

**Environment, Communications, Information
Technology and the Arts References Committee**

***Inquiry into Australia's national parks, conservation
reserves and marine protected areas***

Submission by:
NSW Government

Introduction

Australia is a signatory to the United Nations Convention on Biological Diversity, which requires countries to establish a system of legally protected conservation reserves to conserve biodiversity and promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species. The central role of conservation reserves in implementing the objectives of the Convention is widely accepted internationally. Worldwide, both the number of conservation reserves and the area under protection has increased substantially over recent decades.

Conservation reserves also perform an essential role in the provision of ecosystem services, the benefits of which extend beyond biodiversity conservation, including the protection of water and air quality, as well as reducing salinity and controlling erosion.

The establishment of a conservation reserve network in NSW has never been solely about the conservation of biodiversity or ecosystem services. The first national park in NSW was created for recreation and the network continues to serve as an important educational, recreational and economic resource. NSW conservation reserves have a long and proud history of providing a diverse range of experiences and facilities for visitors to enjoy and learn about this state's rich natural and cultural heritage. Conservation reserves have long been a significant element in our society's recreational and leisure environment and have helped to shape strong social commitments to conservation and outdoor recreation, from the creation of Australia's very first national park in 1879 (now Royal National Park) to the present day. Unlike private lands managed for conservation, public reserves provide opportunities for public access and appreciation of the reserves' values

Conservation reserves perform an important role in the conservation of Australia's cultural heritage. The NSW Government is committed to working with Aboriginal people and the general community in the management of NSW's conservation reserves and the heritage contained within them.

The NSW Government maintains a long-term commitment to developing a world-class protected area network. This network has as its foundation a secure and professionally managed conservation reserve system, complemented by conservation efforts on private and other public lands.

NSW parks are managed on behalf of the people of NSW by National Parks and Wildlife Service (NPWS), part of the Department of Environment and Conservation (DEC). It is an on-going challenge to conserve the diverse variety of values for which our conservation reserves are established. It is important to remember that parks cannot be examined in isolation from the whole landscape. Most of the threats to parks, such as fire, weeds and pests, occur on other land tenures outside of national parks. Therefore all land managers face these threats, irrespective of whether the lands are part of a formal reserve system. Within NSW, NPWS has a specific focus on the management of threats to the values of public lands and is a leader in the management of fire, pests and weeds.

Other Government departments in NSW with responsibility for conservation and land management include the NSW Heritage Office (now in the Department of Planning), Department of Primary Industries (Forests NSW), the Lord Howe Island Board, the Department of Lands, the Sydney Catchment Authority, and the Marine Parks Authority. In addition, Aboriginal people have an inherent interest in the management of land and waters, therefore the Department of Aboriginal Affairs also has a significant stake in the conservation and management of public and private land in NSW.

Note on terms used:

National parks, conservation reserves and marine protected areas are types of protected areas. A protected area is defined by the International Union for the Conservation of Nature and Natural Resources (IUCN) as: “an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.” However, the public reserve system in NSW also includes parks that do not meet the definition of a protected area because their primary management objective is either cultural heritage conservation or recreation. These include some regional parks, Aboriginal areas and historic sites.

This submission uses the term “conservation reserve” to include all types of parks which are reserved under the National Parks and Wildlife Act 1974 and the Marine Parks Act (including parks which are not “protected areas”) and private lands which are the subject of conservation agreements under the National Parks and Wildlife Act.

TERMS OF REFERENCE

(a) The values and objectives of Australia's national parks, other conservation reserves and marine protected areas.

Conservation reserves are the cornerstone of conservation efforts around the world. Both the number and area of reserves have expanded greatly in recent decades. About two thirds of the world's conservation reserves have been established within the last 35 years. Over the same period there has also been a significant increase in the number of countries with conservation reserves. These trends reflect accelerating and widespread concern for conservation and the growing significance of environmental issues (IUCN 1998 National System Planning for Protected Areas).

The establishment and management of networks of conservation reserves is fundamental to the conservation of biological diversity and is a critical action under the United Nations Convention on Biological Diversity. Australia was one of the first countries to ratify this Convention in 1992. The progressive establishment of a comprehensive, adequate and representative (CAR) system of protected areas is one of the primary national policy objectives for Australia in meeting its commitments under this Convention.

CAR principles provide a basis for establishing biodiversity targets for protected areas and the NSW Government is a signatory to a number of national policy initiatives that reflect this approach, including the Intergovernmental Agreement on the Environment (1992), the National Strategy for the Conservation of Australia's Biological Diversity (1996), the National Forest Policy Statement (1992) and the National Reserve System Directions Statement (2005). CAR principles are applied in NSW in the design of the public reserve system in so far as they relate to biodiversity conservation, however other important values are also protected that are not recognised by these principles, including cultural heritage, recreational, economic, social and ecosystem services. NSW has made significant progress towards establishing a public reserve system to meet CAR objectives.

The NSW public reserve system has undergone unprecedented growth in the last ten years. From 4 million hectares in 1995, the public reserves managed by NPWS now cover 6.5 million hectares or 8.1% of the state. The total number of reserves in NSW has more than doubled from 329 in June 1995, to 751 in January 2006.

Public conservation reserves contribute to the conservation of biodiversity by providing secure tenure for lands containing significant biodiversity resources and by removing or reducing pressures that threaten these resources. Unlike private land, the protection provided to public reserves in NSW cannot be revoked without an Act of Parliament. Conservation reserves also contribute to biodiversity conservation through the promotion of research and by providing opportunities for people to learn about nature and its conservation.

Conservation reserves also perform an essential role in the provision of ecosystem services. For example, the strategic reservation of lands in drinking water catchments can be effective in protecting both water quality and biodiversity. Water catchment protection can ensure that important downstream aquatic ecosystems, such as high conservation value coastal lakes, wetlands, streams, estuaries and coastal near-shore marine environments, are protected from pollution and siltation. The vegetation protected within conservation reserves plays a number of important roles in addition to biodiversity conservation, including improving air quality, reducing salinity by lowering underground water-tables, and controlling erosion, particularly in regions that are under development pressure such as on the coast.

“Ecosystem services are the benefits people receive from ecosystems. These services are the result of complex relationships and processes of the components of biodiversity – genes, species and ecosystems – working together. The benefits come in many forms from the tangible provision of the necessities of life – food, water, medicine, and clean air – to the aesthetic inspiration for our culture and society. These services are the foundation of our daily lives and, for most of us, they are available without us being conscious of the many and complex processes involved....It is difficult to measure the long-term impact of biodiversity loss and impaired delivery of ecosystem services. While we know that the total loss of such services would mean the end of life on Earth, at a more realistic level, there is also concern that any loss of ecosystem services will have an impact on our wellbeing.” (IUCN 2005, Depend on Nature)

NSW began building its conservation reserve system with the declaration of Royal National Park in 1879. Since this time, reserves within NSW have been formally dedicated as areas for the conservation of nature and cultural heritage, its enjoyment and appreciation. The conservation reserve system in NSW predates any planning for the establishment of a national reserve system. The reserve system in NSW consists of a number of different types of parks and reserve categories with management objectives established in legislation (refer Appendix 1). Conservation reserves in NSW broadly align with the International Union for the Conservation of Nature and Natural Resources (IUCN) categories, however these IUCN categories only relate to reserves which are established primarily for the conservation of biodiversity. NSW has also established conservation reserves which are primarily for the conservation of cultural heritage (aboriginal areas and historic sites) and reserves which are established primarily for recreation (regional parks).

The NSW conservation reserve system consists of seven categories of terrestrial reserves, which are national parks, nature reserves, historic sites, state conservation areas, karst conservation reserves, Aboriginal areas and regional parks. Each category reflects a different conservation purpose, and is managed in accordance with a set of management principles outlined in the *National Parks and Wildlife Act 1974*. The principal objects of this Act are:

- *the conservation of nature, including, but not limited to, the conservation of:*
 - i. habitat, ecosystems and ecosystem processes, and*
 - ii. biological diversity at the community, species and genetic levels, and*
 - iii. landforms of significance, including geological features and processes, and*
 - iv. landscapes and natural features of significance including wilderness and wild rivers,*
- *the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to:*
 - i. places, objects and features of significance to Aboriginal people, and*
 - ii. places of social value to the people of New South Wales, and*
 - iii. places of historic, architectural or scientific significance,*
- *fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation,*
- *providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.*

The main instrument for managing marine conservation reserves in New South Wales is the *Marine Parks Act 1997*. The principal objects of this Act are:

- *to conserve marine biological diversity and marine habitats by declaring and providing for the management of a comprehensive system of marine parks,*

- *to maintain ecological processes in marine parks,*
- *where consistent with the preceding objects:*
 - i. to provide for ecologically sustainable use of fish (including commercial and recreational fishing) and marine vegetation in marine parks, and*
 - ii. to provide opportunities for public appreciation, understanding and enjoyment of marine parks.*

Unlike the National Reserve System (NRS), the reserve system in NSW recognises a range of values beyond those of biodiversity conservation, including cultural, social, economic and scientific values, and our primary management objective is to conserve this diversity of values. Conservation reserves in NSW contribute to the conservation of cultural heritage, the provision of recreational opportunities and provide economic benefits to regional and local economies. One of the statutory objectives for managing conservation reserves in NSW is to foster public appreciation, understanding and enjoyment of their values. Visiting conservation reserves helps raise awareness and appreciation of nature and cultural heritage.

Marine protected areas form an important part of the conservation reserve system in NSW and protect significant marine environments and biodiversity. There are five marine parks in NSW, with a sixth recently announced by the NSW Government. Marine parks currently protect 260,900 hectares of waters adjacent to the NSW coastline. Marine ecosystems are also protected in 136 coastal parks with about 40% of the NSW mainland and island ocean coastline protected in parks. While the primary focus of marine protected areas is to conserve marine biodiversity, they also have numerous other values, including providing opportunities for appreciation and enjoyment; sustainable resource use; protecting endangered or threatened species; providing opportunities for research and education; improving opportunities for ecotourism; and conserving cultural heritage.

Marine parks in NSW have multiple uses. This means that existing activities, apart from mining are permitted in marine parks. The introduction of a NSW marine park does not mean that you cannot fish or undertake other activities in the entire marine park. Only areas of significant conservation value are generally closed to extractive activities such as fishing and collecting. The NSW Marine Parks Authority encourages sustainable use, appreciation and enjoyment of the marine environment.

The area within NSW marine parks can be divided into four different zone types, depending of the level of environmental protection required:

1. Sanctuary zones provide the highest level of protection where the removal or harm of any plants or animals is prohibited. Currently 27.5% of NSW's marine parks are protected in sanctuary zones.

Sanctuary zones result in many benefits, including:

- refuges for vulnerable species;
- habitat protection and habitat recovery;
- development of natural biological communities;
- spill over of adults and juveniles into fishing grounds; and
- enhanced protection of offspring which can restock fishing grounds.

These benefits have been observed regionally, nationally and internationally. Several studies have shown that there is generally an increase in the number, size and different types of fish present in a "no-take" area.

2. Habitat protection zones also offer a high level of protection, but allow for a range of recreational and some commercial fishing activities that do not harm habitat, or impact significantly on fish populations.
3. General use zones allow ongoing use of most recreational and commercial activities, provided that they are ecologically sustainable.
4. Special purpose zones are placed in areas that require specific zoning controls and management; for example, port facilities. The activities permitted in these zones are dependent upon the specific nature of the activities and management needs.

Biodiversity assessments of NSW's five marine bioregions have been prepared by the Marine Parks Authority. With the assessment and declaration process complete for the Tweed-Morton bioregion, new marine parks will be created over time in the Manning, Hawkesbury and Batemans shelf bioregions, based on outcomes from the bioregional assessments. Gaps in the representation of biodiversity among existing marine protected areas will be addressed through the selection of additional marine protected areas to achieve a comprehensive, adequate and representative system.

Conservation reserves have an important role in the conservation and presentation of cultural heritage values. The NSW reserve system protects the largest and most diverse collection of cultural heritage on public land, including places, objects and features of significance to Aboriginal people, and rural, vernacular and working heritage. NSW reserves are managed to raise awareness and appreciation of cultural heritage and Aboriginal issues. They provide opportunities to maintain Aboriginal culture by providing access to places and resources for cultural and spiritual practices, as well as providing opportunities to connect people from diverse cultures with their heritage.

The NSW Government acknowledges that the indigenous peoples of Australia are the original custodians of the lands and waters, animals and plants of NSW and its many and varied landscapes. The Government is working with Aboriginal people across the State to develop a range of co-management and partnership agreements to ensure the continuing practice of traditional and contemporary culture in the management of land. Aboriginal co-management of reserves has value in fostering stronger relationships between the NSW Government and Aboriginal communities and provides benefits to the NSW reserve system, Aboriginal people and the broader community of NSW.

NSW conservation reserves provide a range of social values, including opportunities for recreation, tourism, education and social interaction between groups, families and others. They also support community wellbeing and provide opportunities for improving general community health through outdoor recreation.

