Submission No 406

INQUIRY INTO MANAGEMENT OF PUBLIC LAND IN NEW SOUTH WALES

Organisation: National Parks Association of NSW

Name: Ms Kirstin Proft

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Submission from the National Parks Association of NSW: Part 1 of 2

Part 1 consists of the submission, Appendices 1 - 8 (in a single document) and Appendix 9 in a separate document.

Submission to the Inquiry into the Management of Public Land in New South Wales

National Parks Association of NSW Inc

NATIONAL PARKS ASSOCIATION OF NSW
protecting nature through community action

Submission to the Inquiry into the Management of Public Land in New South Wales

Authorised by Graeme Wiffen, President, National Parks Association of New South Wales

For inquiries about this submission, please contact Executive Officer, Kevin Evans
02 9299 0000 or kevine@npansw.org.au

www.npansw.org.au

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Appendices - See attached documents

1. Purpose of the document

This document is the submission of the National Parks Association of New South Wales to the Legislative Council General Purpose Standing Committee No. 5 inquiry into the management of public land in New South Wales.

2. Submission summary

National Parks Association of New South Wales is a community based organisation with over 10,000 supporters from rural, remote and urban areas across the state. NPA seeks to protect, connect and restore the integrity and diversity of natural systems in NSW and beyond through national parks, marine sanctuaries and other means.

The land of NSW, its geological forms, and the abundance of plants and animals it supports matters for many reasons. The natural environment has an inherent value. It is culturally significant and provides our resources, our ecological services, our living space and our recreation space. The land is fixed in size yet it is expected to support an increasing population and increasing living standards. The natural systems that keep the Earth in a desirable state have either reached the threshold, or are at risk of reaching the threshold, where human existence is impacted upon.

Through its leadership, policy development and administration of laws and regulations, the NSW Government must continue to play a key role in managing the threats to the natural environment while reconciling the needs of a growing population and the demands for increased economic wealth. Public and private land management, the subject of this inquiry submission, plays a critical part in this. Protected areas in particular have a primary role to play in managing threats to our natural environment due to loss of biodiversity, land use change, climate change, and freshwater use.

The recommendations of the NPA are summarised below in Table 1 and discussed in more detail in the body of the submission. NPA would also welcome the opportunity to discuss our submission at the Inquiry's public hearings.

Table 1: Summary of NPA recommendations to the Legislative Council General Purpose Standing Committee No. 5 inquiry into the management of public land in New South Wales

Terms of Reference	***1. The conversion of Crown Land, State Forests and agricultural land into National Park estate or other types of conservation areas,***
NPA recommendations	1. Given the critical role of biodiversity in ensuring the health and well being of the people of New South Wales and elsewhere, the alarming loss of biodiversity we are witnessing in New South Wales, and the knowledge that protected areas are the most effective biodiversity conservation measure, NPA recommends the NSW Government place high priority on the establishment and extension of protected areas that are 'Comprehensive, Adequate and Representative' (CAR) of all the terrestrial and aquatic ecosystems of NSW. 2. Ensure land use planning and the establishment of protected areas in NSW are not decided solely by short term economic concerns but balance adequate consideration of the land's biodiversity, carbon sequestration, fresh water productivity and the resilience of other ecological services to meet needs now and into the future. 3. Ensure protected areas of NSW are representative of all the terrestrial and aquatic ecosystems of NSW. 4. Land use planning needs to recognise the benefit of integrating protected areas with Indigenous, rural and urban communities that respect and nurture the land. 5. Land use planning needs to ensure biodiversity and ecosystem health is maintained at local, landscape and continental scales across all land tenures to ensure adequate connectivity and resilience for species. 6. Ensure the complex and interrelated impacts of climate change on hydrology regimes, fire regimes, coastal changes and species pattern alterations are fully included in land use and conservation planning.
Terms of Reference	***a. Process of conversion and the assessment of potential operational, economic, social and environmental impacts***
NPA recommendations	7. The NSW Government continues to set conservation reservation priorities based on the CAR principles and the NSW National Parks Establishment Plan. 8. The NSW Government continues to build a world-class protected area system and recognises that much more work needs to be done. This will require further reservation of public lands, continued acquisition of extensive areas of private land through voluntary purchase and strong support and incentives for private land conservation. 9. The NSW Government enhances the current conversion process by taking more explicit consideration of climate change and by more clearly establishing the conservation intent of an area as a guide to the ongoing management process. 10. Conversion of lands to public protected areas should be accompanied by enhancements to NPWS operating budget allocations sufficient to support the increased operational responsibilities of the protected area.
Terms of Reference	***b. Operational, economic, social and environmental impacts after conversion, and in particular, impacts upon neighbours of public land and upon Local Government***

NPA recommendations	11. NPA recommends that impact assessment take into consideration short and long term impacts; direct and indirect impacts; local, regional, continental and global impacts; and environmental, social and economic impacts. NPA recommends the Committee takes into consideration impacts relating, at least, to biodiversity, climate change, water use, fire regime, Indigenous health and well being, people's connection with nature, recreation, cultural heritage, tourism, local community, national economy, government budgets, and natural resource extraction as discussed in the body of the submission.
Terms of Reference	***c. That the following cases be considered in relation to Terms of Reference 1(a) and 1(b):*** • ***River Red Gum State Forests in the Southern Riverina,*** • ***Native Hardwood State Forests in Northern NSW,*** • ***Yanga Station in the Balranald Shire, and*** • ***Toorale Station in Bourke Shire.***
NPA recommendations	12. The eucalypt forests of northeast NSW be included with the existing Gondwana Rainforests World Heritage Area in an expanded 'Gondwana Forests World Heritage Area'.
Terms of Reference	***2. The adherence to management practices on all public land that are mandated for private property holders, including fire, weed and pest management practices.***
NPA recommendations	13. Invest in nature by increasing public expenditure on nature conservation, restoration and park management to 5% of the NSW Budget. 14. While recognising the importance of fire management to protect life and property, NPA considers it imperative that NPWS and adjacent land holders also take ecological guidelines into consideration in establishing and carrying out their fire management strategies. 15. NPA calls on the government to revoke the *Game and Feral Animal Control Amendment Bill 2012,* allowing hunting in national parks.
Terms of Reference	***3. Examination of models for the management of public land, including models that provide for conservation outcomes which utilise the principles of "sustainable use".***
NPA recommendations	16. Continue to ban logging and firewood collection in protected areas. 17. Current mandated water flows for ecological purposes are not sufficient and need to be restored to a level that will maintain the ecological character of habitats. 18. In considering models for the management of public land the commission should ensure the concept of 'sustainable use' encompass the principles of ecologically sustainable development as outlined in the body of the submission. 19. Models for the conservation of public land also need to consider Australia's cultural context and our unique natural environment.
Terms of Reference	***4. Any other related matters.***
NPA recommendations	20. NPA considers the terms of reference for the inquiry are highly skewed in favour of short term local matters and recommends they be amended to recognise that the effective management of public land for conservation outcomes requires an assessment of both short and long term impacts as well as the assessment of outcomes at the local regional and global levels.

	21. NPA would welcome the opportunity to appear at the Inquiry's public hearings in both regional areas and Sydney.

3. About NPA

The National Parks Association of NSW Inc (NPA) is an independent not for profit conservation charity formed in 1957. NPA seeks to protect, connect and restore the integrity and diversity of natural systems in NSW and beyond through national parks, marine sanctuaries and other means.

NPA is a community based organisation with over 10,000 supporters, a vibrant network of over 800 active volunteers, 18 Branches, 5 staff and several committees. We hold over 1,000 bushwalks and conservation management activities throughout NSW each year. NPA represents a broad spectrum of NSW communities with over 60% of our members living outside the Sydney metropolitan area.

NPA is driven by a vision that foresees a landscape of intact natural areas providing comprehensive, adequate and representative cover of all the terrestrial and aquatic ecosystems of NSW, integrated with viable rural and urban communities that respect and nurture the land. We aim to ensure that human activities complement the management of the protected area system. Our work relies on community action at all levels and at all locations. We work through collaboration with other conservation organisations and cooperative relationships with Aboriginal people.

The legacy of the national parks that we enjoy today proves that NPA can help the people of NSW to deliver a visionary goal to our future generations. NPA has a reputation for making recommendations that are practical and soundly based in science. We seek a level of nature conservation in NSW that allows species to persist and ecosystems to remain resilient. We have a clear view of what is needed across NSW to achieve this. As a state-wide organisation we invest our precious financial resources into targeted activities, research, and campaigns to prioritise this. As an organisation that is experienced, respected and knowledgeable in the use of lands for conservation, NPA is well placed to assist the committee with its inquiry.

4. Conservation Areas

4.1. The case for conservation areas

The land of NSW, its geological forms and the abundance of plants and animals it supports matters for many reasons. The natural environment has an inherent value. It produces the food we eat, supplies the resources we use to produce our manufactured goods, collects clean drinking water, helps regulate our climate, filters our air, provides us with a place to live, is aesthetically and spiritually significant, provides us with recreation and has cultural heritage. The natural environment that brings so much benefit can also bring considerable harm through floods, violent storms, fire, and destruction of crops by pests. We humans search for ways to enhance the benefit and lessen impacts through our land management practices. The land is fixed in size yet it is expected to feed and provide living and recreation space for an increasing population and provide resources to support increasing living standards. These many pressures have given rise to social and natural ecology issues at local, regional and global levels. While the land is a basic requirement of our existence these many demands result in conflict over its use. We face conflict not only over the allocation of land among competing benefits, but also over optimal ways to reduce harm (O'Neill, Holland, & Light, 2008). We need to reconcile our dependence on the natural, cultivated and mined land for our life, health and economic activity for the sake of both current and future generations.

Many scientific scholars now consider that the natural systems that keep the Earth in a desirable state have either reached the threshold, or are at risk of reaching the threshold, where human existence is impacted. Figure 1 depicts the extent to which the Earth's boundaries are threatened for nine critical Earth systems (Rockström et al., 2009a). It is alarming to note that the thresholds for the rate of biodiversity loss, climate change and human interference with the nitrogen cycle have been exceeded. Appendix 1 represents this information in more detail.

