

The Senate

Standing Committee on
Environment, Communications,
Information Technology and the Arts

Conserving Australia

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

April 2007

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Recommendations

Recommendation 1

4.78 The committee recommends that in all future negotiations for the establishment of Marine Protected Areas, the oil and gas industry be part of the process so that all stakeholders are fully aware of the range of issues that impact upon the marine environment.

Recommendation 2

4.104 The committee recommends that specific consideration be given to the level of capacity for coastal NRM groups and to the funding arrangements made available to NRM groups to assist in acquiring the necessary marine expertise.

Recommendation 3

5.76 The committee recommends that all governments give greater priority to Indigenous knowledge and participation in park management generally, and fire management in particular.

Recommendation 4

6.5 The committee recommends the implementation of all recommendations made in the 2004 Environment, Communications, Information Technology and the Arts References committee report *Turning back the tide – the invasive species challenge* that have not yet been addressed.

Recommendation 5

6.6 The committee recommends that the Government response to the 2004 Environment, Communications, Information Technology and the Arts References committee report *Turning back the tide – the invasive species challenge* be finalised.

Recommendation 6

7.27 The committee recommends that the Commonwealth, States and Territories boost the resilience of reserves against the effects of climate change by focussing on increasing their connectivity, so that they contain a continuum of different climatic zones, altitudes and ecosystem types.

Recommendation 7

9.48 The committee recommends that management plans clearly identify practical on-ground outcomes and that protected area agencies have in place comprehensive monitoring and evaluation programs to continually assess management effectiveness and the extent to which protected area values are being maintained.

Recommendation 8

9.89 The committee recommends that best practice preparation and revision of reserve management plans should ensure that stakeholders, are consulted at the commencement of planning processes, rather than beginning with seeking comment on draft plans.

Recommendation 9

9.113 The committee endorses the Gilligan report findings and recommends that the Commonwealth substantially increase funding to the Indigenous Protected Areas Programme, and that funding for this Programme also be provided by state and territory governments.

Recommendation 10

10.19 The committee recommends that the Commonwealth Government examine ways to encourage State and Territory Governments and their relevant agencies to engage more fully in programs that provide opportunities for recreational groups and users to contribute in positive ways to the conservation and maintenance of park resources.

Recommendation 11

10.20 The committee recommends that the Commonwealth Government examine ways to encourage State and Territory Governments and their agencies to work collaboratively with recreational groups to identify further opportunities for activities such as horse riding, mountain biking and four wheel driving, where these activities will not unduly impact on the environment.

Recommendation 12

11.48 The committee recommends that every jurisdiction implement, where appropriate, legislative or administrative reforms that ensure that conservation covenants are registered on the title of the land.

Recommendation 13

11.67 The committee recommends that all governments, in consultation with the ATO and private conservation organisations, examine improved tax treatment for private initiatives that provide long-term, secure conservation benefits.

Recommendation 14

12.34 The committee recommends that all states and territories publish comprehensive information in a national consistent form on funding levels for ongoing management of national parks and reserves, including staffing resources, and that this information be published annually in the relevant annual reports.

Recommendation 15

12.35 The committee recommends that all states and territories, at a minimum, maintain their budgets for national parks and reserves in real terms to meet expansions in the reserve estate and operational requirements.

Recommendation 16

12.102 The committee recommends that the Commonwealth review the funding formula under the NRS Programme to take greater account of the on-going management costs borne by the states and territories.

Recommendation 17

12.103 The committee recommends that in the upcoming NHT3 funding round the Commonwealth significantly increase the funding allocation directed to the NRS Programme.

Recommendation 18

12.118 The committee recommends that the Commonwealth consider substantially increased funding for World Heritage Areas.

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Abbreviations

| | |
|-------|---|
| ACF | Australian Conservation Foundation |
| ACT | Australian Capital Territory |
| AMSA | Australian Marine Science Association |
| ANEDO | Australian Network of Environmental Defender's Offices |
| ARF | Australian Ranger Federation |
| ATSI | Aboriginal and Torres Strait Islander |
| AWC | Australian Wildlife Conservancy |
| CALM | Department of Conservation and Land Management (Western Australia) |
| CAPAD | Collaborative Australian Protected Areas Dataset |
| CAR | comprehensive, adequate and representative |
| CBD | Convention on Biological Diversity |
| CDEP | Community Development Employment Projects |
| CEO | Chief Executive Officer |
| CFA | Commonwealth Fisheries Association |
| CMCA | Campervan and Motorhome Club of Australia |
| COAG | Council of Australian Governments |
| CRC | Cooperative Research Centres |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| DAFF | Department of Agriculture, Fisheries and Forestry |
| DEC | Department of Environment and Conservation Western Australia |
| DEW | Department of the Environment and Water Resources, formerly known as the Department of the Environment and Heritage |
| EEZ | Exclusive Economic Zone |
| EPA | Environmental Protection Agency (Queensland) |

| | |
|----------|---|
| EPBC Act | The <i>Environment Protection and Biodiversity Conservation Act 1999</i> |
| GBRMP | Great Barrier Reef Marine Park |
| GBRMPA | Great Barrier Reef Marine Park Authority |
| GBMWhA | Greater Blue Mountains World Heritage Area |
| GMS | Gascoyne-Murchison Strategy |
| GPS | Global Positioning System |
| IBRA | Interim Biogeographic Regionalisation for Australia |
| IPA | Indigenous Protected Area |
| IUCN | World Commission on Protected Areas, formerly known as International Union for the Conservation of Nature and Natural Resources |
| LGAQ | Local Government Association of Queensland |
| MCA | Minerals Council of Australia |
| MCCN | Marine and Coastal Community Network |
| MPA | Marine Protected Area |
| NFACP | National Feral Animal Control Program |
| NFPS | National Forest Policy Statement |
| NGO | Non-government organisation |
| NHT | Natural Heritage Trust |
| NPA | National Parks Association |
| NPWS | National Parks and Wildlife Service (New South Wales) |
| NRM | Natural Resource Management |
| NRMMC | Natural Resource Management Ministerial Council |
| NRS | National Reserve System |
| NRSMPA | National Representative System of Marine Protected Areas |
| NRSP | National Reserve System Program |
| NSW | New South Wales |

| | |
|--------|--|
| NT | Northern Territory |
| NWI | National Water Initiative |
| PA | Protected Area |
| PAMA | Protected Area Management Agency |
| PMSEIC | Prime Minister's Science, Engineering and Innovation Council |
| QLD | Queensland |
| QPWS | Queensland Parks and Wildlife Service |
| RAMSAR | The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Iran 1971) |
| RFA | Regional Forest Agreement |
| SA | South Australia |
| TNC | The Nature Conservancy |
| TWS | The Wilderness Society |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| US | United States (of America) |
| VIC | Victoria |
| VMS | Vessel Monitoring System |
| WA | Western Australia |
| WCPA | World Commission on Protected Areas (formerly IUCN) |
| WHA | World Heritage Area |
| WTMA | Wet Tropics Management Authority |

Executive summary

Australia's conservation estate contributes significantly to the environmental, social, cultural and economic wealth of the Australian community. National parks and other conservation reserves constitute a vital and irreplaceable national and international asset. They perform many different functions, providing ecosystem services, nature preservation, and recreational opportunities for Australians and for a great many international visitors. The reserve system remains a very cost-effective way of conserving biodiversity. The reserve system itself is diverse. It includes over fifty different types of land classification, and comprises land managed by Commonwealth, state and territory governments, conservation agencies, other government agencies, Indigenous traditional owners, as well as private individuals and non-government organisations.

The conservation estate has been growing steadily for many years, and much of the current growth is in the marine reserve system. Planning for the future of the reserve system is based on the aim of creating a comprehensive, adequate and representative reserve system. This goal is underpinned by three processes: the National Reserve System; the Regional Forest Agreements; and the National Representative System of Marine Protected Areas.

The reserve system faces many threats to its sustainability and to the quality of its ecosystems. These include fire, feral animals, weeds, climate change, poor management practices and over-use. The marine reserve system also faces special challenges in managing the effects of over-fishing. There is ongoing debate about how fire should be managed; nevertheless, adequate action on the ground, including the utilisation of Indigenous knowledge, is critical. While there was widespread agreement about the threats posed by weeds and feral animals, the committee noted the government was yet to formally respond to its 2004 report *Turning back the tide – the invasive species challenge*. This aside, the committee noted progress in addressing the problem of invasive species, but that progress to date has not matched the urgency and severity of the threat.

The effectiveness of Australia's reserve system relies on a landscape based approach to nature conservation, on good inter-agency and inter-jurisdictional coordination, and on adequate planning and resources for management of parks. The committee heard about successful examples in all of these areas, being impressed by management of, and public consultation on, the Great Barrier Reef Marine Park; successful agreements for the management of Indigenous Protected Areas; and the recent rapid growth in private conservation lands being managed by dedicated non-government organisations, particularly in the rangelands and semi-arid areas of Australia.

A recurrent theme throughout the committee's inquiry was that there were insufficient resources available 'on the ground' to ensure adequate management of the conservation estate. This was a particularly strong message when it came to staffing.

Adequate staff numbers are not only needed to look after visitors and maintain infrastructure, but even more importantly to manage the most pressing threats facing parks, particularly fire, weeds and feral animals. Increases in the funding for the Indigenous Protected Area program are needed, in line with the findings of a recent review.

The committee found it difficult to develop an accurate picture of the situation regarding funding of the conservation estate by governments, due to differences in the gathering and reporting of data across jurisdictions. Data should be collected in a nationally consistent form, and should be published regularly. The data available to the committee suggested that the growth in the parks estate has not always been matched by commensurate increases in funding to manage that estate. The committee believes this must be rectified. It also argues that the Commonwealth should consider increased funding to the National Reserve System program and to World Heritage Areas.

Conservation initiatives on private land are expanding rapidly. The committee saw these as valuable adjuncts to public conservation reserves, as well as being essential in a landscape-based approach to conservation. All jurisdictions can assist private conservation by ensuring that conservation covenants can be attached to the title of land, and by ensuring that the laws governing leasehold land do not create barriers to conservation-based land management practices.

Effective public consultation and planning processes are important in maintaining confidence in the park system and its managers. There is room for improvement in these processes, particularly in the adequate and early engagement with stakeholders.

During the course of this inquiry the committee found that, while the issues surrounding the management and funding of the conservation estate are complex, people are passionate about their natural environment. This passion is perhaps especially prominent in a country like Australia that has so many iconic and beautiful places. Despite a diversity of views on particular issues, there is a great deal of common ground in recognising the value of national parks, conservation reserves and marine protected areas. The committee hopes this recognition will continue to support the successful development and management of a conservation estate of international significance.

Chapter 1

Introduction

Terms of reference

1.1 On 7 December 2005, the Senate referred an inquiry into the funding and resourcing of Australia's national parks, other conservation reserves and marine protected areas to the Environment, Communications, Information Technology and the Arts Reference Committee for report by 30 November 2006. On 18 October 2006 the Senate granted an extension of time to report until 28 February 2007. Two further extensions were later granted to the committee, to 29 March 2007, and then again to 12 April 2007. The committee thanks the Senate and interested stakeholders for their cooperation with the committee as it has completed this major inquiry.

1.2 The terms of reference were:

The funding and resources available to meet the objectives of Australia's national parks, other conservation reserves and marine protected areas, with particular reference to:

- (a) the values and objectives of Australia's national parks, other conservation reserves and marine protected areas;
- (b) whether governments are providing sufficient resources to meet those objectives and their management requirements;
- (c) any threats to the objectives and management of our national parks, other conservation reserves and marine protected areas;
- (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; and
- (e) the record of governments with regard to the creation and management of national parks, other conservation reserves and marine protected areas.

Conduct of the inquiry

1.3 In accordance with its usual practice, the committee advertised details of the inquiry in *The Australian* on 14 December 2005. The committee also made direct contact with a range of organisations and individuals to invite submissions to the Inquiry. The committee received written submissions from 221 individuals and organisations, as listed at Appendix 1. Additional information received by the committee is listed at Appendix 3.

1.4 Public hearings of the committee were held in all States and Territories, except Tasmania. Details of the 11 hearings, including a list of witnesses who gave evidence, are shown at Appendix 2.

1.5 The committee took the view that its understanding of issues raised in the course of the inquiry would be assisted by undertaking a program of site visits in conjunction with its hearings program. The committee inspected a number of national parks, conservation reserves and marine parks, as listed in Appendix 11. The program of site visits included a variety of reserve types in different management jurisdictions, subject to a range of pressures – some that were unique to particular parks, and others that were common to all. Each visit offered an insight into the diversity of ecosystems represented in the reserve system, their relationship with local communities, and their associated management issues.

Figure 1.1 Committee members and staff during site visits in the Wet Tropics World Heritage Area



1.6 During the course of the inquiry, two witnesses raised concerns with the committee about their treatment by their employer in relation to evidence given to the committee. Senate privilege resolution 1(18) states:

Where a committee has any reason to believe that any person has been improperly influenced in respect of evidence which may be given before the committee, or has been subjected to or threatened with any penalty or injury

in respect of any evidence given, the committee shall take all reasonable steps to ascertain the facts of the matter. Where the committee considers that the facts disclose that a person may have been improperly influenced or subjected to or threatened with penalty or injury in respect of evidence which may be or has been given before the committee, the committee shall report the facts and its conclusions to the Senate.

1.7 The committee regards such allegations as serious matters and, in accordance with the Senate's privilege resolutions, sought to establish the facts of the matter. It wrote to one of the witnesses seeking more detail, and in both cases wrote to the two senior managers against whom allegations had been made, seeking their account of the facts. Both managers wrote to the committee responding to the claims made against them.

1.8 The committee is still considering the material made available to it, and will report on the matter to the Senate as soon as it is able.

Terminology used in this report

1.9 There are many different types of land and sea tenure that are managed for many different conservation purposes. This very diversity was itself a topic of discussion by some witnesses. The committee's terms of reference ask it to examine issues concerning 'Australia's national parks, other conservation reserves and marine protected areas'. Throughout this report the committee refers to these areas as the conservation estate or the reserve system.

Acknowledgements

1.10 The committee wishes to express its appreciation for the cooperation of all who contributed to its inquiry, whether by making submissions, by personal attendance at a hearing, or, as in many cases, by giving both written and oral evidence. In particular, the committee thanks those who travelled significant distances to attend its public hearings.

1.11 The committee would like to note its gratitude to those park rangers and other officers from Commonwealth, state and territory departments who assisted the committee during site visits to national parks, conservation reserves and marine protected areas throughout Australia. In particular, the committee would like to acknowledge the assistance provided by Mr Peter Cochrane, Director of National Parks; Ms Helen Halliday, Department of Environment and Heritage; Mr Alan Feely, Queensland Parks and Wildlife Service; Ms Josh Gibson, Wet Tropics Management Authority; Mr Greg Leaman, South Australian Department for Environment and Heritage; and Mr Jim Sharp, Western Australian Department of Environment and Conservation.

1.12 The committee also thanks the many individuals and businesses involved in management of Australia's conservation estate who spent time with the committee during its visits to some of Australia's diverse and valuable natural areas.

Figure 1.2 The committee visiting Woodside's facility, Karratha, Western Australia



1.13 The committee would also like to acknowledge the work of the secretariat for their organisation and support of such a large inquiry and for their work in drafting the report. The Committee particularly thanks Dr Jacqueline Dewar for her commitment while acting as secretary to the committee through much of the inquiry.

Chapter 2

Values and objectives of the conservation estate

Introduction

2.1 Australia's conservation estate contributes significantly to the environmental, social, cultural and economic wealth of the Australian community. Parks and reserves are seen today as the foundation of conservation efforts to protect biodiversity and cultural and natural heritage. The conservation estate not only facilitates the protection of cultural and natural heritage values but also delivers a wide range of ecological benefits 'including clean water and air, climate modulation, habitats for resource species (eg fish stocks) and resources for scientific research'.¹

2.2 The values and objectives of protected areas have changed over time. Originally the focus was on the conservation of scenic and recreational areas. More recently, the protection of biodiversity has been foregrounded:

Australia has a long history of recognising the values of natural and wilderness areas through the creation of national parks and protected areas. In the tradition of most western nations, the development of national parks initially began with the objectives of conserving scenic and recreational values in close proximity to urban centres. However, throughout the twentieth century, there has been an increasing awareness in the need to protect land and ecosystems for their biodiversity values and for their natural and cultural heritage values.²

2.3 The IUCN World Commission on Protected Areas (IUCN) similarly noted the evolving nature of the values and objectives of protected areas and submitted that there is now a focus on economic and social benefits as well as their conservation and recreational value:

The understanding of the values and objectives of protected areas is an evolving field. Comparatively recently parks were mainly valued for conserving natural and cultural heritage and outdoor recreation. Increasingly they are understood to be crucial to sustainable development and have many direct and indirect economic and development benefits. The understanding of their central role in Australia's tourism industry has only been fully recognised since the early nineties, the term 'ecosystems services' - the profound benefits which derive from intact systems is similarly new. An emerging area of great importance is the social value of parks to physical, mental and spiritual health.³

1 Tasmanian National Parks Association, *Submission 78*, p. 2.

2 Australian Network of Environmental Defender's Offices, *Submission 145*, p. 4.

3 *Submission 137*, p. 12.

2.4 WWF-Australia submitted that the national parks and other conservation reserves provide an 'effective policy mechanism' to safeguard a range of ecological, social and economic values. More specifically, they argued that the economic value of national reserves is substantial and growing.⁴

2.5 Fundamentally however, there is no single parks concept or objective. There exists a multiplicity of rationales for the preservation of the landscape through the formation of reserves. At one end of the scale, parks and reserves can be sought principally by those desiring to preserve large tracts of land for the purposes of recreational activities such as motor sport and skiing. At the other end of the scale, they can be desired by scientists and conservationists who may be seeking to limit human activity in these areas with the sole aim of preserving these environments in their pristine state.⁵

2.6 The reservation of significant areas of land brings with it significant environmental, economic and social benefits and is an investment in Australia's future. Not only does the conservation estate play a critical role in protecting lands and seas, natural features, wildlife and associated cultural values for present and future generations, it also forms a platform for the tourism industry, making a major contribution to Australia's national and international appeal. Public investment in a comprehensive park system ensures a responsibility to future generations as well as bringing substantial ecological, economic and societal benefits.⁶

4 *Submission 161*, p. 12.

5 Hoggett, J. 'The Uses and Value of National Parks: Does More Mean Worse?', *IPA Background*, vol. 17, no. 2, 2005.

6 Department of Natural Resources, Environment and the Arts, Northern Territory Government, *Submission 16*, p. 1.

Figure 2.1 The economic benefits of the conservation estate: tourists in Uluru National Park



2.7 While the Commonwealth government plays an important role in conservation, the state and territory governments are the predominant owners and managers of the Australian parks system. The Australian Government, through the Director of National Parks, manages Commonwealth parks and reserves including areas located on external island territories and within Australian waters beyond the State limit of three nautical miles. Each Australian state and territory government also has their own protected area management agencies to manage reserves under their respective jurisdictions.⁷

2.8 When the colonies joined to form the Australian Federation, and the Constitution was declared in 1901, this set the basis for the state-run national parks system that Australia has today. Because the Constitution did not list environmental planning and management as a Federal responsibility, this meant that the states were responsible for national parks by default. The management of Crown public land has remained with the states from 1901 until the present day.⁸

7 Department of the Environment and Heritage, web site, *Parks and Reserves*, <http://www.deh.gov.au/parks/index.html>, accessed 27 November 2006.

8 Wescott, G.C., 'Australia's Distinctive National Parks System', *Environmental Conservation*, vol. 18, no. 4, 1991, p. 331.

2.9 One of the difficulties with this arrangement is the coordination of the activities of nine different governments, meaning that uniform environmental protection is not easily achieved. Each state and territory has its own legislation and benchmarks for the declaration and management of conservation reserves, with the Commonwealth being responsible only for those areas within the Federal jurisdiction.⁹

2.10 This arrangement has led to some anomalies in the how the Australian national parks system is structured, as an examination of the development of the conservation estate over time reveals.¹⁰

History

2.11 A discussion of the current values and objectives of the conservation estate is incomplete without an understanding of how the national parks and reserve system in Australia has evolved. The national reserve system has a long history which reflects the changing aims and values of both Governments and society as a whole.

2.12 When the first European settlers came to Australia in the late 18th century, and through the first half of the 19th century, there was a general policy that unused land and land not cleared of trees and vegetation was a waste. This led to large scale land clearance, and conservation was not a consideration throughout this era of Australia's history.¹¹

2.13 The first actual nature reserve to be declared in Australia was the Jenolan Caves Reserve, located in New South Wales, in 1866. This was closely followed by Tower Hill public park in Victoria in 1866, (subsequently upgraded to national park status in 1892) and in 1871 Kings Park was declared in Western Australia.¹²

2.14 Australia's first national park, however, was proclaimed in New South Wales on 26 April 1879. Originally named the 'The National Park' it was renamed 'Royal National Park' when Queen Elizabeth II visited it in 1955. This park was the second such park to be declared in the world after Yellowstone National Park in the United States of America was declared in 1872.¹³

9 Hall, C.M., *Wasteland to World Heritage: Preserving Australia's Wilderness*, Melbourne University Press, 1992, p. 47.

10 Wescott, G.C., 'Australia's Distinctive National Parks System', *Environmental Conservation*, vol. 18, no. 4, 1991, p. 331.

11 Hall, C.M., *Wasteland to World Heritage: Preserving Australia's Wilderness*, Melbourne University Press, 1992, p. 79.

12 Department of the Environment and Heritage, *Submission 126*, p. 2.

13 Australian Government Culture and Recreation Portal web site, *National Parks*, <http://www.cultureandrecreation.gov.au/articles/nationalparks>, accessed 28 November 2006; Wescott, G.C., 'Australia's Distinctive National Parks System', *Environmental Conservation*, vol. 18, no. 4, 1991, p. 331.

Sites for public recreation

2.15 The early days of the Royal National Park saw it used mostly as places of leisure and recreation for the residents of Sydney rather than for nature conservation. A dance hall was built there during the 1940's, and prior to that, land was cleared for large areas of lawns and a train line was set up between Loftus and Audley, two towns within the Park.¹⁴

2.16 Various colonies followed the example of New South Wales in the creation of national parks. South Australia declared 'The National Park' at Belair in 1891, Parks were not created in Queensland and Tasmania until after federation. In 1908 Queensland named Witches Falls at Tambourine Mountain as its first national park, while Tasmania declared Mt Field and Freycinet national parks in 1916.¹⁵

2.17 As the history of the NSW Royal National Park highlights, the earliest rationale for the formation of conservation estate across Australia was to set aside areas mainly for the purposes of public leisure and recreation. As early European settlers found the Australian landscape harsh and unforgiving, attempts were made to change the landscape into more familiar English-looking countryside.¹⁶

2.18 It is only in recent decades that perceptions have changed in Australian society to incorporate the objective of environmental conservation and the protection of biodiversity as the major rationale behind the expansion of the conservation estate. Along the way, the ideological clash between the utility of the natural environment and its preservation has had a marked effect on the attitude of Australians.¹⁷

Places for remote area recreation, resource conservation

2.19 In the 1920s and 1930s, recreational activities such as bushwalking became increasingly popular and led to lobbying for areas to be set aside for these purposes, protecting them from competing land uses such as extractive industries. This resulted, for example, in the creation of the Blue Mountains National Park in NSW, the first stage of which was declared a park in 1932.¹⁸ Setting aside land for other possible

14 Australian Government Culture and Recreation Portal web site, *National Parks*, <http://www.cultureandrecreation.gov.au/articles/nationalparks>, accessed 28 November 2006; Wescott, G.C., 'Australia's Distinctive National Parks System', *Environmental Conservation*, vol. 18, no. 4, 1991, p. 331.

15 Department of the Environment and Heritage, *Submission 126*, p. 2; Wescott, G.C., 'Australia's Distinctive National Parks System', *Environmental Conservation*, vol. 18, no. 4, 1991, p. 331.

16 Environmental Protection Agency Queensland Parks and Wildlife Service, web site, http://www.epa.qld.gov.au/parks_and_forests/history_of_parks_and_forests/, accessed 28 November 2006.

17 Hall, C.M., *Wasteland to World Heritage: Preserving Australia's Wilderness*, Melbourne University Press, 1992, p. 78.

18 NSW Department of Environment and Conservation, *State of the Parks 2004*, Department of Environment and Conservation, Sydney, p. 16.

future uses was also a motivation behind the creation of some parks. One of the reasons for the creation of Kosciusko National Park in NSW was to protect its hydroelectric potential, and significant sections of the Snowy Mountains Hydroelectric Scheme were built within this park. The establishment of Kosciusko was prescient too in its recognition that reserves can provide ecosystem services such as soil and water conservation.¹⁹

2.20 Wilderness and remote natural area preservation became a major environmental policy issue in Australia from the 1960's. An increased demand for the preservation of Australia's wilderness was fuelled by heightened public awareness in the latter half of the 20th century regarding threats to the conservation values of places such as the Great Barrier Reef, Fraser Island, the Australian Alps, Kakadu, Shark Bay and south-west Tasmania among other places. Combined with this increasing awareness of conservation however, was a continued acceptance of the value of preserving such areas for remote area recreation and for tourism.²⁰

2.21 In the mid-1970's the Commonwealth took a more substantial role in the management of the natural environment, through the creation of the National Parks and Wildlife Service, the Australian Heritage Commission, and through the passing of federal environmental protection legislation.²¹

Iconic locations

2.22 The protection and marketing of iconic locations – sometimes referred to as monumentalism – has always been an important motivation behind the creation of parks. This was the rationale behind the creation of one of the United States' most famous parks, Yellowstone.²² In Australia, too, popular natural attractions have often been amongst the first sites to receive protection in some form of reserve. The creation of a park at Jenolan Caves in the nineteenth century was an example of this.

2.23 In 1975 the Commonwealth enacted the *National Parks and Wildlife Conservation Act 1975* and formed the Australian National Park and Wildlife Service. The first terrestrial national parks were established under the Act in 1977 (Uluru – Kata Tjuta National Park) and in 1979 (Kakadu National Park). Both of these parks are identified as areas of universal significance under the World Heritage

19 NSW Department of Environment and Conservation, *State of the Parks 2004*, Department of Environment and Conservation, Sydney, p. 15.