NSW conservation reserves are also increasingly recognised for their economic values, specifically their potential to encourage economic activity in rural and regional areas. Expenditure by people visiting reserves and expenditure on reserve management encourages economic activity and generates employment. In Sturt, Kinchega and Mutawintji National Parks in the State's far west, for example, expenditure by NPWS and visitors contributes an estimated \$5.5 million per year to the economy of this region. A study of seven national parks in north-eastern NSW estimated that NPWS has a direct expenditure of \$3.3 million in managing these parks, while the annual expenditure of visitors to these parks was estimated to be in the range of \$17.1 million to \$22.4 million. The total economic effect of the seven national parks was estimated to be in the range of \$41.4 million to \$46.6 million annually and accounted for between 151 and 263 jobs.

NSW parks receive approximately 22 million visits each year, helping to attract visitors to Australia, Sydney and regional locations in NSW and directly assisting the NSW economy. The potential for future growth in natural and cultural tourism is substantial and NSW is committed to conserving and protecting the unique natural and cultural values of these parks, while ensuring sustainable and culturally appropriate tourism.

The Tourism and Transport Forum's report *A Natural Partnership – Making National Parks a Tourism Priority* (2004) notes that in recent years, the tourism potential of Australian protected areas is a vital element in the arguments for increases in protected area designation. The report further notes that for Australia's tourism industry to reach its full potential, it is vital that protected areas are adequately funded and managed; that they provide high quality visitor experiences; and that they are promoted effectively, while ensuring the protection of their conservation values.

NPWS has adopted *Living Parks – A Sustainable Visitation Strategy* as the strategic planning framework for sustainable and culturally appropriate visitor use of parks. The key objectives of *Living Parks* is to deliver:

- Protection and enhancement of park values;
- Enhanced visitor experiences;
- Ecologically sustainable and culturally appropriate visitor use;
- Excellence in visitor management;
- Enhanced community health and wellbeing; and
- Economic benefits for communities.

In NSW there are also various management “overlays”, which acknowledge special values and add extra management objectives. Management overlays in NSW legislation include wilderness, wild rivers, Aboriginal Places, State heritage and endangered ecological communities. Management objectives for these areas are included in the Appendix. Management overlays in Commonwealth legislation include world heritage, Ramsar wetlands, national heritage and endangered ecological communities.

Case study – Wollemi Pine

Protected areas represent a storehouse of biodiversity. The internationally significant Wollemi Pine was discovered within a remote section of Wollemi National Park in late 1994 and is only known to exist at two sites. The pine is a very significant species, being a remnant of the pre-flowering Gondwanan era (60-200 million years ago) and being a new genus of gymnosperm (ie. cone-bearing plant). The discovery has been heralded as one of the greatest botanical discoveries of the 20th Century and a testament to the importance of protected areas for biodiversity conservation and to the philosophy and principles of wilderness conservation.

The species is further protected as an endangered species under the *Threatened Species Conservation Act 1995* and the Commonwealth's *Environment Protection and Biodiversity Conservation Act*.

Its inclusion within a publicly owned protected area has guaranteed its appropriate management, which will ensure the future viability of this species. Current management is centred on protecting the known populations from decline induced by non-natural sources. The location of the pines is not publicly known and access to the area is highly restricted in an effort to minimise any risk to the population. A recovery plan for the species has been prepared and a strict hygiene protocol and a fire management plan for the site have been implemented. An *ex-situ* population of the pine is currently being maintained by the Botanic Gardens Trust, which is a part of DEC, to ensure the long-term survival of the species in case of severe decline in the wild population.

Public ownership and management of conservation reserves is internationally recognised as the tenure most likely to deliver on conservation objectives. Public ownership ensures: long-term security for the land; legislatively defined public accountability for reserve management; ongoing public financial investment; and management by a legitimate authority with professional staff who also have the capacity to conduct research. Public reserve systems are important as they enable the strategic conservation of large areas of land which can then be complemented by typically more fragmented conservation efforts across other tenure. Management agencies, such as NPWS, are the only bodies that have a specific management focus on threats to conservation values, such as pests, weeds and inappropriate fire regimes, to ensure conservation reserves achieve international conservation objectives.

The public reserve system in NSW is the foundation of a world-class protected area network, but this is also complemented by conservation efforts on private and other public lands. Contracts, covenants on title and other legal instruments form an important mechanism to expand the coverage of protected areas. Mechanisms that have been used in NSW for some time include wildlife refuges (used in NSW since 1948) and voluntary conservation agreements (used in NSW since 1985). Private land conservation in NSW focuses on the development of conservation partnerships with both property owners and institutions. Their success relies on the NSW Government providing a solid institutional framework, formal agreements under legislation and the opportunity to transfer knowledge and experience from park management to managing private land. NSW has 190 conservation agreements and 624 wildlife refuges in place, protecting 14,015 and 1,715,044 hectares respectively (figures current as of December 2005).

Other public and private land conservation mechanisms

The NSW Department of Lands administers Crown lands under the *Crown Lands Act 1989*. There are some 40 million hectares of Crown land in NSW, comprising land held under tenure, Crown reserves, Crown roads and land not yet allocated to a particular purpose. Crown land also includes submerged lands including rivers, embayments, estuaries, coastal lakes, creeks and ocean waters to the limit of the State's territorial waters. The *Crown Lands Act 1989* provides a level of environmental protection to all of these lands.

Crown lands may be dedicated or reserved for public purposes such as environmental protection, heritage and public recreation. Crown reserves have existed since the early 1800s and the system is managed under the Act by reserve trusts and by the Department of Lands.

Some Crown land reserved or dedicated for a public purpose is reserved specifically for conservation related purposes (eg. environmental protection). In other cases land is reserved or dedicated for another purpose but also provides protection of conservation values.

There are some 30,000 Crown reserves with a total area of around 2.5 million hectares across NSW – about 3% of the land area of the State. Of these, there are some 350,000 hectares of land reserved for environmental protection and related purposes; 400,000 hectares reserved for parks and public recreation; and around 600,000 hectares included in Travelling Stock Reserves (TSRs) managed by Rural Lands Protection Boards.

Improved transport has seen decreased use of TSRs for walking stock however they do provide emergency refuge during floods and drought, as well as some local agistment. They are valued as corridors containing native vegetation ecosystems, providing a habitat for flora and fauna, as well as enhancing the scenic value of the landscape.

Crown land is managed in accordance with the objects and principles of Crown land management set out in the *Crown Lands Act 1989*. When land is reserved or dedicated for a public purpose it is also managed to achieve outcomes associated with that purpose. The Department of Lands is committed to actively managing the Crown land estate, in particular Crown reserves, to enhance protection of environmental and conservation values.

Recent amendments to the *Crown Lands Act 1989* enable the Minister for Lands to specify performance criteria against which reserve trusts must report their performance. This will enable the Minister for Lands to specify particular outcomes sought from reserves, in particular in relation to environmental conservation and protection, and monitor progress towards achieving them.

In July 2004 and July 2005, the NSW Government also introduced additional powers to impose covenants to protect any environmental values identified on Crown land prior to its sale or conversion to freehold. The legislative amendments gave the Minister for Lands power to impose covenants and restrictions on title when Crown land is converted to freehold or sold.

This includes the capacity to:

- a) impose covenants which run with the land providing for the protection of environmental or other significant values; and
- b) provide that the land cannot be subdivided without the Minister's consent.

The new legislation also protects the covenants imposed by the Minister for Lands from being overridden by environmental planning instruments. Councils and Catchment Management Authorities (CMAs) must take account of these covenants in granting approval for development or clearing applications and Councils must not approve the subdivision of land that is the subject of a covenant preventing or restricting subdivision, except with the consent of the Minister for Lands.

These protections have been extended to agreements under the *National Parks and Wildlife Act 1974* and the *Nature Conservation Trust Act 2001*.

As a further mechanism to ensure that very high conservation value lands are adequately protected, the NSW Government recently allocated \$13 million over four years for the voluntary purchase of high conservation perpetual Crown leases, funded through the NSW Environment Trust.

The NSW Government is committed to maintaining and enhancing environmental values by applying landscape management covenants in perpetuity to Crown perpetual leasehold land converted to freehold, and other Crown lands when sold, where there are significant environmental and other values present.

The Department of Lands has embarked on a program of consultation with CMAs to inform them of the Department's program of covenanting Crown lands converted to freehold and to seek favourable consideration for incentive funding in relation to those covenants.

In parts of the State where high conservation values occur on smaller land parcels scattered over a wide area, management by private landholders in association with protection mechanisms such as covenants under the Crown Lands Acts or Property Vegetation Plans under the Native Vegetation Act, linked to incentive funding, may represent the most cost-effective mechanism for protecting environmental values.

Case Studies: The effectiveness of the National Reserve System

A key principle argued by advocates of the public reserve system is that, in a rapidly changing world of exponential population and economic growth, public reserves represent the most secure and well-tested form of protection available. They have, it is argued, the greatest likelihood of enduring in the long term compared with other less secure and short-term forms of protection.

Four case studies from around NSW are presented to demonstrate and reinforce this point. They show a repeating pattern of how, over periods of several decades, the progressive intensification of land-use generally leads in one direction - to a near-complete loss of former native vegetation habitat - and that public reserves present themselves as a demonstrated secure means of ensuring the protection of samples of the biodiversity which formerly typified those landscapes.

Research has shown that the smaller and more fragmented the conservation area is, the less effective it is in protecting the biodiversity occurring within it. Whilst conservation initiatives on private land are a vital part of the mix of efforts required to ensure the conservation of biodiversity, such initiatives can rarely create the large unbroken blocks of protected land which are essential to achieve long term conservation of biodiversity. The public reserve system provides the mechanism for securing the long-term protection of core areas, around which other conservation initiatives on private land may be applied and integrated.

In undertaking the investigation for these case studies, a strong message that has emerged that cases similar to these are repeated across NSW in most environments. This work has served to reinforce the NPWS's long term commitment to the ongoing building and managing of its reserve system as the surest way, in the long term, of protecting a comprehensive, adequate and representative range of the state's biodiversity.

Case study 1: Mulgoa Nature Reserve and Blue Mountains National Park - Western Sydney

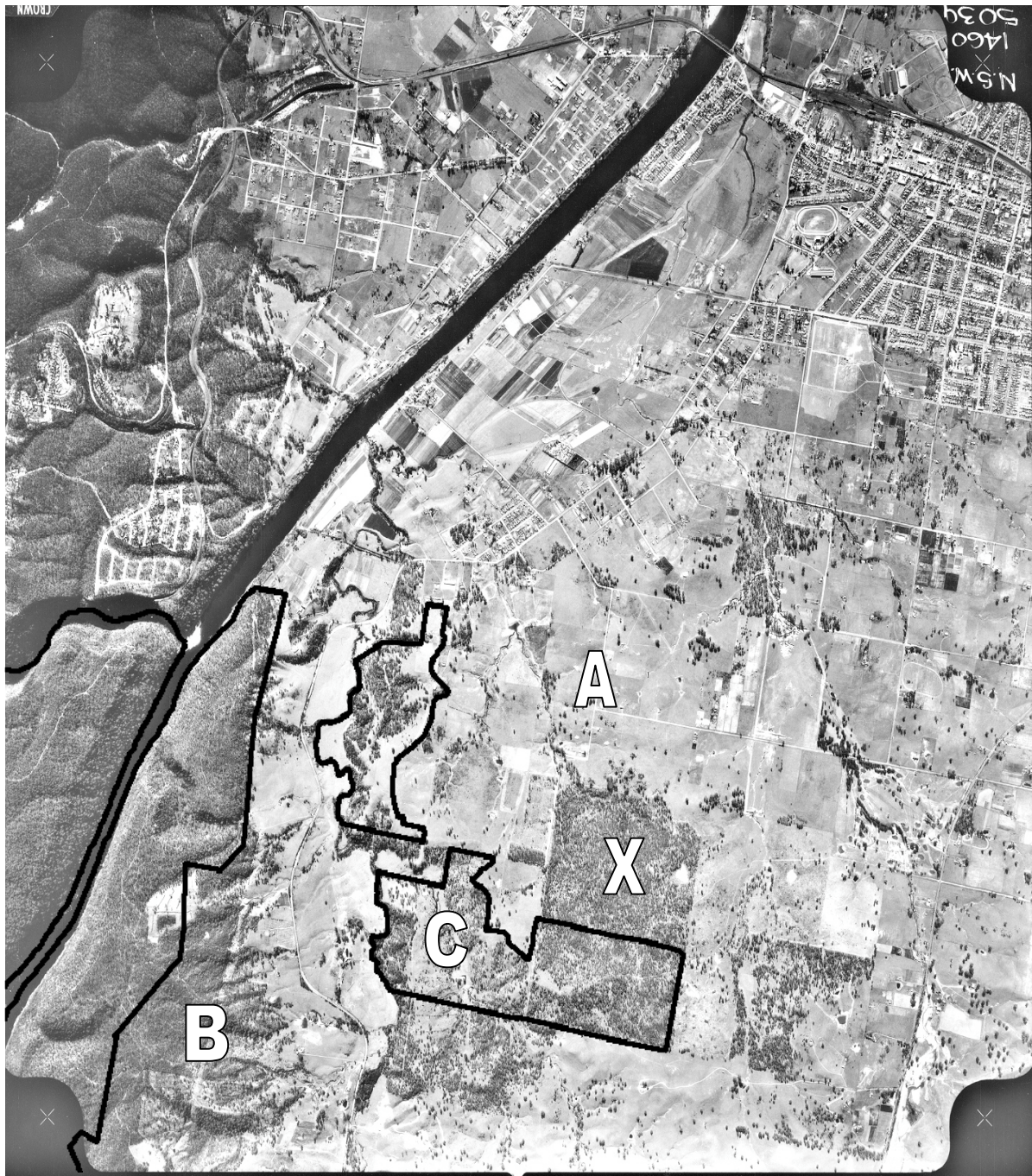


Photo.1 - 1966: Blue Mountains National Park lies to the West of area 'B' and Mulgoa Nature Reserve comprises the two areas to the East of area 'B'.