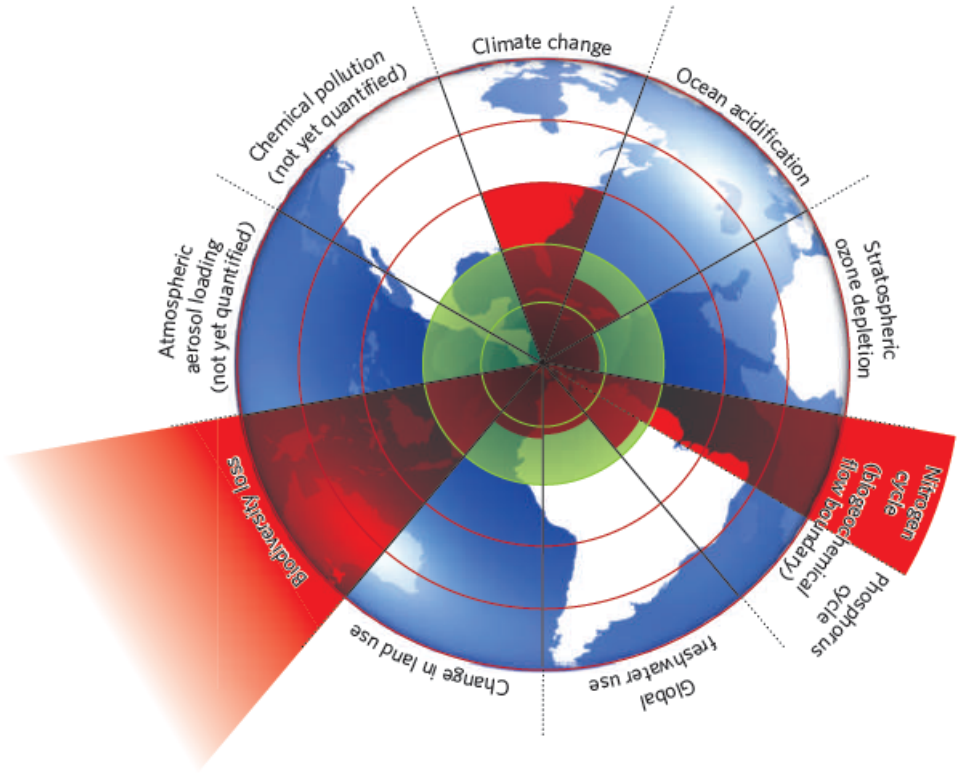


Figure 1 | Beyond the boundary. The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.

Source: (Rockström et al, 2009a, p 274)

Through its leadership, policy development and administration of laws and regulations, the NSW Government has played and must continue to play a key role in managing these Earth-system boundary threats at both the local and global levels while reconciling the needs of a growing population and the demands for increased economic wealth. Public and private land management, the subject of this inquiry submission, plays a critical part in this. Protected areas in particular have a key role to play in managing our threats from loss of biodiversity, land use change, climate change, and freshwater use. Throughout this submission the term protected areas is used to indicate those land areas identified as being for specific conservation purposes as per the IUCN protected areas classification system.

Biodiversity

Biodiversity is a concept that represents life on Earth. It is the 'the diversity of all organisms, be they plants, animals, or microorganisms, the diversity within and among species and populations, and the diversity of ecosystems' (Millennium Ecosystem Assessment, 2005, p 1). Biodiversity needs to be considered at the local, regional and global scale and does not lend itself easily to a single indicator (See Appendix 2). Biodiversity is required for resilience and functioning of the ecosystem. We are currently experiencing a major extinction event, the first to be driven by human activity. Previous extinction events 'caused massive permanent changes in the biotic composition and functioning of Earth's ecosystems' (Rockström et al, 2009b, p 31). It is likely that continuing extinctions will be accompanied by similarly massive changes to ecosystems. This will have significant impact on human life and activity.

Overall biodiversity in Australia is reducing across many measures. Human induced extinction rates are 100 to 1,000 times more than natural extinctions (Rockström et al, 2009a). The Australian *Environment Protection and Biodiversity Conservation Act* List of Threatened Fauna and Flora identifies 42 flora species, 27 mammal species, 23 bird species, and 4 frog species that have become extinct in Australia since European settlement (DSEWP&C, 2012a). In addition, 20% of our mammals, 14% of our amphibians and 6.5% of our vascular plants are under threat of becoming extinct (Chapman, 2009, p7). These tragic losses are the worst in the world (Australian Bureau of Statistics, 2012a). They are occurring as a result of conversion of land (mainly for agriculture, but also to a lesser extent from mining and urban space expansion), overexploitation (for example, fishing and logging), the spread of invasive species and disease organisms, nutrient loading (nitrogen, phosphorus), and human induced climate change (Millennium Ecosystem Assessment, 2005, p 8).

Of the conservation measures available, protected areas are considered most strongly correlated with the stabilisation and recovery of threatened species (Taylor et al, 2011). Yet simply declaring conservation areas is not sufficient for their success in addressing biodiversity decline. Habitat destruction, hunting and forest product exploitation lead to poor 'health' of reserved areas. Protected areas are intimately linked ecologically to the lands surrounding them (Laurance, et al., 2012). Protected areas do not exist as ecological islands in isolation. Protected areas need to exist within lands that are also effectively managed for biodiversity health.

Recommendation

1. Given the critical role of biodiversity in ensuring the health and well being of the people of New South Wales and elsewhere, the alarming loss of biodiversity we are witnessing in New South Wales, and the knowledge that protected areas are the most effective biodiversity conservation measure, NPA recommends the NSW Government place high priority on the establishment and extension of protected areas that are 'Comprehensive, Adequate and Representative' (CAR) of all the terrestrial and aquatic ecosystems of NSW.

Land use change

The Earth-systems are interdependent. Land use not only affects biodiversity but also water use, climate change and other ecosystem services. Species extinctions in Australia are considered to be mostly due to land use change. Almost 75% of the land in NSW has been altered for agricultural use (Australian Bureau of Statistics, 2012b) and over 91% of NSW land is outside the public reserve system. There are limits on the extent to which the conversion of land to production use is safe for biodiversity and human existence. These limits need to be considered in land use planning at both local and global, short term and long term scales (Rockström et al, 2009b). Land needs to be allocated not only according to its economic or food production productivity, but also according to needs and productivity for biodiversity, carbon sequestration, fresh water and other ecosystem services now and into the future.

For protected areas to meet their conservation purposes they need to be planned with consideration not just of the current habitat of certain species but also with consideration of large scale and long term physical and biotic processes. These ecological processes include the interactions of species, resilience to pests, animal movement, recovery from fire, climate change, water management, coastal changes and spatially dependent evolutionary changes at multiple levels (Soulé, Mackey & Recher, 2004). To maintain their resilience now and into the future, protected areas need to be planned so that they are adequate, connected and representative of all the terrestrial and aquatic ecosystems of NSW. NPA recognises that land use planning also needs to consider the integration of protected areas with Indigenous, rural and urban communities that respect and nurture the land.

It is inappropriate to manage conservation areas in isolation. Private land and other public lands also need to maintain biodiversity to provide connectivity for species at the landscape level. For this reason, NPA is a lead partner in the Great Eastern Ranges (GER) initiative. This is a cross-tenure, landscape scale conservation initiative, which is bringing together people and organisations to establish a conservation corridor along the mountainous regions of eastern Australia, stretching 3,600 kilometres from the Grampians in Victoria to far north Queensland. The GER initiative is based on principle of connectivity conservation, an approach which recognises the need for ecological process to operate over broad scales across landscapes, regardless of tenure. Within a connectivity framework, protected public conservation areas such as national parks provide core areas of habitat, which can then be linked through conservation measures on other land tenures.

Recommendations

2. Ensure land use planning and the establishment of protected areas in NSW are not decided solely by short term economic concerns but balance adequate consideration of the land's biodiversity, carbon sequestration, fresh water productivity and the resilience of other ecological services to meet needs now and into the future.
3. Ensure protected areas of NSW are representative of all the terrestrial and aquatic ecosystems of NSW.
4. Land use planning needs to recognise the benefit of integrating protected areas with Indigenous, rural and urban communities that respect and nurture the land.
5. Land use planning needs to ensure biodiversity and ecosystem health is maintained at local, landscape and continental scales across all land tenures to ensure adequate connectivity and resilience for species.

Climate change

Our climate is changing over and above its natural rate. This is due to human activities that influence the natural greenhouse gas cycle (IPCC (2007); Berkley Earth (2012)). This climate change is evident in sea level rise, altered rain patterns, temperature changes and extreme weather events. The climate change effect has started to be felt on water resources, human health, human settlements, food security and ecosystems. See Appendix 3. In Australia, we will experience declining biodiversity, water security problems, declining agriculture and forestry production in southern and eastern Australia, increased bushfire frequency and intensity, threats to coastal communities from sea level rise, change in species in regions (native and exotic), and increased storm frequency and intensity (IPCC, 2007; Dunlop & Brown,

2008). Each of these changes will have different implications for conservation and will increase the pressure from conflicting land use demands. The complexity of these cascading impacts is illustrated in Appendix 4 and Appendix 5 maps anticipated climate change impacts for Australia. With declining agriculture and forestry productivity it will be tempting to make short term decisions to convert more land area to these uses. However the impact of such a short sighted view will be to make the flow-on ecological and human problems even worse. The implications of climate change make it even more imperative that wide spread and diverse habits are protected (Dunlop & Brown, 2008).

Adaptation to climate change will become critical in the coming years. We will find it increasingly difficult to deal with its effects and will need to significantly change attitudes and implement innovative sustainable management practices and governance systems (Steffen et al., 2009, p21). At the very least this will involve;

- Increased the protection and management of core conservation areas, including rivers and freshwater aquatic systems,
- the development of coordinated regional approaches such as the Great Eastern Ranges initiative to provide connectivity across key areas of the landscape and combining core protected areas and sympathetically managed private land,
- additional funding to effectively control alien invasive species and to manage fire for biodiversity,
- increased emphasis on biodiversity monitoring, and
- flexibility in management responses allowing adaptation to improved knowledge and changing circumstances (Lembit, 2010).

Undisturbed natural forests are a precious resource in dealing with both climate change causes and climate change impacts. It is estimated that 20% of Australia's annual greenhouse gas emissions are due to deforestation and native forest degradation (Adjani, 2007). Undisturbed native forests store significantly more carbon (40-60%) in their soils and wood mass when compared with commercial forests (Mackey, Keith, Berry, Lindenmayer, 2008). Undisturbed natural forests are also more resilient to a changing climate, regeneration after fire, and impact from pests and diseases. There is no sense in exacerbating our climate change mitigation and adaptation issues further by disturbing natural forests.

Indeed, what makes sense is to stop all logging of undisturbed native forest and allow existing logged areas of natural forest to regrow undisturbed (Mackey et al, 2008). Existing commercial plantation forests are not being logged to capacity and are sufficient to meet the national demand for wood and paper (Adjani 2007). Stopping all logging of undisturbed native forest will not compromise existing consumption needs (see Appendix 6).