20 Hall, C.M., *Wasteland to World Heritage: Preserving Australia's Wilderness*, Melbourne University Press, 1992, p. 1.

21 Australian National Parks, web site, <http://www.australiannationalparks.com>, accessed 28 November 2006; Hall, C.M., *Wasteland to World Heritage: Preserving Australia's Wilderness*, Melbourne University Press, 1992, p. 1.

22 Suh, J. & Harrison, S., 'Management Objectives and Economic Value of National Parks: Preservation, Conservation and Development', *Discussion Paper No. 337*, School of Economics, University of Queensland, 2005.

Convention,²³ and include frequently visited sites that have also provided images synonymous with Australia's natural environment.

2.24 The preservation of such iconic natural assets pointed to a growing recognition by government and society of the value of preserving such places not only for their natural heritage value but also for their international recognition value, effectively putting Australia more firmly on the world map.

The development of marine protected areas

2.25 While significant attention was given to the formation of terrestrial parks in Australia during the later part of the 19th century and beyond, it was not until the late 1930's that something resembling a marine national park was declared in Australia. In 1937 an area around Green Island near Cairns was brought under the Protection of the Fisheries and Oyster Acts. The prevailing attitude until then was that seas were an infinite sink of resources, although the idea of degradation was of some concern to scientists.²⁴

2.26 From then on the development of marine parks steadily gained pace. By the end of 1977 there were 35 declared areas and 55 more were proposed. One of the most prominent marine reserves to be declared during that time was at the Great Barrier Reef in Queensland.²⁵

2.27 The Great Barrier Reef Marine Park was established in 1975 as a multiple-use marine park. It was declared a World Heritage Area in 1981, internationally recognised for its outstanding natural values. As explained by the Department of the Environment and Water Resources (DEW – formerly the Department of the Environment and Heritage), it comprises one of the world's largest and most complex ecosystems, ranging from fringing coastal reefs to mid-shelf lagoons, outer reefs and then to the open ocean. As the world's largest coral reef ecosystem, and a comparatively pristine area with lower human pressure compared to other coral reef systems in the world, it is also a critical global resource.²⁶

23 Hall, C.M., *Wasteland to World Heritage: Preserving Australia's Wilderness*, Melbourne University Press, 1992, p. 41; Department of the Environment and Heritage, *Submission 126*, pp 2–3. The *National Parks and Wildlife Conservation Act 1975* under which Uluru and Kakadu were both recognised and managed was replaced in 2000 by the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Director of National Parks and all parks and reserves established under the former Act continue under the EPBC Act.

24 Hundloe, T.J., 'Parks in the Marine Environment', *The Value of National Parks to the Community: Proceedings of the Second National Wilderness Conference, University of Sydney, 23–25 November 1979*, Australian Conservation Foundation, 1980, p. 168.

25 Hundloe, T.J., 'Parks in the Marine Environment', *The Value of National Parks to the Community: Proceedings of the Second National Wilderness Conference, University of Sydney, 23–25 November 1979*, Australian Conservation Foundation, 1980, p. 168.

26 Department of the Environment and Heritage, *Submission 126*, pp 2–3.

2.28 The rationale for the creation of marine reserves is akin to that for the creation of terrestrial parks. The objectives include the preservation of marine ecosystems and biodiversity for nature's sake alone, and the conservation of marine ecosystems for sustainable human use over the long term.²⁷

2.29 Working towards those objectives, in the 1990's the Australian Government began to create an Oceans Policy (1999) which would set the guidelines for establishing a more systematic approach to the protection and management of marine areas, and this approach will be expanded upon in chapter 4 of this report.²⁸

Conflict over the creation of parks

2.30 The creation of reserves, on land and at sea, has been a source of social and political conflict, particularly during the 1970s and 1980s. The first prominent example of such conflict between nature conservation and hydroelectric development was at Lake Pedder in the late 1960s. The conservation of the Great Barrier Reef involved conflict over oil exploration, shipping and fishing and, more recently, the management of intensive tourism. The drive by non-government organisations to support the extension of the conservation estate, particularly in the forests of eastern Australia, resulted in intense debates over land use, particularly in relation to forestry activities, but also, again in Tasmania, in relation to hydroelectric development.

2.31 These conflicts resulted in protests, blockades, arrests and legal challenges at many locations in Australia, most notably in south-west Tasmania, the rainforests of NSW, and in the Daintree area of northern Queensland. They sometimes pitted social movements against governments, sometimes governments against each other, and environmental conservation became a topic of major political importance.

2.32 These debates about land use and the desirability of setting areas aside for conservation were crucial parts of a public discussion about the importance of conservation and how it should be achieved. They also triggered the creation of the bulk of the reserves in the forested areas along Australia's Great Dividing Range and in Tasmania. Legal cases, particularly the Franklin Dam dispute, changed the approaches of governments to conservation, as well as having impacts on the constitutional landscape that are still being felt in all areas of Australian public policy. However, these conflicts were fought out overwhelmingly within a particular set of ecosystems in the wetter parts of Australia.

2.33 The same period also saw recognition of the role of Indigenous Australians as custodians and managers of significant areas of Australia with important conservation values. This led, for example, to Uluru being returned to Indigenous traditional

27 Hundloe, T.J., 'Parks in the Marine Environment', *The Value of National Parks to the Community: Proceedings of the Second National Wilderness Conference, University of Sydney, 23–25 November 1979*, Australian Conservation Foundation, 1980, p. 172.

28 Department of the Environment and Heritage, *Submission 126*, p. 8.

owners in 1985, with Indigenous custodians leasing it back to Parks Australia.²⁹ Since that time, governments around Australia have entered into a range of partnership arrangements with Indigenous people for some conservation reserves.

A change in focus

2.34 Two things combined to see a gradual change in emphasis in conservation through the 1990s. The science of conservation was placing an increased emphasis on habitat conservation and on recognising that the full range of ecosystems and biodiversity were legitimate targets for conservation efforts. Greater attention was paid to conservation beyond the coasts and forests of eastern and south-west Australia. More conservation reserves appeared in the arid, semi-arid and rangeland areas of Australia. Because much of this land was freehold or leasehold, more attention was also paid to how conservation objectives could be achieved in partnership with private landholders. This is examined more fully in chapter 11.

2.35 The bitter conflicts of the 1980s created a desire amongst many stakeholders to find processes that would allow consultative, rational and balanced approaches to be taken to land management. Examples included the development of the Intergovernmental Agreement on the Environment in 1992,³⁰ the emergence of Ecologically Sustainable Development as a framework for managing impacts on the environment,³¹ experimentation with new institutional arrangements such as the Commonwealth's Resource Assessment Commission, and bilateral agreements to manage major conservation areas, such as the Wet Tropics in Queensland. Conflicts over forest use were also a driving force behind the development of the Regional Forest Agreements, discussed further in chapter 3, which help plan for the conservation and management of forested areas of Australia.³²

Contemporary conservation values

2.36 The conservation estate is currently meeting a wide range of objectives. This range reflects the complex history of reserves, as well as the many values which governments and other land managers want to see reflected in reserve systems:

There has been a history of reserving and protecting areas for their scenic and recreational values, and ... current legislative categories of protected

29 World Heritage web site, *Uluru-Kata Tjuta National Park*, <http://www.deh.gov.au/heritage/worldheritage/sites/uluru/index.html>, accessed December 2006.

30 Department of the Environment and Water Resources, *Intergovernmental Agreement on the Environment*, <http://www.deh.gov.au/esd/national/igae/>, accessed December 2006.

31 Department of the Environment and Water Resources, *National Strategy for Ecologically Sustainable Development*, <http://www.deh.gov.au/esd/national/nsesd/index.html>, accessed December 2006.

32 Department of Agriculture Fisheries and Forestry, *Regional Forest Agreements. Why?* <http://www.affa.gov.au/content/output.cfm?ObjectID=D2C48F86-BA1A-11A1-A2200060B0A01805>, accessed December 2006.

areas recognise a range of different values which warrant special protection and management for the relevant area.³³

2.37 Ensuring the conservation estate reflects diverse values and meets diverse needs is not an easy task. In NSW the Department of Environment and Conservation has noted:

A challenge for the NPWS is to assess the condition of the entire NSW park system against a contemporary set of values that may not align with the reasons for which parks were initially created.³⁴

2.38 There is no question that the preservation of natural and cultural values is the predominant aim of the contemporary conservation estate. However, other objectives are also extremely important. These include the preservation of ecosystem services (such as clean water from undisturbed catchments), recreational opportunities and tourism services, and land occupation and use for Indigenous people.

2.39 Many of these values and objectives have been articulated through national and international agreements around conservation, as well as through management planning processes administered by state and territory governments. The Department of the Environment and Water Resources explained that:

The values and objectives for the declaration and purpose of reserves have been developed from a range of policy agreements. The agreements give effect to a number of international and national policies including the Convention on Biological Diversity, the National Strategy for Ecologically Sustainable Development (1992); and the National Strategy for the Conservation of Australia's Biological Diversity (1996).³⁵

2.40 Australia's conservation estate values are also tied in with international conservation efforts, through the work of the World Conservation Union:

The World Conservation Union (IUCN) is the world's largest and most important conservation network. The Union brings together 82 States, 111 government agencies, more than 800 non-governmental organizations (NGOs), and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership...The IUCN has helped over 75 countries to prepare and implement national conservation and biodiversity strategies.³⁶

2.41 The IUCN has outlined five types of values that protected areas can represent:

- Biodiversity/science values:

33 Australian Network of Environmental Defender's Offices, *Submission 145*, p. 8.

34 *State of the Parks 2004*, Department of Environment and Conservation, Sydney, p. 15.

35 Department of the Environment and Heritage, *Submission 126*, p. 6.

36 *IUCN Overview*, www.iucn.org/en/about/, accessed 20 November 2006.

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- Protected areas are a principal avenue through which the full range of Australia's ecosystems are protected, thereby contributing to the conservation of biodiversity
 - Protected areas 'provide critical outside laboratories for scientific research into the functioning of ecological systems and processes'
 - Geodiversity values:
 - Protected areas protect geodiversity features or the 'abiotic' dimension of the land and sea – mountains, cliffs, caves, valleys, dunes, coral reefs, fossil sites etc
 - Geodiversity features are frequently key scenic attractions providing beauty, interest and tourism value
 - Geodiversity can also be of Indigenous cultural value
 - Economic values:
 - Protected areas provide 'ecosystem benefits', which in turn may yield economic benefits (or prevent economic costs) to the community, for example, through contributing to good water quality and soil stability and preventing costly environmental problems such as salinity and soil erosion
 - Protected areas contribute to the tourism industry forming the key scenic attractions across the states as well as providing activities in marine environments such as diving and whale and dolphin watching
 - Protected areas generate employment
 - Parks that are jointly managed with Indigenous people generate income for Indigenous communities
 - Cultural/social values:
 - Protected areas safeguard sites of social, cultural and spiritual value
 - Protected areas, Indigenous Protected areas and Community Conserved Areas may help protect sites of significant cultural value to Indigenous Australians and enhance understanding of, and respect for, Indigenous culture
 - Sites of cultural value such as pioneer settlements may be protected by protected areas
 - Community health and well-being can be enhanced by protected sites by offering places of beauty and outdoor recreation plus other community gatherings
 - 'wildlife and wilderness inspire the creative community and generate expression in art, music, publishing and filmmaking'
 - urban protected areas provide a site for environmental education and self reliance training (through school camps etc)

- Spiritual/ethical values:
 - Protected areas safeguard areas which hold spiritual value for many community members
 - The protection of, and respect for, other life forms is an ethical position held by some in the community³⁷

Diverse values, diverse conservation objectives?

2.42 The many different values for which conservation reserves are managed, the complex history of nature conservation, and the maintenance of nine different jurisdictional reserve systems across the continent, are all factors that have combined to create an at times bewildering proliferation of reserve types.

2.43 Australia currently has over 50 different types of conservation reserve, over numerous different land tenures and different management arrangements.³⁸ The Collaborative Australian Protected Areas Database (CAPAD) lists 55 types of tenure, not including Indigenous Protected Areas, in the terrestrial estate alone.³⁹ Some of this land is managed by state or territory statutory agencies solely charged with the maintenance of the conservation estate; some areas are managed by departments of conservation within a broader portfolio of environmental responsibilities; other areas are managed by state agencies with responsibility for water supply, production forestry or crown lands generally. Some of the land is not managed by public agencies at all, but is in private hands.

2.44 The management objectives of areas vary hugely. There are conservation lands within urban areas that are heavily modified ecosystems, and regularly visited by individuals from surrounding homes and businesses. There are remote reserves that are primarily managed to protect key wildlife species and see almost no visitors at all. There are parks that contain major tourist resort development, and others that surround urban water supply dams. Some reserves cater for significant levels of organised tourism, such as Fraser Island, and others where most of the visitation is by individuals and families, but which nevertheless see hundreds of thousands of visits every year, such as Mossman Gorge in north Queensland.

2.45 Concern was expressed during the hearings that the diversity of terminology might be hampering the ability to communicate with the public about parks and about the recreational opportunities they present:

37 World Commission on Protected Areas, *Submission 137*, pp 12–18.

38 Mr Brian Gilligan, *Committee Hansard*, 16 June 2006, p. 2.

39 Department of the Environment and Heritage, *Summary of Terrestrial Protected Areas in Australia by Type*, <http://www.deh.gov.au/parks/nrs/capad/2004/national/nat-type04.html>, accessed December 2006.

It would really assist us and go a long way towards protecting our natural environment if there were a national understanding of what a national park is and core definitions applied across all states and territories of Australia.⁴⁰

2.46 Tourism industry representatives, such as Ms Dimascio, of the Tourism and Transport Forum, also thought the marketing could be more coordinated, though they recognised that the labels of the parks need not necessarily inhibit that.⁴¹

2.47 There is an internationally recognised categorisation of reserves available. The IUCN has recognised that the many values of conservation lands can underpin a range of types of conservation area. It maintains a system of six categories of reserve:

- Category Ia - Strict Nature Reserve: Protected Area managed mainly for science.
 - Area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.
- Category Ib - Wilderness Area: Protected Area managed mainly for wilderness protection.
 - Large area of unmodified or slightly modified land and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.
- Category II - National Park: Protected Area managed mainly for ecosystem conservation and recreation.
 - Natural area of land and/or sea, designated to protect the ecological integrity of one or more ecosystems for this and future generations: exclude exploitation or occupation inimical to the purposes of designation of the area: and provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.
- Category III - Natural Monument: Protected Area managed for conservation of specific natural features.
 - Area containing one or more specific natural or natural/cultural feature which is of outstanding value because of its inherent rarity, representative or aesthetic qualities or cultural significance.
- Category IV - Habitat/Species Management Area: Protected Area managed mainly for conservation through management intervention.

40 Ms Kristen Appel, Australian Ranger Federation, *Committee Hansard*, 31 March 2006, p. 65.

41 Ms Joyce Dimascio, *Committee Hansard*, 12 May 2006, pp 29–30.

- Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.
- Category V - Protected Landscape/Seascape: Protected Areas managed mainly for landscape/seascape conservation and recreation.
 - Area of land, with coast and seas as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, cultural and/or ecological value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.
- Category VI - Managed Resource Protected Areas: Protected Area managed mainly for the sustainable use of natural ecosystems.
 - Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.⁴²

2.48 Australia uses the IUCN's definitions in its National Reserve System (NRS), discussed in the next chapter, by requiring that the management objectives of NRS reserves be consistent with the IUCN definition of a protected area.⁴³ Furthermore, 'all protected area categories across each jurisdiction have notionally been assigned to one of the IUCN protected area categories'.⁴⁴ A summary table of the number of Australia's terrestrial protected areas by IUCN management category is attached at Appendix 4, and of Australia's marine protected areas at Appendix 5. These tables also show the number of hectares of protected area in each IUCN category.⁴⁵

2.49 The committee believes the work of the IUCN provides an adequate basis for understanding the range of values that form the foundation of Australia's conservation estate, as well as a range of reserve types that can give expression to those values. It would seem that the public, park managers and tourism operators could all benefit from going a step further than just nominally assigning each reserve to one of these categories. The time may be right for a review and rationalisation of how reserves are labelled and how the reserve system is managed as a whole. This is not in any way a criticism of any government or agency involved in park management. On the contrary,

42 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, Appendix 1, pp 62–64.

43 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 14.

44 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 14.

45 Department of the Environment and Heritage, web site, *National Data Summary*, <http://www.deh.gov.au/parks/nrs/capad/2004/national/index.html>, accessed 1 December 2006.

it is clear that there has been tremendous progress in conservation management and good cooperation between governments in reaching the point at which Australia now finds itself. It is that progress and cooperation that makes even better coordination across the country possible.

2.50 The cornerstone principles for continued national cooperation on conservation objectives should be recognition of the full range of functions performed by reserves; a landscape approach to planning and management; and continued progress toward 'the establishment and maintenance of a comprehensive, adequate and representative (CAR) system of protected areas in Australia'.⁴⁶

Indigenous people and the conservation estate

2.51 Indigenous Australians have a unique relationship with Australia's land and sea, and this extends to its conservation estate. There are several features of this relationship that are important for this report, and to any discussion of conservation in Australia:

- Indigenous Australians have lived and often continue to live on, or with continuing connection to, the land that is now part of the conservation estate and as such have a special, longstanding relationship to that country;
- Indigenous land management practices have helped shape the modern landscape and biodiversity, and their knowledge or continuing use of such practices will be important to the ongoing protection of conservation values;
- Conservation areas are often on crown land that has never been freehold or leasehold, and may be subject to native title claims or rights, giving indigenous people a legal as well as historical role to play in the ongoing management of such land; and
- Areas of the conservation estate may play a particularly prominent role in the economy of some Indigenous communities, whether directly through traditional uses or park management employment, or indirectly through things like tourism industry opportunities and as the cultural underpinning for Indigenous art.

A number of vital areas of Indigenous involvement in the conservation estate are discussed throughout this report, including Indigenous Protected Areas (IPAs), tourism and Indigenous management practices.

Discussion about objectives

2.52 While the various government agencies have broadly accepted the idea of a comprehensive, adequate and representative reserve system and its objectives, the

46 Department of the Environment and Heritage, *Submission 126*, p. 7. The CAR system of protected areas will be discussed in more detail in the next chapter.

committee heard during the inquiry a range of different views from witnesses about what the objectives for the conservation estate are, or should be.

2.53 Dr Paul Williams stated that the primary values of Australia's conservation estate were the habitats, and associated native fauna and flora, that occur within those areas. In addition he stated that much of the conservation estate also had cultural values, but that the primary objective of national parks in particular was to ensure habitats were maintained in good condition (i.e. with high native species diversity, limited impacts from exotic species and the continuation of ecological processes, such as appropriate fire regimes and hydrological cycles in wetlands) so that sustainable populations of the native species were protected within those estates. Dr Williams also argued that national parks should be a venue for all Australians and their visitors to experience the Australian bush.⁴⁷

2.54 The CSIRO proposed that Australia's protected areas had two distinct and overlapping objectives. One was to provide recreational opportunities and inspirational values and the other role was to conserve biodiversity by promoting the protection of ecosystems, natural habitats and viable populations of species.⁴⁸

2.55 The view of the Department of the Environment and Heritage South Australia was that the conservation estate was enormously important in providing core areas for the long-term conservation of biodiversity. They went on to explain that such areas protected a range of biological, geological and heritage values. Not only that, but the conservation estate also encompassed many areas of great importance to Aboriginal people, provided important areas for tourism and recreation activities, and protected many indigenous and non-indigenous heritage sites and places.⁴⁹

2.56 The Conservation Commission of Western Australia's view was that the conservation estate provided and protected numerous environmental, social and economic values. They explained that these reserves were the most effective land use type able to achieve and sustain conservation benefits in circumstances of change, and that beyond this fundamental value, the conservation estate also provided social benefits for the community through the provision of opportunities for interaction with nature and often provided special spiritual and cultural benefits.⁵⁰

2.57 WWF Australia, while being mainly concerned about conservation objectives, argued that the conservation estate was an effective policy mechanism to conserve a range of ecological, social and economic values. They believed that protection of

47 *Submission 34*, p. 1.

48 *Submission 41*, p. 5.

49 *Submission 194*, p. 2.

50 *Submission 141*, p. 6.

natural assets to maintain national and regional biodiversity values should be the primary objective of Australia's national parks and other conservation reserves.⁵¹

2.58 It was the view of the Tasmanian National Parks Association that the primary objective of the reserve system should be conservation of biodiversity and natural and cultural heritage. However, they submitted that aside from their primary conservation purpose, the conservation estate was valuable for providing opportunities for recreational, cultural and tourism activities based on their protected values.⁵²

2.59 In general, witnesses expressed more than one objective as the rationale behind the creation and management of the conservation estate. The range of ideas and values expressed by each of the witnesses, while they overlapped to a great extent, pointed to nature conservation as being the overarching objective, but a great majority did not isolate this aim from recreation, tourism and economic benefits.

Biodiversity, conservation and national parks objectives

2.60 One of the major objectives behind Australia's modern day conservation estate system is for the conservation of the natural environment and the protection of biodiversity. Highlighting the importance of Australia and its global environmental responsibilities, the Australian Network of Environmental Defender's Offices (ANEDO) stated:

Australia is one of the 17 'megadiversity' nations, and the EDO views it as having a responsibility to protect biodiversity because it is home to 10 per cent of the world's biodiversity.⁵³

2.61 However, as the CSIRO pointed out in terms of the practical limitations of balancing biodiversity conservation with other priorities:

The best that we can do is to try to ensure that biodiversity is well represented in the reserve system. We have to think of it as a system; we cannot think of them as isolated pieces of land. The current biodiversity that we have is well represented and the range of environments that we have are also well represented.⁵⁴

2.62 The Wilderness Society felt that the conservation of biodiversity and the protection of our natural heritage demanded a landscape-wide approach - one that recognised the importance of ecological connectivity. They claimed that:

The processes that sustained and regenerated ecological systems and all their components operated across a range of spatial and time scales, and that

51 *Submission 161*, p. 12.

52 *Submission 78*, pp 2–3.

53 Ms Rachel Walmsley, *Committee Hansard*, 12 May 2006, p. 69.

54 Professor Christopher Margules, *Committee Hansard*, 31 March 2006, p. 4.

many, if not most, work at space and time scales that far exceed those at which humans manage land and natural resources.⁵⁵

2.63 Others pointed out the role that the current conservation estate system played in achieving key conservation objectives. The Department of Conservation and Land Management Western Australia argued that the National Reserve System (NRS) and the National Representative System of Marine Protected Areas (NRSMPA) were viewed as major planks of biodiversity conservation. They expanded on this by stating that they also provided for a range of other benefits, including ecosystem services, education and scientific values, spiritual places, support for industries such as nature-based tourism, and contributing to the state and regional economies and employment.⁵⁶

2.64 And providing a broader international view, as Ms Penelope Figgis from the IUCN pointed out:

The conservation of biodiversity should be seen in virtually every nation of the world as a strategic objective. It is about, in effect, the country's defence. It is a defence issue. You are defending your agriculture. You are defending your tourism. You are defending your fisheries. You are defending the quality of life of your people.⁵⁷

Human activity and national parks objectives

2.65 Some witnesses to the inquiry considered that human activity and its interaction with the natural environment needed to be considered more prominently in conjunction with the biodiversity objective. As was pointed out by Dr Susan Moore:

Using the IUCN category as a national park, for example, has almost equal attention to people and biodiversity. When you move through to strict nature reserves, it is predominantly biodiversity. The IUCN categories are very important in terms of consistency of approach. That is particularly important.⁵⁸

2.66 It was along the lines of the IUCN categories affording scope for human activity that the CSIRO argued that a key approach to protecting biodiversity was an understanding of what human activities were compatible with it. As they stated:

Protecting an area's biodiversity does not have to mean that all other uses are excluded.⁵⁹

2.67 The CSIRO went on to explain:

55 *Submission 131*, p. 4.

56 *Submission 135*, p. 9.

57 World Commission on Protected Areas, *Committee Hansard*, 31 March 2006, p. 60.

58 *Committee Hansard*, 1 September 2006, p. 71.

59 *Submission 41*, p. 4.

Biodiversity is the variety of life. From the micro-organisms that fix nitrogen in soils to the tree kangaroos and coral reefs that draw tourists and their dollars, biodiversity provides many services it would be hard to do without. We need biodiversity for its direct contribution to human welfare. Biodiversity is the biological component of the natural resource base that we all depend on. In addition, by protecting biodiversity we also satisfy important cultural, spiritual, aesthetic and recreational needs.⁶⁰

2.68 The key thrust of these statements was the idea that providing for the needs of human beings was not inconsistent with the aims of both nature conservation and the protection of biodiversity, and that modern day objectives behind the creation of the conservation estate allowed for this balance.

Conclusion

2.69 While there are many types of reserve across the different jurisdictions, there is a broad consensus on many of the functions of much of the conservation estate. However, as this chapter shows, the range of objectives met by that estate is wide, the consensus is not complete, and significant diversity of opinion remains about some aspects of the objectives and management of conservation reserves. The wide range of objectives has underpinned the creation of a very diverse conservation estate, which is the subject of the following two chapters. The committee then turns to threats to the reserve system, and this will reveal how some of the management challenges arise from the diversity of views about what parks and reserves are for.

60 *Submission 41*, p. 5.

Chapter 3

The terrestrial reserve system

Introduction

3.1 Australia's conservation estate is made up of a complex patchwork of parks and reserves, managed by various Commonwealth, state and territory agencies, under a range of systems. Overlaid on this reserve system are other conservation management frameworks, in particular World Heritage and National Heritage listings, which reflect the fact that different sites have different levels of heritage significance at different geographic scales.

3.2 Australia today has over 600 national parks. Over 28 million hectares of land is designated as national parkland, which accounts for almost four per cent of Australia's land areas. However, an even larger proportion of the conservation estate is in other types of reserves and other land tenures. A further six per cent or more of Australia is protected and includes conservation areas within state forests, nature reserves, indigenous protected areas and conservation reserves. \$87 million has been invested by the Government since 1997, directly increasing the size of the reserve system by 25% over that time.

3.3 This diversity of protected areas is brought together through the National Reserve System (NRS). The NRS is a system of terrestrial protected areas that contribute to the conservation of Australia's biodiversity. It has been collaboratively developed by the state, territory and Australian Governments, non-government organisations and Indigenous landholders.¹

3.4 During mid-2004 various state and territory nature conservation agencies provided information on terrestrial and marine protected areas in their jurisdiction to the Department of the Environment and Water Resources (DEW). This information was compiled into a database of statutory protected areas called the Collaborative Australian Protected Areas Database (CAPAD).