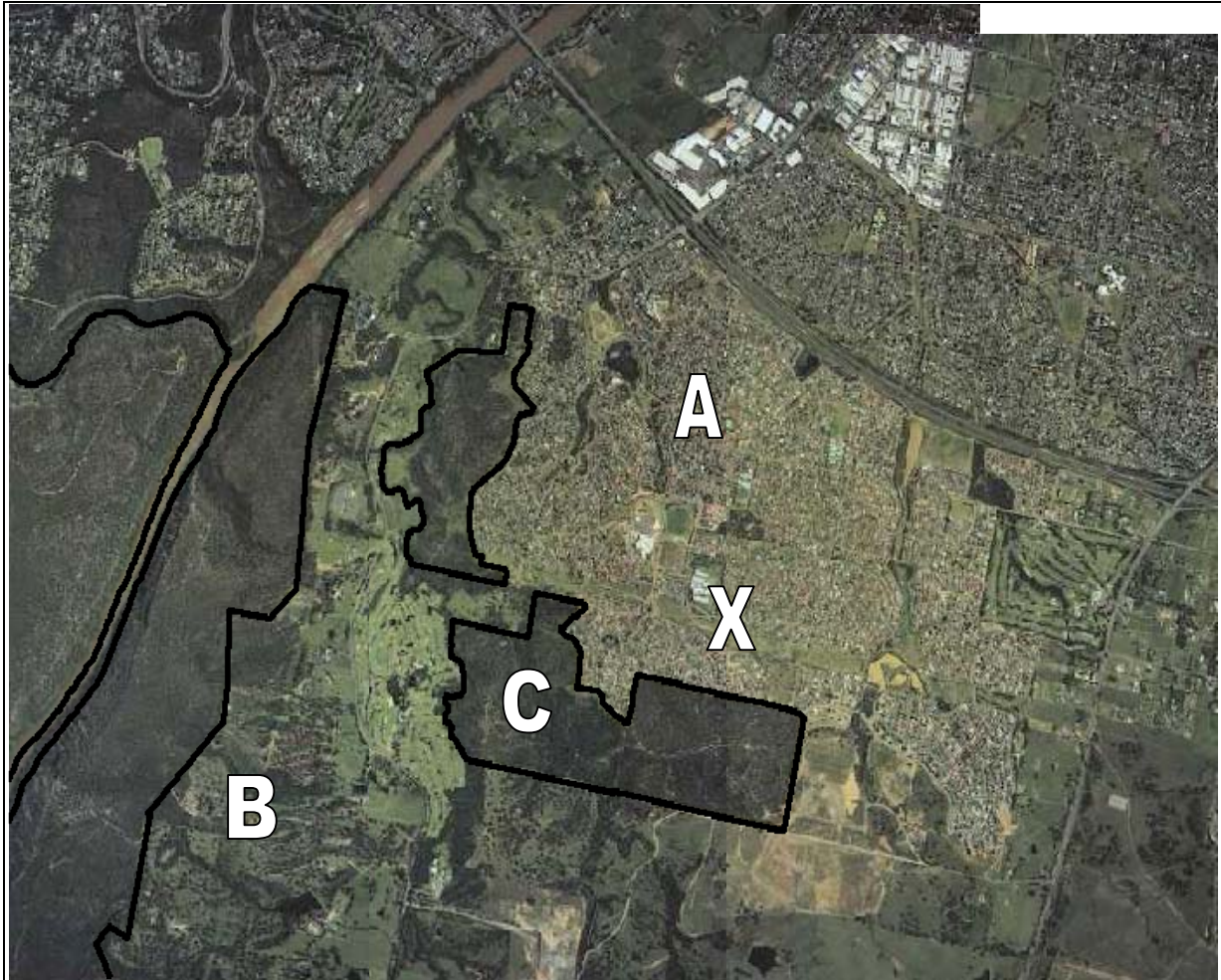


Photo.2 – 2005: Blue Mountains National Park and Mulgoa Nature Reserve

Area A- urban expansion in this area of western Sydney in the late 1980s and 1990s has removed virtually all remnants of endangered Cumberland Plain Woodland, including that at area 'X', considered regionally endangered. The only significant areas saved from this expansion in this part of the Cumberland Plain have been the woodlands within Mulgoa Nature Reserve. Funds from the NRSP in 1997 allowed for the purchase of the western part of area 'C' which doubled the size of the original reserved area.

Area B- rural residential expansion into this area in the past 20 years has led to the fragmentation of the woodland and forest communities which still existed on the lower slopes adjoining the Blue Mountains NP in 1966. By 2005 it is clear that the only barrier preventing the western expansion of this rural residential development has been the Blue Mountains National Park boundary.

Area C- Mulgoa NR at the time of initial reservation, the woodland remnants within the reserve had already undergone significant thinning and partial clearing. The effective removal of threatening processes following reservation has allowed significant revegetation to occur within the reserve. No other extensive revegetation has occurred anywhere on surrounding non-reserved lands, emphasising the role of the Nature Reserve not only in protecting biodiversity but also in restoring it.

Case Study 2: Scheyville National Park – Western Sydney



Photo.1 - 1975: Scheyville National Park centre of scene with a number of surrounding reserves to the North and West.

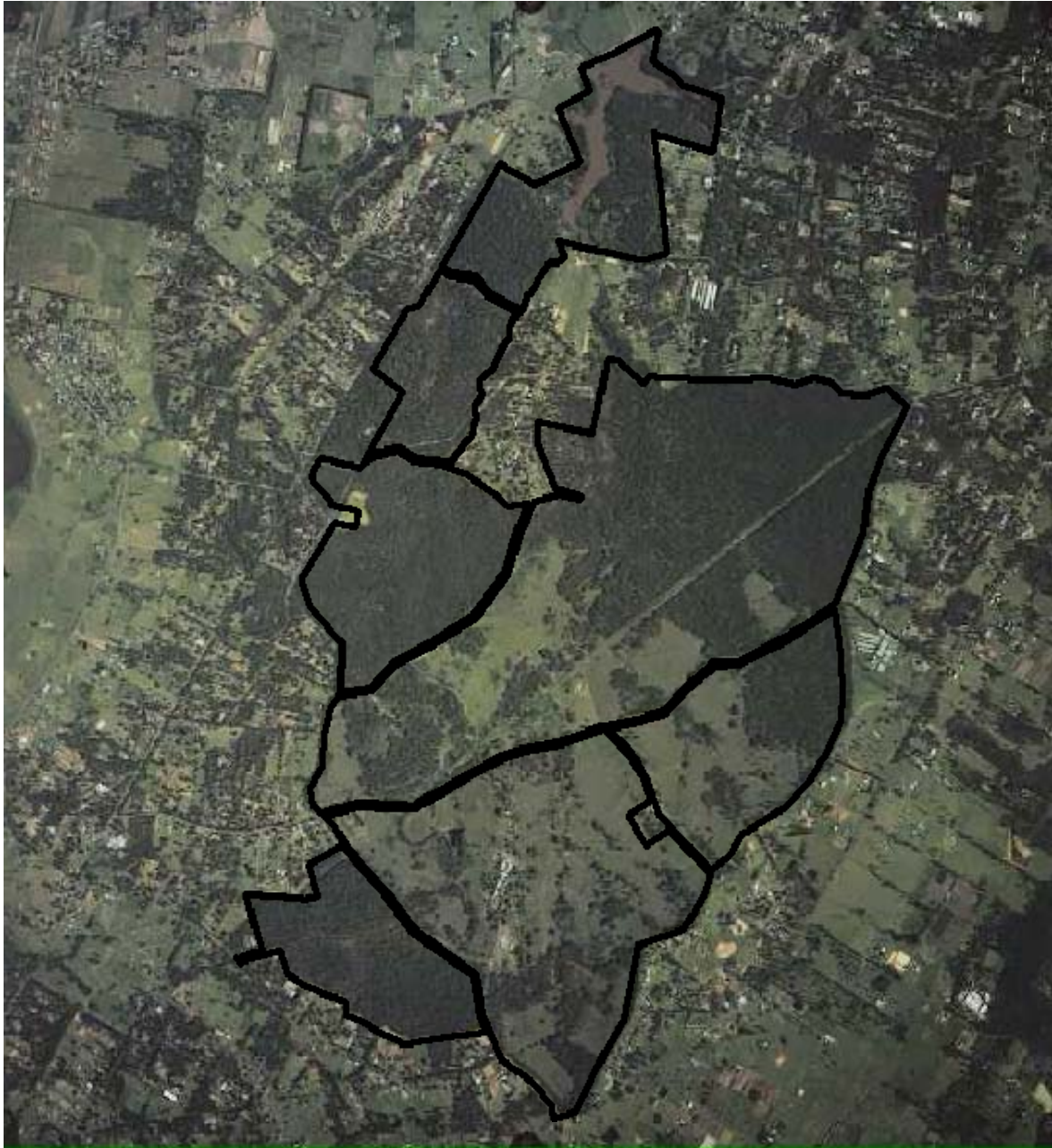


Photo.2 – 2005: Scheyville National Park

Scheyville National Park, on the northwestern outskirts of Sydney, was established in 1996 from public lands partly earmarked for urban residential development. Since then intensification of rural residential has continued all around the perimeter of the park.

It is clear from these images that had it not been for the reservation of these lands in 1996, much, if not all, of these rare Cumberland Plain woodlands and forest communities would have been developed for either rural residential or urban development.

Like Mulgoa Nature Reserve (Case study 1) at the time of initial reservation, the woodland remnants within the reserve had already undergone significant thinning and partial clearing. The effective removal of threatening processes following reservation has allowed significant revegetation to occur within the reserve. No other extensive revegetation has occurred anywhere on surrounding non-reserved lands, emphasising the role of the National Park not only in protecting biodiversity but also in restoring it.

Case Study 3: Quanda Nature Reserve

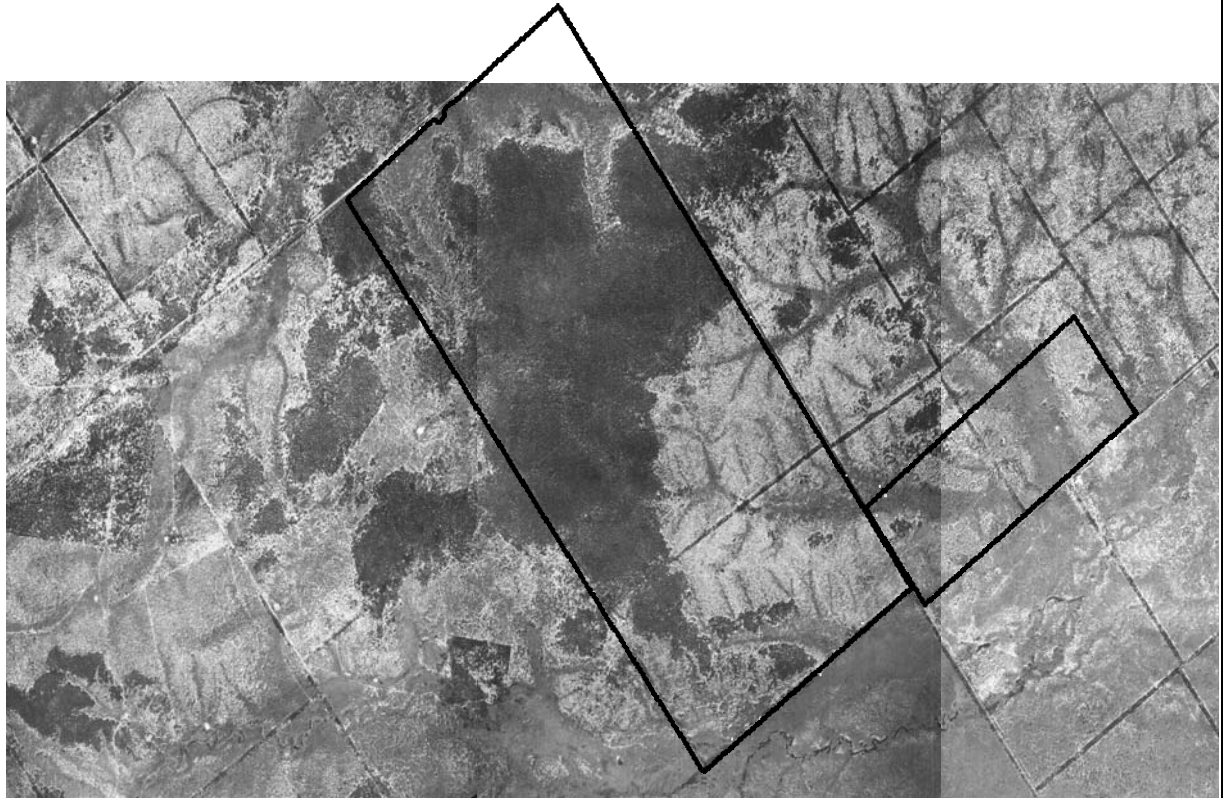


Photo.1 – 1963: Quanda Nature Reserve



Photo.2 – 2004: Quanda Nature Reserve

Incremental land clearing involved in the intensification of land-use from grazing within native shrublands and woodlands to cropping in much of semi-arid western NSW can be seen in the landscapes surrounding Quanda Nature Reserve. Originally established in 1963 to protect mallee woodlands, much of the surrounding lands have since been further clear felled.