Recommendation

6. Ensure the complex and interrelated impacts of climate change on hydrology regimes, fire regimes, coastal changes and species pattern alterations are fully included in land use and conservation planning.

Freshwater use

During the recent drought the conflicting demands for fresh water in New South Wales were evident. While the current wet period has reduced the profile of the issue, this is only a temporary lull. Once the dry returns, this issue will again be prominent. We have significantly altered our above and below ground water flows to service our agriculture and mining activities. Many of our protected areas provide a valuable water catchment service both for our agriculture, mining, urban use, biodiversity and ecological functioning. However many important protected areas are at risk from competing water use demands. Again, this raises the issue of conflict between short term economic needs and the longer term biodiversity needs that are critical for the sustained health of humanity. While current water regulation mandates some flows for ecological purposes, this frequently is not sufficient for maintaining the ecological character of habitats dependent on water resources, particularly outside of parks.

Of particular concern in New South Wales are the Murray Darling Basin which dominates the state west of the Great Dividing Range, and areas where wetlands are listed as of national or international importance. One example is the Ramsar listed Macquarie Marshes, where flow volumes and flow patterns have been significantly changed due to upstream river regulation and development of water dependant industry upstream in the Macquarie River and other major river systems.

The application of an averaged rules based system, while it may suit agricultural enterprises, does not reflect the natural climatic variations and ecological triggers, which are particularly important during protracted dry periods.

Current conservation lands

NSW is well regarded for its management of conservation lands. The status of the NSW National Parks system and its management has been recognised by the decision to hold the 2014 World Parks Congress in NSW. However the rate of plant and animal extinction and the rate our human activities contribute to the ongoing and alarming decline in ecological services should give us cause for concern. There are many gaps in the species and ecosystems that are protected. In New South Wales, sixty percent of nationally threatened species are below target for having their distribution area represented by protected areas (Taylor, Sattler, Curnow, et al., 2011, p28).

The land of Australia has been classified using the Interim Biogeographic Regionalisation for Australia (IBRA) into geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. This classification has identified 89 regions and 419 subregions nationally (Department of Sustainability Environment Water Population and Communities, 2012b). Figure 2 shows the distribution of these bioregions.

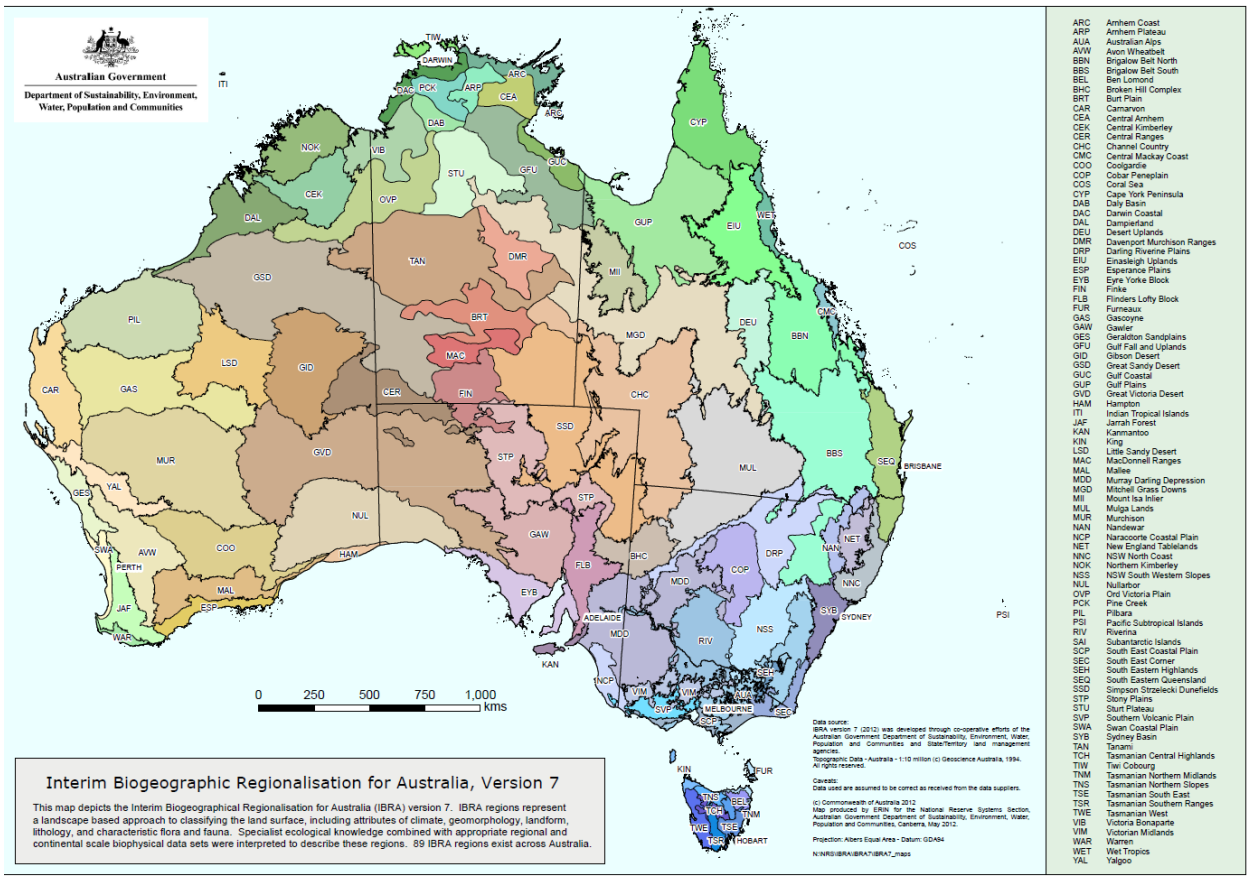


Figure 2: IBRA classification - Australia

Source: Department of Sustainability Environment Water Population and Communities. (2012b).

The protection level of these bioregions is generally identified using the IUCN management categories described in Table 2. Categories I and II provide the highest level of insurance that that biodiversity will be protected.

Table 2: IUCN classification of protected area management

Category	Type	Description
Ia	Strict nature reserve	Strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.
Ib	Wilderness area	Large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

II	National park	Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.
III	Natural monument or feature	Set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value
IV	Habitat species management area	Aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category
V	Protected landscape or seascape	Area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values
VI	Protected area with sustainable use of natural resources	Conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area

Source: IUCN (2012)

NSW has a land area of over 80 million hectares. About 75% of this land is used for agriculture purposes, and 8.8% is reserved under the National Parks and Wildlife Act. Table 3 below shows the distribution of the protected areas by type and in Table 4, the protected areas are shown under the IUCN classification.

Table 3: Total areas of terrestrial protected areas by reservation type in NSW

Terrestrial Protected Areas by Reserve Type in New South Wales					
TYPE	**Type Code**	**Number**	**Area**	**% of PA**	**% of NSW**
Aboriginal Area	AA	3	1015	0.01%	0.00%
Botanic Gardens (Commonwealth)	BG	1	80	0.00%	0.00%
CCA Zone 1 National Park	CCAZ1	27	126204	1.78%	0.16%
CCA Zone 3 State Conservation Area	CCAZ3	19	187844	2.65%	0.23%
Flora Reserve	FLR	78	32438	0.46%	0.04%
Historic Site	HS	1	467	0.01%	0.00%
Indigenous Protected Area	IPA	5	8589	0.12%	0.01%

Karst Conservation Reserve	KCR	4	5172	0.07%	0.01%
National Park	NP	189	5045420	71.25%	6.30%
National Park (Commonwealth)	NPC	1	6312	0.09%	0.01%
Nature Reserve	NR	399	908982	12.84%	1.13%
NRS Addition - Gazettal in Progress	NRS	19	305663	4.32%	0.38%
Permanent Park Preserve	PPP	1	1175	0.02%	0.00%
Regional Park	REP	13	6788	0.10%	0.01%
State Conservation Area	SCA	107	445634	6.29%	0.56%
Total		**867**	**7,081,783**	**100.00%**	**8.84%**
Area of NSW			80,121,268		

Source: NSW Office of Environment and Heritage

Table 4: Total areas of terrestrial protected areas by IUCN category in NSW

Terrestrial Protected Areas by IUCN Category in New South Wales				
IUCN	**Number**	**Area**	**% of PA**	**% of NSW**
IA	407	985,682	13.92%	1.23%
IB	25	1,729,842	24.43%	2.16%
II	330	4,115,252	58.11%	5.14%
III	9	5,813	0.08%	0.01%
IV	67	222,368	3.14%	0.28%
I-IV Total	**838**	**7,058,957**	**99.68%**	**8.81%**
V	26	14,933	0.21%	0.02%
VI	3	7,894	0.11%	0.01%
V-VI Total	**29**	**22,827**	**0.32%**	**0.03%**
Total	**867**	**7,081,783**	**100.00%**	**8.84%**
Area of New South Wales		80,121,268		

Source: : NSW Office of Environment and Heritage

While advances have been made in recent years in increasing the representativeness of NSW subregions, considerable work remains to be done. In NSW, 6 regions and 49 subregions have less than 5% of their area protected and 11 subregions have no protected areas at all. The full table of protected areas by IBRA sub-region is shown in Appendix 7.

A recent report on Australia's protected areas noted the absence of a nationally agreed minimum standard for the national reserve system and proposed an interim standard as:

> *'– **Terrestrial ecosystem diversity** — On land, 15 per cent by area of the original total area of each regional ecosystem in highly protected areas. If 15 per cent of the original total area is less*

than 1000 hectares, a minimum of 1000 hectares should be highly protected. If the original total area is less than 1000 hectares, all of the original total area should be highly protected.

***– Terrestrial species diversity** — 30 per cent by area of threatened species current distributions and 100 per cent by area of their critical habitats in highly protected areas. If 30 per cent of the current distribution is less than 1000 hectares, a minimum of 1000 hectares should be highly protected. If the current distribution is less than 1000 hectares, all of the current distribution should be highly protected. Finally, if 30 per cent of the current distribution is larger than 10 million hectares, the highly protected area should be, at most, 10 million hectares*' (Taylor, et al., 2011, p18).

The report noted that these are interim minimum standards as they will need to be refined as additional ecological data becomes available. Based on these standards, NSW has a 50% gap in the proportion of areas targeted for protection. In area, this is about 4.45 million hectares (Taylor, et al., 2011, p26). This gap indicates there is considerable work yet to be done to protect our ecosystems and species diversity.