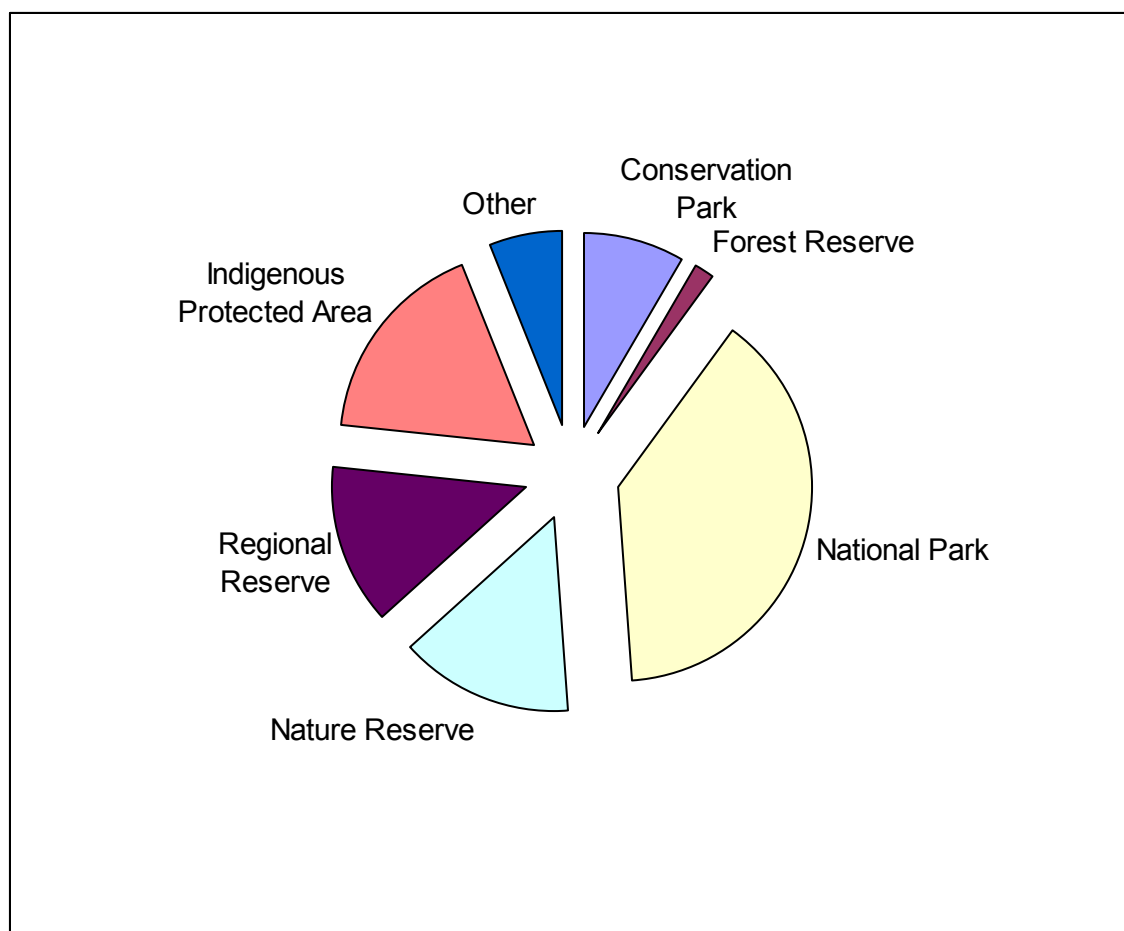
3.5 The CAPAD records information on all protected areas in Australia. The database has been used to produce statistics on protected areas meeting the currently agreed criteria for inclusion in the National Reserve System (NRS). This information is used by the Commonwealth and the states and territories in the monitoring and assessment of the reservation status of land for conservation purposes in Australia.

3.6 As of 2004 terrestrial protected areas in Australia totalled over 768 million hectares, accounting for 10.52 per cent of Australia's landmass. There are many

1 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 13.

different types of protected areas making up this percentage of protected land, and CAPAD provides a list of all terrestrial protected areas in Australia by type, including national parks, historic reserves, conservation reserves, forests reserves, indigenous protected areas, and state parks, just to name a few. (See Appendix 6 for a CAPAD summary of terrestrial protected areas by type.) Figure 3.1 shows the contribution of some of the main categories of reserve to the 80 million hectares of conservation estate recorded in 2004.

Figure 3.1 Land tenure and the conservation estate



Source: CAPAD 2004 data.

3.7 The Australian national parks system differs markedly from that of some other countries. In the United States of America (USA) the national parks system is managed by the Federal government, and the states do not have management or legislative control over them as is largely the case in Australia. In addition to managing these parks, the USA's Park Service supports the preservation of natural and historic places and promotes outdoor recreation outside the system through a range of

grant and technical assistance programs which are available to the state authorities and other parties if they wish to apply for them.²

3.8 Australia's system of national parks also contrasts with that of Canada in that, for the Canadian National Parks Act and Regulations to apply, it is a constitutional requirement that national park lands must be federal government property. Within the provinces, where the provincial governments administer most lands, a federal-provincial agreement is usually negotiated whereby the province transfers administration and control of the land to the Canadian federal government for a new national park. Within the Canadian northern territories, it is the practice to seek the concurrence of the territorial government for a new national park through negotiation of a federal-territorial agreement. Where lands are subject to a comprehensive land claim by Aboriginal people, a new park can be established as part of a negotiated claim settlement or a national park reserve can be established pending the resolution of the claim.³

3.9 In Australia, the term 'national park' is more of a generic term that can apply equally to parks that are under the control or ownership of the states, territories and/or the Commonwealth. In both the USA and Canada the term usually only applies to those parks managed by Federal government agencies.

Commonwealth reserves

3.10 While over 10 per cent of Australia's land is classified as protected land, much of this land comes under the jurisdiction of the various state and territory governments. The Commonwealth is responsible for a relatively small percentage of these protected areas.

3.11 The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) allows the Governor-General to declare an area of land that is owned by the Commonwealth or held under lease by the Commonwealth, to be a Commonwealth reserve. The Commonwealth must obtain the consent of the state to acquire land for the purpose of declaring it a Commonwealth reserve if the land is dedicated or reserved under state law for purposes related to nature conservation or protecting areas of historical, archaeological or geological importance or significance to Indigenous persons.⁴

3.12 As was explained to the committee during the hearings, the Commonwealth's environment and heritage portfolio is responsible for six Commonwealth national

2 National Parks Service U.S.A., web site, *The National Park Service - A Brief History*, Bureau Historian 2006, <http://www.cr.nps.gov/history/hisnps/NPSHistory/briefhistory.htm>, accessed 20 December 2006.

3 Parks Canada, web site, *Negotiating a new parks agreement*, <http://www.parksCanada.ca/>, accessed 20 December 2006.

4 Cape York Land Council, *Submission 117*, p. 3.

parks, 13 marine protected areas, two botanic gardens and the Great Barrier Reef Marine Park. These properties represent just three per cent of Australia's terrestrial protected area estate in the national reserve system. Of Australia's current marine protected area estate, 98 per cent of the area is being managed by the Commonwealth (see chapter 4 for a detailed discussion of the marine reserve system).⁵

3.13 Currently, there are a number of Commonwealth reserves which are declared under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), made up of a combination of National Parks, Botanic Gardens and Marine Protected Areas.⁶

3.14 The Commonwealth National Parks declared under the EPBC Act are:

- Booderee National Park
- Christmas Island National Park and Conservancy
- Kakadu National Park
- Norfolk Island National Park
- Pulu Keeling National Park and Cocos (Keeling) Islands Conservancy
- Uluru-Kata Tjuta National Park.⁷

3.15 With at least 18 percent of Australia's land currently being owned or controlled by Indigenous people,⁸ some parks are leased back from their Indigenous traditional land owners by the Commonwealth. In the case of Uluru-Kata Tjuta, Kakadu and Booderee national parks, joint management has involved the transfer of ownership of each of these national parks to Australia's Indigenous people on a lease-back arrangement in exchange for future continuity of national park status of the land and shared responsibility for park management.⁹

State and territory reserves

3.16 While the Commonwealth is responsible for the management of six terrestrial national parks, there are 600 or more national parks that are being managed by various

5 Mr David Borthwick, Department of the Environment and Heritage, *Committee Hansard*, 31 March 2006, p. 84.

6 Department of the Environment and Heritage, web site, *Parks and Reserves*, www.deh.gov.au/parks/index.html, accessed 20 November 2006.

7 Department of the Environment and Heritage, web site, *Commonwealth National Parks, Reserves, and Botanic Gardens*, www.deh.gov.au/parks/commonwealth/index.html, accessed 20 November 2006

8 Centre for Aboriginal Economic Policy Research, *Submission 167*, p. 1.

9 Centre for Aboriginal Economic Policy Research, *Submission 167*, p. 4; Department of the Environment and Heritage, web site, *Parks and Reserves*, <http://www.deh.gov.au/parks/index.html>, accessed 18 December 2006. See chapter 9 for further discussion of Indigenous land ownership and management.

state agencies.¹⁰ Those agencies which are empowered to manage the conservation estate at a state and territory level are:

- Environment ACT
- NSW National Parks and Wildlife Service
- Parks Victoria
- Tasmania Parks and Wildlife Service
- National Parks and Wildlife Service SA
- Department of Environment and Conservation (WA)
- Parks and Wildlife Commission of the Northern Territory; and
- Queensland Parks and Wildlife Service.¹¹

3.17 Each of these agencies manage a vast range of parks and reserves that do not come under the jurisdiction or the funding of the Commonwealth. They include the majority of places in Australia known as national parks. Other agencies and departments are also involved in state and territory management of important parts of the conservation estate. This estate includes diverse high profile and intensely visited locations in Australia, such as:

- Kosciusko National Park in New South Wales. Kosciusko National Park encompasses 673 542 hectares and is the largest national park in NSW and one of the largest conservation reserves in Australia.¹² Between one and two million people visit the park each year.¹³
- Mossman Gorge, covering 56 500 hectares, located in the Daintree National Park in Queensland. This area has one of the highest visitation rates of all tourist destinations in the Wet Tropic region at over 360 000 visitors per annum.¹⁴
- Rottnest Island in Western Australia, a reserve managed by the Rottnest Island Authority, receives over half a million visitors each year. The Island is

10 Mr Peter Cochrane, Department of the Environment and Heritage, *Committee Hansard*, 31 March 2006, p. 107.

11 Department of the Environment and Heritage, web site, *Protected Area Management Agencies in Australia and New Zealand*, www.deh.gov.au/parks/hoa/index.html, accessed 20 November 2006.

12 NSW National Parks and Wildlife Service, web site, *Kosciusko National Park - Plan of Management*, http://www.nationalparks.nsw.gov.au/npws.nsf/Content/k_np_mgmtplan, accessed 12 December 2006.

13 NSW National Parks and Wildlife Service, web site, *Kosciusko National Park celebrates 60 years*, http://www.nationalparks.nsw.gov.au/npws.nsf/Content/media_040604_kosciuszko60, accessed 13 December 2006.

14 Wet Tropics Management Authority, *Annual Report and State of the Wet Tropics Report 2005–2006*, p. 112.

11 kilometres long, 4.5 kilometres at its widest point, and the land area measures 1900 hectares.¹⁵

3.18 The most recent official statistics from the Department of the Environment and Water Resources CAPAD provides the number of hectares of terrestrial protected areas and the percentage of land these areas occupy in each Australian state and territory (Table 3.1).¹⁶ The extent to which jurisdictions contain protected areas varies dramatically across Australia with the Australian Capital Territory having the highest percentage of protected area at 54.77 per cent coverage, while Queensland has the lowest with 4.98 per cent.

3.19 The state with the greatest number of hectares of protected land is Western Australia with over 27 million hectares, followed closely by South Australia with just over 25 million hectares of protected land. The Australian Capital Territory, at just over 129 000 hectares, has the lowest number of protected hectares of land.

Table 3.1: Summary of Protected Areas by Territory and State

| State or Territory | Area (ha) | % PA Total |
|--------------------|------------|------------|
| ACT | 129 146 | 54.77 |
| NSW | 6 134 350 | 7.66 |
| QLD | 8 619 427 | 4.98 |
| SA | 25 344 280 | 25.75 |
| NT | 6 931 835 | 5.14 |
| TAS | 2 590 444 | 37.87 |
| VIC | 3 746 083 | 16.46 |
| WA | 27 399 534 | 10.84 |

Source: Department of the Environment and Heritage, The Collaborative Australian Protected Areas Database (CAPAD), <http://www.deh.gov.au/parks/nrs/capad/index.html>, accessed 12 December 2006.

World Heritage Areas

3.20 Australia has long recognised the importance of preserving its rich and diverse natural and cultural heritage. Australia was one of the first signatories to the Convention Concerning the Protection of the World's Cultural and Natural Heritage

15 Rottneest Island Authority, web site *About Rottneest Island*, <http://www.rottnestisland.com/en/default.htm>, accessed 11 December 2006.

16 Department of the Environment and Heritage, web site, *The Collaborative Australian Protected Areas Database (CAPAD)*, <http://www.deh.gov.au/parks/nrs/capad/index.html>, accessed 12 December 2006.

and since then, 182 countries have ratified the treaty.¹⁷ A central element of this convention is the creation and maintenance of a global register of places with universal heritage value, the World Heritage List.

3.21 Sites nominated for World Heritage listing are subject to careful assessment, before being inscribed on the list as representing the best examples of the world's cultural and natural heritage. With 16 World Heritage properties, Australia has well above the average of less than five areas per member party.¹⁸ The World Heritage Convention states that the primary goal for World Heritage management is 'to protect, conserve, rehabilitate, present and transmit World Heritage Areas for future generations'.¹⁹

3.22 Australia's 16 World Heritage Areas are places or areas that the United Nations Educational, Scientific and Cultural Organisation (UNESCO), has agreed are deserving of special protection because they represent the best examples of the world's cultural and natural heritage. Some of these areas, such as Kakadu, Uluru-Kata Tjuta and Purnululu National Parks, are jointly managed by the Aboriginal traditional owners as UNESCO World Heritage Areas.²⁰

3.23 Australian properties listed as World Heritage Areas are:

- Heard and McDonald Islands
- Macquarie Island
- Tasmanian Wilderness
- Australian Fossil Mammal Sites
- Lord Howe Island
- Central Eastern Rainforests
- Willandra
- Shark Bay
- Uluru-Kata Tjuta National Park
- Kakadu National Park
- Fraser Island

17 Department of the Environment and Heritage, web site, *Celebrating 25 Years of Australia's World Heritage*, <http://www.deh.gov.au/heritage/publications/world-heritage-display.html>, accessed 5 December 2006.

18 Department of the Environment and Heritage, web site, *Celebrating 25 Years of Australia's World Heritage*, <http://www.deh.gov.au/heritage/publications/world-heritage-display.html>, accessed 5 December 2006.

19 Wet Tropics Management Authority, *Submission 156*, p. 3.

20 Australian Government Culture and Recreation Portal, web site, *National Parks*, <http://www.cultureandrecreation.gov.au/articles/nationalparks>, accessed 28 November 2006.

- Wet Tropics of Queensland
- Great Barrier Reef
- Greater Blue Mountains Area
- Purnululu National Park
- Royal Exhibition Building and Carlton Gardens.²¹

3.24 While some of these World Heritage listed properties are managed by the states and territories, legislation under the Commonwealth's *Environmental Protection and Biodiversity Conservation Act 1999*, stipulates that any action (development or otherwise) requires Commonwealth approval if the action has, will have, or is likely to have a significant impact on these areas.²²

3.25 World Heritage properties in Australia do not become Commonwealth property, and ownership rights are not affected by listing. In Queensland, for example, the management of the Great Barrier Reef Marine Park is shared between the Commonwealth and Queensland governments, and the management of other World Heritage sites is carried out primarily by environmental protection authorities in conjunction with government and community partners.²³

National Heritage List

3.26 The National Heritage List is Australia's list of places or groups of places with outstanding heritage value to the nation - whether natural, Indigenous or historic or a combination of these.²⁴ Places on the National Heritage List are protected under the *Environment Protection and Biodiversity Conservation Act 1999* which requires that approval be obtained before any action takes place which has, will have, or is likely to have, a significant impact on the national heritage values of a listed place.²⁵ This mechanism provides for a high level of protection to listed properties, including national parks.

3.27 Currently there are 39 places listed on the National Heritage List, with a large proportion of these being national parks and reserves. Five new national parks were recently added to the National Heritage List as announced by the Minister for the Environment and Heritage in December 2006. The National Heritage List now includes the following parks and reserves:

21 Department of the Environment and Heritage, web site, *Australia's World Heritage*, <http://www.deh.gov.au/heritage/worldheritage/index.html>, accessed 4 December 2006.

22 Australian Network of Environmental Defender's Offices, *Submission 145*, p. 9.

23 Department of Premier and Cabinet, Queensland, *Submission 175*, p. 4.

24 Department of the Environment and Heritage, web site, *Australian Heritage*, <http://www.deh.gov.au/heritage/index.html>, accessed 18 December 2006.

25 Department of the Environment and Heritage, web site, *National Heritage*, <http://www.deh.gov.au/heritage/index.html>, accessed 18 December 2006.

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- Kurnell Peninsula
 - Recherche Bay (North East Peninsula) Area
 - Glass House Mountains National Landscape
 - Ku-ring-gai Chase National Park, Lion Island, Long Island and Spectacle Island Nature Reserves
 - Warrumbungle National Park
 - Royal National Park and Garawarra State Conservation Area
 - Grampians National Park (Gariwerd)
 - Stirling Range National Park.²⁶

3.28 The former Minister the Hon. Ian Campbell said that the inclusion of five new national parks on the list recognised Australia's reputation for having some of the most rich and diverse natural heritage in the world and would help ensure the preservation of these parks for future generations. The Minister outlined the reasons for their inclusion, stating:

Sydney's Royal National Park has been included in the list with the Garawarra State Conservation Area because of its outstanding richness in plant and animal species and its contribution to the beginning of the Australian conservation movement. Ku-ring-gai Chase National Park has an exceptional concentration of biodiversity with 24 plant communities, more than 1000 native plant species and 100 species of moths and butterflies. The dramatic volcanic landscape, biodiversity and stunning natural beauty earned the Warrumbungle National Park its place on the list, while the Grampians National Park was recognised for its powerful landscape, natural beauty and Aboriginal rock art. The Stirling Range is an internationally recognised biodiversity hotspot and its inclusion in the National Heritage List will afford it greater protection for future generations.²⁷

As with the World Heritage List, listing on the National Heritage List does not affect land tenure and is not confined to national parks.

Conservation objectives beyond the public conservation estate

3.29 In addition to the role of government agencies in managing the conservation estate on public land, nature conservation on private land also helps to meet national conservation objectives. There are various Commonwealth, state and territory schemes encouraging private conservation, and these play an important role in enhancing Australia's efforts towards conservation objectives.

26 Department of the Environment and Heritage, web site, *National Heritage*, <http://www.deh.gov.au/heritage/national/index.html>, accessed 18 December 2006.

27 Senator the Hon. Ian Campbell, Australian Minister for the Environment and Heritage, 'Our National Parks receive highest heritage honour', Press Release C349/06, 15 December 2006.

3.30 In addition to individual private land owners and managers who may be working towards conservation objectives, there are also dedicated non-government organisations (NGOs) involved in the purchase and management of land specifically for conservation purposes. The Australian Bush Heritage Fund and the Australian Wildlife Conservancy are amongst the organisations whose aims include purchasing large tracts of land with the major objective of preservation of the natural environment.

3.31 A more detailed discussion of the importance of private interests and the valuable contribution their involvement makes to Australia's conservation estate will take place in chapter 11 of this report.

Planning for the future of the reserve system

3.32 The Australian, state and territory governments have committed themselves to a "Comprehensive, Adequate and Representative" (CAR) system of reserves or protected areas. This ensures that significant examples of the extensive range of Australia's ecosystems are protected for the benefit of present and future generations. More specifically CAR means:

- *Comprehensive* – refers to the inclusion within protected areas of examples of regional-scale ecosystems;
- *Adequate* – refers to ensuring sufficient levels of each ecosystem is included within a protected area network to 'provide ecological viability and integrity of populations, species and communities';
- *Representative* – refers to the inclusion of areas at a finer scale, which reflect the variability within ecosystems.²⁸

3.1 The goal of a CAR system of reserves for Australia is endorsed by the Australian government and the state and territory governments as signatories to the National Strategy for Conservation of Australia's Biological Diversity (1996), and the National Forest Policy Statement (1992). Through these agreements, the various governments have agreed to work together in a partnership approach to achieve the aims of the CAR system.²⁹

3.33 Three processes contribute to the development of a CAR system of protected areas: the National Reserve System (NRS); the Regional Forest Agreement (RFA); and the National Representative System of Marine Protected Areas (NRSMPA). While both the NRS and RFA will be discussed in more detail in this chapter, the NRSMPA will be discussed in chapter 4.

28 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 14.

29 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, pp 13–14.

National Reserve System (NRS)

3.34 The NRS program was formed in 1997 as part of the establishment of the Natural Heritage Trust (NHT) to accelerate the protection of Australia's landscapes, flora and fauna for future generations. Since its inception the Australian Government has spent over \$80 million building the NRS and adding more than 20 million hectares to the nation's protected land areas.³⁰ The NRS platform is founded on strong partnerships between the Australian government and the state and territory governments and this is embedded in the NRS Directions Statement.³¹

3.35 The National Reserve System (NRS) program stimulates biodiversity conservation through reserve establishment and management in both government and non-government sectors across Australia. It has been effective in raising awareness across successive government and non-government organisations about the importance of achieving a comprehensive, adequate and representative (CAR) system of reserves in Australia as a means of conserving biodiversity.³²

3.36 Australia has nine Protected Area (PA) systems, one in each state and territory as well as the Commonwealth Government system, and these collectively join to form the National Reserve System which together covers over 10 per cent of the Australian land mass.³³

3.37 The NRS allows Australian governments and conservation organisations to address the gaps in the comprehensiveness of the reserve system at the national scale. This is achieved using the Interim Biogeographic Regionalisation for Australia (IBRA) as the planning framework.³⁴

3.38 A systematic approach to planning the NRS requires mapping methods that will best reflect biodiversity in the landscape, 'to clearly identify reservation targets, to set priorities to meet those targets' and to monitor progress towards building a CAR reserve system.³⁵ The IBRA framework provides those tools.

30 Department of the Environment and Heritage, web site, *The National Reserve System Programme 2006 Evaluation*, <http://www.deh.gov.au/parks/publications/nrs/evaluation/index.html>, accessed 19 December 2006.

31 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, p. 11.

32 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, p. 11.

33 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 14.

34 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 14.

35 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 24.

3.39 IBRA divides the Australian land mass into 85 biogeographic regions and 404 sub-regions. Each region is a land area made up of a group of interacting ecosystems that are 'repeated in similar form across the landscape'.³⁶ Appendix 7 contains the most recent map provided by the Department of the Environment and Water Resources of the IBRA boundaries and includes a visual representation of the terrestrial protected areas across Australia within those boundaries.³⁷

3.40 The IBRA framework provides a planning mechanism for the development of the NRS. All biogeographic regions have been allocated a priority ranking of Very High, High, Medium or Low. These rankings indicate the priority status of the different regions for inclusion in the NRS. The collaborative NRS Directions Statement directs that each state, territory and the Australian government must aim to have implementation plans in place for each IBRA priority region by 2006. The priority ranking system assists governments to decide how to best prioritise funding and other resources based on the level of classification of a reserve area within the IBRA framework.³⁸ Chapter 12 has a more detailed discussion of NRS funding.

3.41 An independent evaluation of the NRS program was undertaken in 2006 by Mr Brian Gilligan to inform ongoing development of policy frameworks for implementation of current and future natural resource management initiatives. The evaluation addressed the extent to which the program is achieving its objectives consistent with the overall objective of the NHT; the appropriateness, effectiveness and efficiency of the program; the extent to which the program links with the Indigenous Protected Areas (IPA) program; and the extent to which the program contributes to achieving other Australian Government policy objectives.

3.42 The evaluation found that, overall, the NRS program is consistent with, and contributes to, achieving the overarching objectives of the NHT. The review recommended, *inter alia*, that the program should be reinstated as a national program; funding levels should be reviewed by the Australian Government; the application of national standards for protected area management should be given high priority; the CAR criteria should continue to be used for the purpose of planning and assessing acquisition proposals by the program, and the contribution made by IPAs to the expansion of the NRS should be recognised and enhanced.³⁹

36 Department of the Environment and Heritage, website, *The National Reserve System*, www.deh.gov.au/parks/nrs/index.html, accessed 20 April 2006.

37 Department of the Environment and Heritage, web site, *IBRA Version 6.1*, <http://www.deh.gov.au/parks/nrs/ibra/version6-1/index.html>, accessed 1 December 2006.

38 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, pp 9, 27, 50–53.

39 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, pp 2–9.

Regional Forest Agreement (RFA)

3.43 In 1992 the Commonwealth, state and territory governments began the process which led to the formation of the National Forest Policy Statement (NFPS). The NFPS was argued to be a first, major step towards resolving years of conflict and dispute between environmentalists and loggers over forest use.⁴⁰

3.44 Key elements of the NFPS include a commitment to the development of the CAR reserve system, and the implementation of strategies to protect old-growth forests and wilderness as part of that system. While many forest ecosystems are already represented in other conservation reserves across Australia, the nationally agreed criteria for a conservation reserve system for forests provides an added objective basis for evaluating and subsequently ensuring conservation of biological diversity and other values within the CAR reserve system.⁴¹

3.45 The establishment of Regional Forests Agreements (RFAs) are a key element in the National Forest Policy Statement's approach as part of the CAR system. RFAs seek a reasonable balance between the conservation of Australia's forest estate and its enduring use for economic production and recreation.

3.46 RFAs are 20-year plans for the conservation and sustainable management of Australia's native forests. There are 10 RFA's in four states: Western Australia, Victoria, Tasmania and New South Wales. These agreements provide certainty for forest-based industries, forest-dependent communities and conservation. As the Department of Agriculture, Fisheries and Forestry (DAFF) points out, RFA's are the result of years of scientific study, consultation and negotiation covering a diverse range of interests.⁴²

3.47 It is important to note that the NRS covers terrestrial ecosystems other than those considered under the RFA process. The RFA process provides for 'specific forest and woodland ecosystems in specific forested regions'. RFAs establish forest reserves only and are strategies for ecologically sustainable forest management.⁴³

3.48 While it is the Commonwealth government's role to coordinate a national approach to environmental and industry-development issues, it is the state and territory governments who have constitutional responsibility for forest management.