This pattern of land-use change is typical for much of the vast eastern half of the Cobar Peneplain bioregion.

In 2002 the NRS Program funded the purchase of one of the few patches of remaining woodland adjoining the reserve, allowing it to be more than doubled in size.

Case Study 4: Midkin Nature Reserve

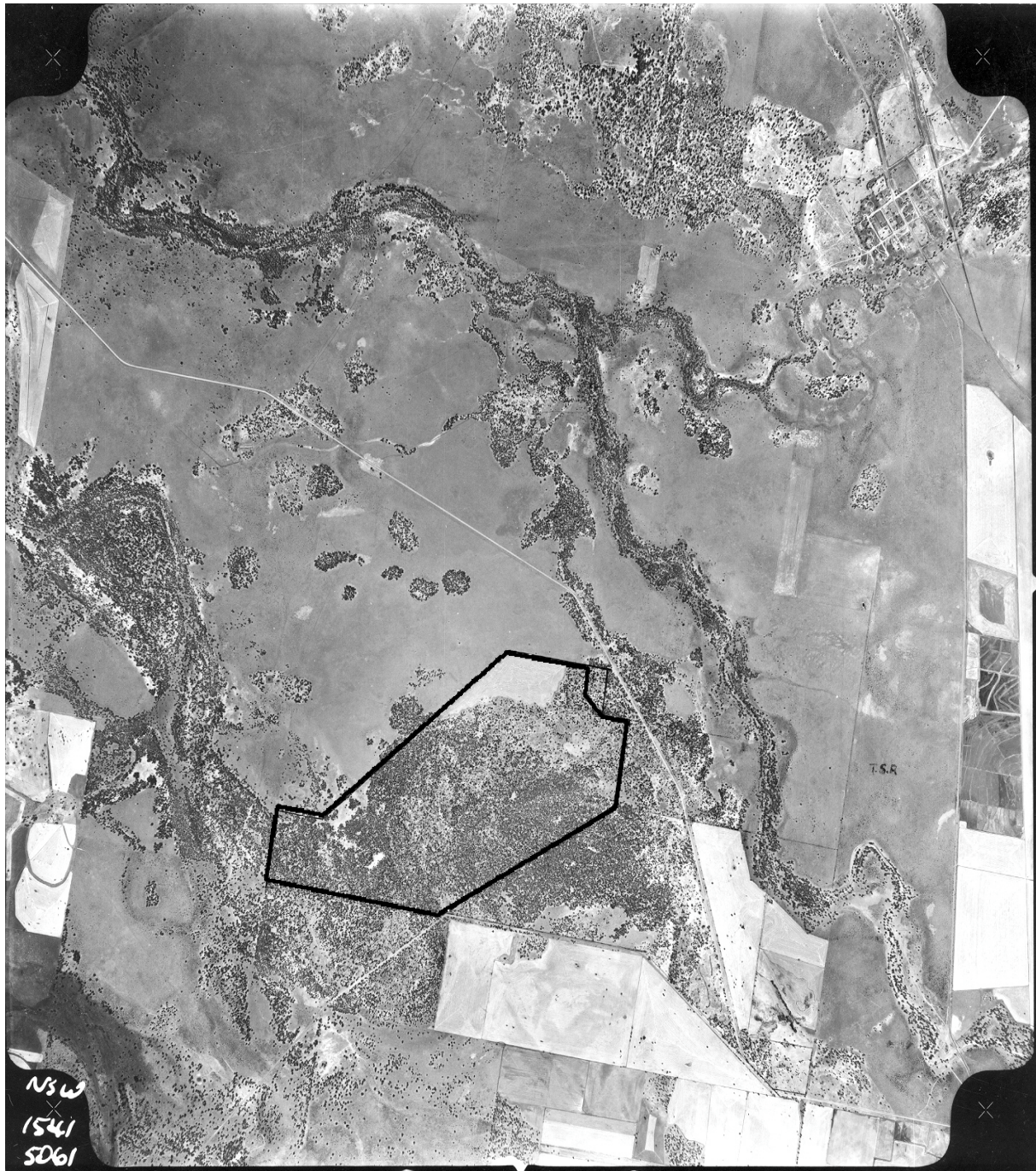


Photo.1 – 1967: Midkin Nature Reserve



Photo.2 – 2005: Midkin Nature Reserve

Incremental land clearing involved in the intensification of land-use from grazing within native shrublands and woodlands to cropping in much of semi-arid western NSW can be seen in the landscapes surrounding Midkin Nature Reserve.

Originally established in 1976 to protect poplar box woodlands and an Aboriginal ceremonial ground, virtually all the surrounding floodplains have since been clear felled for cropping. This pattern of dramatic land-use change is typical for much of the eastern half of the vast Darling Riverine Plains bioregion.

It is highly unlikely that the area within Midkin NR would have escaped this wholesale clearing if it had not been formally reserved in 1976 under the National Parks and Wildlife Act.

(b) Whether governments are providing sufficient resources to meet those objectives and their management requirements.

This submission provides an illustration of resources devoted to meeting the objectives of establishing and managing conservation reserves in NSW, focusing on a few key themes. It does not attempt to provide a comprehensive analysis of resource allocation.

Resources for land acquisition

(Further information about NSW's acquisition program is provided under TOR (e)).

The National Reserve System (NRS) Program is an important national process that contributes to land acquisition of conservation reserves. The NRS enhances state and territory conservation efforts in building their reserve systems, primarily through land purchase, and commits Australian states and territories to build a CAR reserve system by 2020. However, the overwhelming majority of the costs incurred in achieving NRS commitments, in terms of land purchase and subsequent ongoing land management, is borne by the states and territories.

Since 1996, NSW has contributed approximately \$125 million to buy land to build the NSW reserve system, during which time the Commonwealth has contributed about \$16.5m from the NRS for the purchase and reservation of about 50 properties throughout NSW. During this period, NSW has added about 2.2 million hectares of acquired lands and other public land into the NSW component of the NRS, yet at the same time the NRS Program has contributed to the purchase of only approximately 200,000 hectares. The Commonwealth Government includes almost all of the NSW contribution (2.2m hectares) to the NRS for its international reporting purposes. However, it has only contributed to 11.7% of land purchase funding and 9% of the land area needed to achieve the NRS Directions Statement and provides no land management funding for any of these lands.

Case Study: New acquisitions – Yanga Station

In 2005, NPWS negotiated the purchase of Yanga Station, the single largest freehold property in NSW (80,000 hectares) for the establishment of a new national park. Yanga's values are outstanding, combining an array of natural heritage values, most notably its redgum forests and associated wetlands, with a wealth of cultural heritage. It provides outstanding recreational and tourism opportunities, with future on-site accommodation in an historic homestead.

The purchase of Yanga Station was made possible predominantly through a combination of State government funds and the Environmental Trust Fund in NSW. Funding was sought from the Commonwealth Government under the NRS Program, but this was not successful.

The purchase of this property represents a landmark commitment by the NSW Government to conservation in the west of NSW and will conserve a significant proportion of the least protected bioregion in NSW (the Riverina Bioregion). It will therefore make a significant contribution to the national targets set by the NRS Program, despite the fact that no funding was forthcoming from the NRS for this purpose. The NSW Government has set aside significant ongoing funding for the management of this most important of reserves.

Management resources

The Commonwealth Government may provide funds for the management of conservation reserves to the states through programs such as the Natural Heritage Trust. These funds are available where the management reflects national or international obligations, such as world heritage and Ramsar, fire management and weed management. (More detail on responsibilities is provided under TOR(d)).

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* may list areas and species of special significance, provide additional protection for these areas and species, and provide some additional management objectives. This may also place additional management responsibilities and costs upon NSW. However, the management responsibilities that the *Environment Protection and Biodiversity Conservation Act 1999* places upon NSW are not always clearly articulated, and Commonwealth funding is not provided to assist NSW in meeting obligations imposed on it by the Act in managing conservation reserves.

Funding provided by the Commonwealth to NSW is generally limited to costs associated with national and internationally recognised management “overlays” such as world heritage areas. This funding has declined over the past ten years, from approximately \$4.4 million in 1995/96 to approximately \$2.17 million in 2004/05. However, during this time funding from the NSW Government to support the management of public reserves has more than doubled on a dollar per hectare basis. The current budget for the NPWS is in the order of \$211 million recurrent and \$36 million in capital funds.

When examining the management and resourcing of public conservation reserves, it is important to remember that these lands cannot be examined in isolation from the whole landscape. Many of the threats to parks, such as fire, weeds and pests, occur nationally across all landscapes, both within and outside national parks. All land managers require adequate resources to effectively manage such threats, irrespective of whether the lands are part of a public reserve system.

NSW has embarked on a comprehensive park management program to monitor resource allocation, direct resources and prioritise actions. This program includes approaches to align service delivery with needs, new reporting regimes to monitor management trends and conservation issues, and new approaches to align and monitor expenditure.

Fire management

NPWS is responsible for managing some of the most rugged and remote bushfire-prone country in the world.

Under the *National Parks and Wildlife Act 1974* and the *Rural Fires Act 1997*, NPWS has statutory responsibilities relating to the protection of human life, property, and natural and cultural heritage values from bushfires on lands it manages.

Fire management is a major activity in the management of conservation reserves. NPWS has already spent approximately \$2.6 million on fire suppression during the 2006 season alone. This compares to \$2.2 million in 2004/05 and \$6.5 million in 2003/04. NPWS has received \$395,000 from the Commonwealth Bushfire Mitigation Program for 2005/06.

During 2004/05, 148 hazard reduction burns were completed covering more than 36,000 hectares on reserves, and approximately 5000 hectares on lands neighbouring reserves. A further 11,500 hectares were treated by other mechanical means, such as slashing. Over the last five years, a record 846 hazard reduction burns have been conducted covering more than 200,000 hectares.

NPWS has more than 900 trained fire-fighters and over 450 incident management trained staff with a full range of vehicles, plant, equipment and aircraft for fire management operations, particularly in remote areas. They are trained to an exceptionally high standard and are rigorously tested each year to ensure their fitness for fire fighting and are considered to be world experts in fighting fires in remote locations.

Since 1 July 2005, there have been 141 fires affecting reserves that have required wildfire suppression. NPWS officers have also assisted in combating a further 43 off-park fire incidents. This has involved well over 1000 days of staff time devoted to combating fires.

Cost drivers for bushfire prevention (excluding bushfire suppression) include:

- Extent of urban interface - this involves costs in the form of increased pressures and expectations;
- Topography and access - remote and rugged lands may be more difficult to manage because of access difficulties;
- Meeting Bushfire Coordinating Committee policies and other state requirements – increasing costs are incurred by all agencies to meet new state wide standards such as for asset protection, fire trail maintenance and signage;
- Management of risk and OH&S requirements, including meeting national fire competency standards;
- Weather patterns and climate changes associated with global warming - global warming is likely to result in increased community expectations about conservation efforts;
- Fragmentation of land – increased boundary affects;
- Protection of threatened species and cultural sites - management planning and strategies may be modified to protect threatened species and communities, and cultural heritage sites where their locations are known; and
- Need for specialised equipment - bushfire management requires specialised fire equipment such as light units, fire tankers, graders, and bulldozers.

Further detail on fire management programs is provided under TOR(c).

Pest and weed management

Management of pests and weeds is a high priority for the NSW Government and expenditure on their control by NPWS reached a record \$18 million in 2004/05. The State of the Parks Report 2004 showed that our pest animal and weed control programs were either effectively holding the line or reducing pest and weed impacts in more than 90% of NSW's parks.

Cost drivers for pest and weed management include:

- Nature of adjacent land use - higher incidences of weeds and pests generally occur adjacent to urban and rural areas;
- Land disturbance and previous land use - higher incidences of weeds generally occur in and adjacent to disturbed areas such as agricultural lands, roadsides and residential areas. Newly acquired lands may have a history of past disturbance associated with previous land uses and require significant rehabilitation;
- Animal welfare considerations - frequently, the most cost effective control techniques for pest animals are not used for animal welfare reasons;
- Community expectations;
- Control across land tenures - effective pest and weed control relies on complementary efforts across all land tenures requiring considerable planning and coordination; and
- Fragmentation of land – increased boundary effects leading to greater weed and pest incursions.

Further detail on pest and weed management programs and resources is provided under TOR(c).

Visitor services

The NPWS spends more than half of its annual budget on the provision of visitor services. The NPWS manages a range of infrastructure in parks that provide opportunities for public appreciation and enjoyment of parks. Facilities include picnic areas, car parks, walking tracks, visitor centres, camping areas, scenic lookouts, bridges and wharfs.

The NPWS attempts to provide visitors with an appropriate level of facilities given the demand for visitation and the type of park. Within the NSW parks system, visitor facilities are reported to be both appropriate for the park type and the level of visitation in 67% of parks.