5. Inquiry terms of reference

5.1. Conversion of public land for conservation

Terms of Reference:
1. The conversion of Crown Land, State Forests and agricultural land into National Park estate or other types of conservation areas, including the:

a. Process of conversion and the assessment of potential operational, economic, social and environmental impacts

b. Operational, economic, social and environmental impacts after conversion, and in particular, impacts upon neighbours of public land and upon Local Government

c. That the following cases be considered in relation to Terms of Reference 1(a) and 1(b):

- *River Red Gum State Forests in the Southern Riverina,*
- *Native Hardwood State Forests in Northern NSW,*
- *Yanga Station in the Balranald Shire, and*
- *Toorale Station in Bourke Shire.*

Policy framework for conservation lands

The use of lands for conservation is supported by a policy framework at state, national and international levels. This framework has been developed and supported over many years by both coalition and ALP governments at state and national levels.

A foundation for Australia's commitments in this area is the signing of the *International Convention on Biological Diversity* (CBD) in 1992. This treaty commits Australia and New South Wales to establishing and managing a system of protected areas. This commitment was recently renewed in 2010 with Australia's participation in the international meeting of the Conference of Parties to the agreement at Nagoya, Japan.

The measures relating to the establishment of a protected area in the treaty have been consistently put into force through a range of agreements and policies signed jointly by the Federal, state and territory governments over a two decade period. The main documents of this type currently in force include:

- *Intergovernmental Agreement on the Environment (1992)* under which the states and territories agreed to progressively establish a comprehensive, adequate and representative (CAR) system of protected areas and the adoption of sound environmental practices and procedures, as a basis for ecologically sustainable development.
- *The National Strategy for the Conservation of Australia's Biological Diversity*, which again includes the CAR principle: 'Central to the conservation of Australia's biological diversity is the establishment of a comprehensive, adequate and representative system of ecologically viable protected areas integrated with the sympathetic management of all other areas, including agricultural and resource production systems' (NPWS, 2008, p12)
- *The National Forest Policy Statement* and subsequent agreement to reservation targets for building the forest reserve system.
- Australia's Strategy for the National Reserve System 2009-2030, which provides national guidance for protected area management.

The CAR criteria which establish the nationally agreed goal for the reserve system and are described in Australia's Strategy for the National Reserve System (2009-2030) as:

- **'Comprehensiveness** refers to the aim of including samples of the full range of ecosystems recognisable at an appropriate scale within and across each IBRA bioregion.
- **Adequacy** refers to how much of each ecosystem should be sampled to provide ecological viability and integrity of populations, species and ecological communities at a bioregion scale. The concept of adequacy incorporates ecological viability and resiliency for ecosystems, individual protected areas and for the protected area system as a whole.
- **Representativeness** is comprehensiveness considered at a finer scale (IBRA subregion), and recognises that the regional viability within ecosystems is sampled within the reserve system. One way of achieving this is to aim to represent each regional ecosystem within each IBRA subregion' (National Reserve System Task Force, 2012, p10).

In NSW, conservation lands and the protection of native fauna and flora are managed under the *National Parks and Wildlife Act 1974*. The New South Wales Biodiversity Strategy also plays a key role in setting the direction of the protection of biodiversity and in conservation planning.

Future reservation of public land for conservation

There is a great deal of progress still to be made on the establishment of the protected area network both nationally and in NSW. Nationally the four year target to 2013 is to increase the area in the protected area system by 25% to cover 125 million hectares. In NSW, while no state-wide target in terms of hectares has been set, at least six bioregions have less than 5% of their extent within protected areas.

It is worth noting that it has been widely accepted that public lands are regarded as the most suitable first candidates for protected areas. Australia's Strategy for the National Reserve System (2009-2030) says

> *A comprehensive, adequate and representative reserve system should, as far as possible, draw on existing public land (including leasehold land) in the first instance.* ((National Reserve System Task Force, 2012, p. 41)

Public lands are generally considered most suitable for protected areas because they are likely to contain high quality habitat, they are far cheaper to add to the public reserve system because they are already in public ownership and it is a sensible use of public lands, given that protected areas provide a wealth of public services.

The process of formally transferring land to a publically managed conservation area is typically through:

1. A transfer from government agencies to management by the National Parks and Wildlife Service (NPWS) as a reserve under the National *National Parks and Wildlife Act 1974,*
2. Purchase of private land by NPWS, or
3. Donation or bequest of land by private landholders.

Land might also be protected but remain in private ownership through permanent conservation agreements under the National Parks and Wildlife Act or trust agreements under the Nature Conservation Trust Act.

The NPA supports the current government process of establishing priorities based on biodiversity needs as set out in the *NSW National Parks Establishment Plan 2008* (NPWS, 2008). This plan provides a scientifically-based process for identifying the priorities for future reservation, including the bioregions that are of interest. It identifies parts of the state where core 'nodes' need to be established because of limited reservation in an area, areas where the reserves around the nodes need to be built up and connected and areas where the emphasis is on consolidating and 'fine tuning' existing reserves.

The NPA strongly supports the continuing process of acquisition of private land through purchase at market value from willing sellers. In order to continue to do this, the yearly allocation of funds to NPWS for land acquisition is essential.

NPA also considers there are several opportunities for enhancing the process of expanding the NSW protected areas system:

- Climate change should be considered more explicitly in determining priority areas and the suitability of public lands for reservation.
- The ongoing management process could be guided better by more clearly establishing the conservation intent of an area.

Additionally, adjustment should be made to NPWS operating budget allocations to support the operational responsibilities of the protected area.

Public land conversion process

It appears from the four case studies referred to in the terms of reference that the inquiry is mostly concerned about the process of reservation of public land as national parks and the process of voluntary acquisition of private land as national parks. Where public land is reserved as a national park, this occurs by a decision of the government of the day. The decision is made by Cabinet and to reach agreement it requires extensive negotiation and debate within government. Where public interests are affected the government will undertake extensive public consultation.

The reservation of public lands in NSW arising from the National Forestry Policy in the 1990s occurred in a number of stages. Each of these stages involved extensive public consultation and close involvement

by the affected stakeholders in the design of the process and the review of options prior to the final decision. The process was overseen by a Council, firstly by the Natural Resources Audit Council then the Resource and Conservation Assessment Council (RACAC). More recently, the western regional assessments began in 1999 and were initially overseen by RACAC and then by the Natural Resources Commission (NRC). These assessments covering the north west (Pilliga and Nandewar bioregions) then the south west (Riverina Red Gum forests and South West Cypress) also involved detailed assessment and data gathering, extensive public consultation, local and statewide community input. These processes provided important and comprehensive input into the political process that led to the final decision.

In order to learn from these past conversion processes to improve future decisions of a similar nature, there are a number of issues that are worth considering:

1. How to refine and improve the public consultation process and ensure equitable stakeholder involvement,
2. Who should oversee the assessment, and how the best scientific and socio-economic information can be obtained. One model to consider is use of the NRC, as occurred in the River Red Gum reservation process. Another possibility would be to use a similar model to the independent Victorian Environmental Assessment Council, which is an accepted system that has enjoyed 40 years of bi-partisan support. Another third possible model is to use a government body, as has been used for most of the NSW forest assessments,
3. How competing conservation, recreational and commercial interests, where they exist, can be reconciled,
4. How international, national and state obligations and laws will be fulfilled, and
5. How long decisions should take and what resources will be available to the assessing body.

NPA feels that improving the process of assessing and reserving public lands as conservation areas is important for the future development of the NSW protected area network, and would be happy to provide further advice about this if desired by the committee.

NPA does not believe that this Inquiry should focus on revisiting previous public land use decisions of government. Regularly revisiting major public land use decisions will prove a significant waste of public funds that have already been used to establish national parks and to provide industry adjustment; undermine the value of national parks; create international embarrassment for Australia and NSW, particularly in the lead-up to NSW hosting the 2014 IUCN World Parks Congress, which is a major international conservation event and will focus international attention on the management of protected areas in NSW; break a long-standing bipartisan commitment to the establishment of a CAR reserve system; and create business uncertainty by reopening previously-settled issues.

Recommendation

7. The NSW Government continues to set conservation reservation priorities based on the CAR principles and the NSW National Parks Establishment Plan.
8. The NSW Government continues to build a world-class protected area system and recognises that much more work needs to be done. This will require further reservation of public lands, continued acquisition of extensive areas of private land through voluntary purchase and strong support and incentives for private land conservation.
9. The NSW Government enhances the current conversion process by taking more explicit consideration of climate change and by more clearly establishing the conservation intent of an area as a guide to the ongoing management process.
10. Conversion of lands to public protected areas should be accompanied by enhancements to NPWS operating budget allocations sufficient to support the increased operational responsibilities of the protected area.

Impact assessment

Impact assessment is a complex activity and when dealing with the impact of land use conversion there are multiple dimensions to consider. The impacts may be short term or long term. They may be directly related to the conversion or indirectly related to the conversion in that other factors as well as the land conversion need to be taken into account. Impacts could be environmental, social or economic in nature. They may be experienced on or adjacent to the converted land or occur at a regional level or contribute to global processes. While some potential impacts can be predicted with reasonable certainty for other impacts this will not be possible. With such considerations in mind it is important to assess impacts in a broad context not just the local, immediate and short term impacts on a small

number of stakeholders. The more dispersed and longer term impacts also need to be assessed. Finally, impacts are not uniformly felt across society. A change that might be considered positive for some may not be considered this way for others.

Impact of conversion of land for conservation purposes

This section deals with a typical but not exhaustive list of impacts of the conversion of land for conservation purposes. While each of these is separately identified they are deeply interrelated.

i. Environmental - biodiversity and ecosystem services

The primary impact sought from the conversion of land for conservation is the preservation of biodiversity, ecosystems services and geological features. Each assessment of land for conversion should provide clear expectations of the biodiversity values to be conserved or restored.

ii. Environmental - climate change

When appropriately chosen through the CAR criteria, the conversion of land for conservation purposes is expected to increase the likelihood that more species will adapt and survive with a changing climate (National Reserve System Task Force, 2012, p15). The preservation of natural forests within the reserved land also directly impacts climate change mitigation.

iii. Environmental - water

The conversion of land for conservation purposes has the potential to positively impact on the water catchment quality. It may also reduce the extraction of water, particularly where the conversion is associated with water allocation buy back.

iv. Environmental - fire regimes

While some in local communities near land to be converted to national parks raise concern regarding altered fire regimes, the situation regarding fires is generally too complex and dependent on too many environmental and social factors to attribute specifically to land tenure. Fire is expected to become more frequent and more intense with the changing climate. It is interesting to note that that on average for the years 1995 - 2004, 22% of fires in national parks started off park and moved on park;

10% started on park and moved off park and 68% started on park and stayed on park (Cook, & Shukar, 2005)

v. Social - Indigenous

The conversion of land for conservation can have a positive impact on Aboriginal communities. It maintains Aboriginal cultures by providing or restoring access to places and resources for cultural and spiritual practices (National Parks and Wildlife Service, 2008).

vi. Social - connection with nature

Today, we face a paradox. Australians have at times, ranked environmental issues near the top of the national agenda yet fewer Australians than ever have a personal connection with nature. Australians have a basic empathy for our country's landscapes, plants and animals and it is important to give people opportunities to interact positively with nature. NPA values the benefits humans receive from interacting with nature. We actively support opportunities for people to explore the natural world, and gain a greater understanding of its beauty, its gifts, and its fragility.

vii. Social - recreation

When land is converted to for public conservation purposes, its accessibility for public enjoyment is generally increased over that available with private land. When land is in private ownership access requires permission. Access to land does not require permission in most conservation lands (the exception being some strictly controlled nature reserves).