40 Department of Agriculture, Fisheries and Forestry, web site, *Regional Forest Agreements: Why?*, <http://www.affa.gov.au/content>, accessed 5 December 2006.

41 Department of Agriculture, Fisheries and Forestry, web site, *Nationally Agreed Criteria (JANIS) for the Establishment of a Comprehensive Adequate and Representative Reserve System for Forests in Australia*, <http://www.affa.gov.au/content>, accessed 21 December 2006.

42 Department of Agriculture, Fisheries and Forestry, web site, *Regional Forest Agreements (RFA)*, <http://www.affa.gov.au/content>, accessed 5 December 2006.

43 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 14.

The 20-year RFAs attempt to provide a balance between the environmental, social, economic and heritage values that forests can provide for current and future generations.⁴⁴

3.49 During the inquiry concerns were raised about the impact that RFAs were having on state forests, and that the current system was undermining the conservation process. Mr Graham Crossley of the Australian Trail Riders Association pointed out that:

My understanding is that the first regional forest agreement process was designed to stop conflict between the environmental people and logging interests and was directed in that regard. The land was assessed, essentially, for either conservation purposes or timber production. Timber production targets were set. I think that they were 50 per cent at the 1995 sawlog production level. The Commonwealth entered into an agreement with the states and provided a bag of money to go along with those agreements. Conservation assessed land has essentially moved into reserve categories. Timber production land had those timber production targets carried out against them. Subsequent to that, there was a state election in New South Wales and state forest land moved over into the reserve system, yet the production targets remained the same. That had the effect that the same amount of timber was coming off a smaller and smaller base. I have explored this topic with some senior state forest managers who said that they have done some modelling on it and that their belief is that in 25 years time there will be no mature trees left in the Central and North Coast state forest areas. I believe that this is a perverse outcome of the regional forest agreement process.⁴⁵

3.50 Although RFAs have been an important element in developing the conservation estate, this has not meant that the results are without controversy. Concerns were raised that the degradation of biodiversity was more likely to occur in forests which were being fully protected in the national parks system, yet neglected:

You can see the degradation and what happens to these areas once they are taken out of active forest production management. There are simply no resources there to manage them. If there were the resources, would you knowingly put a well managed, productive state forest into a national park and then leave it? I cannot imagine that anybody with any sort of serious policy or who cares about the environment would want that to happen. Yet that is exactly what happens, time and time again. Once they have been put into a national park, they are basically just left.⁴⁶

44 Department of Agriculture, Fisheries and Forestry, web site, *Regional Forest Agreements: Why?*, <http://www.affa.gov.au/content>, accessed 5 December 2006.

45 *Committee Hansard*, 12 May 2006, p. 60.

46 Mrs Catherine Murphy, National Association of Forest Industries, *Committee Hansard*, 20 October 2006, p. 22.

3.51 These concerns highlight the fact that reserves require ongoing management, and this is discussed further in subsequent chapters.

Conclusion

3.52 The historical origins of reserves as areas created in some cases before federation has led to differences in funding levels across the various jurisdictions, and a proliferation of types of park and reserve. This resulted in the early 1990s in Australia having around ten times more national parks compared with other countries, even though the percentage of allocated land was quite similar.⁴⁷ This fragmented system goes some way to explaining the different declaration regimes and various management plans for the conservation estate across Australia. Australia's World Heritage properties are also affected. Because Australia's 16 World Heritage Areas are governed under a variety of legislative regimes, on the ground management may be the responsibility of Commonwealth, state and territory government agencies, local government or, in some cases, private landholders.⁴⁸

3.53 There are many facets to the creation and management of the conservation estate in Australia. The preceding chapters have provided some background on the history of the parks system and an overview of how the terrestrial parks and reserve system operates today. This background knowledge is essential to any discussion of the adequacy of the parks and reserve system. The next chapter outlines the distinctive origins and nature of the marine reserve system. Subsequent chapters of this report seek to examine more closely specific issues in relation to Australia's conservation estate to determine what, if any, changes may need to take place in order to improve and enhance the system as it exists today.

47 Wescott, G.C., 'Australia's Distinctive National Parks System', *Environmental Conservation*, Vol. 18, No. 4, Winter 1991, p. 338.

48 Wet Tropics Management Authority, *Submission 156*, p. 1.

Chapter 4

Protecting the marine environment

While utilisation decisions made over the last two hundred years have foreclosed some options for the inclusion of many ecological communities in the reserve system, especially in the terrestrial reserve system, Australia still has the opportunity for a truly representative system of MPAs.¹

4.1 Australia's marine jurisdiction is one of the largest in the world at 16.1 million square kilometres. The mainland coastline, including Tasmania, is almost 70,000 km long and Australia's seas encompass all five oceanographic climatic zones from tropical to polar.² Australia's marine environment also covers a range of depth zones, from the intertidal, continental shelf (0 – 200 m), continental slope (200 – 1000 m), deep-sea mounts, and to the abyssal plains (4000 – 6000 m).³ This vast marine jurisdiction contains a wide range of habitat types which supports a vast diversity of species, ecological communities, and ecosystems. As the Australian Marine Science Association submitted, habitats include:

- estuaries (>1000, only 50% considered to be pristine)
- rocky reefs (estimated to support 50% of our temperate fisheries)
- coral reefs (360 coral species in GBR; 300 species in Ningaloo, WA)
- mangrove systems (43 species, the highest in the world)
- seagrass systems (30 species, the highest in the world)
- beaches and dunes (50% of our coastline).⁴

4.2 The immensity and the uniqueness of Australia's marine environment was noted by many submitters⁵ as was the importance of maintaining healthy marine ecosystems for biodiversity conservations and sustainable fisheries.

Managing the marine environment

4.3 The management of Australia's marine environment is shared between the Australian, states and Northern Territory governments. The states and Northern Territory governments are primarily responsible for areas up to three nautical miles

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- 1 Australian and New Zealand Environment and Conservation Council, *Guidelines for establishing the National Representative System of Marine Protected Areas*, December 1998, p. 3.
 - 2 Australian Marine Conservation Society, *Submission 184*, p. 2.
 - 3 Australian Marine Sciences Association, *Submission 125*, Attachment 3, p. 2.
 - 4 Australian Marine Sciences Association, *Submission 125*, Attachment 3, p. 2.
 - 5 Australian Marine Conservation Society, *Submission 184*; Australian Marine Sciences Association, *Submission 125*, Attachment 1, p. 2; WWF Australia, *Submission 161*.

out from the territorial sea baseline (generally the low water mark). The Australian Government is responsible for all other waters within the outer limit of Australia's 200 nautical mile exclusive economic zone (EEZ). As the Department of Environment and Water Resources informed the committee:

The location of the Australian Government protected areas reflects the Commonwealth's constitutional responsibility for territories accepted by the Commonwealth under s.122 of the Constitution and for external affairs. In relation to marine protected areas, it reflects also Australia's rights and obligations under the United Nations Convention on the Law of the Sea with respect to the territorial sea and exclusive economic zone and takes account of the Offshore Constitutional Settlement between the Australian Government and the states and Northern Territory.⁶

Marine protected areas

4.4 The need to provide a level of protection for sections of the marine environment is widely supported. The Australian Marine Science Association (AMSA) submitted that:

Terrestrial National Parks are widely accepted as critical for protection of land-based ecosystems. AMSA considers that an equivalent level of protection is appropriate for Australia's marine environment. An increasing number of international scientists are also advocating the creation of marine reserves to reverse declines in the health of marine ecosystems world-wide.⁷

4.5 A Marine Protected Area (MPA) is an area of marine environment, reserved by law, to protect all or part of the enclosed environment. The World Commission on Protected Areas (IUCN) defines a protected area 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 (IUCN, 1994).⁸

4.6 The South Australian Department of Environment and Heritage note that the term 'marine protected area' is a generic term used to encompass a broad variety of protected areas in the marine environment. Each marine protected area may differ considerably in its objectives, size and the level of protection that it offers. Some examples of MPAs include:

- Aquatic Reserves
- Marine Sanctuaries and Reserves

6 Department of the Environment and Heritage, *Submission 126*, p. 1.

7 *Submission 125*, p. 3.

8 *Submission 137*, p. 5.

- Historic Shipwreck zones
- National Parks with a marine extent, and
- Marine Parks.⁹

4.7 The Australian Government manages a number of marine protected areas located within Commonwealth waters. The Director of National Parks has delegated the management of 12 marine protected areas declared under the *Environment Protection and Biodiversity Conservation Act 2002* to the Marine Division of the Department of the Environment and Water Resources. The Division has three branches: The National Oceans Office, The Marine Conservation Branch, and, The Marine Environment Branch.¹⁰

4.8 In other jurisdictions, marine reserve systems vary significantly in their extent, management zonings, budgets and administration, as was evident from survey work undertaken for the Marine and Coastal Community Network (MCCN).¹¹

New South Wales

4.9 In NSW, the Marine Park Authority in conjunction with NSW Fisheries and the NSW National Parks and Wildlife Service is responsible for managing marine parks for conservation of marine biodiversity and to maintain ecological processes. The Authority reports to both the NSW Minister for the Environment and the Minister for Primary Industries.¹²

9 South Australian Department of Environment and Heritage, <http://www.environment.sa.gov.au/coasts/mpas/background.html>, accessed 18 September 2006.

10 Department of the Environment and Heritage, <http://www.deh.gov.au/md/index.html>, accessed 22 May 2006.

11 *Submission 193*, Attachment 2.

12 Marine parks are established under the *Marine Parks Act 1997* and aim to conserve biodiversity by protecting representative samples of the habitats in each bioregion. Zoning and operational plans are used to guide the protection of conservation values and manage activities that occur within the marine park. Four zones are used in marine parks - sanctuary zones, habitat protection zones, general use zones and special purpose zones.

Aquatic reserves are relatively small areas declared under the *Fisheries Management Act 1994* to conserve the biodiversity of fish and marine vegetation. They protect fish habitats, and can also be used specifically for fisheries management purposes, to protect threatened species, facilitate educational activities, or scientific research.

National parks and nature reserves are established under the *National Parks and Wildlife Act 1974*. All land (including submerged land) and all native plants and animals (except fish and marine vegetation) are protected within parks and reserves. Coastal parks and reserves often extend to low water and beyond, and sometimes include the beds of adjoining lakes or estuaries.

Victoria

4.10 The Victorian Department of Sustainability and Environment manages the land and resources of Victoria's 2000 kilometres of coastline and marine habitats. The Department delegates responsibility for the management of this coastal and marine environment to Parks Victoria. In November 2002 Victoria established thirteen marine national parks and eleven marine sanctuaries. Together the parks and sanctuaries cover nearly 54 000 hectares or 5.3 per cent of Victoria's marine waters.¹³

South Australia

4.11 The South Australian Department of Environment and Heritage is responsible for the management of over 60 000 km² of near shore territorial waters and a coastline which extends 4250 km (excluding the islands). The Natural and Cultural Heritage directorate of the Department for Environment and Heritage in South Australia is responsible for the development of strategies and policies relating to the department's Coast and Marine Conservation program. The program comprises two sub-programs – Coast and Marine Conservation Services and Coastal Protection Services – managed by the Coast and Marine Conservation Branch and the Coastal Protection Branch, respectively.¹⁴

4.12 On 1 September 2006, the Minister for Environment and Conservation, the Hon Gail Gago MLC, formally released the draft *Marine Parks Bill 2006* for public consultation. The draft Marine Parks Bill provides a legislative framework for the dedication, zoning and management of South Australia's marine parks. The South Australian Government has committed to developing 19 new marine parks within State waters by 2010.¹⁵

13 Victorian Department of Sustainability and Environment, <http://www.dse.vic.gov.au/DSE/nrencm.nsf/childdocs/-2594CB2F087CB6D84A2567CA0081791F-108776D50A9F94004A256B660015507E?open>, accessed 18 September 2006.

14 South Australian Department of Environment and Heritage, <http://www.environment.sa.gov.au/coasts/about.html>, accessed 18 September 2006.

The role of the Coast and Marine Conservation Branch is to ensure the conservation and sustained productivity of South Australia's coastal, estuarine and marine environments. The role of the Coastal Protection Branch is to manage and protect coastal environments and assets across South Australia. The Coastal Protection Branch also provides technical and administrative assistance to the Coast Protection Board, which is the statutory authority responsible for managing the State's coastline and administering the *Coast Protection Act 1972*.

15 South Australian Department of Environment and Heritage, <http://www.environment.sa.gov.au/coasts/mpas.html>, accessed 18 September 2006.

Western Australia

4.13 Western Australia has a system of multiple-use marine conservation reserves. There are three types of reserve category: marine nature reserves, marine parks and marine management areas.

4.14 Marine nature reserves, along with sanctuary zones in marine parks, provide the highest level of environmental protection of all the marine conservation reserve categories, and are created for conservation and scientific research. They are no take areas or sanctuaries and allow low impact tourism activities. Hamelin Pool Marine Nature Reserve is currently the only marine nature reserve in Western Australia.

4.15 Marine parks are created to protect natural features and aesthetic values while allowing recreational and commercial uses that do not compromise conservation values. There are nine marine parks in Western Australia. Marine parks have four management zone options: sanctuary, recreation, general use and special purpose.

4.16 Marine management areas provide a formal integrated management framework over areas that have high conservation value and intensive multiple-use under the *Environmental Protection Act (EPA) 1986*. In a marine management area, conservation is a primary purpose within the broader purpose of managing and protecting the marine environment. Section 62 of the *Conservation and Land Management (CALM) Act 1984* classification of areas in marine management areas to facilitate management of a specific reserve, but this zoning is not mandatory as it is in marine parks. There are two marine management areas in Western Australia: Muiron Islands Marine Management Area and the Barrow Island Marine Management Area.¹⁶

Queensland

4.17 The key management objectives for Queensland's multi-use marine parks are:

- to protect and preserve plants and wildlife, ecosystems and features of special scientific, archaeological or cultural importance;
- to encourage natural history appreciation and awareness; and
- to ensure the marine park remains a diverse, resilient and productive ecological system while allowing user groups to access its resources.

Each marine park has a zoning plan which defines the zones in the park and describes how each zone can be used.¹⁷

16 Western Australian Department of Environment and Conservation, http://www.naturebase.net/national_parks/marine/types.html#marine_parks, accessed 23 October 2006.

17 Queensland Parks and Wildlife Services, http://www.epa.qld.gov.au/parks_and_forests/marine_parks/managing_marine_parks/, accessed 23 October 2006.

4.18 Over the past few years Queensland has amalgamated smaller marine parks along its coast to develop three state marine parks. These are the Great Barrier Reef Coast Marine Park, Moreton Bay Marine Park and the Great Sandy Marine Park. The state's best-known marine park is the Great Barrier Reef Marine Park (GBRMP) — a Commonwealth marine park jointly managed by the Great Barrier Reef Marine Park Authority (GBRMPA) and the Queensland Parks and Wildlife Service.

4.19 Having surveyed the status of the marine park estate in 2005, the Marine and Coastal Community Network's (MCCN's) summary of the situation in state and territory waters was:

- New South Wales has a comparatively small area (jurisdiction) with an MPA system that delivers limited protection (IUCN I & II), but it is comparatively well resourced.
- South Australia has a moderate area of MPA, largely dominated by the 1996 gazettal of the Great Australian Bight Marine Park, but offers only a small area of real protection (IUCN I & II), and has minimal resourcing.
- Queensland has a large area with reasonable to good protection (IUCN I & II) and appears well resourced. It would also appear to have good linkages with Commonwealth MPA process via the Great Barrier Reef Marine Park.
- Tasmania has a small to medium area with reasonable protection (IUCN I & II) but is under-resourced.
- The Northern Territory has a moderate area, but with very little real protection (IUCN I & II) and minimal resourcing.
- Victoria has a small area but with reasonable real protection (IUCN I & II) and appears well-resourced.
- Western Australia would appear to have a large area, but with limited real protection (IUCN I & II) and an undisclosed amount of resourcing.¹⁸

The committee recognises that things have changed in some jurisdictions since that time, but the survey is useful in highlighting the diversity of approaches to marine conservation around Australia, and the issue of how areas are zoned to provide protection, which will be discussed below.

4.20 The value of MPAs was acknowledged in a number of the submissions. The Australian Marine Science Association submitted:

MPAs may benefit human communities and marine environments in other ways. They may:

- provide educational opportunities,
- help sustain exploited species populations and their fisheries,
- improve scientific understanding of marine ecosystems,

18 Marine and Coastal Community Network, *Submission 193*, p. 4.

- provide enriched opportunities for non-extractive human recreational activities,
- benefit regional communities through enhanced tourism activity.¹⁹

4.21 Mr Harold Adams from the Australian Association for Maritime Affairs noted that there are three essential areas in a comprehensive strategy for management of marine biodiversity and ecosystem processes under the IUCN system:

...firstly, strict protection reference incorporated within the strategy, with the establishment of site scale management through strictly protected areas, national parks or no-take reserves in which no harvesting of resources is permitted at any time; secondly, habitat protection through the establishment of habitat and species management areas where a range of activities including some harvesting of marine species may occur, provided that it does not damage or destroy the habitat or the survival of species; and, thirdly, sustainability, with large area ecosystem scale management of resources, uses and impacts to ensure that they are sustainable.²⁰

A National Representative System of Marine Protected Areas

4.22 On 18 June 1993, Australia ratified the Convention on Biological Diversity which came into force on 29 December 1993. At both the World Summit on Sustainable Development (2003) and the Conference of Parties to the Convention on Biodiversity (2004) the Australian government committed to a process for establishing representative networks of Marine Protected Areas (MPA's) worldwide by 2012.²¹ The committee heard that:

The target of 2012 was set in recognition of the under-representation of marine habitats in protected areas, particularly in comparison to terrestrial protected areas, and due to the acknowledgment of the urgent need for greater protection of the world's oceans in the face of increasing threats.²²

4.23 This commitment is being pursued in Australia under the initiative of the Australian and state and territory governments to establish the National Representative System of Marine Protected Areas (NRSMPA).²³ Australia's Oceans Policy (1999) outlines Australian Government actions towards the establishment of the NRSMPA in Commonwealth waters. The Commonwealth Marine Protected Area Programme, managed by the Marine Division of the Department, is the vehicle for establishing the NRSMPA as part of regional marine planning. The importance of Commonwealth leadership and the participation of the states in this process was highlighted by Mr Bohm:

19 *Submission 125*, p. 3.

20 *Committee Hansard*, 16 June 2006, p. 27.

21 Australian Marine Conservation Society, *Submission 184*, p. 8.

22 Mr Richard Leck, WWF Australia, *Committee Hansard* 21 April 2006, p. 38.

23 Department of Environment and Heritage, *Submission 126*, p. 3.

We need a national network or networks of marine parks in both our offshore and our coastal zones. Their design and establishment should of course be led by the Commonwealth, but in coordination with the state and territory governments.²⁴

4.24 Both the Australian and the state and territory governments have committed to the establishment of marine protected areas in line with the national representative system of marine protected areas. The committee was told that since 1992 significant progress has been made in all jurisdictions, with 78 new marine protected areas declared. Australia currently has 200 marine reserves around its coastline which cover 64.8 million hectares.²⁵

4.25 The aim of the NRSMPA is to contribute to the long-term ecological viability of marine and estuarine systems, to maintain ecological processes and systems and to protect Australia's biological diversity at all levels. The NRSMPA consists of MPAs in Commonwealth, state and territory waters and some associated intertidal areas.

4.26 The primary goal of the NRSMPA is to build a national system of marine protected areas that will be:

- Comprehensive - include marine protected areas that sample the full range of Australia's marine ecosystems;
- Adequate - include marine protected areas of appropriate size and configuration to ensure the conservation of marine biodiversity and integrity of ecological processes; and
- Representative – include marine protected areas that reflect the marine life and habitats of the area they are chosen to represent.

4.27 Some secondary goals of the National Representative System of Marine Protected Areas include:

- to promote integrated ecosystem management;
- to manage human activities;
- to provide scientific reference sites;
- to provide for the needs of species and ecological communities; and
- to provide for the recreational, aesthetic, cultural and economic needs of Indigenous and non-Indigenous people, where these are compatible with the primary goal.²⁶

24 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 25.

25 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 20 October 2006, p. 46.

26 Australian Marine Conservation Society, *Submission 184*, pp 3–4.

4.28 The Australian Marine Science Association (AMSA) argued that there are some features that should be incorporated into a nationally representative MPA, including:

biodiversity hot spots; known spawning aggregation sites of commercially, recreationally or ecologically important species; major feeding grounds for species...; representation of major habitat types like rocky reefs, seagrass meadows, kelp forests, coral reefs, sponge gardens, sea mounts et cetera; adequate proportions of shallower continental shelf areas versus deeper offshore regions because they have different ecosystem functions; and areas that incorporate important migration routes and pit stops.²⁷

4.29 A number of scientific organisations were very supportive of the NRSMPA approach. The Australian Marine Science Association argued that the NRS would address the ad hoc and patchy approach to marine planning of the past:

AMSA considers the implementation of a National Representative System of Marine Protected Areas a policy question rather than a scientific decision; however, the benefits appear logical. Historically the implementation of Australian MPAs has been patchy and at times ad hoc. A national overview would seem prudent, to ensure consistency, share lessons learnt and facilitate other efficiencies.²⁸

4.30 The NRSMPA approach is being implemented through consultation processes on a regional basis. There are five bioregional planning regions (Figure 4.1), with conservation proposals being developed for them on a staged basis.

4.31 On 14 December 2005, the Australian Government released proposals for a number of MPAs in Commonwealth waters of the South-east Marine Region off Tasmania, Victoria, eastern South Australia and far southern New South Wales. The Australian government identified the South-east Marine Region as the first of five Australian marine regions to undergo regional marine planning as part of the NRSMPA.²⁹ The proposed creation of protected areas within the South-east Marine Region was announced by the Minister on 5 May 2006,³⁰ with further consultations underway.³¹

4.32 Work has commenced on the establishment of MPAs in the South-west and North-west regions. It is anticipated that once these regions have been established the

27 Dr Gina Newton, *Committee Hansard*, 16 June 2006, p. 39.

28 *Submission 125*, Attachment 1.

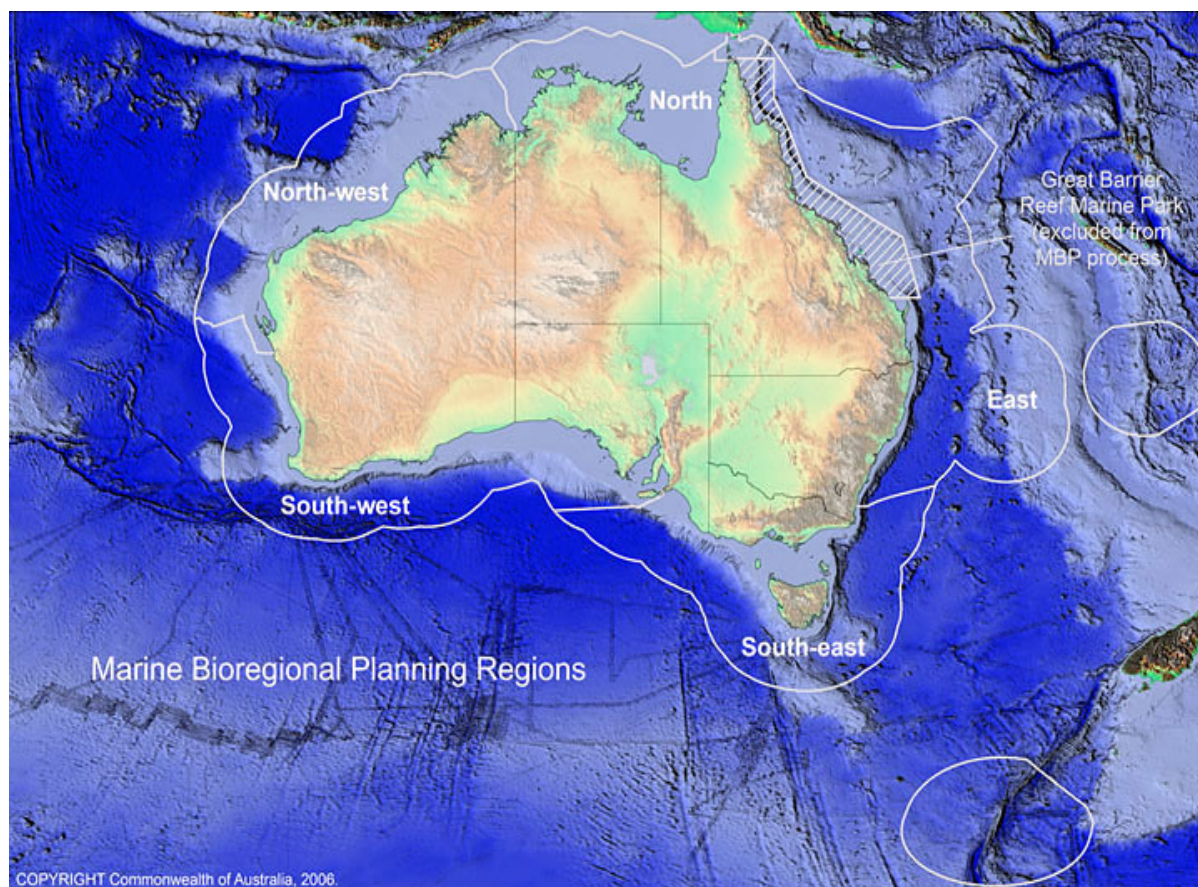
29 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 48.

30 The Hon. Senator Ian Campbell, *Australia leads world with new Marine Protected Areas*, media release, 5 May 2006.

31 The Hon. Senator Ian Campbell, *National Marine Park network moves a step closer*, media release, 27 October 2006.

Commonwealth with then begin in the North, with the East making up the final region to be declared.

Figure 4.1: Marine Bioregional Planning Regions³²



4.33 The Department of the Environment and Water Resources (DEW) anticipated that the Marine Bioregional Planning process will be completed by 2012.³³ Dr Kenchington from the Australian Association for Marine Affairs told the committee that while Australia is doing relatively well in the establishment of marine protected areas, compared with the rest of the world, it will be somewhere between 2067 and 2084 at current rates of progress before Australia reaches agreed targets.³⁴ Similarly, the Australian Marine Conservation Society raised concerns over meeting international targets by 2012:

32 Department of Environment and Heritage, <http://www.deh.gov.au/coasts/mbp/regions.html>, accessed 24 October 2006.

33 Department of Environment and Heritage, *Marine Bioregional Planning*, <http://www.deh.gov.au/coasts/mbp/publications/pubs/mbp-brochure.pdf>, accessed 24 October 2006.