Cost drivers for provision of visitor services include:

- Level of visitation - high levels of visitation can have cumulative impacts even in declared wilderness areas;
- Contribution to regional tourism - there is an expectation that national parks and reserves will contribute to regional tourism. This results in increased facility provision and significant infrastructure maintenance costs;
- Community expectations and consultation - there is a community expectation that parks will provide for public access and use and park managers will consult widely on issues of public importance;
- Nature and variety of facilities provided;
- Acceptance levels of public risk - Differing levels of acceptance or funding dictates the extent to which safety structures and checks are implemented such as safety barriers, tree lopping, engineering assessments and routine maintenance. Search and rescue can be significant costs;
- Proximity to urban development – unauthorised uses, such as rubbish dumping, timber collection, illegal motor bike use, theft and vandalism increases with proximity to residential areas, which increases enforcement, repair and clean up costs;
- Previous land use – activities that may have occurred on previous land tenures but are not allowable under the *National Parks and Wildlife Act 1974* creates enforcement issues for new parks, eg. dog walking, timber collection, off-track vehicular use; and
- Level and range of visitor education/interpretation undertaken.

Cultural Heritage

The NSW government maintains a range of expertise in historic heritage management in the NSW Heritage Office (now part of the Department of Planning) and the Cultural Heritage Division of DEC.

DEC maintains a Historic Heritage Information Management System (HHIMS), which presently contains over 9,000 entries for historic complexes, sites, structures and site elements within NPWS managed reserves. The HHIMS Register functions as the Department's section 170 Heritage and Conservation Register (as required under the *NSW Heritage Act 1977*) and entries range in scale from individual site elements (eg. a fence, or building) to whole complexes such as the Hill End or Hartley historic sites.

The State of the Parks Report 2004 showed that the condition of Aboriginal heritage is generally good in 78% of parks, while the condition of historic heritage is generally good in 52% of parks.

Funding for historic heritage management of NPWS-managed properties comes from two main sources: the Historic Asset Maintenance Program (HAMP) and recurrent regional

funding. The HAMP program is a \$2 million recurrent annual budget tied specifically for planning, maintenance and works to historic assets.

The HAMP program has been running since 1995 and has injected over \$20 million into historic heritage during this period. Individual branches and regions within the NPWS spend elements of their recurrent budget on works to historic heritage.

DEC also has significant responsibilities for Aboriginal cultural heritage on and off park. The Aboriginal Heritage Operations Branch of the Cultural Heritage Division has five regional groups of Aboriginal Heritage Conservation Officers, who are responsible for on-ground heritage conservation activities, as well as community liaison. DEC manages the statewide Aboriginal Repatriation Program, which is involved in the return of cultural objects and human remains to their community of origin. In some instances, this has involved the reinterment of excavated human remains on park. DEC also maintains the Aboriginal Heritage Conservation Program, which provides funds of approximately \$600,000 per annum for heritage conservation projects on and off park, generally in conjunction with Aboriginal communities. DEC also maintains a Rock Art Conservator on staff.

Aboriginal Co-managed Areas

NPWS contributes approximately \$4 million per annum to a statewide program for Aboriginal co-management of conservation reserves. Currently there are seven co-management arrangements in NSW, a further three have been negotiated and will shortly commence, and a further five are currently being negotiated. These NPWS funds are used to negotiate new Aboriginal co-management arrangements and to run existing Aboriginal co-management arrangements, for example to fund rent payments, the running of co-management committees, employment and training associated with co-management arrangements, and management funding specific to Aboriginal co-managed reserves.

The Commonwealth Department of Environment and Heritage (DEH) has a co-management stream of its Indigenous Protected Area (IPA) program to assist Aboriginal communities negotiating with State Government agencies. To date, DEH has funded two Aboriginal communities in NSW who have also negotiated with NPWS, however the majority of funding received by these communities was provided by the NSW Government. The then NSW National Parks and Wildlife Service also put in applications for the 2003/04 financial year to the DEH Indigenous Protected Area Program for funding to assist five Aboriginal communities with which NPWS was negotiating, but all applications were rejected. No further applications have been made.

NSW uses a range of approaches to co-management arrangements, including the negotiation of Indigenous Land Use Agreements (ILUAs) under the *Native Title Act 1993*. One of the constraining factors in ILUA negotiations is the limited funding available to native title claimants in NSW to establish their native title claim. Funds are needed for claimants to prepare their evidence and work with other Aboriginal groups to agree on the boundary of their claims and put their case to the State Government. The Commonwealth Department of Immigration and Multicultural and Indigenous Affairs funds NSW Native Title Services for this purpose, however the limited funds available means that NSW Native Title Services has had to prioritise a small number of claims in NSW, with most claims unfunded.

World Heritage

Under the World Heritage Convention, the Commonwealth Government has entered into certain obligations on behalf of Australia to ensure protection of inscribed world heritage areas (WHAs). Part of these obligations requires provision of adequate levels of funding to maintain, promote and where possible, enhance the integrity of each site.

On 4 November 1996, the House of Representatives Standing Committee on the Environment and Heritage (HORSCERA) tabled its report *Managing Australia's World Heritage*. The Committee noted that the Department of Finance had interpreted the Commonwealth Government's responsibilities as a signatory to the World Heritage convention to mean that the Commonwealth, on behalf of the nation, has entered into certain obligations to ensure protection of inscribed world heritage areas. Part of these obligations would require provision of adequate levels of funding to maintain, promote and where possible, enhance the integrity of each site. In a submission to the Committee, the NSW Government suggested that the Commonwealth Government should make a contribution to both the increased capital expenditure and running costs which may arise from an area's world heritage listing, including the provision or expansion of visitor facilities and greater management and staffing costs. Funds for consultation and research, which assist management, may also be needed.

Although NSW has four of the 16 World Heritage Areas (WHA) in Australia, NSW receives very little of the available Commonwealth funding.

The level of Commonwealth funding for WHA management fluctuates over time. There is little certainty from year to year nor any guarantee of continued funding for projects staged over a number of years. The Commonwealth's methodology for determination of funding for WHAs is unclear and does not appear to be based upon priorities that are identified by the state management agencies.

The commencement of the Natural Heritage Trust (NHT) in 1997-98 initially saw some improvement in the level of Commonwealth funding for WHAs. This increase may have been in response to the HORSCERA report referred to above and the creation of a dedicated World Heritage Management and Upkeep Program under the NHT. However, current world heritage management funding levels provided by the Commonwealth now remain disappointingly low.

Funding for world heritage management is available from the NHT Extension (NHT2) funding from the National Stream (direct from the Commonwealth), from the State NHT Steering Committee through the National-State Stream and from Natural Resource Management Bodies through the NHT Regional Stream. Obtaining funding from the National Stream is difficult and subject to lengthy approval processes. The result of any successful funding is that it is often obtained with little time to expend it before the end of the financial year. Such funding is therefore only available for short-term projects and of limited practical assistance for strategic projects. In general, the majority of funding received by NSW for world heritage management is for 'Strategic Management Support' projects, which are those projects that support the Commonwealth in their management of WHAs (eg. Advisory Committees and the Executive Officer positions).

Overall, there has been a significant reduction of funding from the commencement of the NHT2 funding due to a number of reasons:

- the World Heritage Management and Upkeep Program was subsumed into the Bushcare Program, which did not place a priority on funding the management of WHAs;
- the bulk of the NHT funds are now distributed through the regional Natural Resource Management Boards (known as Catchment Management Authorities in NSW). Therefore, state governments must now apply to NRM Boards for funds to assist WHA management. However, the NRM Boards generally place priority for these funds on repairing the natural resources that are most under threat (e.g. land degradation problems on private property), not on WHA management; and

- there was no clear directive from the Commonwealth to the NRM boards that they had a responsibility to assist in the funding of WHAs.

Case Study: Central Eastern Rainforest Reserves of Australia (CERRA) World Heritage Area

The Central Eastern Rainforest Reserves of Australia (CERRA) World Heritage property comprises approximately 50 separate reserves with outstanding rainforest values in north-east NSW and south-east Queensland. The total area of CERRA is approximately 366 000 hectares. Approximately 84% of CERRA lie in NSW, comprising parts of 22 national parks and 7 nature reserves managed by the Department of Environment and Conservation. The current CERRA boundaries were established in December 1994; this built on an earlier (1986) World Heritage listing known as the Australian East Coast Temperate and Subtropical Rainforest Parks.

Funding assistance from the Commonwealth Government for the management of parts of CERRA first occurred in an ad hoc manner through the National Rainforest Conservation Program in the 1980s. It commenced as a more formal commitment to funding WHAs as part of the Commonwealth Assistance Program in the 1993-94 financial year and then continued after 1996-97 as part of the Natural Heritage Trust.

The NSW Government has worked in partnership with the Queensland Government and the Commonwealth to ensure that the Commonwealth Government meets its international obligations under the World Heritage Convention. These obligations include protecting, conserving, presenting and, where necessary, rehabilitating the values of its World Heritage areas.

A key challenge to this partnership has been the uncertainty of continued Commonwealth funding. There has never been a financial agreement between the NSW Government and the Commonwealth Government regarding financial assistance for the management of CERRA. The Commonwealth has not provided funding to the state agencies to assist with additional management and presentation activities that have resulted from CERRA's World Heritage status. For example, presentation of world heritage values is not a standard obligation for state-managed protected areas and, from a regional, branch or statewide perspective, conservation works in WHAs may not be considered more of a priority than works needed in other national parks. Commonwealth funding for CERRA has declined significantly from \$787,000 in 1998 to \$114,250 in 2006.

Regional funding is linked to regional Natural Resource Management Plans, and the relevant NRM body must support grant applications. Obtaining adequate funding for CERRA through the Regional Stream is therefore problematic, as there are four NRM bodies that cover CERRA – two in Queensland and two in NSW. The NRM plans for these bodies fail to adequately address world heritage issues and some do not acknowledge the existence of the CERRA WHA at all.

Ramsar wetlands

The Convention on Wetlands (Ramsar Convention) is an important international treaty, which recognises the significance of wetlands and their contribution to both protection and wise use of the world's natural resources.

The Department of Environment and Heritage (DEH) has the lead role in implementing the Ramsar Convention in Australia. The National Wetlands and Waterbirds Task Force includes state and territory Government representatives. The Task Force is responsible for implementing national Ramsar targets and actions at the State level. A bilateral agreement between the Commonwealth Government and the NSW Government commits NSW to produce plans of management for all NSW Ramsar sites.

In the past, Ramsar nominations were primarily focussed on conservation reserves but today Ramsar sites cover a range of tenure, including private land, Crown land and State Forests. Four of the eleven Australian Ramsar sites occurring wholly or partly on private or community managed land are located in NSW. In June 2003, the NSW Minister for the Environment established a Ramsar Managers Network to address increasing concerns from private Ramsar managers that the Commonwealth Government was not providing sufficient

scientific, funding or promotional support for the management of these important areas. The NPWS does not receive any dedicated and on-going funding from the Commonwealth for the management of Ramsar sites that occur within parks.

Conservation reserves on private land

The emergence of the non-government sector in purchasing land with a combination of public monies and private donation and philanthropy under the NRS Program presents new models for creating conservation reserves. Success of this approach to some extent relies on the ability for organisations to continue to raise resources (funds and volunteer labour) from the public for ongoing maintenance and improvement of property conservation values. There is currently some concern that current arrangements are not sustainable or cannot be guaranteed to deliver conservation outcomes in the longer term.

The requirement for public funding of private landholders for conservation activities at the national level should be contingent upon entering into formal conservation commitments. This would represent a sound approach in securing the public's investment in private land conservation. Land purchased with public monies should be subject to formal in-perpetuity covenanting which can be monitored and supported in the public interest. To date there have been some instances where the application of state covenanting mechanisms has been required to secure Commonwealth funding commitments in the management of Commonwealth programs such as Envirofund Program and the NRS Program. Without consultation or a formal partnership arrangement, which provides the necessary resources to fund the establishment of formal conservation agreements and ongoing landholder monitoring and support, this creates a liability at the state level. There is greater opportunity for States and the Commonwealth to work in formal partnerships on landholder conservation initiatives, which secures conservation commitments and which are adequately resourced.

The Conservation Partners Program is undertaken by the NPWS as part of its strategic approach to the establishment and management of protected areas, complementing the public reserve system with conservation on private and other public lands. This is undertaken in partnership with other state agencies, local government and non-government organisations, and includes:

- identification of strategic conservation priorities through landscape and property scale assessment;
- negotiation of agreements, property planning, investment in on-ground conservation works, monitoring and reporting;
- expert and technical advice on conservation management issues;
- advice and assistance to regional staff in program delivery;
- development of education materials, technical information and newsletters;
- networking and capacity building opportunities for conservation partners with commitments under Conservation Agreements and Wildlife Refuges;
- engagement in conservation partnerships with local councils, non-government organisations and Catchment Management Authorities to coordinate delivery of strategic private land conservation programs into the community;
- brokering rate exemptions, tax concessions and financial incentives in recognition of landholder stewardship and restrictions on property rights due to conservation commitments; and
- attracting recurrent and external funds to support landholder efforts in conservation management and monitoring.

The NSW Government recognises that establishing protected areas on private and other public lands is the first step in securing long term conservation outcomes for the state. The NSW Government has made a long-term commitment to sustaining its public-private conservation partnerships, and provides ongoing support to landholders in managing for

conservation. The NPWS Conservation Partners Program includes the provision of ongoing support and monitoring to over 1,200 landholders across NSW with formal conservation commitments over more than 1.7m hectares of land, with recurrent funding and dedicated staffing of more than \$500,000 per annum over the past six years.