Some people are confused about accessibility to conservation lands. People are not "locked out" of protected areas. However activities that are contrary to conservation objectives are restricted. In the same way that private landholders restrict people who enter their property from engaging in activities that are contrary to the purpose of the land, the NPWS, as conservation land manager, restricts activities that are contrary to achieving the conservation objectives.

The overall impact of conversion of private land to public conservation land is an increase in opportunity for recreation that is respectful of both nature and people, that provides for the appreciation of the

intrinsic values of the natural environment and that does not have significant adverse environmental impact. Adverse impacts can occur through physical disturbance (erosion and widening of tracks); introduction of pests, weeds and pathogens; disturbance of wildlife structure, function and condition; water pollution and waste; removal and redistribution of materials; crowding; vandalism (Tonge, Moore, Hockings, et al., 2005); disruption of tranquillity; and fear for safety due to hunting (See Appendix 8).

viii. Social - Aboriginal and non-Aboriginal cultural heritage

In some cases, land converted for conservation includes items, places or features of cultural significance to indigenous or non Indigenous Australians. With the managers of conservation areas having a responsibility to protect this cultural heritage, the likelihood is significantly increased that this heritage will remain in place for the benefit of current and future generations.

ix. Economic - tourism

Over 80 million visits per year are made to national parks in Australia (Tonge, Moore, Hockings, et al., 2005) and over 22 million visits per year are made to parks in New South Wales. This visitation brings value to the local, regional and national economies. For example, for five world heritage areas in Australia the tourism value has been estimated at AU$1.372billion (Tonge, Moore, Hockings, et al., 2005); and the tourism contribution from parks in North East, Far South Coast and Snowy Mountains in NSW has been estimated at $655million per year (DECC). The economic impact of tourism in rural and regional economies from several NSW national parks is shown in Table 5.

In 2014 Sydney will be hosting the IUCN World Parks Congress. This conference occurs once every 10 years and the decision to hold the next one is Sydney is a reflection of the high reputation of the NSW protected areas and their management. The congress is expected to attract 3,000 delegates and contribute $24million to the NSW economy.

Table 5: Visitors, visitor expenditure and tourism jobs in selected NSW National Parks

Park	Visitors per year	Visitor expenditure	Tourism related jobs
Dorrigo		$3,200,000	
Sturt	35,000	$2,300,000	78
Mutawintji	12,000	$760,000	26

Kinchega	7,000	$400,000	13
Warrumbungle	50,000	$1,260,000	46

Source: (Tonge, Moore, Hockings, et al., 2005; Office of Environment and Heritage, 2012)

x. Economic - local community

In addition to the tourism contribution to the local community, national parks contribute to local economies via park management expenditure and employment. Studies of 4 parks in New South Wales have shown that their management has contributed $3.1 million and 65 jobs (Office of Environment and Heritage, 2012). On the other hand, some local jobs are affected by the conversion of land to protected areas. For example, local logging operations may no longer be permitted. NPA supports the provision of assistance for those affected in these circumstances.

xi. Economic - national economy

Business is dependent on biodiversity and ecosystem services and business leaders are concerned about the impact of biodiversity loss on their business (Bishop, Bertrand, Evison, et al., 2010). Figure 3 illustrates how protected lands can lead to broad economic benefit. While these benefits cannot be apportioned directly to particular parks, they serve to illustrate the impact on the economy of a comprehensive, appropriate and representative system of protected areas.

Table 1: Relationship between biodiversity, ecosystems and ecosystem services

Biodiversity	Ecosystem goods and services (examples)	Economic values (examples)
Ecosystems (variety & extent/area)	• Recreation • Water regulation • Carbon storage	Avoiding GHG emissions by conserving forests: US$ 3.7 trillion (NPV)[22]
Species (diversity & abundance)	• Food, fibre, fuel • Design inspiration • Pollination	Contribution of insect pollinators to agricultural output: ~US$ 190 billion/year[23]
Genes (variability & population)	• Medicinal discovery • Disease resistance • Adaptive capacity	25-50% of the US$ 640 billion pharmaceutical market is derived from genetic resources[24]

Figure 3: Economic implications of the relationship between biodiversity and ecosystem services

Source: (Bishop, Bertrand, Evison, et al., 2010).

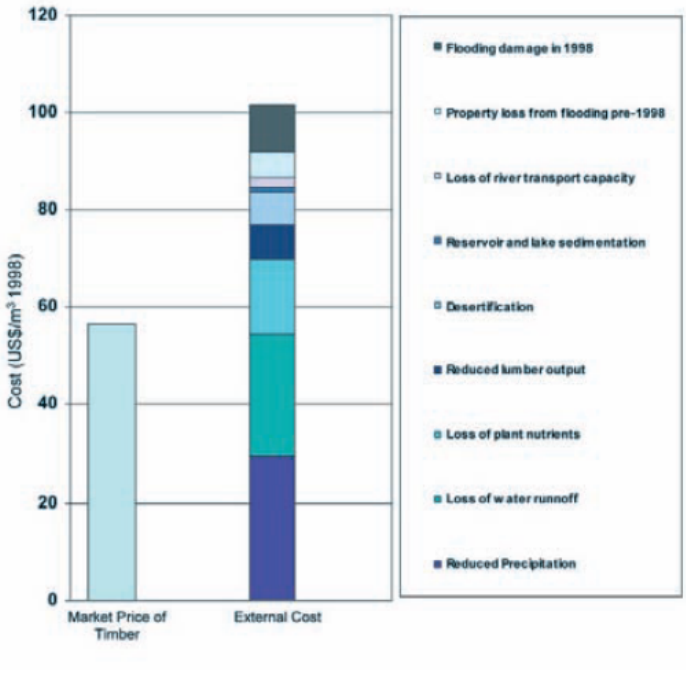
xii. Economic - government costs and revenue

A change in land tenure can impact on government budgets in several ways. There are additional costs for park and visitor management and for facility and infrastructure provision. To some extent this can be offset through fees and charges. Additionally, local governments may lose a source of local rates revenue. NPA agrees this is something the state government needs to consider when land is converted.

xiii. Economic - natural resource extraction

Some natural resource use such as logging may stop on the conversion of land to protected areas. While this has a direct impact on the local economy it may also have an indirect and positive economic as well as biodiversity impact through the protection of ecosystem services. This point is well illustrated in the following Figure.

Figure 2: Forest ecosystem services and timber prices in China



Note: The chart illustrates the economic value of forest ecosystem services that may have been lost as a result of logging to supply timber to the construction and materials sector in China over the period 1950-98, expressed in the same terms as timber prices (US$ per m3). These are rough estimates of ecosystem 'externalities' associated with logging, which are not reflected in market prices. Forest policy can be an effective means of 'internalizing' these values.

Source: Mark Trevitt (Trucost) for TEEB [26]

Figure 4: Ecosystem externalities not reflected in market prices

Source: (Bishop, Bertrand, Evison, et al., 2010).

Recommendation

11. NPA recommends that impact assessment take into consideration short and long term impacts; direct and indirect impacts; local, regional, continental and global impacts; and environmental, social and economic impacts. NPA recommends the Committee takes into consideration impacts relating, at least, to biodiversity, climate change, water use, fire regime, Indigenous health and well being, people's connection with nature, recreation, cultural heritage, tourism, local community, national economy, government budgets, and natural resource extraction as discussed in the body of the submission.

5.2. National park case studies

River Red Gum State Forests in the Southern Riverina

The Murray Valley National Park was gazetted on July 1st 2010. This park covers an area of 41,601 ha, and incorporates the former Barooga, Boomanoomana, Corowa, Cottadidda, Gulpa Island (part), Millewa (part), Moira (part), Native Dog, Niemur, Noorong, Tholobin, Thornley, Tuppal, Wetuppa, Whymoul and Woperana State Forests (Office of Environment and Heritage, 2012c). It includes part of NSW Central Murray Forests Ramsar Wetlands, which were listed in 2003.

Two areas within the parks, the Werai and Taroo groups of forests, are proposed to become Indigenous Protected Areas (IPAs). The IPA program is managed by the Commonwealth government, and creating these IPAs will require co-operation between local Aboriginal people and Traditional Owners, the NSW government and the Australian government

Positive environmental outcomes of the Murray Valley National Park

The creation of this park was an important step forward in creating a comprehensive, adequate and representative system of protected areas.

The Riverina bioregion, in which the park is located, is an area of very high national and state conservation priority. It is extremely poorly reserved. In 2008, before the creation of the River Red Gum National Parks, only 1.8% of the bioregion in NSW was protected in NPWS-managed conservation reserves (National Parks and Wildlife Service, 2008). This bioregion is identified in the NSW National Parks Establishment Plan 2008 as being at Stage 1 of reserve system building, which means that there is a major focus on establishing primary nodes (parks) in this area as foundations for a future reserve system.

The Riverina is also one of the most highly threatened bioregions in the country. More that 80% of the subregion along the Murray River has been cleared of native vegetation since 1788 (Department of Environment and Conservation NSW, 2006). About 50% of the Riverina bioregion has been cleared for agriculture (Natural Resources Commission, 2009).

The River Red Gum forests that have now been incorporated into the Murray Valley National Park meet several of the priority themes identified by the National Parks Establishment Plan 2008 for building the NSW reserve system over the next decade, including poorly reserved ecosystems and habitats; wetlands, floodplains, lakes and rivers; and culturally important places.