34 *Committee Hansard*, 16 June 2006, p. 28.

Over the last five years however, timelines for the delivery of regional marine planning and the NRSMPA have continuously been stretched. Without increased recourses and renewed political commitment by the Australian government, Australia will not meet the 2012 target for a national system of marine protected areas.³⁵

4.34 Similarly, Mr Richard Leck from WWF Australia argued:

In our submission, WWF outlined a number of ways in which we believe the roll-out of the NRSMPA can be improved, but in essence WWF believe that in order to fulfil its commitments the Australian government will need to provide greater resourcing and leadership... WWF see the additional resourcing as necessary to increase the momentum with which the NRSMPA roll-out can occur, not only to meet Australia's international commitments but also in recognition of the under-representation of large areas of Australia's waters in protected areas.³⁶

4.35 The Department acknowledged that the time required for the process is much longer than had been originally anticipated.³⁷ However, Ms Petrachenko from the Marine Division of the Department of Environment and Water Resources told the committee that additional funds had been made available by the Government to enable objectives to be met:

...the government announced this year the \$37.7 million for us for the next four years, that will enable us to reach our objective, which is to complete the identification of marine protected areas in all Commonwealth waters, so around the EEZ, by 2012. That is in line with the international objective of having a complete network of MPAs.³⁸

4.36 The establishment of the NRSMPA, while still in its early stages, has not been without impediments. During the course of this inquiry a range of issues were raised, such as problems in the consultation process and outcomes which were perceived as the result of forceful lobbying rather than scientific recommendations. A number of witnesses acknowledged the difficulty of this process. Mr Bohm from the Australian Marine Conservation Society told the committee:

To give the Commonwealth its due, regional marine planning is a fairly new idea. It is something that we as a country have embraced as a way of trying to grapple with better and integrated marine planning and management. It is a complex beast and I think it is going to take us some time to get our heads around what it means. In the meantime, people are

35 *Submission 184*, p. 4.

36 *Committee Hansard*, 21 April 2006, p. 39.

37 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p 53.

38 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 20 October 2006, p. 48.

still going to be sitting with their traditional focuses thinking, 'I hope nobody impacts on my territory'.³⁹

4.37 The committee felt that as the NRSMPA process was so significant and necessary in order for Australia to meet its international obligations it was valuable to canvass the issues raised.

Issues

Commonwealth and State partnerships

4.38 The regional planning process to establish MPAs around Australia is occurring simultaneously at both the Commonwealth and state level. While the declaration of State marine parks is an area for each state and territory government, the Commonwealth's objective is to have complementary processes, respecting the authority of each jurisdiction. The NRSMPA seeks to establish complementarity between both the national and state systems of MPAs.

4.39 As the NRSMPA is an all-of-government agreement, both the states and Commonwealth governments need to share responsibility for its implementation.⁴⁰ However, the committee was made aware that some state governments were dissatisfied with the approach taken by the Commonwealth in the South-east region:

... the Commonwealth received quite a lot of encouragement from stakeholders and, through commonsense, went out and talked to the states trying to get them to sign on. The states did not like the deal they were being offered and they decided not to be involved.⁴¹

4.40 The Department acknowledges that while the state governments did not come on board as partners for the South-east they have begun negotiations with those governments involved in the next process:

At the beginning of the regional marine planning process, there were hopes that the states would be partners with that. That did not happen. That is why I mentioned earlier that we are hoping, with South Australia and Western Australia, to have an agreement with them to work cooperatively on complementary process in the future. We are hoping that will work out, and hopefully we will have some successful meetings next week.⁴²

39 *Committee Hansard*, 6 June 2006, p. 30.

40 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 33.

41 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 33.

42 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 63.

4.41 A working group through the Australian Government Natural Resource Management (NRM) Ministerial Council and its subsidiary committees provides the vehicle through which Commonwealth officers can hold discussion with state and territory colleagues.⁴³

4.42 The committee is pleased to see the Department entering into memorandums of understanding with relevant state and territory departments to progress the establishment of the NRSMPA in a more collegiate and therefore more timely manner. As Ms Petrachenko told the committee:

In that regard the department has recently entered into a memorandum of understanding with the Western Australian Department of Fisheries and Department of Environment and Conservation to enable us to take a cooperative approach to marine planning in the southwest marine region. The South Australian government is considering now whether to enter into a similar arrangement with us. The memorandum of understanding with Western Australia will be used as a model for planning in the north-west region, which is just beginning. We are looking for cooperation as well with the other states and the Northern Territory.⁴⁴

The process

4.43 The challenges in setting up the first MPA in the South-east region have been considerable. In large part the complexity of the task is attributable to the range of interest groups and stakeholder involved in the process and the outcomes which each sought. As the committee was told:

I think you have a significant set of challenges that revolve around the reality that the creation of marine protected areas, in one form or another, has the potential to be a resource re-allocation from commercial or recreational use to, potentially, biodiversity conservation at its highest level in a no-take area. That invariably presents challenges for all stakeholder interests, and you are always going to have a dynamic interchange between stakeholders who have different views.⁴⁵

4.44 Sectorial interests, competition for resources and a degree of suspicion of the 'other side' were key stumbling block in the process:

The problem is where we have a sectoral competition which is saying, 'We want to take these areas for marine protection; we want to take these for

43 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard* 16 June 2006, p. 62; Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 63.

44 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 20 October 2006, p. 46.

45 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 55.

fishing,’ and there is not a rationale which links them clearly. That is where sitting around a table turns into a screaming match.⁴⁶

4.45 This was not viewed as a desirable process:

We have to make them work, particularly in relation to consultative frameworks, which are collaborative consultative frameworks rather than sectoral opposition frameworks in designing protected areas—and remembering that we do not manage marine areas; we manage what people do. It is about managing people.⁴⁷

4.46 From the outset of the NRSMPA process, the Australian Government endeavoured to build a system that had a high level of stakeholder engagement and input. Mr Stephen Oxley outlined for the committee the process which the Department undertook in the establishment of the South-east MPA:

when the government put out its network of MPAs in December, it was a draft network of MPAs, a ‘best go’ based on our understanding of the science and of stakeholder interests, for public consultation—and for public consultation that contemplated the movement of both boundaries and of changes to zoning.⁴⁸

4.47 Between the draft release and the network announced by the Minister at the beginning of May, there were significant changes to both boundaries and zoning in response to concern raised by the fishing and oil and gas sectors and also from the conservation sector.⁴⁹

4.48 Despite evidence that the Department had engaged in consultations with a range of stakeholders and amended boundaries and zoning accordingly, the committee heard from some sectional groups that the process to establish the South-east MPA was problematic as the objectives for the process were unclear to many of the stakeholders. Mr John Harrison, from the Australian Recreational and Sport Fishing Industry Confederation told the committee:

Bring people into the debate and into the discussion when it starts and say: ‘This is what we are trying to achieve. This is the big picture and the long-term objective. How can you help us in that process? Where is it going to impact on you? What are the areas that are critical to the long-term requirements for your particular sector—again, whether it be rec or commercial?’ I think the best way to get an enemy is to force-feed

46 Dr Richard Kenchington, Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p. 28.

47 Dr Richard Kenchington, Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p. 28.

48 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 56.

49 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 56.

someone—you know, the carrot and the stick. But, if you encourage people to contribute and participate, to be involved and to be part of the solution, you will get a good outcome.⁵⁰

4.49 The fishing industry saw that there was a need for a clear definition and enunciation of the objectives of the marine protected areas and of how the process was to be rolled-out. The committee heard evidence which suggested that while it is critical to set out the objectives of the MPA this is not enough. The process also needs to set out clear outcomes, such as catch limits:

I think the objectives should be clearly stated so that that committee can handle it, and it helps adjust borders or placing. So I think objectives are very important... [Just] to set aside protected areas is not enough to protect the marine scene, and I think it is pretty obvious. You really need an overall system which has perhaps catch limits for anglers or a total take limit for commercial fishers and so on, so that you try and manage the whole. But the marine protected areas are a vital part of that management system.⁵¹

4.50 There was industry support for the development of marine protected area networks whose principal objective was the identification and protection of marine areas of high conservation values.⁵² However, there was industry suspicion that some of the areas earmarked for conservation were designed to address perceived weaknesses in fisheries management rather than conservation objectives.

I am saying that in the future it should be clear from the outset what the objectives of the marine protected area are, and it should be clear from the outset that it is not about fisheries management. It seemed to us that we had to establish that clearly during our process.⁵³

4.51 This opinion was galvanised during the negotiation and discussion phases to establish the South-east MPA when the fishing industry felt that the process was more about issues of fisheries management rather than conservation. From industry's perspective, this led to the view that the industry was fighting a threat rather than working collegially to develop a better conservation outcome.⁵⁴

50 *Committee Hansard*, 21 April 2006, p. 50.

51 Professor Frank Talbot, Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 43.

52 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 13.

53 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 15.

54 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 15.

4.52 The Department acknowledged that there was a need to more clearly define the process in establishing an MPA,⁵⁵ but refuted claims that policy objectives were not put on the table at the beginning of the process:

I think one of the key parts ... is to state up front what the overall policy objectives are, what the objectives for the marine protected areas are. We did that in the south-east, based on detailed scientific specifications that said, 'In each of these areas, these are the important features,' whether it be sea mounts, critical habitats or specific species. So it is very important to have that up front.⁵⁶

4.53 Concerns were raised by the fishing industry that they were not involved in the process prior to the release of the draft plan. Mr Neil MacDonald from the South Australian Fishing Industry Council:

We believe it can only happen with the full understanding of the impacts of such proposals. Decisions then need to ensure that there are improved outcomes and that this type of work is a prerequisite to management models, and that is clearly a case where the industry is of the view that it should not be necessary for it to have to fight rearguard actions. When draft plans are put on the table, we would like to consider that the planning process is rigorous enough that it actually seeks the correct information and then balances it up before it releases even a draft plan, let alone seeks to finalise an arrangement.⁵⁷

4.54 Similar concerns were raised by Narooma Port Committee regarding planning processes for the creation of Batemans state marine park in NSW.⁵⁸

4.55 However, the committee believes that such concerns are generally unwarranted. It is the Department's brief to draw up draft plans based on the scientific data available and not on the interests of particular sections of the community. There is clearly a difference between the argument that a group was not adequately consulted, or was not consulted earlier enough in the process, and the fact that some interests may be disappointed with the outcome of the process and may therefore seek to dismiss it. As Mr John Harrison from the Australian Recreational and Sport Fishing Industry Confederation told the committee:

In a lot of cases where they do not like the outcome they will say they have not been consult[ed] properly. That needs to be recognised—and I think any level-headed person will recognise it. But what we are saying is, 'Get the processes in place so that the consultation can take place from the start.' If the outcome is not to the liking of the person, tough. If they have had a fair

55 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 53.

56 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 55.

57 *Committee Hansard*, 6 June 2006, p. 15.

58 *Submission 127*, pp 4–6.

shot, a fair hearing and opportunities to have an input and do not get exactly what they want and want to pick up their bat and ball and go home, let them. The reality is, as I said, that you are not going to stop the tide; MPAs are here to stay. But we want to be able to have an opportunity to influence the outcome. Whether your influence works is a completely different set of questions.⁵⁹

4.56 Mr Stephen Oxley from the Department of Environment and Water Resources also noted that while some stakeholders did not like the outcome the Department had always sought stakeholder input into the process:

Not all stakeholders have liked the way we have done that, but we have tried to never go out to stakeholders with a *fait accompli*.⁶⁰

4.57 The committee notes that a process where goals are unclear can encourage stakeholders to circumvent consultation procedures:

It is that lack of leadership and direction-setting. What are we trying to aim for; what is the target? Those questions are at the core of any achievement. In my view, the south-east marine protected area process was a classic example of where that failed. The biodiversity targets were not set, so people did not know what they were working towards and so they worked through a 'process process' and then everybody jumped towards the politicians to try to get the biggest chunk of the pie for their interests. That is a fatally flawed way of trying to manage our marine resources and our marine natural heritage.⁶¹

The fishing sector

4.58 Under offshore constitutional arrangements the states and Commonwealth have agreed that certain fisheries would be managed by the states, some would be jointly managed, and the Commonwealth would also manage some fisheries. In such a complex management environment there is a range of national and state bodies which represent the interests of Australian fishing and seafood industries. At a national level the Commonwealth Fisheries Association (CFA) represents the interests of those operating in Commonwealth fisheries. The CFA's membership includes fishers operating in the following commercial fisheries:

- Northern Prawn Fishery;
- South East Trawl Fishery;
- Gillnet Hook and Trap Fishery;
- Great Australian Bight Fishery;

59 *Committee Hansard*, 21 April 2006, p. 53.

60 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 56.

61 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 27.

- Western Tuna Fishery;
- Southern Bluefin Tuna Fishery;
- Sub-Antarctic Fisheries;
- Coral Sea Fisheries;
- East Coast Tuna and Billfish; and
- Southern Squid and Bass Strait Scallop fisheries.⁶²

4.59 The industry has a clear interest in ensuring that fishing stocks are well managed. The committee was told about the strong incentives for fishermen to manage the fish stock responsibility:

In fact, if you look at it bluntly, it is my members who have more to lose than anybody through the poor conservation of fisheries resources. They are the ones who have statutory fishing rights and they are the ones who have invested millions of dollars in fishing vessels and onshore facilities. It is certainly in their interests not to overfish in the longer term but to take a responsible conservation position.⁶³

4.60 Similarly, Mr Neil MacDonald from the South Australian Fishing Industry Council told the committee that industry provided their expertise to ensure fish stock protection:

Fisheries have a strong history with management, particularly in terms of managing spatial and temporal areas to protect fish stock sustainability, ensure habitat integrity and protect ecological processes. Management areas have been introduced in a lot of instances with industry support and in many instances with industry's information and insistence in order to secure their future.⁶⁴

4.61 The establishment of marine protected areas is of concern to the fishing industry as it is believed that limiting access to fisheries will impact negatively on the financial interests of those in the industry.

Minimising the impact on industry

4.62 The committee heard from a range of fishing industry bodies as well as from the recreational fishing sector. As discussed above, all were critical of the process to establish marine protected areas. However, most acknowledged that while the discussion was difficult both state and Commonwealth departments responsible for the establishment of MPAs had supported the involvement of the fishing industry and accommodated the fishing sector.

62 Commonwealth Fisheries Association, *Submission 158*, Attachment A.

63 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 21.

64 *Committee Hansard*, 6 June 2006, p. 15.

The department, I must say, was very supportive of our involvement in the process. That is not to say that it was always an easy process.⁶⁵

4.63 The committee was told on a number of occasions that at the end of the process the fishing industry was satisfied with the outcome.⁶⁶ In regard to the South-east MPA, the financial impact on the fishing industry is minimal. In late 2005 the initial proposed network was believed to have a potential impact of approximately \$15 million a year in displaced fishing catch. After successful negotiation on the part of industry it is now estimated that final impact on industry of the South-east marine protected area will be approximately \$500 000 per year.

Firstly, the industry's first reaction to the proposal that was put on 14 December was one of extreme disappointment because of the direct impacts it had on the fishing industry... We worked with the Tasmanian Aquaculture and Fisheries Institute and the Department of the Environment and Heritage over a period of time to try to identify an alternative network that came up with improved outcomes. In the end, the network that was developed had substantially greater conservation values and reduced the impact on industry by something like 90 per cent. I thought that was a good outcome all round.⁶⁷

4.64 Similarly, the committee was told that the revised rezoning of the South-east MPA resulted negligible impact of the rock lobster industry in South Australia.⁶⁸ The limited impact of the fishing industry was seen by the conservation sector as a failure of the process:

the NRSMPA has had very little impact on the South Australian Fishing Industry Council. That is an indictment of its failure to deliver on biodiversity conservation, because it has not excluded fishing from anywhere where it is having an impact.⁶⁹

4.65 The committee was informed of the efforts that the Department to ensure that the concerns of the fishing industry were addressed:

The approach, working with the fishing industry, was to look at how we could achieve biodiversity conservation and minimise the impact on fishermen... We have worked quite closely since December with the fishing industry. We adjusted boundaries for the MPAs, in response to their

65 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 15.

66 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 15.

67 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 16.

68 Mr Neil MacDonald, South Australian Fishing Industry Fishing Industry Council, *Committee Hansard*, 6 June 2006, p. 16.

69 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 30.

concerns. We recognise the importance of dealing with the fishing industry in the future and, hopefully, they will think it was, on balance, a relatively positive outcome in the south-east.⁷⁰

4.66 A primary concern for the fishing industries was if statutory fishing rights in Commonwealth waters were subject to restrictions, industry felt that there should be adequate compensation for those impacts.⁷¹ A Commonwealth Fisheries Association Policy Position Paper states that:

MPA's involve the compulsory transfer of access rights from the fishing industry to the broader community. This has clear and direct implications for the commercial viability and the value of the SFR's of fishers operating in the area that should be compensated. There will also be impacts on allied industries and communities that need to be addressed. Compensation or adjustment assistance should cover the following categories:

- The buy-out of fishers that are substantially affected by the proposed MPA;
- Compensation or adjustment assistance for fishers affected by the MPA but who wish to remain in the industry; and
- Adjustment assistance to allied industries and communities affected by a reduction or relocation of commercial fishing activity.⁷²

4.67 In November 2005, the then Australian Fisheries and Conservation Minister, The Hon. Ian Macdonald, and the then Minister for the Environment and Heritage, The Hon. Ian Campbell, announced *Securing our Fishing Future*, a \$220 million initiative of one-off, capped structural adjustment assistance and improved management measures for those fisheries managed by the Australian Government (see Appendix 8).

4.68 Of the \$220 million, \$150 million was set aside for one-off structural adjustment assistance or compensation aimed at reducing the high level of fishing capacity in those fisheries that are subject to over-fishing or are at significant risk of over-fishing. The package also included a further \$70 million in complementary assistance, designed to assist other on-shore businesses most directly impacted by the changes.⁷³

70 Ms Donna Petrachenko, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, pp 61– 62.

71 Mr Peter Franklin, *Committee Hansard*, 16 June 2006, p. 14.

72 Commonwealth Fisheries Association, *Submission 158*, Attachment 1.

73 Minister for the Environment and Heritage, Senator the Hon. Ian Campbell & Minister for Fisheries, Forestry and Conservation, Senator Ian Macdonald, *Government acts for a sustainable fishing future*, Joint Media Release, 23 November 2005.

4.69 Professor Frank Talbot from the Australian Marine Sciences Association highlighted the difficulty in assessing the level of compensation to be paid to fisherman due to the practice of underestimating catch size:

There is no doubt in my mind that you really have to make some compensation, and this has caused problems all around. It has caused problems to fishermen because they often declare a low catch and have for years and sell illegally. It is very common practice. Then, when asked what their actual take was, it is too low for reasonable compensation. That has hit fishermen... But I think, if you are going to take something away, you have to compensate people.⁷⁴

4.70 Similarly, Dr Richard Kenchington, from the Australian Association for Maritime Affairs, raised concerns that exit strategies currently available to fisherman were inadequate and often had the perverse effect of pushing fisherman into other sectors of the fishing industry thereby increasing pressure elsewhere:

There are many very sensitive and concerned fishermen who are stuck in the industry. They cannot sell boats—nobody wants to buy them; there are too many there. They get trapped into an investment in order to get a competitive edge, which ironically increases the impact on the available stocks. I heard the previous witness talking about exit strategies for fishermen. Our threat there is that, one, we do not have adequate exit strategies; and, two, the exit strategies that we have should be true exit strategies, not strategies where you go out of one piece of the industry and then come back in again.⁷⁵

4.71 Access to compensation is decided on a number of factors. In regard to the South-east Marine Protected Area the committee was told that compensation was not available for fishermen affected by the marine protected area who stay in the fishery. Rather, only those who leave the fishing industry are compensated. Mr Peter Franklin from the Commonwealth Fisheries Association told the committee that:

From our point of view, that is a significant deficiency and a principle that we would not want to see adopted as the marine protected areas are rolled-out around the coast. We were very disappointed with that outcome.⁷⁶

4.72 However, the committee was informed that as the Commonwealth had put an enormous amount of effort into designing an MPA network that minimised impacts on industry, and on the fishing industry in particular, the only measure that needed to be offered was the licence buy-out for those fishermen significantly impacted as a result of the MPA.⁷⁷

74 Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 42.

75 *Committee Hansard*, 16 June 2006, p. 30.

76 *Committee Hansard*, 16 June 2006, p. 19.

77 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 59.

4.73 In principle support for compensation to buy out of licences was articulated in the marine conservation sector. However, concerns were raised that most of that \$220 million federal package was allocated for fishery management to restructure the South-east trawl fishery and the closing of the Bass Strait Central Zone Scallop Fishery. Consequently, very little of the funding went to assist the fishing industry structurally adjust to a marine protected area system in the region.⁷⁸ Critics of the program saw the package as a 'bail-out' of an unviable industry:

... industries not being able to autonomously adjust to the new world order and having to restructure, so basically, in my view, getting a bailout—we may have ended up with a better conservation outcome on the shelf and the slope; the industry might have been more open to compromise on more areas because structural adjustment money for that purpose would have been available.⁷⁹

Oil and gas in the marine environment

4.74 The committee received little evidence on the oil and gas industries in regard to the NRSMPA. It was however, made aware of the sentiment among other stakeholder groups that while not formally excluded from the process for the South-east region, existing oil and gas leases were off limits in terms of the marine protected area because of their commercial value and significance to Australia's energy policy. Mr Peter Franklin from the Commonwealth Fisheries Association told the committee:

I think you will find if you get a map of the oil and gas leases and an area map of the marine protected areas that there is not too much intersection. The difficulty we had, I guess, was not so much with the leases, because we knew where they were, but the fact that the area of the prospective leases is highly confidential. So we were confronted with a bit of a guessing game as to where we could possibly look for alternative areas.⁸⁰

4.75 Mr Craig Bohm from the Australian Marine Conservation Society also highlighted the fact that oil and gas reserves were protected under the South-east regional process:

I am not targeting anybody specifically but we have been told on a number of occasions that national energy policy overrides everything. Marine parks come a poor second place to oil and gas interests. On the south-east marine protected area process, we can all see by looking at the maths that a marine park will come up and there will be a straight line down the edge of an oil and gas reserve.⁸¹

78 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 31.

79 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 31.

80 *Committee Hansard*, 16 June 2006, p. 23.

81 *Committee Hansard*, 6 June 2006, pp 34–35.

4.76 Witnesses did not view having oil and gas exploration or extraction within MPAs as necessarily mutually exclusive. Their concerns were more that such a key stakeholder in the South-east regional process was not required to come to the negotiating table and therefore all other interests were secondary and a holistic approach to planning could not be undertaken:

That is somebody saying, ‘You cannot go into my turf; stay out.’ We are not going to achieve good marine conservation outcomes, and even to some degree good fisheries management outcomes, when there is a line that says, ‘You will not deal with this sector,’ and that sector says, ‘You will not deal with us; we are sacred.’... the south-east process showed that they were not a player. They were taken out of the equation. For a government touting regional marine planning and holistic government et cetera, this really does need to be overcome.⁸²

4.77 Similarly,

I think what we are seeing play out in the South-East Regional Marine Plan process at the moment is that, in areas where you have oil and gas leases or even areas of prospectivity that are impeding MPA establishment in areas of high conservation value, the government really needs to weigh up whether it is appropriate to accommodate these industry interests and forgo the opportunity to apply conservation and management.⁸³

Recommendation 1

4.78 The committee recommends that in all future negotiations for the establishment of Marine Protected Areas, the oil and gas industry be part of the process so that all stakeholders are fully aware of the range of issues that impact upon the marine environment.

Zoning

4.79 Zoning for different uses is a critical part of the management of MPAs. This is in part because, unlike most terrestrial reserves, MPAs often host extractive uses, such as oil and gas exploration, commercial fishing and recreational fishing. Deciding on access to and uses of marine reserves is thus a much greater part of the planning process than it is on land.

4.80 The Australian Government has agreed to assign all protected areas, including marine ones, to a World Commission on Protected Areas (IUCN) conservation category at the time of declaration.⁸⁴ Each zone within a reserve must also be assigned

82 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, pp 34–35.

83 Mr Richard Leck, ,WWF Australia, *Committee Hansard*, 21 April 2006, p. 40.

84 Department of Environment and Heritage, Fact Sheet: *Zoning in the South-east Commonwealth Marine Reserve Network*, <http://www.deh.gov.au/coasts/mpa/southeast/publications/pubs/zoning.pdf>, accessed 30 October 2006.

to an IUCN category. In this way, zoning is linked to the conservation aims set out in internationally recognised IUCN conservation standards.

4.81 The IUCN categories were described in Chapter 2. Commonwealth marine reserves in the South-east marine region are being assigned to IUCN categories Ia, II or VI, using the following zoning guidelines:

- (i) Sanctuary Zone (IUCN category Ia) scientific reference site – no extractive use.
- (ii) Benthic Sanctuary Zone (IUCN category Ia) benthic environment from 500 metres below sea level to 100 below the sea floor – no extractive use. Pelagic fishing allowed in the area from the sea surface to 500 metres below sea level.
- (iii) Recreational Use Zone (IUCN category II) recreational activities allowed including recreational and charter fishing. No commercial extractive activities allowed.
- (iv) Multiple Use Zone (IUCN category VI) closed to demersal trawl, Danish seine, mesh netting, and scallop dredge methods of fishing. Other forms of commercial fishing allowed subject to conditions outlined in the Management Plan. Oil and gas exploration, development and associated activities and geosequestration of carbon are allowed.
- (v) Special Purpose Zone (IUCN category VI) closed to commercial fishing: allowable activities include recreational fishing, charter fishing, oil and gas exploration, development and associated activities and geosequestration of carbon.⁸⁵

4.82 The decision on how to zone areas, and thus what conservation aims will be met in those areas, has been central to the Commonwealth's strategy for creating a national network of marine protected areas, as well as topic of much discussion amongst stakeholders. The Commonwealth's approach has been that:

All zoning decisions will take account of the potential impact of activities on conservation values, social and economic issues, management effectiveness, other conservation measures and Australian Government policies related to resource access and use.⁸⁶

85 Department of Environment and Heritage, Fact Sheet: *Zoning in the South-east Commonwealth Marine Reserve Network*, <http://www.deh.gov.au/coasts/mpa/southeast/publications/pubs/zoning.pdf>, accessed 30 October 2006.