Significant funding grants by the NSW Environmental Trust of more than \$850,000 are currently supporting:

- a review of Wildlife Refuges in high priority conservation areas of the state; and
- an industry voluntary conservation initiative to improve engagement and involvement of industry in making formal conservation commitments and increase their contribution to protected areas in NSW.

Significant partnerships have also been developed with other state agencies, regional organisations, local government and non-government organisations. This has attracted more than \$3 million in projects and initiatives over the past five years to promote and support conservation on private and other public lands in efforts to develop a resilient and connected system of public and private protected areas across the NSW landscape.

(c) Any threats to the objectives and management of our national parks, other conservation reserves and marine protected areas.

Management of conservation reserves involves protecting the values within each reserve against pressures and threats that might contribute to a decline in the condition of those values. Managing threats to conservation reserves can be difficult as people have different expectations and values and therefore have conflicts over what represents suitable uses of the reserves.

There are a large range of pressures on conservation values, the most concerning of which have been identified as key threatening processes under the NSW *Threatened Species Conservation Act 1995* (TSC Act). Public acquisition removes or reduces the most serious of these threats – i.e. land clearing and habitat destruction. However, key threats such as climate change, weeds, pest animals and fire still exist.

Other management pressures on conservation reserves include impacts from use of reserves; the impacts of adjacent land use on edges of reserves; park isolation; disease; and alteration to ecosystems (e.g. development in the catchment can affect water quality). NSW has strong population and development pressures that translate into pressure on the environment, especially in coastal regions.

Planning and management of conservation reserves must be co-ordinated with the use and management of other areas rather than treated in isolation. Management should incorporate and integrate natural values, Aboriginal cultural and broader community values, and historic heritage values. Parks are also part of a broader bioregional, social, cultural and economic landscape, and they should be managed in the context of these landscapes.

Pest animals and weeds

Weeds pose one of the most significant threats to biodiversity after land clearing and habitat destruction, because they invade natural ecosystems and threaten native plants and animals (SOP 2004). Weeds compete with native plants for nutrients, sunlight and water. Some weeds can smother and kill native plants, prevent regeneration, or change the structure and function of an environment. This in turn can affect native animals that depend on native flora for food and shelter. And unlike native plants, introduced weeds have no natural predators or diseases in their new environment, giving them an advantage over native species.

Management of weeds in conservation reserves is driven by the overriding objective to conserve biodiversity and cultural heritage values. Management of weed infestations is undertaken to minimise their adverse impacts on these park values. Within NPWS, regional pest management strategies are used to identify priorities for weed management within the reserve system.

The NSW Government is committed to a regional/catchment approach to weed management, where programs are developed and often undertaken in collaboration with neighbours, other government agencies, local councils, regional weeds committees, catchment management boards, the CSIRO, universities, and community groups such as Landcare, Dunecare and Bushcare. Collaborative approaches to management are likely to produce more effective long-term reductions in weed populations.

Threat abatement plans are prepared for weeds that are listed as a key threatening process under the TSC Act. The threat abatement plan for bitou bush and boneseed is almost finalised, and the plan for the invasion of exotic perennial grasses is in preparation. Lantana

and the invasion and establishment of exotic vines and scramblers are being considered by the Scientific Committee for listing as a key threatening process.

There are at least 30 species of introduced vertebrates that are pests in Australia but significant populations of only 10 species occur in NSW parks. Pest animals have major impacts on biodiversity through predation, competition for resources, as reservoirs and vectors for animal and human diseases and have impacts on aboriginal and historic cultural heritage. Pest animal threats that are also listed as key threatening processes under the TSC Act include predation of native fauna by foxes, plague minnow and introduced rats (Lord Howe Island only), competition and grazing by rabbits and environmental damage caused by introduced ants. Nominations for other pest threats are currently under consideration.

The NSW Government aims to manage populations of pest animals to minimise their adverse impacts. There is a clear recognition that the eradication of introduced pest species over large areas is rarely, if ever, possible and resources must be directed to those species/localities where the benefits of control are likely to be greatest. Therefore, while the overriding objective of pest animal control programs is to conserve biodiversity and cultural heritage, the programs also aim to:

- increase community understanding of the adverse impacts of pest animals on biodiversity and Aboriginal and historic cultural heritage; and
- manage pest animal populations to minimise their movement into and out of public conservation reserves where they may impact on agricultural production.

As with weed control, the NSW Government is committed to a regional/catchment approach to pest management where the programs are developed and often undertaken in collaboration with neighbours, other government agencies, rural lands protection boards, wild dog control associations, regional pest committees, local government councils, catchment management boards, CSIRO, universities and community groups.

Although the principal responsibility of the NPWS is to manage national parks and reserves, some of its pest management is also conducted on other lands, for example where priority areas have been identified for the conservation of threatened species. However, pests are a problem across the entire landscape, and control of pests outside of parks is generally the responsibility of private landholders and other agencies such as the Rural Lands Protection Boards and the NSW Department of Primary Industries.

Each year, the NPWS conducts more than 900 pest animal control programs of which approximately 70% are conducted in collaboration with neighbours and other stakeholders. Threat abatement planning is also an important part of pest management for those pests that are listed as key threatening processes. The plan for predation by the red fox has been completed and is currently being implemented. Other plans are currently being prepared. Inherent in these plans is the landscape approach to pest management, which has been a factor in the successful implementation of the plan for predation by the red fox. One of the most successful programs under the plan has been the fox control program to protect yellow-footed rock wallabies in Mutawintji National Park and Mutawintji Nature Reserve in the far west of NSW. An intensive fox control program in this area has enabled the rock wallaby population to increase by as much as 600% since 1995.

Inappropriate fire regimes

Fire is an important tool in the conservation of biodiversity, as disturbance is a key process in the maintenance of diversity across plant communities. However, sustained high fire frequency leads to a loss of plant species, reduction in vegetation structure and a corresponding loss of animal species. Fire may also have an impact on the cultural heritage

values of conservation reserves. Although fire is a natural process, it can have devastating effects on some aspects of cultural heritage e.g. scarred trees, historic huts.

Land managers face a number of challenges in attempting to manage fire for the conservation of ecological and cultural values. The management of fire to protect human life and property is the first priority and this sometimes results in a fire regime that is not optimal for the maintenance of biodiversity.

One of the ways in which NPWS is addressing the issue of inappropriate fire regimes is through fire planning. Fire management strategies for the NSW public conservation reserve system are designed to safeguard human life and property, promote the conservation of biodiversity and protect Aboriginal sites and historic assets. A fire management strategy therefore provides a detailed plan for fire management in a park with the information required both to assess the threat of accidental fire on-park and to guide strategic burns and hazard reduction activities. To aid this planning the NPWS has developed the Fire Tool package to account for all the factors that influence fire management and represent these on a series of maps.

The State of the Parks 2004 report shows that at least 89% of parks managed by NPWS have a fire management program in place that protects natural and cultural values.

Case Study: Life and property protection

NPWS works closely with other fire management agencies, such as the Rural Fires Service and other land managers such as Forests NSW (Department of Primary Industries) and park neighbours, to help coordinate and support fire prevention and suppression efforts.

How many fires occur each year?

In 2003/04, NPWS staff assisted in the control of 306 ignitions both on and off park, while on average NPWS staff have assisted in the control of 364 ignitions annually between the years of 1995 and 2004. Since 1 July 2005, there have been 141 fires affecting reserves that have required wildfire suppression.

Where do fires start?

Year	Started and controlled on-park	Started on and moved off-park	Started off and moved on-park
2003/04	186 (71%)	13 (5%)	64 (24%)
1995-2004 *	200 (68%)	30 (10%)	65 (22%)

How do fires start?

Year	Lightning	Suspect arson	Arson	Legal burn-off	Illegal burn-off	Motor vehicle	Camp cooking	Powerline s arcing	Other	Unknown
2003/04	48	76	50	32	1	0	8	5	28	15
1995 – 2004*	77	59	49	20	11	16	10	2	11	38

*Figure is averaged between the years of 1995 – 2004

The table above shows that bushfires in NSW (and Australia in general) are largely lit by either people or lightning. In parts of NSW, rates of ignition by people are very high due to high population around major towns. The majority of arson related fires in NPWS parks tend to occur in asset protection zones or within 100 metres of public roads or tracks or trails. Records from Royal National Park, for example, clearly demonstrated this trend. Total ignition points recorded in the park from 1984 – 2001 show that 74% occurred within 100 metres of a road, walking track or trail and 58% occurred on public access roads and tracks.

Visitor use

Public conservation reserves contribute greatly to the national tourism agenda as both a destination for local and overseas visitors and a basis for significant public and private marketing of Australia. Unlike private conservation lands, public reserves provide opportunities for visitor access and appreciation of the values they protect. Parks in NSW are estimated to receive 22 million visits annually. NSW is faced with the challenge of balancing the need to preserve the natural and cultural heritage values of conservation reserves while also facilitating opportunities for recreation and tourism. There are a variety of impacts as a result of visitation pressure such as vegetation trampling, littering, soil compaction and erosion. High visitation can also affect often-fragile heritage values. Cultural heritage sites and objects may be put at risk of damage from vandalism and inappropriate management of visitor access.

Additionally, competing use values for a place can adversely affect cultural heritage values, for example coastal rock engravings and shell middens are delicate heritage features, and these are often in places that are popular for bushwalking, an activity which may inadvertently damage the features. Managing visitor levels within parks so as to minimise these impacts is essential, as the potential for future growth in visitation is substantial.

The NPWS has adopted *Living Parks – A sustainable visitation strategy* as the strategic planning framework for sustainable and culturally appropriate visitor use of parks. Key components of Living Parks include:

- Development of NPWS Branch visitation management plans, which will guide planning and resourcing for sustainable visitor management;
- Development of a new commercial operator licensing system;
- Development of a park facilities manual;
- Development of improved visitor services, provision of quality visitor information and development and implementation of an interpretation and education policy; and
- Working with a range of partners to achieve conservation objectives, enhance visitor experiences and increase understanding of park conservation values. NPWS will work in partnership with local communities, other land managers, Aboriginal communities, the tourism industry and other non-government groups.

Adjacent land use and park isolation

Conservation reserves exist in a landscape of multiple land uses. In some cases the types of land uses surrounding a park are not compatible with conservation, and reserve values can be negatively impacted, for example by their proximity to industrial areas or from some forms of agriculture and even residential developments. Approximately 19% of conservation reserves in NSW have identified this as a problem (State Of the Parks 2004). Adjacent lands can be a source of pests, weeds and pollutants, can reduce the water flowing into wetlands and occasionally be the source of fires escaping into parks.

In response to this pressure, NPWS maintains active communication with surrounding landholders and the managers of surrounding land tenures. NPWS is also involved in regional planning processes including natural resource management.

Land clearing for urban development and agriculture has meant that reserves can become isolated islands of habitat surrounded by significantly modified areas. This isolation can be a significant threat to plants and animals that are not able to disperse easily across long distances. Without the ability for individuals to disperse into a reserve, resident populations may suffer from inbreeding depression (a lack of genetic exchange). Individuals also need to be able to disperse from reserves to avoid threats such as fire or predators. Approximately 25% of parks in NSW have identified this as a problem (State Of the Parks 2004).

The isolation of biodiversity within the NSW reserve system cannot be redressed quickly and easily, although improving connectivity is a priority for both future acquisitions of land for inclusion in the NSW reserve system and in building the broader conservation reserve network on other land tenures.

NSW is a signatory to the *Directions for the National Reserve System Statement* (National Resource Management Ministerial Council 2005), which outlines a strategic national approach to progress towards the establishment and management of a comprehensive, adequate and representative conservation reserve system. To ensure the adequacy of the NSW reserve system, NPWS has adopted the directions set in this document as part of its reserve acquisition program. This includes the prioritisation of lands that optimise connectivity and that are of sufficient size to ensure long term sustainability.

The success of this approach in improving connectivity is demonstrated by the recent addition of 35 000 hectares of reserves on the Illawarra Escarpment and in the Metropolitan Catchment areas. These additions have made the final link in a 600km continuous corridor of reserves stretching from the Victorian border to the Hunter Valley. This corridor aims to guarantee species survival and their continued evolutionary development, especially in the face of human-induced pressures such as climate change.

Climate change

Changes to Australia's climate are already occurring over and above natural variability, and these changes are expected to have an impact on Australia's natural resources and biodiversity (State Of the Parks 2004). Some of the predicted changes to global environments will also have serious implications for the NSW conservation reserve system. Increases in sea levels have the potential to threaten coastal environments with implications for the large number of coastal reserves. As temperatures increase many species of plants and animals could be displaced to cooler areas. This will increase the importance of connectivity in the landscape to allow species to migrate to more suitable climates. This may have serious implications for the Australian Alps bioregion, more than 80% of which occurs within the NSW reserve system. Changes in climatic patterns can also contribute to changes in fire regimes that can have a range of negative impacts on ecological communities. Approximately 17% of reserves in NSW have identified climate change as being a major threat (State Of the Parks 2004).

The NSW Government has little power to control this threat although it is progressing a number of actions in mitigation and adaptation in relation to biodiversity. Strong leadership from the Commonwealth Government is needed in order to address this issue.