The 2009 Riverina Bioregion Regional Forest Assessment by the Natural Resources Commission found that a diversity of flora and fauna species is supported by the River Red Gum forests in the Riverina. Within the Riverina bioregion, there are 50 threatened terrestrial fauna species and 18 listed migratory bird species. Many of these species are dependent on habitat provided by the Red Gum Forests, such as wetlands (25 species), hollow bearing trees (18 species), or dead fallen timber (13 species). Twenty-eight (28) listed threatened species are considered to be dependent on two or more of the habitats provided by the Red Gum Forests (Natural Resources Commission, 2009).

In addition, surveys conducted for NPA by an independent ecologist, funded by Taronga Conservation Society of Australia, confirmed the exceptional conservation significance of the Millewa block of forests. These surveys identified a new Squirrel Glider hotspot, covering the eastern part of the Millewa forest and adjoining areas (McGregor, 2009). The Squirrel Glider is a threatened species that needs large old hollow-bearing trees to nest and take shelter. The surveys also recorded two very significant findings of resident pairs of the Powerful Owl and Barking Owl in the Upper Murray forests (McGregor, 2009). Both of these species also rely on hollows for nesting. Other important species recorded during the survey included the Koala, Gilberts Whistler, Superb Parrot and Diamond Firetail (McGregor, 2009).

Positive social and economic outcomes of the River Red Gum National Parks

A very large financial package has now been expended to support the creation of the River Red Gum National Parks. Much of this financial package has supported people in regional towns affected by the reduction in the logging industry.

Under the River Red Gum Reservations legislation, a $97 million budget was set aside. This includes:

- $27.8M for business exit assistance
- $17.8M for worker assistance

- $5M for structural improvement initiatives
- $12M regional and community development fund
- $11.83M for capital for park establishment
- $9.69M for recurrent park management costs
- $2M for co-management costs
- $3.54M for adaptive management

In a briefing from the Office of Environment and Heritage in December 2011, NPA was told that:

- 21 businesses had been fully paid out under the business exit assistance package;
- 171 workers had been paid out up to that point, including money for retraining, under the worker assistance package;
- $9.5M of the regional and community development fund had been allocated by that point to 41 specific projects, which would create new jobs in the community; and
- 42 positions have been created with NPWS, most of which had been filled by December 2011. This included 9 Aboriginal positions, all of which were filled. Indigenous employment teams have now been established to achieve employment and training outcomes. 7 former Forests NSW staff have also been employed, meaning that their experience is retained.

Analysis by NPA shows that this Red Gum restructuring packaging was up to five times more generous than any previous restructuring package.

The RRG NSW River Red Gum Nature Tourism Action Plan has now been completed, following 18 months of industry and community consultation, and is available on the OEH website. The Plan involves 18 separate tourism and visitor facility projects valued at $2.5M, all to be completed in 12/13. The plan states that NPWS already spent $1.245 million upgrading infrastructure and visitor facilities in 2011/12.

Joint management arrangements for the River Red Gum reserves have progressed. A draft MOU is in place with the Yorta Yorta Nation Aboriginal Corporation and Cummeragunja Local Aboriginal Land Council, and negotiating teams are now in place for the Werai and Taroo IPA proposals.

A report completed for NPA and the Wilderness Society in 2008 on the economics of Riverina River Red Gum forestry versus the alternative values of these forests (see Appendix 9) concluded that the $60 million cited as the value of the River Red Gum timber industry was misleading, with the majority of this profit going to mill operators and only $0.94 million accruing to the NSW public annually (Economists at Large, 2008). By contrast, if the same area was not logged annually, the study found that its environmental value would be $17.7 million, and there would be significant economic opportunities present by the tourism industry.

Management issues

History of the River Red Gum Forests

There have recently been a few highly inaccurate claims made about the red gum forests. A number of people, including industry representatives, assert that the River Red Gum forests were not present before European colonisation, due to the burning practices of the Traditional Owners of the land. They argue that the River Red Gum forests have only come into existence in the last few hundred years, as a result of European land management, and characterise them as "white man's weeds". Mr David Joss presented such an argument at the Inquiry Hearing in Deniliquin on August 1st, 2012 (Joss, 2012).

This argument is not correct, and the oral history of the Traditional Owners, along with many massive tree stumps from trees that were hundreds of years old when felled, provide clear evidence that there were always Red Gum forests present in the area. During the Inquiry hearing on August 2nd, evidence was presented by Mr Neville Atkinson, Chair of the Yorta Yorta Nation Aboriginal Corporation, that:

> *Scientific evidence also says, and even Aboriginal knowledge says that just from the story I gave you, the forests are 10,000 to 15,000 years old. There is a description of red gum being in the landscape and being associated with the wetland. That is a natural tree for that type of environment* (Atkinson, 2012).

Ms Debbie Flower, Member and Traditional Owner, Yarkuwa Indigenous Knowledge Centre Aboriginal Corporation, in response to a question from the Hon. Luke Foley about whether *"forests in this region were grown by the white man"*, gave evidence that:

> *I would respond by saying that the stories that have been passed down from the Elders for generations tell us otherwise. We have burial grounds that are thousands of years old and midden sites that are at least 10,000 years old. The evidence is there* (Flower, 2012).

In addition to traditional knowledge, there is western scientific evidence suggesting that prior to European settlement, forest structure was dominated by large, spreading trees, some over 500 years old, interspersed with a mosaic of mixed and even-aged patches (Jacobs 1955, cited in Mac Nally et al. 2011).

Adaptive management and ecological thinning

One of the 2009 Natural Resources Commission Riverina Bioregion Regional Forest Assessment recommendations was to trial ecological thinning on a large scale, as part of a broader adaptive management strategy. This recommendation has been taken up by the current government, and the NPWS trial of thinning is now well-advanced (with a demonstration site complete and a tender nearly complete for thinning in 22 sites in NSW and Vic). Unfortunately, there has been no community involvement in the process and little information made public. As a result it is difficult to confirm the scientific rigour of the study.

Proponents of thinning claim that it will improve tree health and prevent 'lock up' of even-aged stands. However, there is very little evidence to support these claims. Much of the scientific work on thinning has been done in a silvicultural context rather than a restoration ecology context. The main completed trials in Australia have occurred in dense stands of White Cypress Pine (*Callitris glaucophylla*) in NSW (McHenry et al. 2006) and dense stands of Brigalow (*Acacia harpophylla*) in southern QLD (Dwyer et al. 2010). These species are not related to River Red Gums, and the trials sought to achieve different environmental outcomes from the ones needed in Red Gum Forests.

The scientific evidence that does exist does not suggest that thinning, in the way that it is proposed, is likely to significantly improve tree health. Horner *et al.* (2010), using a 42-year dataset, found that early 'pre-commercial' thinning of small trees may reduce competition for water resources, improving their chance of surviving extended dry conditions and ensure they produce large hollow-bearing trees. However, this finding only applied in very high density stands (with >1,000 trees per ha). An extensive

survey of the condition and structure of River Red Gum stands across the Victorian Murray River floodplain did not find any stands that had >800 trees per hectare, suggesting that stands which might benefit from thinning are rare (Cunningham *et al*. 2010). Cunningham and Mac Nally (2009) concluded in their submission to the Natural Resources Commission Riverina Bioregion Regional Forest Assessment that thinning of River Red Gum forests is unlikely to reduce their susceptibility to dieback.

The argument that stands need to be thinned artificially does not take into account the natural processes that cause self thinning of densely regenerating River Red Gum stands following floods. These processes include additional or prolonged flooding, fires, drought and competition from mature trees (Di Stefano, 2001). By removing factors that have disrupted these processes, such as forestry operations and grazing, and by re-establishing more natural environmental watering patterns, these natural mechanisms for self-thinning will have a chance to re-establish.

This trial is a matter of concern because of its potential political motivation and adverse outcomes. There is significant pressure from sections of the community to use this trial as a means of reintroducing a form of commercial logging in the red gum national parks. It would be deeply disappointing if this trial simply became a vehicle for serving a political agenda, and became the means for restarting logging within the parks despite the industry exit assistance package.

International best practice for the application of adaptive management (AM) strategies suggests that adaptive management should only be applied in national parks under certain circumstances. Prato (2006) summarises a number of prerequisites for successful application of active adaptive management in national parks. One fundamental prerequisite is that there must be genuine organisational and political will to change based on the data gathered. In light of potentially very strong political pressures relating to thinning in national parks, application of 'adaptive management' strategies could potentially lead to perverse environmental outcomes, as highlighted above.

If there are to be adaptive trials conducted in River Red Gum reserves to improve their health, these should focus on optimising water management, rather than thinning. Good environmental watering programs are critical to improving the health of River Red Gum reserves and their dependent biodiversity. Regular flooding is vital for the survival of animal and plant species within the River Red Gum forests (Cunningham and Mac Nally, 2009). The development of environmental watering plans in

the reserves is an important step in this process, as is achieving a strong environmental outcome from the Murray-Darling Basin Plan process.

In their 2009 submission to the Natural Resources Commission Riverina Bioregion Regional Forest Assessment, respected scientists Cunningham and Mac Nally from the Australian Centre for Biodiversity at Monash University state that mitigating dieback of the river red gum floodplain forests requires increased water availability through flooding, and cannot be achieved by altering stand structure through thinning (Cunningham and Mac Nally, 2009).

Firewood collection

Unlike in other National Parks, firewood collection is currently still permitted for domestic purposes in the RRG reserves, as a transitional measure.

Firewood and coarse woody debris levels are monitored. If site levels fall below 45 t/ha, sites are closed and new ones opened up to replace them. During the 2010-2011 firewood season, 491 firewood permits were issued in the Murray area. The number of permits issued to NSW residents in 2011 had increased by 35%, compared to 2009, when the area was still managed by Forests NSW (Minister for the Environment, 2011).

The Hon. Penny Sharpe MLC, in the second reading speech on behalf of the NSW Government in introducing the National Park Estate (Riverina Red Gum Reservations) Bill 2010 (No. 2), confirmed that firewood collection was meant to be transitionary only. She said:

> *The inclusion of national parks in these firewood provisions is in direct response to the removal of the Millewa transitional arrangements. The Government considers this only as a stopgap measure and will look to cease this arrangement for the national parks as soon as possible. The interim arrangements provide an opportunity to determine alternative timber and heating fuel sources. (Sharpe, 2010)*

Firewood collection in national parks poses serious ecological concerns and must be phased out as soon as is practical. Removal of dead wood and dead trees, including collecting fallen timber for firewood, has been listed as a Key Threatening Process by the NSW Scientific Committee. The removal of firewood

may have impacts on the Southern Bell Frog, a federally-listed Vulnerable species that has been recorded in the past along the Murray and Murrumbidgee rivers. The NSW draft recovery plan for this species notes the importance of River Red Gum woodlands, particularly fallen timber and debris, as habitat for this species, and the NSW threatened species profile recognises the removal of fallen timber and ground cover as a threat to the species.