86 Department of Environment and Heritage, Fact Sheet: *Zoning in the South-east Commonwealth Marine Reserve Network*, <http://www.deh.gov.au/coasts/mpa/southeast/publications/pubs/zoning.pdf>, accessed 30 October 2006.

4.83 Under the zoning model the areas of highest conservation, IUCN Category I sanctuary zones, do not allow any extraction. Colloquially these zones are known as no-take or green zones. The prime purpose of no-take marine reserves is to provide maximum protection of their marine ecosystems from human disturbance.⁸⁷ No-take zones are not solely about the prohibition of extraction but about habitat protection from the impact of activities such as seabed trawling.⁸⁸ As greater areas of the marine environment become available for extraction the need to provide some degree of strict protection is also increasing:

Historically—going back to, say, the early times of white settlement—there were large areas of the sea that our fishing fleets could not reach. I suppose you could say these were natural reserves. These were the natural areas where life thrived and was very, very productive and fed those coastal systems where we fished and helped to keep them afloat to some degree, perhaps for a lot longer than they otherwise would. What we see today is that there are very few of those areas left. We need to consider that when we think of marine parks and their role. In our view, we need to restore some of these natural refugia or natural places in the sea which can remain in their own state, be productive and feed the broader system.⁸⁹

4.84 Research done on no-take areas by Callum Roberts and Julie Hawkins in 2000 found that no-take areas:

- provide a refuge for threatened species;
- prevent habitat damage;
- promote development of natural biological communities that are different from communities in fishing grounds;
- enhance the production of offspring, which can restock fish populations;
- facilitate recovery from catastrophic human and natural disturbances; and
- allow spill-over of adults and juveniles into adjacent fishing areas.

More specifically, their research found that no-take areas:

- increase the number of species by 33 per cent;
- benefit exploited and unexploited species – resulting in positive impacts throughout the food web;
- double the abundance of fish; and

87 Australian Marine Sciences Association, *Submission 125*, Attachment 1, p. 3.

88 Dr Richard Kenchington, Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p. 34.

89 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 24.

- increase fish size by one third, which in turn can increase egg production by 240 per cent.⁹⁰

4.85 A Scientific Consensus Statement signed by 161 marine scientists in 2001 agreed that 'existing scientific information justifies the immediate application of fully protected marine reserves as a central management tool'.⁹¹ The World Commission on Protected Areas (IUCN) reports that an 11 year study by the CRC Reef into the effects of line fishing in Queensland's north east coast showed an increase in fish size and number in protected areas, compared with the nearby areas open to fishing, emphasising the role 'no take' zones have in increasing fish stocks.⁹²

4.86 The committee heard evidence on the benefits of sanctuary zones from a range of scientific organisations. The importance of these zones to endangered species was highlighted by Professor Frank Talbot from the Australian Marine Sciences Association:

But in our area we have overfished quite drastically. Orange Roughy, a trawled species in the upper continental shelf area,... is now being considered for endangered status, and gemfish populations—another species in that area—are down to about three per cent of their original population size. There are some smaller species that ...were down to one per cent of their original populations. They are really stuffed... We are not alone; other countries have the same problems of overfishing. The only way you can deal with this in the long term is to have set aside areas and no-take zones.⁹³

4.87 Further, it was argued that sanctuary zones provide an insurance policy for stock rejuvenation:

Some scientific papers show a spill-over effect where fish grow up and travel outside the areas, but I think it is probably far more important as a safety device, if you like, where you can get fish growing to original population sizes and to large size. Large fish produce massively more eggs, for instance, than small fish that have just reached reproductive stage. From this, you have a base from which you can restock naturally into areas if you really overdamage them. So it is a sort of insurance policy for areas that are not protected.⁹⁴

90 Great Barrier Reef Marine Park Authority, *Zoning in the Barrier Reef*, http://www.gbrmpa.gov.au/_data/assets/pdf_file/7333/tech_sheet_02.pdf, accessed 26 October 2006.

91 National Center for Ecological Analysis and Synthesis (2001), *Scientific Consensus Statement on Marine Reserves and Marine Protected Areas*, p. 3.

92 *Submission 137*, p. 14.

93 *Committee Hansard*, 16 June 2006, p. 40.

94 Professor Frank Talbot, Australian Marine Sciences Association, *Committee Hansard* 16 June 2006, p. 40.

4.88 In their submission to the inquiry the Australian Marine Science Association argued:

No-take reserves thus provide a “second line of defence” should current management fail. Protected populations of exploited species may assist stock recovery outside a reserve in two ways:

- through movement of mature individuals outside reserve boundaries, and;
- by dispersal of planktonic life stages beyond reserve boundaries by water currents which move through a reserve.

Research into no-take marine reserves has shown dramatic increases in size (and as a consequence, also in fecundity) and abundance of commercially exploited marine species within them.⁹⁵

4.89 However, the Coast and Wetland Society's submission questioned the objective of MPAs as an 'insurance policy' against fish stock depletion:

There is, however, an important difference between the objectives for marine protected areas and for terrestrial conservation reserves. One of the justifications for establishing MPAs is that they provide ‘safe’ areas for the recruitment of fish stocks which will in the future be available for harvest in areas outside the MPA. There is increasing evidence that harvestable yields are positively increased through establishment of conservation areas. In the terrestrial environment, reserves are not established so as to increase the numbers of (for example) kangaroos which might be shot elsewhere.⁹⁶

4.90 Dr Richard Kenchington, from the Australian Association for Maritime Affairs argued that as we do not yet know how to sustainably manage multiple use within marine environments, no-take zones provided sanctuary sites for marine species recovery but also provided reference sites to benchmark and measure the health of the marine environment more generally:

Therefore, there is a strong precautionary argument which says that we need no-take areas as reference sites, as sanctuaries and as recovery areas. So if the areas we are using are not managed sustainably we have (a) a reference to know what was going on and (b) a site from which recruits may go out to repopulate the areas which have been damaged.⁹⁷

4.91 The value of these zones to provide marine science with undisturbed base line data was made on a number of occasions:

They also give us an undisturbed base line. If things are changing in a fished area outside a protected area, the only way you can understand what is happening is to look at an area which has not been affected to see what the changes are and then maybe come to reasons. If it is a global warming issue, it would affect both areas the same. If it is a pollution or an

95 *Submission 125*, Attachment 1, p. 3.

96 *Submission 7*, p. 2.

97 *Committee Hansard*, 16 June 2006, p.34.

overfishing issue, you would see a clear difference. But, unless you have that reference point, you do not have a clue as to what is happening. That is an important one.⁹⁸

4.92 Asked whether he preferred a reserve model based on smaller no-take areas or larger protected areas that have zoning across them, Professor Frank Talbot replied that he would prefer a reserve system that incorporated both models:

One of the issues here is what your fish actually do, what your organisms do—the distribution pattern of your organisms. If you were trying to protect an area fairly thoroughly where there are species that are migratory and they migrate well beyond that area and get into a fishery, you will do just as much damage as if it were not there. So you really have to look at what you are trying to protect. If it is the total ecosystem, there is no question; you need a sort of fairly bigish area to be somewhat protected... yet there may be important small areas. Breeding spaces, for instance, on the Great Barrier Reef for some species are very tight. In other words, they come to the same spot every year and they may travel kilometres away to live. There you could put a very small marine protected area or a no-take area, which would protect that stock quite considerably. So I suppose it really depends on the science.⁹⁹

4.93 However, despite the identified scientific and conservation values of sanctuary zones, the benefits of these zones to surrounding fisheries is highly contested. This is partly because it can be difficult to show a direct correlation between setting aside an area as no-take and improvements in fish stocks elsewhere. The issue of no-take, and in particular targets for and locations of no-take zones within the MPA, is highly divisive for the different interest groups:

... the lobbyists inevitably come to me and say: ‘This is great. This is fantastic. But our position is that “no take” is a wedge issue and we will not go politically with you on that.’¹⁰⁰

4.94 The committee also heard evidence which was critical of the zoning approach arguing that it excluded certain sectional interests. The commercial fishing industry contended that their exclusion based upon industry type was discriminatory as no consideration was given to the impact upon the marine environment of other fishing sectors, which may cause equivalent or more damage than the well-informed professional sector. Mr Neil MacDonald from the South Australian Fishing Industry Council argued:

On the issue of multiple use, parks and management zones are used to exclude one type of stakeholder while supporting access by other

98 Professor Frank Talbot, Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 40.

99 Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 43.

100 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 27.

stakeholders with similar or consistent practices. The measure of impact on the environment is not whether it is commercial or recreational but rather the scope and extent of that activity and the manner in which it is undertaken. All users seek to maximise their benefit from their involvement in the marine ecosystem. Commercial fishers have a greater understanding of that system in which they operate so they generally tend to practise a greater degree of husbandry.¹⁰¹

4.95 The committee received a large amount of evidence which highlighted the need for scientific information and analysis to inform decisions about MPA establishment and zoning.¹⁰² Concerns were raised that currently the areas within MPAs classified as sanctuary zones are minimal and fall below the recommended percentage of each bio-region:

Although the Marine Conservation Society is supportive of multiple use and no-take—both are complementary in our view—the no-take does have to be at the core of any such system. The level of the no-take is debatable but scientists are giving us strong advice: 30 to 50 per cent of each habitat type across every marine biome. That is the quite substantial level that we should be protecting which the World Parks Congress came up with in 2003. We are nowhere near those targets.¹⁰³

4.96 The committee was made aware of the importance of MPA design.¹⁰⁴ While commenting specifically on the design of marine parks in Victoria, over the use of straight arbitrary lines to establish park boundaries, such criticism can be level at the process more generally:

The new Marine National Parks, have simplistic geometric boundaries that bear little or no resemblance to physical features and/or water movements that are important when attempting to isolate site with important biological or ecological values. They appear to be borne more of ideology and expediency rather than science.¹⁰⁵

4.97 Mr Craig Bohm from the Australian Marine Conservation Society similarly highlight the need for science not ideology and political interest to drive the process of MPA development:

I must emphasise that such networks cannot be designed purely between stakeholders in the negotiation processes. Science has to drive the way

101 *Committee Hansard*, 6 June 2006, p. 15.

102 Mr Richard Leck, WWF Australia, *Committee Hansard*, 21 April 2006, p. 44; Mr Grahame Byron, Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 41.

103 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 28.

104 Dr Richard Kenchington, Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p.30.

105 Mr Andrew Chapman, *Submission 114*, p. 3.

because scientists know best. They will have to make judgments, but they will know better than we do and we need to follow their lead.¹⁰⁶

4.98 Similarly, the committee heard that the lack of clear operating protocols also enabled political interest to override science:

... by having strong scientific input, clear operating protocols for how the zoning plan was to be implemented and consultation that involved all stakeholders, was not applied in the case of the Great Sandy. Therefore, you got an outcome that was driven much more by stakeholders rather than by science.¹⁰⁷

4.99 The establishment of MPAs and the zoning of the MPA is, as discussed above, a political and contested process between sectional interests.¹⁰⁸ The committee heard that consequently relationships between various stakeholders were strained:

the relationship between industry and conservationists has been a big topic. There is a lot of spilt blood, a lot of anxiety. We probably need a break from each other in that area for a while. We need to go and work on some other relationships and look at where there are some collaborative approaches we can apply in other regional marine areas.¹⁰⁹

4.100 Similarly, officers from the Department of the Environment and Water Resources alluded to the impact of the process on participants:

I think that all stakeholders—including departmental officials, if we are allowed to be described as stakeholders—have got some level of bruising as a result of the whole process.¹¹⁰

4.101 The committee is concerned that sectoral interests are set against each other. This and the perception that certain sectoral interests have undue influence over the size and location of sanctuary zones, ultimately undermines the MPA establishment.

That is partly because often the outcome of a marine park process at either a state or Commonwealth level—and this is a general statement; it does not apply to every marine park—is highly politicised at the final hour of where the line on the map goes. We can have a relatively good scientific process but, at the end of the day, the areas that look like they would be good no-take areas, particularly around coastlines, are often excised from the final draft. This means people like me and the Marine Conservation Society lose faith the process. This is why we have our constant mantra that we want

106 *Committee Hansard*, 6 June 2006, p. 25.

107 Mr Richard Leck, WWF Australia, *Committee Hansard*, 21 April 2006, p. 42.

108 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 28.

109 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 35.

110 Mr Stephen Oxley, Marine Division, Department of the Environment and Heritage, *Committee Hansard*, 16 June 2006, p. 53.

scientifically driven processes with biodiversity conservation targets set up front by those scientists using their best judgements. Then we can have faith and confidence in the process.¹¹¹

NRM – Not remotely marine?

4.102 Under previous the Natural Heritage Trust (NHT) arrangements, there was a specific Coastcare program which focused upon marine projects. Additionally, there was a memorandum of understanding between all three levels of government to deliver the Coasts and Clean Seas program. When the Natural Resource Management (NRM) framework replaced the Natural Heritage Trust, it was largely felt the marine and coastal slipped from a place of prominence.

Until we see marine and coastal issues dealt with effectively through natural resource management frameworks, I do not think we will have integrated natural resource management. It was an attempt to put the ‘i’ back into NRM and to change what many considered NRM to stand for—‘Not Remotely Marine’—to ‘Now Really Marine.’¹¹²

4.103 The committee heard evidence which raised some concerns over the National Resource Management (NRM) approach to marine environment management at a regional and community level. While there was support for the use of NRM to bridge the gap between science and policy and the local community, considerable concerns were raised over the level of support and capacity that some coastal NRM groups to actually deliver marine conservation outcomes.¹¹³

I really appreciate the Commonwealth taking the direction of helping coastal NRM bodies to become more directly engaged in marine management, but certainly there is more that needs to be done. In my view, most of those committees do not have the marine expertise they need to help them understand exactly what role they might play in the marine environment ... But NRM bodies do not really have the expertise within them to, for example, pursue those things themselves—apart from a few communities that, fortuitously, have people with marine interests and expertise who become involved and drive the message home.¹¹⁴

111 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 29.

112 Mr Anthony Flaherty, Marine and Coastal Community Network, *Committee Hansard*, 6 June 2006, p. 9.

113 Mr Richard Leck, National Marine and Coastal Policy Officer, WWF Australia, *Committee Hansard*, 21 April 2006, p. 45.

114 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 26.

Recommendation 2

4.104 The committee recommends that specific consideration be given to the level of capacity for coastal NRM groups and to the funding arrangements made available to NRM groups to assist in acquiring the necessary marine expertise.

4.105 The committee was concerned to hear that despite the fact that the size and number of marine protected areas are increasing Commonwealth Government funding to marine NGOs is decreasing.

We are looking at moving to a very part-time organisation in the next funding arrangement, which will reduce our ability to facilitate discussion on a whole range of marine issues—not just marine protected areas but also marine pests and a range of policy issues that we deal with at both national and state levels... But at the moment it is difficult to maintain a national presence and also to give our attention to a whole range of issues, particularly in the area of coastal policy and coastal management, which is back and taking an ever-increasing lead in discussion¹¹⁵

4.106 The committee was made aware of the Marine and Coastal Community Network's (MCCN) NRM guide. It was argued that, despite the useful contribution that this publication can make to educating NRM groups, no funding was available for extension work to allow the MCCN and others to go out and assist NRM groups to interpret the guide in their local context.¹¹⁶

Great Barrier Reef Marine Park

4.107 Australia's most famous, most visited, and one of the most carefully managed Marine Parks is the Great Barrier Reef Marine Park. At different stages in its evolution it has illustrated many of the issues facing marine parks, but also some of the successes in addressing those issues through effective management, zoning, public consultation and planning, issues which are also discussed further in Chapter 10.

4.108 The Great Barrier Reef Marine Park extends more than 2300 km along the Queensland coast, and covering approximately 344 400 square kilometres. It is one of the largest marine protected areas in the world (larger than the total area of Victoria and Tasmania combined) and extends from low water mark on the mainland coast, to the outer (seaward) boundary up to 280 km offshore.

4.109 Established in 1975 the Great Barrier Reef Marine Park is a multiple-use marine park, allowing a range of ecologically sustainable uses with an overriding conservation objective. It was declared a World Heritage Area in 1981, recognised internationally for its outstanding natural values. It comprises one of the world's

115 Mr Anthony Flaherty, Marine and Coastal Community Network, *Committee Hansard*, 6 June 2006, p. 2.

116 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 26.

largest and most complex ecosystems, ranging from fringing coastal reefs to mid-shelf lagoons, outer reefs and then to the open ocean. As the world's largest coral reef ecosystem, and a comparatively pristine area with lower human pressure compared to other coral reef systems in the world, it is acknowledged as a critical global resource.¹¹⁷

4.110 The Great Barrier Reef is also a significant element in the Australian economy which, along with other attractions in the region, contributes \$5.8 billion annually. This comprises \$5.1 billion from the tourism industry, \$610 million from recreational activity and \$149 million from commercial fishing. This economic activity generates about 63 000 jobs, mostly in the tourism industry, which brings over 1.9 million visitors to the Reef each year. About 69 000 recreational vessels are registered in the area adjoining the Reef. The flow-on effect of these industries, which rely on the continued health of the Reef system for long-term economic sustainability, underpins a significant and growing proportion of Queensland's regional economy.¹¹⁸

4.111 The management of the Great Barrier Reef Marine Park is undertaken by the Great Barrier Reef Marine Park Authority. The Authority is the principal adviser to the Australian and Queensland Governments on the care, development and management of the Great Barrier Reef Marine Park. The Authority was established by the *Great Barrier Reef Marine Park Act 1975* as statutory authority.

4.112 In July 2004, the Great Barrier Reef Marine Park Zoning Plan 2003 consolidated the zoning of the Marine Park and significantly increased the area and level of protection. The 2003 Zoning Plan implemented the Representative Areas Programme and, in conjunction with associated State processes, put in place a level of protection that will place the ecosystem in a strong position to maintain its resilience over the longer term.¹¹⁹ The Authority engaged in an extensive consultation process in regard to the zoning of the marine park. Despite the extensive nature of consultation the zoning process was highly contested. However, the Authority was able to achieve sanctuary or green zones for approximately 30% of the marine park. The committee commends the Great Barrier Reef Marine Authority for this achievement.

4.113 Overwhelmingly, the committee heard that the Great Barrier Marine Park was considered worlds best practice model of marine management. Dr Gina Newton, from the Australian Marine Sciences Association told the committee:

117 Department of the Environment and Heritage, *Submission 126*, p. 2.

118 Department of the Environment and Heritage, *Submission 126*, p. 4.

119 Department of the Environment and Heritage, *Review of the Great Barrier Reef Marine Park Act 1975 Review Panel Report*, 2 October 2006:
<http://www.deh.gov.au/coasts/publications/pubs/gbr-marine-park-act.pdf>, accessed 19 December 2006.

Australia has a very good best practice example in the Great Barrier Reef Marine Park. It is world-leading marine management and we can learn a lot of good lessons from the processes that have occurred there.¹²⁰

4.114 Similarly, Mr Craig Bohm, from the Australian Marine Conservation Society argued:

The Great Barrier Reef Marine Park's outcome of the representative areas program was excellent, and I think it is right for the Australian government to run around the world trumpeting it as an excellent outcome.¹²¹

4.115 A number of submission highlighted that the Authority's management of the marine park was recognised as international best practice and consequently the model was being adopted and developed in other parts of the world:

WWF regards the Great Barrier Reef Marine Park as one of the world's best managed large ecosystems and has awarded the Australian government our highest accolade, the Gift to the Earth, in recognition of this. This regard for the management of the Great Barrier Reef Marine Park is a widely held view amongst an array of international and domestic scientific, planning and conservation institutions. As a measure of this success, WWF is working to replicate the achievements in the Great Barrier Reef in areas as diverse as Belize, the Bering Sea and the Fiji islands.¹²²

4.116 Three key elements to the success of the Authority's model of management were identified. First were the Authority's governance arrangements: as a single agency based locally the Authority has enabled an ecosystem wide approach to management to be implemented. The second element was the strong collaborative relationships:

the marine park authority has been very effective in working with a range of stakeholders to implement its management decisions. Without these relationships, particularly the strong relationship it has with the Queensland government but also those with regional NRM groups, reef based industry, scientists and community environment groups, it could not have achieved the management successes it has in recent times.¹²³

4.117 This view was echoed by the Association of Marine Park Tourism Operators.¹²⁴ The third element was the extent of:

the consultation that the marine park authority has undertaken in recent times involved one of the largest public consultation exercises in Australia's history during the rezoning of the marine park. They also

120 *Committee Hansard* 16 June 2006, p. 42.

121 *Committee Hansard* 6 June 2006, p. 30.

122 Mr Richard Leck, WWF Australia, *Committee Hansard* 21 April 2006, p. 39.

123 Mr Richard Leck, WWF Australia, *Committee Hansard* 21 April 2006, p. 38.

124 *Submission 197*.

continue to be highly active in local communities along the length of the GBR coastline, and the success of those communication programs is reflected in the overwhelming interest that local communities have in the management of the reef and also the overwhelming support of those measures to protect it.¹²⁵

4.118 The committee notes the recently released Review Panel Report of the *Review of the Great Barrier Reef Marine Park Act 1975*, in particular the committee notes the findings that:

The current level of protection in place for the Marine Park provides a sound base for achieving a balance of commercial activities, while maintaining the health of the Great Barrier Reef in the future. However, the Review Panel considers that improvements can be made to increase the capacity of governments and the Authority to deliver the goal of the long-term protection of the Great Barrier Reef. This view is based on three considerations. Firstly, it recognises the importance of addressing the pressures on the Marine Park ecosystem in an integrated manner, including developments along the coast and in the catchments. Secondly, the maintenance of effective collaboration with the Queensland Government and its agencies is essential and needs to be underpinned by a more clearly articulated framework. Thirdly, there is a need for trends in the health of the Great Barrier Reef to be regularly reported and consideration of any changes in future planning and zoning arrangements to be undertaken in a robust, transparent and accountable way.¹²⁶

4.119 Further, the committee acknowledges the useful findings of the review which suggest amendments to both the administrative and legislative framework under which the Authority operates.

Conclusion

4.120 Governments across Australia are currently working towards developing a system of MPAs. In part this is a response to international commitments and in part in order to meet the need for greater marine protection in the face of increasing pressures on the marine environment.

4.121 As discussed in this chapter, the process of establishment and zoning marine parks is highly contested regardless of whether it is a Commonwealth MPA such as those being established in the south east marine region or a state marine park, such as

125 Mr Richard Leck, WWF Australia, *Committee Hansard* 21 April 2006, p. 38.

126 Department of the Environment and Heritage, *Review of the Great Barrier Reef Marine Park Act 1975 Review Panel Report*, 2 October 2006:
<http://www.deh.gov.au/coasts/publications/pubs/gbr-marine-park-act.pdf>, accessed 19 December 2006.

the Batemans Marine Park in NSW.¹²⁷ The committee feels that how the process is managed is central to whether sectoral interests will oppose or support the process.

4.122 The committee commends all those involved in achieving greater protection of the Australian marine environment and acknowledges that Australia is recognised internationally for its achievements in this area. As the committee was told by Mr Harold Adams, the Chairman of the Australian Association for Maritime Affairs:

one-third of the world's national marine parks are to be found in Australia's sovereign ocean areas. It is therefore an area of national administration which, if we get it right, has the potential to become a blueprint for the world.¹²⁸

127 Narooma Port Committee, *Submission 127*.

128 *Committee Hansard*, 16 June 2006, p. 26.

Chapter 5

Threats to the reserve system – fire

5.1 Creating reserves is vital to meeting conservation objectives. However, managing those reserves for the values they were designed to protect is equally important. Reserves do not manage themselves, and they face many threats and pressures that could degrade or even destroy their vital functions. The next four chapters outline and discuss some of the major threats to the reserve system, both terrestrial and marine.

5.2 Professor Ralf Buckley named the most common threats to national parks when he told the committee:

One of the standard lines in park management is the four Fs. They are like the three Rs of local government which are roads, rates and rubbish. The four Fs of parks are fences, fires, ferals and tourists.¹

5.3 This chapter looks at fire which is one of the most complex factors in the management of parks, being both a natural, even essential, part of ecosystems, as well as a potential threat to biodiversity, life and property.

Fire

5.4 Fire is a natural part of the Australian landscape. Fire has also been used as a land management tool by Indigenous people for thousands of years. However fire can also present a major threat to natural and cultural values, and must be managed effectively to maintain the integrity of the conservation estate.

5.5 Fire and its management were mentioned in most submissions that discussed terrestrial parks. Specific areas of concern were the origin of fires, hazard reduction burning, access, the role of parks staff during critical incidents, and the loss of assets (including biodiversity) through current fire management regimes.

Origin of bushfires

5.6 A number of submissions claimed that bushfires regularly started within national parks, then escaped, posing a threat to lives and other land tenures. Mr Chris Mitchell noted:

...there have been many intense wildfires in parks and conservation areas, particularly in New South Wales. These have been the subject of media comment and various government inquiries. These intense wildfires, mostly

1 *Committee Hansard*, 21 April 2006, p. 70.

originating in national parks, have resulted in severe loss of life...[and] degradation of conservation values in those parks.²

5.7 Mr David de Jongh, of the National Association of Forest Industries, told the committee that bushfire escape was directly related to national park management practices:

It was increasingly frustrating to see those areas [previously state forests] go into national parks and the passive management approach being undertaken. In a lot of cases, this involved closing of access roads and a lack of fuel reduction burns and a large increase in fuel loads. This constantly became a major risk to adjoining land—not only to adjoining neighbours but also to state forestry organisations—in terms of fires getting out of those parks into state forests and becoming a major threat to timber resources.³

5.8 Dr Peter Volker, of the Institute of Foresters of Australia, was concerned that some fire management techniques that are standard forestry practice, such as conducting hazard reduction burning in buffer zones, are not used in national parks, where fire management seemed to receive a lower priority:

Prescribed burning in buffer zones around the edges of parks, where parks adjoin other land tenures, is one. There is widespread concern that, because there is no fire management within a park, when a wildfire comes to the edge of a park it is uncontrollable, so adjoining land tenures get into strife. In some cases there have been policies of not fighting the fire in the park and letting the fire burn to the fire boundary. Only then does the control action start. That increases the risk for the adjoining land tenure, whether that be private land or other state land, for instance. I have heard of a number of examples of that in the last two years, including the recent Kosciuszko National Park fires and also fires in the Grampians in Victoria, where the fire was uncontrolled in the park and only when the fire got to the park boundaries did active control measures come into play.⁴

5.9 Mr Clyde Leatham blamed loss of public support for national parks on recent, intense fires that had escaped from national parks:

Given the devastating fires in Canberra and the Vic Alps and other areas in recent years, and given that these fires escaped from improperly fire managed crown lands, public support for more parks, etc is declining.⁵

5.10 These concerns were not confined to eastern, forested parks. Mrs Ruth Webb-Smith noted:

2 *Submission 22*, p. 1.