Plant and Animal Disease

The management of diseases as a pressure on reserve values is important, especially when disease threatens populations or species. Three diseases of particular note in NSW include forest dieback, amphibian chytrid infections and *Psittacine circoviral* disease. These are all listed as key threatening processes under the TSC Act.

The NSW Government is taking a number of measures to control these diseases including further research, development and implementation of disease control procedures and the preparation of threat abatement plans.

Threats to Marine Protected Areas

There are a number of additional threats to marine protected areas. As marine protected areas in NSW are multiple use areas, enabling sustainable resource use, there is the threat of this use becoming unsustainable and having detrimental effects on the conservation of biodiversity in marine protected areas. This threat is managed by the development of zoning

plans for all marine protected areas. The development phase includes extensive community consultation and enables a balanced approach between commercial and recreational use of marine areas and conservation.

Another identified threat to marine protected areas is land based development and associated pollution. This threat has effects on water quality of marine areas as well as contributing to habitat modification. These will have negative effects on marine biodiversity and may be difficult to manage, originating outside the protected area. The NPWS recognises the importance of protecting coastal landscapes, which in turn improve the protection of adjacent marine environments. There is now around 40% or 620 km of the NSW coastline protected in national parks, which represents a 30% increase in the last 10 years alone.

Climate change, as with terrestrial protected areas, also has the potential to disastrously affect marine protected areas. Sea level rise as well as the predicted rise in sea temperatures and changes in currents will alter the abundance and distribution of species and may change marine habitats that exist in protected areas. This is a threat that protected area managers have little control over.

Marine pests and their potential invasion are also a threat to marine protected areas. Weeds such as *Caulerpa taxifolia* pose a threat to marine biodiversity if they infest marine protected areas. Vigilance by the public as well as protected area managers are needed to ensure pests such as this one do not take hold and threaten the biodiversity values of marine parks. NSW Fisheries (part of the Department of Primary Industries) undertake public education on marine pests to develop awareness about this possible threat. At present marine pests are not major problems for marine protected areas, probably as a result of the resilience of healthy ecosystems that exist in conservation reserves.

Alteration to natural flow regimes

The plants and animals living in wetlands are often adapted to high levels of natural variability within rivers, streams, floodplains and lakes. However, activities such as the construction of dams, weirs and levee banks and the diversion or extraction of water for irrigation and other uses has resulted in the alteration of natural flows within rivers and streams and their associated floodplains and wetlands. Alteration to natural flow regimes can have adverse impacts on crucial stages, including reproduction, recruitment and migration patterns within the life cycles of many organisms.

Over the past 20 to 30 years in particular, water diversions have presented a critical threat to the survival and extent of NSW wetlands, with the expansion of on-farm storages and increased agricultural extent. Altering the natural flow regimes in wetlands by changing the extent, frequency and duration of flooding across floodplains and terminal wetlands means that the available habitat for species is often reduced.

The negative impacts on wetlands from alterations to natural flow regimes in NSW has led to the *alteration of natural flow regimes of rivers and streams and their floodplains and wetlands* being listed as a key threatening process under the *Threatened Species Conservation Act 1995*. The long-term sustainability of wetlands in parks depends on adequate provision of water flows. The NSW Government is developing strategies to protect threatened flora and fauna from being adversely affected by altered natural flow regimes. This includes the NSW RiverBank Program, which will provide \$105 million over five years to buy water for environmental flows relieve stressed rivers and restore icon wetlands. NSW will be seeking matching funding from the Commonwealth Government's \$2 billion Australian Water Fund for RiverBank projects.

The use of water within NSW is an issue that affects all landholders. Water use within the state is governed by the *Water Management Act 2000* and the *Water Act 1912*, which are administered through the Department of Natural Resources. Water-sharing and water management plans have been developed for at least 36 stressed water sources in NSW. These plans allocate water to be used for various purposes, including environmental needs. Water flow into NSW wetlands is not only impacted by activities occurring in NSW catchments but also in other states such as Queensland, highlighting the importance of managing water flow on a scale that extends beyond state boundaries.

(d) The responsibilities of governments with regard to the creation and management of national parks, other conservation reserves and marine protected areas, with particular reference to long-term plans.

The long-term protection of conservation reserves requires the collective efforts of the Commonwealth Government, state governments, local governments, community groups and organisations and private individuals on a myriad of fronts. The public reserve system in NSW forms the basis of the protected area network in NSW and it is the public reserve system that provides the highest level of security for environmental values. Other mechanisms extend the protection of conservation values across other tenures in the landscape.

Catchment Management Authorities guide environmental protection in catchments, community groups and individuals both advocate and implement programs and local governments contribute to the conservation and management of conservation reserves through local park and reserve management and environmental planning. Planning instruments and development control processes help to ensure that land use does not compromise environmental values.

All governments have a responsibility to ensure firstly the security of a reserve system within a planning horizon of centuries not decades, and secondly the protection of values for which that reserve system was established.

The Commonwealth Government is responsible for the national conservation agenda as well as coordinating responses to international agenda. The Commonwealth should coordinate state efforts towards national goals (World Heritage, Ramsar, and National Heritage) and toward NRS targets to progress a national system of public conservation reserves.

A fundamental role of the Commonwealth Government is to assist state and territories to acquire land for the establishment of a national CAR reserve system. Current acquisition funds provided to states by the Commonwealth are on a \$1 for \$1 basis and are limited in quantum. NSW is of the view that the Commonwealth's rate of contribution of acquisitions under the NRS Program should at least revert to the \$2 for \$1 arrangement that was previously in place and that there should be a significant increase in the total quantum of funds available.

The Commonwealth Government's role in environmental protection and management is limited and the long-term management of a national reserve system falls to state governments. However, NSW strongly contends that the Commonwealth Government needs to do more to support the operation and maintenance of public reserve management for lands which contribute to the NRS, have world heritage or Ramsar listings or are on the National Heritage List. As the NRS is put into place, the Commonwealth should, like the States, contribute ongoing funding to maintain and protect the established system.

The Commonwealth, state and territory governments need to work together to:

- establish and manage a secure system of public reserves;
- provide opportunities for private landowners to enter into conservation agreements on their lands;
- ensure there are appropriate mechanisms and legislation to maintain satisfactory environmental and cultural value protection across the whole landscape; and
- assist community groups and individuals with environmental protection or restoration projects, and cultural maintenance and renewal.

State governments contribute significantly to national and international conservation goals, through legislation, programs and funding. The NSW Government also participates actively in intergovernmental programs and committees, such as the Natural Resource Management Ministerial Council. State governments are also responsible for the majority of conservation reserve acquisitions and management in Australia.

The NSW Government is a responsible and professional manager, achieving best practice in land management, leading by example and influencing others, such as local governments, community organisations and private individuals.

The role of the NSW Government in public ownership and management of the reserve system is to ensure:

- security, resilience and continuity of protection in perpetuity;
- ongoing public financial investment;
- legislatively defined public accountability for reserve management;
- community participation in management planning;
- professional management including understanding the values within the park system and evaluating the outcomes of management;
- a focus and reference point for building and strengthening conservation partnerships between government and the community;
- educating the community about natural and cultural heritage, the importance of its conservation, and opportunities to participate; and
- assured ongoing public access to most areas, often with provision of facilities for outdoor recreation.

The report, *State of the Parks 2004*, showed that the NPWS places management effort in managing threats and continues to focus effort on pest, weeds, fire, visitor and cultural heritage management.

This is part of NSW's long-term plans, which include:

- continuing to build the conservation reserve system on both public and private land, based on the NRS targets, using CAR principles and cultural heritage objectives;
- continuing the State of the Parks program to better understand and respond to the condition of the park system and the pressures it faces;
- implementing a strategy for sustainable financing of the reserve system, and cost-effective management standards for all aspects of park management;
- implementing a total asset maintenance system to manage the built infrastructure within the reserve system;
- developing and implementing a visitor and tourism planning framework for national parks, based on defined levels of service; and
- working with other agencies and communities to develop and implement off-reserve programs and initiatives for conservation.

(e) The record of governments with regard to the creation and management of national parks, other conservation reserves and marine protected areas.

Growth of the NSW public reserve system

NSW began building its public reserve system with the declaration of Royal National Park in 1879, the first national park in Australia and only the second in the world. Following the establishment of the National Parks and Wildlife Service in 1967, progress accelerated. High-profile reservations were declared such as the coastal public reserves in the 1970s, the mountain public reserves of the late 1970s and 80s, the Regional Forest Agreement public reserves of the 1990s, and the Brigalow Belt South and Nandewar public reserves of 2005. An ongoing program of land transfers and purchases in all parts of NSW has complemented these initiatives.

The NSW public reserve system has undergone unprecedented growth in the last ten years. From 4 million hectares in 1995, the public reserves managed by NPWS now cover 6.5 million hectares or 8.1% of the state. The total number of reserves in NSW has more than doubled from 329 in June 1995, to 751 in January 2006.

This growth has been made possible by the NSW Government's commitment to developing a comprehensive, adequate and representative reserve system, and substantial funding to support that task. Since 1996, the NSW Government has contributed approximately \$125 million to buy land to build the NSW reserve system. During this time, the Commonwealth has contributed about \$16.5 million from the NRS Program.

NPWS's land acquisition program focuses on purchasing lands when they become available and before they become degraded. The case study provided under TOR (a), which refers to the effectiveness of the National Reserve System, also clearly demonstrates that conservation reserves effectively protect ecosystems from degradation. Priorities include acquisition of lands representing poorly-reserved ecosystems and habitats, lands where we can establish new core conservation areas, critical landscape corridors, wetlands, floodplains, lakes and rivers, lands within important water catchments and culturally important places.

Key conservation gains in the east of NSW over the last ten years include:

- reserving over one million hectares of coastal forests;
- completing an unbroken chain of public reserves from the Victorian border to the Hunter Valley;
- increasing the length of NSW coast protected in reserves to nearly 40%;
- protecting over 1.3 million hectares in the poorly reserved far west and in the wheat-sheep belt of western NSW including nearly 350,000 hectares to Mungo National Park at the heart of the Willandra Lakes World Heritage Area;
- declaration of many new marine parks, including Solitary Islands, Jervis Bay, Cape Byron and Lord Howe Island and more recently the announcement of marine parks at Port Stephen - Great Lakes and Bateman's Bay area;
- establishing many new national parks in the west, including the Paroo-Darling (230,000 ha), Gundabooka (90,000 ha), Goobang (42,000 ha), Oolwmbeyan (22,000 ha) and Culgoa (30,000 ha);
- purchasing the 80,000 hectares Yanga Station to protect river red gum forests along 160km of the Murrumbidgee River; and
- the reservation of more than 350,000 hectares of land in the Brigalow Belt South Bioregion and Nandewar Bioregion, being the single biggest addition to the reserve system in Western NSW. More than 20,000 hectares of this reserve is highly significant

to regional Aboriginal communities and will be managed consistent with an Aboriginal area established under the *National Parks and Wildlife Act 1974*.

In the past, NPWS had an active program of acquiring heritage sites and thus manages some of the most significant places in the State, including Fort Denison, Hill End, Davidson Whaling Station and Currango Pastoral Station. While not often specifically targeted, the reserve system also contains many landscapes and places of significance to Aboriginal people. The NPWS continues to identify and acquire places of cultural heritage value (for example the lighthouses in 1998 and Yanga Pastoral Station (see case study under TOR (b))).

There has been a 1.24 million-hectare growth in wilderness areas in NSW, up from 664,000 hectares in 1995 to nearly 2 million hectares in 2005. Five marine parks have been declared and the NSW Government recently announced a sixth.

These represent major achievements in conserving and building the public reserve system but more remains to be done.

Further detail on the funding of NPWS's land acquisition program is provided under TOR (b).

Management of the public reserve system

In the past decade, funding from the NSW Government to support the management of public reserves has more than doubled on a dollar per hectare basis. The current budget for the Parks and Wildlife Division of DEC is in the order of \$211 million recurrent and \$36 million in capital funds.

Details on the resources and programs the NSW Government has committed to the management of the public reserve system have been provided under ToR (b) and (c).

State of the Parks program

In 2004, NPWS embarked on a reporting process called the State of the Parks program. The State of the Parks program is recognised as one of the largest attempts to measure park management effectiveness undertaken anywhere in the world.

In June 2005, NPWS released the first State of the Parks report. The report is based on a rigorous survey of all aspects of management of the NSW park system and is part of an on-going program to better understand and respond to the condition of, and pressures facing, the park system. The program collects and assesses information on condition and threats, on relationships with stakeholders, on the status of park planning and on management effectiveness.

Overall, the report demonstrates that NPWS is doing excellently in managing NSW's large and diverse parks system. NPWS will continue to put emphasis on the management of pest animals, weeds, fire, visitors and cultural heritage. Understanding the values within the park system and evaluating the outcomes of management is essential to being able to provide park managers with information to support decision-making

While this is a complex process, and will be further refined over time, the program has attracted national and international attention for the valuable contribution it has made to understand management effectiveness in protected areas.

Complimentary private land conservation programs

NSW has the longest running private land conservation programs in Australia. Wildlife Refuges have been in statutes for over forty years under the *Fauna Protection Act 1948* and then continuing in the *National Parks and Wildlife Act 1974*. The introduction of Conservation Agreements in 1985 provided further options to secure greater conservation commitments on private and other public lands. The NSW Government introduced the *Nature Conservation Trust Act 2001* to provide a relatively independent biodiversity conservation covenanting option for private landholders, and to provide a mechanism for the operation of a Revolving Fund Scheme.