It has been stated that firewood, which is relied on for heating by many locals, including Deniliquin residents, has become scarcer and much more expensive since the RRG reserves were created. There are still large areas of State Forests available for domestic firewood collection in the Riverina, in Koondrook, Campbells Island and Perricoota State Forests, as well as in Gunbower State Forest in Victoria, plus private lands. In addition, the Riverina Red Gum Integrated Forestry Operations Approval 2010 provides for logging of 17,533 tonnes of residue per annum and an additional 20,000 tonnes of early thinnings in the Riverina Red Gum State Forests in 2012-2013. There is also an extensive Red Gum industry on private land.

A story in the Age in May 2012 revealed that the majority of firewood is being sold to Melbourne, where people are able to pay higher prices (*Winter chill between greens and timber workers as firewood debate heats up*, The Age, May 26th 2012, http://www.theage.com.au/victoria/winter-chill-between-greens-and-timber-workers-as-firewood-debate-heats-up-20120525-1zaex.html). This was also confirmed by Mr Norman Brennan, Vice-Chair, Deniliquin Business Chamber and Mayor of Conargo Shire, at the Inquiry hearing in Deniliquin on August 1st. Mr Brennan, when asked where firewood collected in the region was burnt, stated that:

> *It is sent to Melbourne because they pay more. It is unbelievable.* (Brennan, 2012)

The scarcity and increasing cost of firewood being reported appears to be caused by the fact that most firewood is being trucked to Melbourne, rather than by the creation of the River Red Gum reserves. This is an issue that needs to be addressed if it is causing hardship to communities.

Fire management in River Red Gum reserves

Concerns have been raised that by ending forestry operations in the River Red Gum reserves, fire risk is being increased. However, NPWS, in collaboration with the Rural Fire Service, has now completed fire management strategies for the RRG reserves (available online at http://www.environment.nsw.gov.au/NationalParks/parkManagement.aspx?id=N1129) NPWS has purchased new fire capable heavy equipment including 2 graders, 4 slip-on units, and 2 tractors. There have been 10 bushfires on or near the RRG reserves since 2010 and all have been kept to less that 5ha and involved NPWS and RFS staff. No fires have escaped from reserves.

At the Inquiry hearing in Deniliquin on August 2nd, Mr Desmond Bilske, General Manager, Deniliquin Shire Council, criticised NPWS management of parks, stating that access tracks are now overgrown, making it difficult for RFS to fight fires (Bilske, 2012). However, this criticism does not take into account the fact that this situation is most likely due to extended periods of flooding making management actions impossible, and that this is unlikely to be the normal situation.

The suggestion that grazing is needed as a fire repressant strategy in the River Red Gum reserves is ecologically unsound. Major understorey species in these reserves, such as the Dwarf Cherry (*Exocarpos strictus*) and Silver Wattle (*Acacia dealbata*), are not eaten by cattle. Cattle grazing can in fact increase long-term fire risk in these forests, as stated by Mr Keith Stockwell, Secretary and Acting Conservation Officer, Birdlife Australia Echuca District Branch, at the Inquiry hearing on August 2nd. He said:

> *Cattle grazing willy-nilly increase the long-term fire risk because they are selective in what they eat. They will eat the most nutritious grasses, the grasses that taste best such as kangaroo grass, Moira grass and wallaby grass, and they will leave woody weeds such as Juncus ingens, which is very flammable when it dries and burns ferociously. (K. Stockwell, 2012)*

In addition, grazing of stock can cause significant damage in sensitive ecosystems such as wetlands and sandhills. Cattle tend to favour wetlands, which contain palatable species, during dry times. Grazing in these areas causes pugging, erosion and reductions in water quality. During wet times, cattle move to sandhills, which are very sensitive and culturally significant areas, causing erosion and further degradation.

Native Hardwood State Forests in Northern NSW

The process of identification of new national parks and conservation reserves covering native hardwood forests in northern NSW was conducted in line with the bi-partisan National Forests Policy and the National Reserve System. In particular, the establishment of a Comprehensive, Adequate and Representative conservation reserve system complimented by off reserve conservation measures has been broadly adopted for all terrestrial and marine environments. Building the National Reserve System is one of six national priorities under the Australian Government's Caring for our Country environmental initiative. The National Reserve System is underpinned by a scientific framework.

The Implementation of the National Forest Policy process was carried out, with some local variations, in the forested regions throughout NSW and Australia. The process was applied to the areas addressed by the Terms of Reference of this Inquiry including the Native Hardwood State Forests in Northern NSW and the River Red Gum State Forests in the Southern Riverina.

In Northern NSW there is a need for further reservation to achieve a truly Comprehensive, Adequate and Representative System of National Parks and other protected areas. Further, State Forests are failing to manage native hardwood forests in a sustainable manner, in terms of timber yield, let alone in terms of ecological sustainability.

In the whole of north east NSW only 31% of the CRA reserve targets for viable populations of fauna species have been achieved to date. This shortfall in conservation representation is exacerbated by a combination of extensive clearing, inadequate reservation and high biodiversity puts even greater emphasis on the need to appropriately constrain threats.

These eucalypt forests are of universal value. A recent report (see Appendix 10) published by NPA entitled ‘World Heritage values of the eucalypt forests of northeast NSW’ details the value of these forests. The report finds that the eucalypt forests of northeast NSW are extremely diverse, with over 140 species of eucalypts, 43 of which are found nowhere else in the world. The area encompasses many different ecosystems, from towering tall eucalypt forests to low, twisted trees growing on sand dunes.

These forests are also home to a remarkable array of animals and plants, including more than 350 threatened species, and this strengthens the case for World Heritage listing of these areas.

Recommendation

12. The eucalypt forests of northeast NSW be included with the existing Gondwana Rainforests World Heritage Area in an expanded 'Gondwana Forests World Heritage Area'.

Yanga Station in Wakool Shire

Yanga is part of the Lowbidgee floodplain, which is the largest and most important floodplain in the Murrumbidgee catchment (Roberts, 2005). It has supported some of the largest water bird breeding colonies in Australia (DECCW, 2011b). Yanga station was purchased by the State Government in 2005. Part of the land was sold and the remainder was gazetted in 2007 as Yanga National Park and Yanga State Conservation Area. In 2010 a number of former State Forests were also added to Yanga National Park as part of the Red Gum National Parks and the combined area was gazetted as Murrumbidgee Valley National Park. Yanga is now one precinct within the larger park. Murrumbidgee Valley National Park has a river frontage of approximately 160km to the Murrumbidgee River and includes part of the Lowbidgee floodplain. The reservation of Yanga lands more than doubled protected areas in the IBRA Riverina Bioregion from 0.86% to about 1.9% total area (Roberts, 2005). This bioregion is among the most poorly conserved in NSW.

The condition of the river red gum communities of Yanga National Park has been of concern (Bowen & Simpson, 2012) and in need of environmental management intervention. Increased environmental water provision has been determined to be the most practical method to restore the wetlands, improve river red gum health and increase water bird numbers. A holistic approach has been taken to environmental management both involving physical works to change drainage patterns as well as the provision of environmental water. This is being carried out through the Rivers Environmental Restoration Program. Funding for environmental flows has come from both Commonwealth and State governments. Substantial earthworks have also been done to alter water flows created by levees and other artificial structures and to change inundation patterns. Neighbouring property owners have co-operated to increase environmental flows to the national park. Since purchase of the property in 2005, more than 200 000 mega-litres of environmental water has been delivered to Yanga wetlands by both the Australian and NSW governments (NSW Rivers Environmental Restoration Program Final Report, 2011). This has had significant positive effects on the Lowbidgee wetlands, one of the Murray-Darling Basin's most important waterbird breeding sites. This has facilitated the return of birds for breeding and the recovery of many stressed trees.

All remaining wetland and floodplain vegetation is highly fragmented and poorly conserved, and therefore, is important for maintaining and restoring the ecological health of the Lowbidgee floodplain wetland complex. This area has been significantly degraded due to land clearing and altered hydrological regime (Bowen & Simpson, 2012).

Yanga National Park is environmentally significant. It contains:

1. 17 vegetation communities, including the second largest stands of river red gum forest/woodland in Australia,
2. 269 fauna species, including 61 species of waterbird which use the site for roosting, feeding and nesting/breeding, and
3. habitat for endangered and vulnerable species, including five vascular plant species and 21 species of fauna). (OEH, 2012b)

Yanga State Conservation Area features arid shrub lands (Chenopod sub formation) and semi-arid woodlands (grassy sub formation) of the Murray Riverine Plains biogeographic subregion (DECCW, 2008)

Yanga National Park is also has important Aboriginal and historic heritage values. Features of significance to the Aboriginal community include scar trees, ovens, middens and other artefacts. The homestead and shearing shed are significant items of European heritage (Roberts (2005)).

Visitation to Yanga has been increasing following completion of new visitor facilities by NPWS. Annual visitation is now 19,000 per year, compared to no visitors when Yanga was a working station.

Toorale Station in Bourke Shire

Toorale station was purchased in 2008 as part of the National Reserve System with funding from both Federal and State governments. In 2010, the Toorale National Park and the Toorale State Conservation Area were gazetted.

The conversion of this property to a protected area has significant local community benefit. The area west of the Warrego and Darling Rivers is of cultural significance to the Kurnu Baarkindji people while the area to the east of the Warrego River forms the southern portion of Murrawarri country. There are extensive remains of Aboriginal habitation and an Aboriginal Joint Management Agreement has been signed for Toorale. The property also has great European historical significance as part of the pastoral holdings of Sir Samuel McCaughey. It was first settled by Europeans in the 1850s.

The purchase included water licences and will positively impact the environmental health of the Murray-Darling system through rehabilitation of the natural river channel, allowing more natural flow and flood patterns and free movement of aquatic species.

The environmental values of the land are significant:

- Toorale National Park and State Conservation Area contain a series of ecosystems of the Darling Riverine Plains, Mulga Lands and a small section of Cobar Peneplain bioregions. These bioregions are amongst the most poorly reserved ecosystems in NSW and at Toorale remain in good condition or have the capacity to recover successfully following the removal of domestic stock.
- Toorale supports twelve identified land systems that characterise the Western Division of New South Wales.
- The Toorale National Park and Toorale State Conservation Area provide wildlife corridor connectivity with Gundabooka National Park and State Conservation Area.
- Toorale (National Park and State Conservation Area) comprises eight known vegetation communities including mulga, gidgee, coolibah and curly Mitchell grass communities.
- The Coolibah-Black Box Endangered Ecological Community (NSW) is represented on Toorale.