3 *Committee Hansard*, 20 October 2006, p. 16.

4 *Committee Hansard* 31 March 2006, p. 29.

5 *Submission 45*, p. 5.

Up in the Kimberley it is well known that most of the fires start on CALM land. I think just recently one was burning for four days before it was even reported because nobody is on the CALM land, for instance.⁶

5.11 Mr Kieran McNamara, Director-General of the WA Department of Environment and Conservation responded:

The notion that all fires and pestilence come from crown land is nonsense. I honestly would have thought in the Kimberley that the ignition points would be independent of land tenure to a considerable degree, and in fact pastoral burning for pasture management purposes would probably have more escapes beyond pastoral leases than deliberate burning on crown reserves would have in the other direction.⁷

5.12 The National Parks Association of NSW presented statistics to counter claims that national parks in NSW are a major source of bushfires:

... looking at the 2003-04 fire season, of the 5,600 fires during that period, 186 started on park and stayed on park (3.3%) and only 13 started on park and moved off park (0.2%). 64 fires started off park and moved onto national park (1.1%). The remaining 95.3% burned entirely off-park.⁸

5.13 This position was confirmed by the figures in Table 5.1 provided by the NSW Government:⁹

Table 5.1 Source of bushfires

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

* Figure is averaged between the years of 1995 – 2004.

5.14 The percentages shown in the two submissions vary significantly because the National Parks Association submission shows the origin and movement figures as a percentage of all bushfires in NSW in 2003-04 (5,600), while the NSW Government

6 Pastoralists and Graziers Association of Western Australia, *Committee Hansard*, 31 August 2006, p. 39.

7 *Committee Hansard*, 10 September 2006, p. 40.

8 *Submission 130*, p. 10.

9 *Submission 155*, p. 31.

submission shows the origin and movement figures as a percentage of those bushfires that burned inside a NSW national park in 2003-04 (263).¹⁰

5.15 The Queensland Government's submission reported that:

During the 2005 fire year, which extended from March 2005 to February 2006, EPA responded to 272 wildfires on, and adjoining its estate. These fires affected some 0.52 million hectares of managed lands. Of these wildfires, 49% are known to have started off the EPA estate and at least 20% are believed to be arson related.¹¹

5.16 Government advice about the rate of bushfire escapes was not accepted by all witnesses. When asked about the accuracy of claims that only seven per cent of the fires in Queensland national parks had escaped onto surrounding land in the last 12 months, Mr Brett De Hayr replied:

If it is [accurate], it would generally be because the local land-holders have stopped it before it has got any further. With remote management, unless they travel around in Lear jets, I doubt it would be possible that that fire control was being conducted by government staff. It would be local fire brigades, land-holders and local government.¹²

5.17 Mr Peter Cochrane, Director of National Parks, told the inquiry of the difficulty in accurately establishing data in regard to fire on and surrounding national parks:

I could preface my comments by saying that it is a very complex area. It varies enormously around Australia. Different environments around Australia are fire prone in different ways and obviously managed differently for different purposes. Compiling national statistics is extraordinarily difficult, because they are kept by different people in different ways...There is no comparable dataset [to that for NSW] nationally of which I am aware, and even our own datasets are not everything I would like them to be.¹³

5.18 The NSW Government submission provided figures on how fires in NSW national parks started (Table 5.2). These figures show that most fires in NSW national parks are caused by lightning, arson, or poorly managed hazard reduction burning.¹⁴

10 NSW Department of Environment and Conservation (2006), *Frequently asked questions about fire management in NSW national parks*, http://www.nationalparks.nsw.gov.au/npws.nsf/Content/fire_faqs

11 *Submission 175*, p. 14.

12 AgForce Queensland, *Committee Hansard*, 21 April 2006, p. 93.

13 *Committee Hansard*, 20 October 2006, p. 57.

14 *Submission 155*, p. 31.

Table 5.2 Causes of fires, NSW

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

* Figure is averaged between the years of 1995 – 2004.

5.19 Discussing a Commonwealth park within NSW, Mr Cochrane commented:

In Booderee National Park, which is the one park we have that is in the south-east of Australia and more akin to the sorts of problems that are in the public mind about fire in national parks, we have had over 300 fires since 1957, which is 50 years. Nearly half of them have been arson—deliberately lit—either inside or outside the park. A very small percentage of them are lit naturally by, say, lightning strikes. I think the figures are between two and five per cent, and I suspect that that figure is probably fairly common around Australia. Natural sources of ignition are fairly small; they are mostly started by humans.¹⁵

5.20 In relation to why the lightning strike figures provided by NSW were substantially higher than the national figures he had just given, Mr Cochrane ventured:

...if you think about where national parks are, you will know that they are often in high elevation areas. Certainly in New South Wales there are areas of spectacular scenery, areas that have not been under agriculture, for example, and they tend to be more prone to lightning strikes, not surprisingly. So there are somewhat higher incidences of lightning strikes in national parks, at least depending on topography, than there would be in the surrounding country. That is a series of observations; I cannot draw it

15 *Committee Hansard*, 20 October 2006, p. 57.

together for you because it is enormously complex and it is not particularly informed by a lot of factual information, frankly. Views are passionately held on all sides of the argument.¹⁶

5.21 The high rate of arson reported by NSW, Queensland and the Department of the Environment and Water Resources is consistent with Finding 6.3 of the Council of Australian Governments' *National Inquiry on Bushfire Mitigation and Management*:

Arson remains a significant risk for bushfire ignitions, and the states and territories must continue to direct resources towards deterring people from engaging in this illegal activity.¹⁷

Hazard reduction burning

5.22 Hazard reduction burning, sometimes called 'controlled burning', 'prescribed burning' or 'cool burning', is one of many techniques available to land managers to reduce the likelihood and intensity of bushfires. Its use and management remains controversial in Australia, particularly in relation to decisions about whether or not to burn certain areas, and the timing and frequency of burning. A recurrent theme in evidence to the inquiry was the tension between protecting life and property and protecting biodiversity.

5.23 The Australian Government's response to two recent reports on bushfire management, *A Nation Charred: Inquiry into the Recent Australian Bushfires*¹⁸ and *National Inquiry on Bushfire Mitigation and Management* (the COAG National Bushfire Inquiry),¹⁹ recognised this problem when it stated:

The Australian Government recognises the principle that reducing the amount of fuel in a landscape reduces the risks associated with bushfires by the reduction in fire intensity and spread and assisting in suppression of the bushfires.

Prescribed burning regimes need to recognise the priority importance of the protection of life and property as well as the conservation of Australia's biodiversity, especially fauna and flora listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

...the Australian Government notes and supports the COAG National Bushfire Inquiry report's findings that prescribed burning regimes need to be based on a shared understanding of the assets and the fire regime needs

16 *Committee Hansard*, 20 October 2006, p. 57.

17 S Ellis, P Kanowski & R Whelan (2004), *National Inquiry on Bushfire Mitigation and Management*, Commonwealth of Australia, Canberra, p. xxv.

18 House of Representatives Select Committee into the recent Australian bushfires (2003), '*A Nation Charred: Inquiry into the Recent Australian Bushfires*'. Available at: <http://www.aph.gov.au/house/committee/bushfires/inquiry/report.htm>

19 S Ellis, P Kanowski & R Whelan, Council of Australian Governments 2004, *National Inquiry on Bushfire Mitigation and Management*. Available at: <http://www.coagbushfireinquiry.gov.au/findings.htm#downloading>

of the assets within the landscape. Moreover, prescribed burning regimes need to be managed in an adaptive style taking account of increasing scientific knowledge of fire within the landscape.²⁰

5.24 The Forest Industries Association of Tasmania cited *A Nation Charred: Inquiry into the Recent Australian Bushfires* in support of more active hazard reduction:

This issue [hazard reduction] received considerable airing in the report produced from the House of Representatives Select committee (2003) titled 'A Nation Charred: Inquiry into the Recent Australian Bushfires' including recommendations that governments ensure adequate access to reserved areas and sufficient resources to effectively manage fuel loads as determined by the Bushfire Co-operative Research Centre. There is no evidence that is obvious to FIAT that any of these recommendations have been adopted and there has been little if any on ground change in policy or funding arrangements.²¹

5.25 *A Nation Charred* made a number of recommendations in relation to hazard reduction burning, of which the most relevant to issues raised in this inquiry are:

- **Recommendation 12**

The committee recommends that the Commonwealth through the National Heritage Trust, offer assistance to the states and the Australian Capital Territory to develop specific prescribed burning guides, at least to the quality of Western Australia, for national parks and state forests through out the mainland of south eastern Australia.

- **Recommendation 13**

The committee recommends that the Commonwealth seek to ensure that the Council of Australian Governments seek agreement from the states and territories on the optimisation and implementation of prescribed burning targets and programs to a degree that is recognised as adequate for the protection of life, property and the environment. The prescribed burning programs should include strategic evaluation of fuel management at the regional level and the results of annual fuel management in each state should be publicly reported and audited.

- **Recommendation 14**

The committee recommends that, as part of its study into improving the effectiveness of prescribed burning, the Bushfire Cooperative Research Centre establish a national database that includes areas targeted for fuel reduction, the area of fuel reduction achieved based on a specified standard

20 Australian Government (2004), *A Nation Charred: Inquiry into the Recent Australian Bushfires*, House of Representatives Select Committee on the Recent Australian Bushfires – Australian Government Position, pp 10–11. Available at: http://www.aph.gov.au/house/committee/bushfires/inquiry/govt_response.pdf

21 *Submission 73*, p. 4.

of on ground verification and the season in which the reduction was achieved. The committee also recommends that in developing this database the Cooperative Research Centre develop a national standard of fire mapping, which accurately maps the extent, intensity, spread and overall pattern of prescribed and wildfires in Australia.

- **Recommendation 15**

The committee acknowledges community concerns about smoke pollution as a result of prescribed burning and recommends that the Bushfire Cooperative Research Centre pursue its proposed study into smoke modelling.

- **Recommendation 16**

The committee recommends that the Bushfire Cooperative Research Centre monitor the effect of grazing on mitigating the return of woody weeds to recently fire effected areas across various landscapes including alpine and subalpine.

- **Recommendation 17**

The committee recommends that the Bushfire Cooperative Research Centre conduct further research into the long term effects and effectiveness of grazing as a fire mitigation practice.²²

5.26 The Council of Australian Governments (COAG) National Bushfire Inquiry made several findings in relation to hazard reduction burning and other responsibilities of land managers, including the following that are relevant to issues raised during this inquiry:

- **Finding 6.4**

There needs to be a shared understanding and valuing of assets in relation to bushfire mitigation and management. There also needs to be better recognition of the fact that prescribed burning is a complex matter—ecologically and operationally—and that a variety of prescribed fire regimes might be necessary to meet a range of objectives.

- **Finding 6.5**

There is a need to develop ways of assessing the effectiveness of fuel-reduction programs in terms of the resultant degree of reduction in risk.

- **Finding 6.6**

Comparing the gross area treated annually in fuel-reduction burning—that is, for a whole agency, region or state—with a published target is not a good basis for assessing performance and is likely to be counterproductive.

22 House of Representatives Select Committee into the recent Australian bushfires (2003), *'A Nation Charred': Inquiry into the Recent Australian Bushfires*. Available at: <http://www.aph.gov.au/house/committee/bushfires/inquiry/report.htm>

- **Finding 6.7**

The Inquiry supports the adoption of an adaptive management approach to setting fire regimes that are appropriate for biodiversity conservation. Such an approach should:

- make explicit the biodiversity objectives;
- recognise lack of knowledge and clarify questions that need to be answered;
- design burning prescriptions that can answer these questions;
- devise and fund monitoring and other data-collection activities;
- review and communicate results; and
- use the new knowledge to modify the management prescription.

- **Finding 6.8**

More research and monitoring are required in order to understand the effects of fuel-reduction burning and large-scale bushfire events on water quality and quantity in catchment areas.

- **Finding 6.9**

The potential for a reduction in air quality is one of several impediments to achieving necessary levels of fuel-reduction burning. There is a trade-off between tolerating reduced air quality and achieving risk reduction by fuel-reduction burning. Resolution of the question requires both more research and effective dialogue with the community.

- **Finding 6.10**

Long-term strategic research, planning and investment are necessary if the Australian Government and state and territory governments are to prepare for the changes to bushfire regimes and events that will be caused by climate change.

- **Finding 6.11**

There is a potential trade-off between maximising native pasture production by using fire and avoiding biodiversity loss. Too-frequent use of fire, and too much uniformity in fires, can result in loss of biodiversity in a region.

- **Finding 6.12**

Natural resource management regional plans developed under the National Heritage Trust should take bushfire management into account and be consistent with the bushfire risk–management process.²³

23 S Ellis, P Kanowski & R Whelan, Council of Australian Governments 2004, *National Inquiry on Bushfire Mitigation and Management*. Available at: <http://www.coagbushfireenquiry.gov.au/report/recommendations.htm>

Calls for more hazard reduction – 2003 Alpine fires

5.27 Most submissions that related to the Alpine (Vic) and Kosciusko (NSW) National Parks referred to the lack of hazard reduction burning prior to the 2003 fires that burned a substantial area of the Australian Alps. These fires, attributed to lightning strikes, were used as an example of fires intensifying as a direct consequence of park management. Forest Fire Victoria wrote:

Using the 2003 Alpine fires in Victoria as an example, the fires were caused by nature but the resulting fire event was not natural. Those fires were fed by fuels that accumulated over decades where natural fires had been deliberately extinguished and little or nothing had been done to reduce those accumulating fuels by planned burning or any other means. In those places the fires were feral, and burnt over extensive areas with an intensity and uniformity that was alien to the natural processes that forests require for their health, diversity and sustainability.²⁴

5.28 The Snowy Mountains Bush Users Group observed:

The 2003 wildfires that ravaged KNP [Kosciusko National Park] and the ACT were indeed a tragic event. In KNP, two thirds or 455,000 hectares, were consumed by a fire that destroyed everything in it's path- eg. heritage huts and sites, wildlife, vegetation, water quality and has contributed to major soil erosion. In Canberra four lives were lost, 500 homes and 160,000 hectares burnt.

In the last month or so we have seen similar wildfires, burning out of control in national parks and conservation reserves, in NSW, VIC, SA and Tasmania and breaking out and destroying farming and grazing land, stock and property, threatening human life, towns and villages.

All this is happening while bureaucrats, scientists and sociologists debate the merits of hazard reduction burns.²⁵

5.29 Mr Ralph Barraclough, Captain of the Licola Fire Brigade, compared the fire management regimes of Parks Victoria and the Forestry Commission unfavourably:

Fuel reduction in national parks is grossly inadequate to protect the environment, water supplies, stop massive erosion and stop the risk of hundreds of people being killed. Fires escaping from this mess will eventually destroy the timber industry and continue to threaten surrounding communities, visitors, and water supplies. Parks Victoria has said fuel reduction responsibilities rests with the DSE [Department of Sustainability and Environment], yet Park Rangers have the right of veto and there appears little accountability. The right of veto needs as a priority to be removed from Parks Victoria.

24 *Submission 88*, p. 4.

25 *Submission 59*, p. 7.

The more restrictions put in place with fuel reduction burns the more escapes of fires onto private land from more fuel building up. There needs to be a return to the days when people from the old Forests Commission waited for the right weather conditions and simply flew around throwing incendiaries out wherever they were needed. I am unable to remember one solitary fire that got away in our area or caused a problem. This method made the place safe at a fraction of the cost of what is not working now.²⁶

5.30 Submissions from other areas cited the Alpine fires in support of calls for increased hazard reduction burning in their own areas. The Forest Industries Association of Tasmania (FIAT) wrote:

FIAT believe that there has been wholly insufficient resources directed to the management of reserved forest areas including but not limited to fuel reduction activities including controlled burning. Extensive wildfires in Victoria, NSW and the ACT along with several smaller but equally damaging fires in Tasmania are testimony to the lack of attention to this vital management tool by governments.²⁷

5.31 Several submissions from Alpine regions, including that of Mr Philip Maguire, advocated grazing as a form of hazard reduction:

I submit that the greatest threat to the Bogong High Plains is wildfire emerging from sub-alpine forests which carry an unprecedented fuel load and pose an extreme risk. Following each successive hot fire the fuel load increases substantially and the risk to the plains increases exponentially. This risk will be exacerbated seriously by the cessation of grazing due to a build up [of] waste grass and other combustible material.²⁸

5.32 However, there was scientific evidence suggesting this may not be a good approach:

The scientific evidence on the grazing of cattle in the high plains of Victoria is as strong as you could possibly ever get from science. It damages sphagnum bogs; it has altered the herb field structure above the tree line. The scientific evidence has always stacked up on one side...In the 2003 fires, above the snow line where the alpine grazing occurred, there was no difference whatsoever with the areas burnt between the areas that had had cattle on them for the last 50 or 100 years and those areas that did not have cattle. The areas in which cattle have grazed in the high country for 100 years to prevent burning showed no difference when that wildfire swept through the area...

I say again: isolate the cultural from the ecological here. You can have a very good debate about mountain cattlemen and their role in a cultural sense...You also have to ask the question about whether you are going to

26 *Submission 154*, p. 13.

27 *Submission 73*, p. 4.

28 *Submission 5*, p. 2.

believe the independent scientists with no vested interest in the outcome or the people who are paying very little money to graze on public land having never been required to go through an expression of interest process or any kind of public tendering process for their grazing rights.²⁹

5.33 Bushfire records suggest that the scale of the 2003 fires was not unprecedented in that region, and that fire outbreaks in the Australian Alps have been regular seasonal occurrences under previous management regimes:

These were not the first severe alpine fires, and they certainly won't be the last. South-east Australia's vast alpine region contains some of the most bushfire-prone country in the world. Recent data presented to the Australian Alps Liaison committee showed there had been around 170 bushfires in the alpine region between 1800 and 2003. Only 15 of those fires occurred after Kosciusko National Park was formally created in 1967.

The worst alpine fire occurred in 1939. Pastoralists in the region had by then spent almost 100 years grazing, logging and burning the high country only to see a catastrophic fire tear through the Alps. It only stopped when it reached the coast and remains the largest single fire event in the alpine region's European history. Twice the area that burned in 2003 burned in 1939 and 71 people lost their lives.³⁰

Calls for ecologically appropriate burning and fire management

5.34 The inquiry received several submissions recommending that burning regimes need to be better tailored to the ecological properties and needs of specific areas. These calls are consistent with Findings 6.4, 6.7 and 6.11 of the COAG National Bushfire Inquiry outlined above.

5.35 Mr Allan Holmes of the SA Department for Environment and Heritage noted recent changes to fire management in South Australian parks that included both the introduction of hazard reduction burning, and the recognition that there were circumstances, sometimes temporary, where fire should be excluded from some areas:

...one of the problems for us is that, from an ecological point of view, we have had too much fire in a number of our parks. Ngarkat, a large park on the Victorian border, has been extensively burnt over the last 10 years. We would prefer to keep fire out of it altogether for a period of time. So it is very complex. It [fire] is one of the big threatening processes—both too much and too little.³¹

29 Associate Professor Geoffrey Wescott, *Committee Hansard*, 5 June 2006, pp 19–20.

30 NSW Department of Environment and Conservation (2006), *Frequently asked questions about fire management in NSW national parks*, available at: http://www.nationalparks.nsw.gov.au/npws.nsf/Content/fire_faqs#5

31 *Committee Hansard*, 6 June 2006, pp 46–47.

5.36 Addressing submissions that had questioned the capacity of national parks to meet their own burning schedules, Mr Peter Cochrane explained why it was not always appropriate to conduct hazard reduction burns in areas with high fuel loads:

Where you have sizeable tracts of bush that have high fuel loads and are increasingly dry, which is certainly what is happening at the moment, the risk of even setting small fires can be too great...the cumulative effect of this tends to mean that the risk goes up. This is not confined to national parks; it equally applies to state forests. No-one in their right mind would burn in unsuitable conditions. Irrespective of the nature of your land management purpose, if it is too risky to burn, it is too risky to burn. It would apply to pastoralists as well as those who live in country that fire is a management tool. It does not just apply to us.³²

5.37 Dr Beth Schultz, representing the Conservation Council of Western Australia, questioned the extent to which Western Australian park managers relied on burning as a management tool, while other fire management strategies previously endorsed by the Western Australian government were not implemented:

It is of concern to me how much of that [funding provided for park management] goes into burning. Burning is a huge issue. The federal government—the Prime Minister, in fact—instigated an excellent inquiry by the Council of Australian Governments into bushfire mitigation and management. They came up with 29 excellent recommendations. The states all endorsed that, but it is not being implemented in Western Australia. So when it comes to park management in relation to fire, I think the excellent recommendations of that inquiry should be implemented...Fire management is a major issue with park management, and I think in Western Australia far too much money is spent on burning—actually doing the burning—when there are other more environmentally friendly ways of mitigating and managing wildfires.³³

5.38 The priority given to activities such as firebreaks and aerial fire-setting was also raised in relation to Queensland. Dr Paul Williams told the committee that 'currently, evaluation of park performance primarily targets the numbers of hectares burnt or sprayed rather than looking at whether those burns or weed control programs have met their ecological objectives'.³⁴ He observed that thorough fire management was labour intensive, and that a lot of the fire resources allocated to QPWS were spent on broad-acre activities, leaving other fire-management work under resourced:

Fire management in parks requires a great deal of staff time to implement appropriately. Many of the animals in tropical Australia that are thought to be in decline are those that live and feed amongst the grass layer, such as granivorous birds and small mammals. It is thought that some grassy, woodland communities will benefit from progressive burning throughout

32 *Committee Hansard*, 20 October 2006, p. 59.

33 *Committee Hansard*, 10 September 2006, pp 6–7.

34 *Committee Hansard*, 30 June 2006, p. 20.

the dry season—that is, starting to burn early enough in the dry season when only small patches burn and progressively burning sections later in the season. This can extend the availability of seed supply throughout the year, which is critical for these birds and mammals. Naturally, this requires great skill and time to implement it. The extra QPWS funding for fire management mentioned at the Brisbane hearing primarily covers the maintenance of fire breaks and aerial ignition. While that is good, more funds are also needed to increase the availability of ranger time to implement and evaluate fires, including funding for travel, overtime for night burns and possibly even casual extra employment.³⁵

Figure 5.1 The committee inspecting fire break work being conducted in a Queensland national park



5.39 Dr Williams expressed the concerns of witnesses from other states when he told the committee that fire management required appropriate evaluation to ensure that the objectives of activities were met:

To do the fire properly you have to go out there and have a look, firstly to see whether the area needs burning that year and what your objective is. You implement the fire and then you have got to go back and see whether or not it worked. I believe this is where we are falling short in many areas. We do not have the resources to necessarily implement enough fires in many areas anyway, but we are certainly not evaluating them appropriately...from a fire management point of view, we need to look

35 *Committee Hansard*, 30 June 2006, p. 20.

more ecologically at why we are doing it—such as weed control or promoting the abundance of a certain animal or plant—and whether we achieved the objective.³⁶

5.40 Ms Virginia Young, of the Wilderness Society, drew attention to the ecological impact of using burning techniques that are inappropriate for a particular site:

...perhaps you could have a conversation with CALM about not burning the Stirling Range from the bottom up and setting off a really hot fire that is fundamentally changing the ecology of the Stirling Range. What naturally happens in those environments is that you have a lightning strike on the peaks and a trickle-down, very cool, fire. What has been happening for years is the exact opposite, and—surprise, surprise—all the ecology of that region is changing.³⁷

5.41 Some local environment groups expressed concern that reactive responses to critical incidents could lead to excessive hazard reduction burning, or the total suppression of fire, ultimately resulting in environmental damage. The Blue Mountains Conservation Society wrote:

Fire management tends to be developed in a climate of recrimination, too often fanned by the media. Governments exercise the knee-jerk reaction, particularly if someone dies. It is far too easy to say that ‘x’ wouldn’t have happened had ‘y’ been burned; but even though the argument has some validity, it disregards the whole basis for having national parks. Taken to the absurd, fire management would be greatly improved by clearing everything and covering the remains with concrete!³⁸

5.42 Gecko, the Gold Coast and Hinterland Environment Council, was concerned that beliefs about the adaptation of some Australian species to fire were used as a general justification for burning, without regard to effects on particular species, or the impact of landscape modification:

Fire management presents a very precarious problem. While some native vegetation has adapted to fire and even rely on it to reproduce, another part of it can be irreparably harmed in the process of proscribed burns. Debates still occur between scientists that believe they are desirable and those that believe it's harmful, but other affected parties, such as farmers also have concerns. Some plant species may have fire coping mechanisms but that in no way indicates that they are fire dependent...Many patches of wildlife habitat are already too patchy and burning can fragment animal populations after driving them of their land.

36 *Committee Hansard*, 30 June 2006, p. 28.

37 *Committee Hansard*, 16 June 2006, pp 94–95.

38 *Submission 29*, p. 4.

Queensland, along with other states, has problems with over-reaction to bushfires, and unnecessary frequency, intensity, and inadequate planning for intentional fires in Brisbane's vicinity.³⁹

5.43 Gecko recommended that fire management plans should be tailored to particular ecosystems, with reference to the effects of fire at a species level:

Fire management plans must include considerations of the species contained within a region. Studies must be done to determine whether the animals can survive and if there is sufficient habitat in the vicinity that is suitable for them to sustain themselves. Studies of the specific plants and their needs, as opposed to what they can withstand, are assessed. Many fires are unnecessary and greater planning and knowledge would help alleviate this problem...However, thus far most regions have not successfully designed or implemented fire regimes that reflect the needs of their regions.⁴⁰

5.44 Oatley Flora and Fauna Conservation Society noted that the suppression of fire in urban areas could be detrimental to some species:

Changes in the frequencies and intensities of bushfires cause adverse changes to habitats and species. This can be an important problem in reserves near urban areas where fire frequencies may be either increased through human contact, or almost eliminated to protect nearby properties. As a number of native plants are dependent on bushfires for seed germination or for controlling competing species, less frequent fires may be as detrimental for some conservation purposes as more frequent fires.⁴¹

Current fire management practices in national parks and reserves

5.45 Fire management is a priority activity for national parks managers. The Department of the Environment and Water Resources noted in their submission that:

Considerable resources must be allocated to fire management, particularly where the safety of visitors and residents is at risk as well as where sensitive cultural and natural values need protecting.⁴²

5.46 Reserve managers who provided evidence to the inquiry described some of the difficulties and tensions involved in managing fires on public land. Mr Peter Cochrane told the committee:

All park agencies around Australia have been paying increasing attention to fire and fire management for a variety of reasons, certainly not the least being biodiversity conservation. They are trying their hardest to both understand and then mimic natural fire regimes so that you are trying to

39 *Submission 76*, pp 11–12.