There has been continuing interest by private and other public landholders in making conservation commitments on their lands and in recognition of this, NPWS formed the Conservation Partners Program in 2001 to consolidate assessment, negotiation and establishment of new formal commitments and provision of non-statutory property registration schemes. The program includes ongoing landholder support, such as planning, monitoring and review, information and technical services, capacity building and networking opportunities, and brokering incentives, rate exemptions and tax concessions for landholders with formal conservation commitments.

The following table represents a summary of formal conservation commitments made by landholders under the *National Parks and Wildlife Act 1974* since 2001:

Key Measures/Year	2001-02	2002-03	2003-04	2004-5
No. of Conservation Agreements in place	111	137	159	182
No. of hectares protected under Conservation Agreements	8,890	9,569	11,946	13,603
No. of Wildlife Refuges in place	585	587	599	620
No. of hectares protected under Wildlife Refuges	1,719,139	1,651,597	1,712,821	1,715,135
% of private land managed for conservation outcomes	2.16	2.07	2.15	2.16
Hectares of private land managed under formal agreements for conservation outcomes	1,728,029	1,661,166**	1,724,767	1,728,738

**In 2002-03 the transfer of two major Wildlife Refuges (Peery and Wilga) into the public conservation reserve system (Paroo-Darling NP) reduced the number of hectares by 99,152 and new commitments increased hectares by 32,289.

Appendix 1

The NSW conservation reserve system comprises seven categories of terrestrial reserves. Each category reflects a different conservation purpose, and is managed in accordance with a set of management principles outlined in the *National Parks and Wildlife Act 1974*:

1. **National Parks:** protect relatively large areas of high conservation value and provide opportunities for public education and recreation. There are currently 171 national parks in NSW*.
2. **Nature Reserves:** protect areas of special scientific interest due to their fauna, flora or natural features. There are currently 377 nature reserves in NSW*.
3. **Historic Sites:** protect buildings, objects, monuments, landscapes, and places of events of significance to history. There are currently 15 historic sites in NSW*.
4. **State Conservation Areas:** protect areas with important conservation values, while enabling other uses such as mineral and natural gas exploration and extraction. There are currently 82 state conservation areas in NSW*.
5. **Karst Conservation Reserves:** protect the above and below ground landforms of cave systems, and provide for public education and recreation. There are currently 4 karst conservation reserves in NSW*.
6. **Aboriginal Areas:** protect places and objects of cultural significance to Aboriginal people. There are currently 11 Aboriginal areas in NSW*.
7. **Regional Parks:** are primarily dedicated to protect important natural and semi-natural environments for public enjoyment and recreation, principally near urban areas. There are currently 11 regional parks in NSW*.

* These figures are current as at 30 June 2005.

There are currently five marine parks in NSW reserved under the *Marine Parks Act 1997*, and a sixth was recently announced.

There are a range of public and private land types in NSW that contribute to national conservation objectives:

1. NSW parks, administered by NPWS;
2. Crown land reserved for environmental protection, conservation and related purposes, administered by the Department of Lands (or trusts on behalf of the Minister for Lands);
3. Flora reserves, administered by Forests NSW (within the Department of Primary Industry);
4. Land held by other government agencies, (eg. land in irrigation dam catchments held by the State Water Corporation and Sydney Catchment Authority); and
5. Lands in private ownership that are subject to conservation agreements, Property Vegetation Plans (PVPs) and covenants for the protection of environmental values.

In addition, the NSW Government has introduced a range of conservation mechanisms in recent years that apply irrespective of tenure. These include the *Threatened Species Conservation Act 1995* and a range of initiatives to protect native vegetation. In particular, the *Native Vegetation Act 2003* and Regulations, which came into effect on 1 December 2005, which will put an end to broad scale land-clearing unless the overall effect is to improve or maintain the environment. These measures are being implemented by the Catchment Management Authorities (CMAs) and the Department of Natural Resources (DNR) and apply to both freehold and leasehold land.

Management overlays

Wilderness: NSW is one of the few developed places in the world where wilderness still exists with these areas being reserved for the enjoyment and benefit of present and future generations. As these areas encompass undisturbed nature, they form the backbone of the state's biodiversity conservation strategy. Less than 5% of New South Wales can still be considered 'wilderness', with about one third of that (1.9% of the State) formally declared, and therefore fully protected, as wilderness. Our objectives in managing wilderness areas in NSW are primarily to conserve natural features and processes and to provide for the conservation of significant cultural resources in wilderness areas in accordance with the Burra Charter. Wilderness areas also managed to provide opportunities for solitude and compatible self-reliant recreation and exclusion of activities that conflict with or diminish these opportunities.

Wild rivers: Wild rivers are rivers that have unmodified flows, have ecologies and geomorphology that have not been significantly modified by human activities and have numerous values of natural and cultural significance. On a purely representative scale, wild rivers are becoming increasingly rare on a globally and as this scarcity increases, their conservation value also increases. NSW parks play an important role in the protection of wild rivers with five rivers having been declared in NSW parks covering the Washpool, Upper Brogo, Upper Hastings, Forbes and Kowmung Rivers. The primary management objectives of wild rivers in NSW are to support the restoration and maintenance of the natural, hydrological and geomorphological processes associated with wild rivers and their catchments and to encourage the identification, conservation and appropriate management of Aboriginal objects and Aboriginal places.

Aboriginal places: An Aboriginal place declaration recognises that places are (or were) of special significance to Aboriginal culture. It gives the land a higher level of protection, to safeguard its significance to Aboriginal people.

World Heritage: World Heritage listed areas are places that have been internationally recognised as being an outstanding example of natural and/or cultural heritage of the world and for which the international community has a duty to protect. Within NSW, there are four World Heritage listed areas including: the Central Eastern Rainforest Reserves of Australia (CERRA), which includes the major rainforest parks and reserves of north-east NSW and south-east Queensland; the Greater Blue Mountains; the Lord Howe Island Group; and the Willandra Lakes Region. Our objectives in managing these areas are to protect, conserve and present the World Heritage values, to strengthen appreciation and respect of the property's World Heritage values, particularly through educational and information programs and to integrate the protection of the area into a comprehensive planning program.

Ramsar wetlands: Wetlands are the only type of habitat in the world to have a dedicated international convention (the Ramsar Convention) to assist in their promotion and protection. Wetlands have a variety of values including improving water quality downstream, operating as sites of groundwater recharge and being storehouses of knowledge about past ecological communities and climatic sequences. Australia is a signatory to the Ramsar convention and there are now 11 Ramsar sites in New South Wales. Six of these sites are wholly located within national parks and nature reserves managed by the NPWS while two are shared between parks and other land tenures (SOP 2004). In managing these areas, NSW aims to ensure wetland conservation and protection, encourage research and exchange of data in relation to wetlands and their flora and fauna and provide for environments which benefit native fauna populations.

National Heritage List: A National Heritage List has been established by the Commonwealth Government to list places of outstanding heritage significance to Australia. The List

comprises natural, historic and Aboriginal places that are of outstanding national heritage value to the Australian nation. To date, Botany Bay National Park (the Kurnell Peninsula section) is the first park to be placed on the National Heritage List. In managing national heritage, our objective is to identify, protect, conserve, present and transmit, to all generations, their National Heritage values.

Conservation on Private and Other Public Lands

Protected areas on private and other public lands in NSW can be formally established for particular conservation purposes and complements the public conservation reserve system across NSW:

Conservation Agreement: a formal agreement between a landowner and the NSW Minister for the Environment under s69A-K of the *National Parks and Wildlife Act 1974* and registered on the land title to protect, manage and monitor natural and cultural heritage conservation values in-perpetuity. A Conservation Agreement may be entered into:

- in relation to areas containing scenery, natural environments or natural phenomena worthy of preservation
- in relation to areas of special scientific interest
- for the purpose of the study, preservation, protection, care or propagation of fauna or native plants or other flora
- for the purpose of the study, preservation, protection or care of karst environments
- for the purpose of the conservation of critical habitat or the conservation of threatened species, populations or ecological communities, or their habitats
- in relation to areas in which Aboriginal objects, or Aboriginal places, of special significance are situated
- in relation to areas that are the sites of buildings, objects, monuments or events of national significance

There are currently 194 Conservation Agreements over a total land area of 14,165ha.

Wildlife Refuge: a formal proclamation as a Wildlife Refuge under s68 of the *National Parks and Wildlife Act 1974* and noted on the land title and dedicated in-perpetuity for the purposes of preserving, conserving and propagating and studying wildlife, conserving and studying natural environments, and creating simulated natural environments. A Scheme of Operations is negotiated, which outlines the management actions and monitoring to be undertaken and provides a vehicle for incentives management.

There are currently 624 Wildlife Refuges declared over an area of 1,715,044ha.

Aboriginal Place: a formal declaration under s84 of the *National Parks and Wildlife Act 1974* and noted on the land title. An Aboriginal Place is declared on any land to recognise the significance of an area to Aboriginal culture and to provide appropriate protection.

There are currently 22 Aboriginal Places in the NSW reserve system.

Nature Conservation Trust Covenants: established under legislation to provide an independent conservation covenanting option for the protection of high conservation value private lands in urban and regional areas under Part 3 of the *Nature Conservation trust Act 2001*. The Nature Conservation Trust of NSW also has a core function to operate a revolving fund scheme building on its statutory covenanting function, which involves the purchase, in-perpetuity covenanting, and on-selling of high conservation value private properties.

There are currently two properties purchased under the Revolving Fund Scheme in NSW, 'Euroka' and 'Sandy Wells'.

Section 88 Covenant: applied to private and public lands by prescribed authorities such as local councils and state government agencies under s88 of the *Conveyancing Act 1919*. Restrictive covenants can be placed on land to protect and conserve natural and cultural heritage through preventing development, and the application of positive covenants, which can include management actions and monitoring for defined periods of time.

Private Protected Area: Under the National Reserve System Program these are defined as “a protected area other than a formally gazetted status protected area managed for conservation and protected by legal or other effective means.” Incorporated community groups and non-government organisations obtain Commonwealth partial funding support for acquiring land of high conservation value and meeting establishment costs with a requirement that the property is legally secured for conservation and managed consistent with IUCN categories I-IV. Ongoing management costs are met by the landholder, usually through donations from supporters and volunteer work on properties.

There are currently 3 private protected areas in NSW purchased and managed by the Bush Heritage Trust – Tarcutta Hills (432ha), Burrin Burrin (411ha), and Brogo (120ha).

Indigenous Protected Area: Under the National Reserve System Program, these are private lands owned by Aboriginal community trusts or organisations recognised under State or Commonwealth law. The aim is to encourage voluntary inclusion of indigenous lands in the system by forming co-operative management arrangements. These areas are managed under a plan of management which recognises indigenous land management knowledge and is consistent with IUCN protected areas guidelines.

There are currently 2 Indigenous Protected Areas in NSW – Wattlebridge (Indigenous Land Corporation Banbai - 480ha) and Toogimbie (Nari Nari Tribal Council - 4858ha).

Private Wildlife Sanctuary: the fenced sanctuary model generally aims to recover and protect high conservation value habitat and threatened fauna species or establish new populations where threatened species have become locally extinct. Fencing is used when necessary to protect species from feral predators.

Wildlife sanctuaries in NSW include Calga Springs (Cohen), Scotia (Australian Wildlife Conservancy) and Waratah Park (Earth Sanctuaries).

Ramsar Wetland: protection of high conservation value wetlands, including mudflats, lakes, swamps, marshes, mangroves and billabongs that meet the criteria for listing as a wetland of international importance under the Ramsar Convention. Listed wetlands attract the Environmental Impact Assessment and management provisions of the Environment Protection and Biodiversity Conservation Act (Commonwealth). Includes the preparation of a plan of management for wise use of wetlands (including multiple uses) and a non-binding Memorandum of Understanding. A Conservation Agreement or Wildlife Refuge can also be entered into for private lands or leasehold land under the *National Parks and Wildlife Act 1974*, and contain terms consistent with wetlands conservation management principles.

There are currently 12 Ramsar wetlands in NSW: Towra Point NR, Hunter Estuary Wetlands, Macquarie Marshes, Little Llangothlin NR, Blue Lake, Lake Pinaroo, Gwydir Wetlands, Myall Lakes, Narran Lake NR, Fivebough and Tuckerbil Swamps, NSW Central Murray State Forests.

International Biosphere Reserve: are multiple function conservation recognised by the United Nations (UNESCO) as being representative of important ecosystems and contain natural areas which are protected for conservation, as well as areas modified for human activity. The main goals of the program are to conserve, for present and future use the diversity and integrity of plant and animal communities within natural ecosystems and to safeguard genetic diversity as well as provide for research (particularly baseline studies) and education.

There are currently three International Biosphere Reserves in NSW: Yathong Nature Reserve, Kosciuszko National Park and Nadgee Nature Reserve.

World Heritage Area: a place recognised by the international community as an outstanding example of the world's natural and/or cultural heritage. Countries that have signed the World Heritage Convention make a commitment to ensuring the identification, protection, conservation and preservation of World Heritage.

There are currently four World Heritage Areas in NSW: Willandra Lakes Region, Lord Howe Island Group, Central Eastern Rainforest Reserves and Greater Blue Mountains.