomes-based annuities available to all, as outlined by the Southern Cross Group¹.

The Southern Cross Group advocated for a 2-tiered system, where all landholders could easily attain base-level incentives based on a statutory declaration of forest on their land (easily checked with remote sensing). The second tier would be more demanding, but would offer larger rewards for more specific outcomes, such as evidence of endangered species reproducing on their land. Such a system would encourage landholders to report, rather than to conceal information about rare species. It would encourage freelance biologists to approach landholders to offer their services (fee-based, or for a share of incentives) to locate and foster rare species on private lands. It would unite many stakeholders in learning more about rare species, and in maintaining them throughout the landscape. I'm confident that this scheme would create a good incentive and work well with private landholders – and if it works well on private lands, why not hold managers to account on public lands in the same way. Managers of public lands have some obligations to maintain habitat, fauna and flora, and that share of their funding could be performance based, provided with exactly the same formula as the incentives offered to private landholders. This would hold National Park and other public land managers to account for ensuring the well-being of rare species of plants and animals.

If we incentivise the management of public lands to secure better outcomes for biodiversity, we should also consider if public agencies are best placed to manage these lands. In 1995, the National Competition Policy led to reform of many state forest services to separate the conflicting roles of production and regulation. The same argument about conflicting roles can be applied to other public lands, including National Parks. Ideally, National Parks services should provide education, recreation, conservation (habitat management to control weeds, feral animals and fire; rescue operations for critically endangered species), monitoring and research, a conflicting set of activities. Might it not be a good strategy to divide these tasks among different providers?

In recent years I've been fortunate to work and holiday in east Africa, and I've used the opportunity to visit many conservation reserves. Initially, I visited national parks, many of which are excellent, particularly given the context within which they operate. More recently however, I've visited wildlife conservancies, many of which provide better conservation outcomes (and visitor experiences) than national parks. Although these conservancies vary in size and performance, they provide an important role in complementing the national parks system. In Australia, several organizations² operate scores of conservancies over millions of hectares for successful conservation outcomes, and some of these are particularly innovative and successful in attaining some conservation goals (e.g., through feral-proof fencing). Their success begs the question whether traditional national parks remain the best approach for delivering conservation outcomes. In my opening paragraph, I stated my assumption that the role of public lands was to hold land in trust for the future, and to provide public goods and services not well served by the marketplace. It may be that a century ago,

² <http://www.environment.gov.au/parks/nrs/getting-involved/organisations/index.html>

conservation was not well served by the market, but this assumption no longer holds today, and this means that it may no longer be optimal to vest the two major roles of public land (future surety, conservation services) with one single agency: in short, that management of national parks and other public lands could be outsourced. I don't offer this suggestion lightly: lifelong, most of my recreation has been taken in national parks, and the first decade of my career was with a government forest service that had a strong focus on public good, so this conclusion regarding outsourcing challenges my own comfort zone. But a logical consideration of the facts leads one to consider outsourcing, and to recognise potential benefits. Successful outsourcing would require a clear statement of desired conservation outcomes, which would be a good thing in itself, because many well-meaning national park managers are hampered by lack of corporate direction.

The terms of reference (1c) make specific reference to the river red gum, native hardwood forests and other newly created national parks. It seems that tenure decisions and many public attitudes towards these new reserves has been shaped by the assumption that a tenure change and passive management will lead to a 'good' outcome and foster a return to a 'pristine environment', without any explicit statement about (or plan to achieve) the desired habitat. It is likely that most people favour a biodiverse open woodland with well-spaced stately trees in the river red gum forests, both for conservation and recreation, but it is unlikely that passive management will achieve this, instead allowing the development of a dense thicket of small trees. The unstated, but commonly desired, open woodland can be created in several ways, but only through active management. The cost implications of these alternatives differ greatly, with some expensive, and some revenue-generating possibilities. Some people consider profitable ventures in national parks an anathema, but wise conservation strategy requires a broader view. Funds for conservation are limited, and it is desirable to find ways to offset vegetation management costs to allow increased investment in wildlife research, provided that cost-neutral and revenue-generating vegetation management contributes toward the creation of the desired habitat. Such habitat management may involve grazing or timber harvesting, and these mechanisms should not be disregarded on principle, but should be evaluated in the context of efficiently creating and maintaining the desired habitat.

The tendency of some advocates to equate conservation with national parks is not supported by logic or by empirical evidence. On the contrary, there is evidence that national park agencies sometimes struggle to maintain conservation values (because of fires, weeds, feral animals), and that other land tenures and management agencies (e.g., conservancies) can deliver comparable or better outcomes. The challenge for better and more efficient conservation is to define more explicitly the desired outcomes, and examine the efficiency of the various alternatives in delivering these outputs. It may well be that in the 21st century, it is no longer optimal to have a single monolithic agency dealing with all aspects, and that efficiencies may be gained by splitting some roles (monitoring biodiversity, maintaining habitat, providing recreation facilities, education, etc) and outsourcing those that can be done most efficiently by subcontractors.

These ideas can be summed up in a simple table:

Australian stereotype	Desired approach
Backward looking (re-create past)	Forward looking (define desired outcomes)
Passive ('fence and forget')	Active (manage environment to achieve outcomes)
Place-oriented (gazette land area)	Habitat-oriented (reward desired land condition)
Binary (preservation versus production)	Multiple services (conservation with production)
Process driven (through regulations)	Outcome oriented (incentives and rewards for outcomes)
Micromanage minor issues	Holistic whole-of-landscape viewpoint
Politicise petty differences	Find common ground for win-win outcomes
Policing of reported breaches	Systematic monitoring and reporting
Bush tender (empty promises)	Pay for performance (annual payment for outputs)
Patches of excellence	Incremental landscape-wide improvements
Crown control of public land	Competitive approach for best management
NPWS 'knows best'	Clear definition of desired conservation outcomes

In short, to achieve the best outcomes for River Red Gum State Forests, the State Forests of Northern NSW, and Yanga and Toorale Stations, we must first define more explicitly the desired outcomes. Once there is some clarity and agreement about objectives, it will be possible to evaluate and suggest an optimal management strategy, which may or may not involve subcontractors.

I understand that public hearings will be held in Port Macquarie and Armidale during 3rd-5th October; I would be please to amplify these views in one of those public hearings.

Thanks for the opportunity to comment.

Jerome Vanclay