- The entire aquatic ecological community of the Lowland Darling River, including the Toorale reach of the Warrego River is listed as an Endangered Ecological Community in NSW.
- Threatened (NSW) terrestrial fauna species found on Toorale include the Brolga, Major Mitchell's Cockatoo, Little Pied Bat and Yellow-bellied Sheathtail-bat.
- Two NSW endangered species of fish are likely to occur in the Toorale stretch of the Warrego River, as is the Murray cod, which is listed as vulnerable under the *EPBC Act*.
- A number of flora and fauna species of conservation significance also occur on Toorale.
- Migratory birds, which are the subject of international agreements such as the Japan Australia Migratory Bird Agreement and the China Australia Migratory Bird Agreement (JAMBA/CAMBA) that are found on Toorale include the great egret and glossy ibis. (DECCW, 2011).

5.3. Conservation management

Terms of Reference:
2. The adherence to management practices on all public land that are mandated for private property holders, including fire, weed and pest management practices.

National park estate management practices

All landholders have responsibilities regarding the management of their land. These responsibilities vary with the type of tenure and the use of the land. In NSW the national park system is managed by the National Parks and Wildlife Service (NPWS) under the *National Parks and Wildlife Act*, 1974. The NPWS staff manage the conservation lands on behalf of the people of New South Wales in a competent and professional manner. They have, however, not been supported by sufficient budget allocations by the current and previous governments. NPA is disappointed that the current government has recently significantly reduced the number of NPWS staff. This reduction is occurring at a time when the government is introducing new activities into national parks that not only have adverse environmental and social impacts (for example horse riding and hunting) but also require significant resources to support and manage. This lack of funding support directly impacts on the ability of the service to manage public land effectively. Figure 5 shows the proportion of funding by policy area for NSW for 2012 -2013. Despite its significant contribution to the welfare and economy of New South Wales, the management of public lands receives only a proportion of the "other" category.

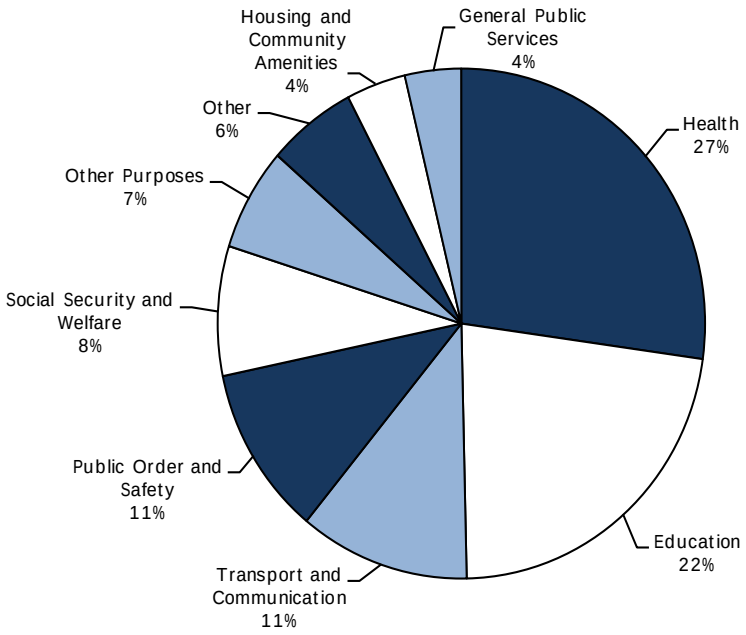


Figure 5: NSW budget expenses 2012-13 by policy area

Source: http://www.budget.nsw.gov.au/budget_papers_2012-13/bp2/2012-13_budget_paper_2

Recommendation

13. Invest in nature by increasing public expenditure on nature conservation, restoration and park management to 5% of the NSW Budget

Fire management

Fire is an integral part of the ecology of Australia and the frequency and intensity of fires is likely to increase with the changing climate. NPA understands that NPWS' primary fire management objective is to protect life, property and community assets from the adverse impacts and that NPWS undertakes prescribed burning and mechanical hazard reduction. NPA considers it imperative that NPWS continue to take ecological guidelines into consideration in establishing and carrying out their fire management strategies.

Recommendation

14. While recognising the importance of fire management to protect life and property, NPA considers it imperative that NPWS and adjacent land holders also take ecological guidelines into consideration in establishing and carrying out their fire management strategies.

Weed and pest management

Invasive species are one of the greatest threats to the environment and agriculture in NSW. Species do not recognise land tenure boundaries. As well as moving from protected areas to impact on agriculture, they also move from agricultural land to protected areas, thus impacting on biodiversity. Weed and pest management requires a cooperative approach between all land managers. It also requires well designed and professional eradication approaches. NPA supports the Regional Pest Management Strategies as an approach to minimising the impact of invasive species on both the community and biodiversity. NPA also supports the use of a wide range of management strategies, depending on the particular species and objective. NPA would like to comment in particular on the use of shooting as a management strategy. When professionally undertaken, shooting has been an effective pest management tool. When undertaken by amateurs evidence shown that rather than being effective, it actually makes the problem worse (Booth, 2009). NPA is opposed to the recent agreement to allow recreational hunting in national parks under the guise of pest management.

Recommendation

15. NPA calls on the government to revoke the *Game and Feral Animal Control Amendment Bill 2012*, allowing hunting in national parks.

5.4. Sustainability and models of management

Terms of Reference:
3. Examination of models for the management of public land, including models that provide for conservation outcomes which utilise the principles of "sustainable use".

'Sustainable use' is a term used in relation to resource extraction for human needs. It is used to determine an extraction rate that ensures two things. The first is that the resource is not extracted beyond its ability to be replenished and the second is that in extracting the resource other biodiversity and ecological services are not adversely impacted.

Fossil fuel resource usage is an example of resource usage that is not sustainable. Fossil fuels are unable to be replenished in any timeframe that is meaningful for human needs. Water however is a resource that may be used sustainably for human needs provided it is not extracted beyond the rate of natural inflows and is not extracted beyond the rate required to support biodiversity and ecological services. In this sense the current rate of extraction of water from the Murray Darling Basin is not sustainable. The rate of water extraction in this extensive area of New South Wales is at a point where it threatens the collapse of the ecosystem supporting the river system and seriously threatens the businesses and communities and biodiversity that depend on it (Wentworth Group, 2010).

The word sustainable means 'to keep going continuously'. When discussing sustainability principles it is important to consider what is being sustained. That is, what is to be kept going continuously? In discussing conservation outcomes, the thing that is being sustained is life on Earth in all its wonderful aspects, human, plant and animal to meet the needs of current and future generations. This should not be confused with sustainability in the narrow sense of keeping a particular activity going. Quite often keeping a particular activity going can result in harmful conservation outcomes and in that sense is not ecologically sustainable. An example discussed earlier in this submission is native forest logging. It might be possible in particular circumstances to maintain a rate of logging of trees that allows for both their longevity (often hundreds of years) and their effective replenishment. However, logging of native forest has many adverse outcomes to biodiversity and ecological services that make it unsustainable in an ecological sense.

Australia has a national strategy for ecologically sustainable development that is endorsed by both state and federal governments. In this strategy ecologically sustainable development is defined as 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased' (Ecologically Sustainable Development Steering Committee, 1992). This strategy recognises we must change the way we think, act and make decisions and has the following guiding principles:

- decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations;
- where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- the global dimension of environmental impacts of actions and policies should be recognised and considered;
- the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised;
- the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised;
- cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms; and
- decisions and actions should provide for broad community involvement on issues which affect them

In considering models for the management of public land the concept of 'sustainable use' must encompass these principles of ecologically sustainable development. Models also need to consider Australia's cultural context and our unique environment. It is not the case that we can take models from elsewhere and expect them to work in the Australian context.

Multiple land use is a related concept that is being increasingly discussed in relation to public land management. It is important that careful consideration is given to the scale at which multiple land uses

occur. At the regional scale, the landscape of NSW is already divided into tenures with different uses, ranging from intensive uses such as intensive agriculture, development and mining at one end of the spectrum, to highly protected areas such as national parks at the other. Highly protected areas (in IUCN categories I – IV) only make up 8.81% of the NSW landscape (Table 4). It is not appropriate to consider introducing multiple uses such as logging, grazing and high-impact recreation planning at very local scales within these highly protected areas. If introduced, these uses would simply reduce the total amount of land set aside for strong biodiversity protection within the region. As already discussed, protection of biodiversity and ecosystem services is a valid and very important land use, and there is still a need to significantly expand the protected area system.

Recommendation

16. Continue to ban logging and firewood collection in protected areas.
17. Current mandated water flows for ecological purposes are not sufficient and need to be restored to a level that will maintain the ecological character of habitats.
18. In considering models for the management of public land the commission should ensure the concept of 'sustainable use' encompass the principles of ecologically sustainable development as outlined in the body of the submission.
19. Models for the conservation of public land must consider Australia's cultural context and our unique natural environment.

5.5. Other matters

Terms of Reference:
4. Any other related matters.

Terms of Reference

NPA is concerned that the terms of reference for the inquiry are highly skewed in favour of short term local matters and appear to revisit past land-use decisions. They fail to recognise that the effective management of public land for conservation outcomes requires an assessment of both short and long term impacts as well as the assessment of outcomes at the local, regional and global levels.

The terms of reference fail to adequately cover the importance of a comprehensive, adequate and representative reserve system to provide resilience for our natural environment now and into the future. NPA considers conservation areas are important not only for biodiversity protection, but also for other critical ecosystem services such as fresh water catchment protection, and storing carbon in trees and soils. The landscapes, places and objects in national parks are significant for their Aboriginal and non-Aboriginal cultural values, yet such considerations are absent from the terms of reference of the inquiry.

NPA would also welcome the opportunity to discuss our submission at the Inquiry's public hearings in regional areas as well as in Sydney.

Recommendation

20. NPA considers the terms of reference for the inquiry are highly skewed in favour of short term local matters and recommends they be amended to recognise that the effective management of public land for conservation outcomes requires an assessment of both short and long term impacts as well as the assessment of outcomes at the local regional and global levels.
21. NPA would welcome the opportunity to appear at the Inquiry's public hearings in both regional areas and Sydney.

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NPA seeks to protect, connect and restore the integrity and diversity of natural systems in NSW and beyond through national parks, marine sanctuaries and other means