40 *Submission 76*, p. 13.

41 *Submission 83*, p. 3.

42 Department of the Environment and Heritage, *Submission 126*, p. 15.

return country back to the state that might have existed before Europeans came and dramatically changed both fire risk and burning. Asset management, the pressure of neighbours, the pressure of looking after property in and around national parks, as well as public perceptions, are all very significant drivers on national park agencies getting fire management right. It is a very difficult thing to get right, though.⁴³

5.47 Mr Cochrane cited Booderee National Park as an the example of the difficulty of matching burning schedules to prevailing conditions, resulting in fuel build-up:

Essentially, we have a window of four months in a year—two lots of two months, in spring and autumn—when we can burn. This year we burned something like 12 per cent of the area that we planned to burn, because those narrow windows were just not sufficiently safe to have those fires going. Either the humidity was too high and a fire would not take or humidity was lower than was desirable and we therefore halted the fire. I think that is the experience of protected area agencies around the country. There are narrow windows when you can do this safely...those windows can be very short or not there at all, in which case you start accumulating a stock of land that you would have burned but cannot, and that tends to build your fire risk.⁴⁴

5.48 Several park managers reported that they had received enhanced funding since the 2003 fires. Mr Kieran McNamara told the committee that the annual budget available to the WA Department of Environment and Conservation for fire purposes had been increased in recent years by 'probably \$7 million or \$8 million per annum'.⁴⁵ The Department's submission explained how the additional funding was being used:

This funding is allowing for improved fire preparedness and on-ground fire management to occur as well as the progressive implementation of planned fire regimes through prescribed burning in remote areas. Additional fire ecology research capacity has also been funded.⁴⁶

5.49 Several states reported recent changes in their approach to fire management. Mr McNamara explained that the WA department was currently engaged in research that would inform management of the Kimberley region, because they were concerned about significant changes to the landscape caused by altered fire regimes:

Fire in the north and inland is a problem, and altered fire regimes—with the cessation of traditional Aboriginal burning and with large, intense wild fires that run for months and cover hundreds and hundreds of thousands, if not millions, of hectares in single fires—are a serious problem in terms of the homogenisation of that landscape...For the first time we have appointed a

43 *Committee Hansard*, 20 October 2006, p. 58.

44 *Committee Hansard*, 20 October 2006, p. 58.

45 *Committee Hansard*, 10 September 2006, p. 39.

46 Department of Conservation and Land Management, Western Australia, *Submission 135*, p. 16.

fire ecologist out of our science division to the Kimberley, because we are concerned about those issues.⁴⁷

5.50 Fire management on private conservation reserves has not attracted the criticisms directed at national parks. Mr Atticus Fleming described the Australian Wildlife Conservancy's cross-tenure approach to hazard reduction on their private reserve in the Kimberley:

Fire management is a critical issue for us up there. The Kimberley burns to a crisp every year now. We are doing fire management from helicopters. In the last 12 months we have introduced an aerial incendiary device which had not been used in the Kimberley previously, so we are in a sense leading the way in terms of fire management up there. We are working with our neighbours, with CALM and with the Aboriginal communities. We are a conservation organisation and this year we were invited to do fire management on the neighbouring pastoral properties as well as the neighbouring Aboriginal land. There are probably not too many examples of where that occurs.⁴⁸

5.51 The systematic use of burning in South Australia is relatively recent, and reflects a change of approach in response to community concerns. Mr Allan Holmes told the committee that:

In South Australia there is not a history of burning for ecological or fuel reduction purposes. That is just the way it has been here for a long period of time. However, probably in the last 10 years, as the result of significant fires in New South Wales, the ACT and Victoria, questions have been asked about the appropriateness of our approach to burning. In 2002 this government committed to a major change in its approach to fire management on public land. Over the last four years we have engaged in a program of reintroducing fire management into public land management on any scale, both for fuel reduction or fuel management purposes and for biodiversity conservation purposes.

The reality is that it requires a great deal of technical expertise and technical competence to do it well. You do not turn that round overnight. In four years we have built some capacity. We are now able to conduct fuel reduction burns and ecological burns at scale. In South Australia we are starting to see that become part of our management tool kit. As I said at the very start, it is a different landscape to the Victoria, New South Wales and Western Australian landscapes where you have high-value forests and different fuel levels, fire behaviours and fire ecology, so it is a different scale.⁴⁹

47 *Committee Hansard*, 10 September 2006, p. 40.

48 *Committee Hansard*, 20 October 2006, p. 39.

49 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 46.

5.52 Mr Holmes described his department's fire responsibilities, noting that the department worked within a context where there was a predictable cycle of assigning blame following catastrophic fires:

The obligations that we have relate to that boundary protection, reduction of fuel along boundaries and trying to ensure that you actually have control lines on park boundaries. If you look at the work that we have done over the last 10 years in the Adelaide Hills, which is where there is the greatest risk, they are probably defensible. You could say: 'Look, this land management agency has done the right thing. It has firebreaks. It has fuel reduction burns. It has got resources deployed. It works well with the community fire-fighting organisations. It works well with local government.' But I still fear the day when we get another Ash Wednesday in the Adelaide Hills. You will get catastrophic fire. Houses will burn, and the inquiries will come looking to blame public land managers. You have seen that played out in New South Wales, Canberra and Victoria. In a large part, they are pretty good land managers who do pay attention to fire management. It is just that we have forgotten that we live in a very dangerous environment.⁵⁰

5.53 The Queensland Government provided details of their fire management program, noting that expenditure had increased since 2004 'as part of an election commitment to enhance fire management'.⁵¹

In the 2005 fire year, the EPA planned burning program achieved more than 0.5 million hectares of managed lands across the state. Many of these burns are scheduled over the winter months to address protection issues [in] protected areas and other reserves with an urban interface. In preparation for this year's fire season, EPA carried out ongoing pre-emptive work to ensure on-ground readiness, including the upgrading of some 1,500 kilometres of high priority firebreaks on and adjacent to the estate. Almost 2,000 kilometres of firebreaks are scheduled for upgrading in the 2005-06 financial year...

Close liaison continues between EPA and all bushfire management agencies in Queensland, particularly the Rural Fire Division of the Queensland Fire and Rescue Service. Under its Good Neighbour Policy, EPA places an emphasis on working with adjoining landholders, local communities and traditional owners to manage fire on the land it manages and on surrounding areas. This aids in developing and maintaining cooperative arrangements with stakeholders and assists in resolving issues associated with hazard reduction burning, fire trails and wildfire suppression.⁵²

50 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 48.

51 *Submission 175*, p. 21.

52 *Submission 175*, p. 15.

Indigenous fire knowledge

5.54 Aboriginal customary burning is incorporated into the management plans of some reserves managed by the Director of National Parks, for example:

In both Kakadu and Uluru-Kata Tjuta National Parks, fire is used by park management and traditional owners as a management tool, as outlined in each management plan.⁵³

5.55 Burning practices in Uluru-Kata Tjuta National Park contribute to employment and community involvement opportunities for the local Indigenous ('Anangu') people. Ms Mirjana Jambrecina told the inquiry:

Within the natural and cultural resources area we have four staff that work on an ongoing basis with us, part time. We also have quite a good crew of members of the community who come on as day labour...the types of programs that we run at the moment include, for example, fire. We are doing our burning now, in the cooler winter months. You might have noticed yesterday as you were going out to Kata Tjuta that there was quite a crew of Anangu out there burning with park staff.⁵⁴

53 Department of the Environment and Heritage, *Submission 126*, p. 15.

54 Department of Environment and Heritage, *Committee Hansard*, 28 June 2006, p. 41.

Figure 5.2 Committee members with Parks Australia staff at Uluru-Kata Tjuta National Park



5.56 Some Anangu traditional owners believe that their obligations to burn and otherwise protect country that is currently leased to Uluru-Kata Tjuta National Park could be better supported under formal agreements between the government and traditional owners. Mrs Barbara Tjikatu AM, said:

We have talked for a long time. We have been trying with joint management for a long time but there are some frustrations about the lack of support for us to extend and to get better opportunities through joint management to better look after our country and to better look after future generations...The work that we have to do is extensive. It is to do with looking after fauna, burning the country to protect it and hunting—going out and being able to continue our knowledge of our hunting skills. The government, though, has for a long time not actually really made these things happen. They have not signed the document that allows that kind of work to go on. The reports that might have been made have not come to anything.⁵⁵

55 Mrs Barbara Tjikatu AM, Anangu traditional owner, Member, Uluru-Kata Tjuta Board of Management, through Ms Kathy Tozer, interpreter, *Committee Hansard*, 28 June 2006, pp 28–29.

5.57 The loss of Aboriginal burning regimes and other management activities in Far North Queensland parks is threatening biodiversity in that region. Mr Bruce White, of the Aboriginal Rainforest Council, warned that:

The failure to include Aboriginal people in the management of the ecology of this area will ultimately result in loss of biodiversity, and the evidence is already being reported in the annual reports of the Wet Tropics Management Authority. They refer to the rare mahogany glider and the bettong. The problem is that there is no longer an Aboriginal burning regime or fire regime. The loss of the Aboriginal fire regime is putting biodiversity in danger. When we refer to this area as being biocultural, we are just making that very simple point: you cannot manage this area without having regard to the role that Aboriginal people...⁵⁶

5.58 Ms Margaret Freeman, Jiddabal traditional owner and delegate to the Aboriginal Rainforest Council Management Committee, discussed some of the differences in practices and outcomes between Jiddabal burning regimes and those used by the Queensland EPA:

Let us look at what will work, what things have not worked, where we can utilise the knowledge we have as traditional owners who have been managing the country daily, and how we can fit that into the bureaucratic regime. If I want to burn, it will depend on when the food sources might be available and what the weather is. However, with EPA, it might be when their resources are available and when they can get out to burn. I have gone out and just about had a heart attack because they are burning at the wrong time of the year in some places. But when you say to them, 'You don't burn now,' they say, 'Oh yes, but this is when we can do it.' I have said, 'It doesn't matter when you can do it; you are not going to regenerate the land or get the seeding of plants to be able to revegetate if you do it now.'

Even, as a result of Cyclone Larry, when talking to the affected traditional owner groups and saying, 'Has EPA considered fire burn?' they would say, 'Oh no, they are just going to push it all back in and let the scrub rehabilitate itself.' I said no, and people said, 'But you lived in the rainforest; you couldn't burn,' and I said, 'Yes, we did burn.' We may have spot burnt small patches, whereas EPA will go along and say, 'Yes, let's burn the whole hillside.' That was not something that we would have done. But when you try and put it across to them to say, 'Look, we've been doing it for thousands of years; you would think you would learn,' they will come back 12 months later and say, 'Oh, what did we do to the site?' My response would be: 'Well, you burnt it at the wrong time. That is why it hasn't recovered to the way it was. That is why the weeds have taken over. You burnt it at the wrong time, or you did not supplement by environmental harvesting.' You might have a bug that did this job at that certain time of the year and that reduced some other issue.⁵⁷

56 *Committee Hansard*, 30 June 2006, p. 65.

57 *Committee Hansard*, 30 June 2006, p. 74.

5.59 Ms Freeman concluded:

That is the type of information we are trying to share with the agency, but they are not being very receptive to it. We can see straightaway how their lack of management has damaged our country, but it is not as evident to them.⁵⁸

5.60 Other traditional owners in the Cape York area have expressed concern at being expected to entrust responsibility for protecting their country to authorities who demonstrate little awareness of culturally appropriate burning practices. Ms Rhonda Brim, Djabugay Native Title Holder, told the committee:

Our concern as traditional owners is that, if our sacred sites get burnt, there is nothing to replace them and no-one is accountable. Although the government has these different departments in place caring for country, if anything goes wrong with our cultural sites or anything, who is liable?...we should have the permit for our sacred sites for protection. I can protect my own history. Why wait on someone else to protect it for you?⁵⁹

5.61 As discussed above, the WA Government is currently investigating intense fire behaviour in the Kimberley region, because it is concerned that disruption of Aboriginal burning has contributed to significant changes in both the landscape and bushfire regimes.

5.62 In South Australia, there is debate about appropriate fire management on Kangaroo Island, where the landscape and fire regimes are markedly different to those on the mainland because they developed without adaptation to Indigenous burning:

I do not think South Australia has those tensions that the eastern states have—or not to the same degree—but concern about fire in South Australia largely relates to burning on Kangaroo Island, from which Aboriginal people were absent for probably 10,000 years. The fire regimes in Kangaroo Island were largely natural in the sense that they were lightning induced, whereas on the mainland of course there were both natural fires and Aboriginal burning. They are quite different fire regimes. The concern expressed on Kangaroo Island is that you need to be cognisant of that different regime in what you do on Kangaroo Island. That has really been the most sensitive issue.⁶⁰

5.63 The COAG National Bushfire Inquiry recommended (Recommendation 6.4) that:

[F]ire agencies, land managers and researchers continue to work in partnership with Indigenous Australians to explore how traditional burning practices and regimes can be integrated with modern practices and

58 *Committee Hansard*, 30 June 2006, p. 74.

59 Aboriginal Rainforest Council, *Committee Hansard*, 30 June 2006, pp 71-72.

60 Mr Allan Holmes, Chief Executive, Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 47.

technologies and so enhance bushfire mitigation and management in current Australian landscapes.⁶¹

5.64 There is potential for the management of national parks to implement co-operative and respectful approaches towards using Indigenous knowledge, including knowledge about fire management. Ms Melanie Stutsel, of the Minerals Council of Australia, provided examples of how incorporating Indigenous practices into the management of land rehabilitation had improved relations between mining companies and Aboriginal communities, and produced benefits for both parties:

Where possible, we have tried to use Indigenous knowledge in terms of fire management, seed regeneration and rehabilitation and revegetation practices. Some of that revegetation has been in seeking to grow bush foods in an area, to provide economic opportunity for Aboriginal people post closure. But when we are using that information, it is very important that we respect the appropriate cultural protocols in using it. So there are some situations in which that work is undertaken purely by Indigenous people on behalf of the industry. There are other aspects where it is undertaken in partnership. We would argue that those principles could be applied to the management of conservation areas as well.⁶²

Community attitudes and skills

5.65 In urban areas, fire is no longer widely used as an everyday tool, either in the household for cooking and heating, or for small-scale land management activities such as burning rubbish or leaves. Some submissions pointed to this loss of familiarity with fire as cultural deskilling that encourages negative or fearful attitudes towards using fire as a management tool. Mr Douglas Treasure wrote:

The management of fire is another issue that needs looking at. A lot of work is just starting on that issue. A lot of this fire stuff is urban driven. My wife is a secondary school teacher. She teaches science. She said that if you give kids a Bunsen burner and a box of matches today they just do not know how to handle them as fire is not part of our everyday life these days. Fire is thought of as being bad. You read in the paper that fire destroys things. But fire regenerates things in the high country. It is a matter of how it is managed.⁶³

5.66 The Bushfire Front identified lack of fire awareness and skills amongst park managers and staff as a serious problem that increases the risk of fires behaving unpredictably:

61 S Ellis, P Kanowski & R Whelan, Council of Australian Governments 2004, *National Inquiry on Bushfire Mitigation and Management*. Available at: <http://www.coagbushfireenquiry.gov.au/findings.htm#downloading>

62 *Committee Hansard*, 31 March 2006, p. 38.

63 Mountain Cattlemen's Association of Victoria, *Committee Hansard*, 5 June 2006, p. 72.

One of the most serious consequences of the failure of park services to build and maintain good staff is the decline in field operatives with sound experience in the practicalities of green burning. It is almost as disastrous as no burning to put a burning program in the hands of people who don't know how to burn. The result is fires which are too hot, which escape and cause damage, and which reduce the credibility of the entire approach.⁶⁴

5.67 Mr Allan Holmes called for greater awareness and acceptance of the risks of living in fire-prone areas:

The harsh reality is that people who live in fire-prone areas have got to look after themselves. There has to be some community resilience. You cannot do enough to protect them. Our loss of life on Eyre Peninsula last year, where almost a dozen people perished, shows that. When you look back at that, we were in the business of trying to apportion blame: 'Was it a land manager's fault? Was it the firefighters' fault?' But if you read all of the coronial inquiries into fires over the last 30 years, you conclude that we have forgotten that we live in a very fire-prone environment where on catastrophic days you are going to get fires that will burn houses and threaten life. If you live in those environments, you have got to take care. I think that is a really important starting point.⁶⁵

5.68 WWF-Australia and the IUCN proposed that for a fire management strategy to be effective it must address prevention, response and restoration. In relation to prevention, they proposed a number of measures designed to change community attitudes towards fire, stating:

...many forest fires need not occur, however they will continue to ignite and degrade forests as long as governments fail to focus on both the direct and underlying causes of unwanted fires. In practice this means that governments must develop and implement programmes that influence people to modify the way they use fire, for example through enacting and enforcing laws that focus on prevention of fires and through focussed efforts on changing attitudes towards the use of fire. They must also ensure that laws and policies are fair (e.g. result in equitable sharing of costs and benefits and recognition of community-use rights), and seek out and remove perverse incentives that may encourage harmful fires.⁶⁶

5.69 The Gold Coast and Hinterland Environment Council suggested that planning regulation could be used more effectively to reduce fire risks to people and property:

As one of the main reasons people call for proscribed burns is that they are concerned for the safety of their houses and property, it is advisable to restrict new building to areas that are sufficiently removed from the bush.

64 *Submission 20*, p. 4.

65 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 48.

66 *Submission 161*, p. 35.

Although many building plan restrictions include a reference to this, it is not sufficient.⁶⁷

5.70 This call for better use of planning controls to reduce perceived risks to the public from fires in national parks was supported by the National Parks Association of NSW:

A strategic approach that focuses on asset protection at the perimeter of bushland and good planning controls on new development is a far more realistic and effective approach.⁶⁸

Conclusion

5.71 Fire needs to be carefully and thoughtfully managed in the Australian environment. It appears fire is in many respects still poorly understood, particularly in terms of evaluating the effectiveness of different fire management strategies and assessing fire's impacts.

5.72 It was obvious from evidence received by the committee that, by land managers' own admission, more could be done to manage fire, but better management will rely to some degree on developing a better understanding of fire. In this regard the committee endorses the call of the House of Representatives inquiry for more research, and hopes all governments will give a sense of urgency to those research efforts. The committee notes that the Australian government's response to the House of Representatives committee report included additional funding for the Bushfire CRC.⁶⁹

5.73 The committee was particularly struck by three aspects of the evidence it received, including impressions gained during site visits. One was that fire will always be a natural part of the Australian environment, and the very nature of that environment (with frequent dry spells and limited periods during the year when it is safe to attempt controlled burns) means that there will always be uncontrollable bushfires from time to time. This is most evident from evidence regarding the Australian Alps, which experienced their worst fires in 1939, under a completely different land tenure and management regime to that in place when fires burnt there in 2003. A significant part of living in and managing the environment must be acceptance of fire and ensuring preparedness for it.

5.74 The second was the importance of State based departments having adequate resources on the ground for fire management. This was a recurrent theme during the

67 *Submission 76*, p. 13.

68 *Submission 130*, p. 10.

69 House of Representatives Select Committee on the Recent Australian Bushfires, *Australian Government Response*, October 2003, http://www.aph.gov.au/house/committee/bushfires/inquiry/govt_response.pdf, accessed January 2007.

inquiry, along with the over-use of fire as a management tool. The committee will return to this issue in later chapters.

5.75 The third was the scope for Indigenous knowledge and participation to assist in effective use of fire in Australian environments, from the desert to the rainforest. Where it is possible, the committee strongly endorses a greater role for local Indigenous people in the use of fire to manage the conservation estate.

Recommendation 3

5.76 The committee recommends that all governments give greater priority to Indigenous knowledge and participation in park management generally, and fire management in particular.

Chapter 6

Threats to the reserve system – feral animals and weeds

6.1 This chapter looks at 'ferals' – invasive animals and weeds – one of the threats to the objectives and management of the reserve system that was most frequently identified in submissions to the inquiry.

Invasive species

Background

6.2 Invasive species, including feral animals and weeds, were identified in many submissions as one of the greatest threats to biodiversity within Australia, and as a major threat to both national parks and agricultural production. Many submissions pointed out that responsibility for management of invasive species did not rest solely with public or private land managers, but required co-ordinated action across all land tenures. The NSW Government wrote:

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.¹

6.3 On 8 December 2004, the Senate Environment, Communications, Information Technology and the Arts References committee tabled the report: *Turning back the tide – the invasive species challenge*. That report recommended 27 measures to combat invasive plant and animal species. So far, no Government response has been released and only a handful of the recommendations have been implemented. The current committee supports the comment made in the 2004 report, that:

While greater expenditure is certainly well and truly justified at a governmental level, what is equally needed is for a national strategic approach to be developed which will guide and coordinate the efforts of all parties in seeking to achieve a common goal.²

6.4 As a starting point for the development of a national strategic approach to the control of invasive animals and plants in national parks, the committee endorses all recommendations made in the 2004 report.

1 *Submission 155*, p. 21.

2 Senate References Committee on Environment, Communications Information Technology and the Arts (2004), *Turning back the tide – the invasive species challenge*, p. 211.

Recommendation 4

6.5 The committee recommends the implementation of all recommendations made in the 2004 Environment, Communications, Information Technology and the Arts References committee report *Turning back the tide – the invasive species challenge* that have not yet been addressed.

Recommendation 5

6.6 The committee recommends that the Government response to the 2004 Environment, Communications, Information Technology and the Arts References committee report *Turning back the tide – the invasive species challenge* be finalised.

Feral Animals

6.7 There are at least 30 species of non-native pest vertebrates in Australia (see table 6.1 below) and all areas of Australia have at least one pest animal.³ Some small to medium feral animals, such as dogs, cats and rats are endemic throughout mainland Australia, including urban areas. Rabbits and foxes are prolific on the mainland south of the Tropic of Capricorn. Some larger species are only found in certain ecosystems, for example camels in arid central Australia and buffalo in the wet tropics. Other species, such as horses, donkeys, cattle, deer, pigs and goats create problems in particular regions or under certain conditions.

Table 6.1 Species of concern in Australia

| <i>Main species of concern</i> | <i>Species of moderate concern</i> |
|---|---|
| European wild rabbit (<i>Oryctolagus cuniculus</i>) | Feral buffalo (<i>Bubalus bubalis</i>) |
| Feral horse (<i>Equus caballus</i>) | Feral cattle (<i>Bos taurus</i>) |
| Feral donkey (<i>Equus asinus</i>) | European brown hare (<i>Lepus capensis</i>) |
| Feral goat (<i>Capra hircus</i>) | Black rat (<i>Rattus rattus</i>) |
| Feral pig (<i>Sus scrofa</i>) | Deer family (<i>Cervidae</i>) |
| European red fox (<i>Vulpes vulpes</i>) | Indian myna (<i>Acridotheres tristis</i>) |
| Dingo/feral dog (<i>Canis familiaris</i>) | Mallard (<i>Anas platyrhynchos</i>) |
| Feral cat (<i>Felis catus</i>) | Rock dove (feral pigeon) <i>Columba livia</i> |

3 Australian Government, *Extent and impact of selected ecologically significant invasive species*, 2006, Available at: <http://www.nrm.gov.au/monitoring/indicators/pubs/vertebrate.pdf>

| | |
|---|--|
| House mouse (<i>Mus domesticus</i>) | Spotted turtledove (<i>Streptopelia chinensis</i>) |
| European starling (<i>Sturnus vulgaris</i>) | Blackbird (<i>Turdus merula</i>) |
| Cane toad (<i>Bufo marinus</i>) | House sparrow (<i>Passer domesticus</i>) |
| Feral Camel (<i>Camelus dromedarius</i>) | European goldfinch (<i>Carduelis carduelis</i>) |
| | Senegal turtledove (<i>Streptopelia senegalensi</i>) |

Source: Natural Resource Management web site⁴

6.8 In addition to the terrestrial species listed above, there are many marine and freshwater aquatic pests that threaten waterways and reserves. Examples include: European Carp (*Cyprinus carpio*), Pearl Cichlids (*Geophagus brasiliensis*), Oriental Weatherloach (*Misgurnus anguillicaudatus*); Crown of Thorns Starfish, Black Striped mussels, Asian Green mussels and the Northern Pacific seastar.

6.9 Inconsistencies arise in relation to the regulation of freshwater aquatic pests because of inadequate reservation of freshwater ecosystems, and demarcation of responsibilities for water. The National Parks Association of NSW pointed out that, in NSW, the Department of Environment and Conservation does not have primary statutory responsibility for fresh water ecosystems, including those within the boundaries of national parks:

Waterbodies that lie within the NSW reserve system are not afforded any protection by the National Parks and Wildlife Act. The jurisdiction lies with the Water Management Act and the Minister for Water. As a result, the Minister for the Environment cannot control fishing within waterbodies (lakes, creeks etc) within the reserve system, and cannot regulate the stocking with feral fish such as trout. Both these activities can have an impact on aquatic ecosystems.⁵

6.10 In relation to terrestrial invertebrates, the Yellow Crazy Ant (*Anoplolepis gracilipes*) found on Christmas Island and in Queensland and the Northern Territory was identified as a serious threat by the Department of Environment and Water Resources.⁶ The Fire Ant (*Solenopsis invicta*) has been detected in Queensland. The Queensland Government describes the ants as 'the greatest ecological threat to

4 Australian Government, *Extent and impact of selected ecologically significant invasive species*, 2006. Available at: <http://www.nrm.gov.au/monitoring/indicators/pubs/vertebrate.pdf>

5 *Submission 130*, p. 5.

6 Department of Environment and Heritage, *Submission 126*, p. 13.

Australia since the introduction of the rabbit and...potentially worse than the cane toad'.⁷

6.11 Control of feral animals is predominantly a state and territory responsibility, and each jurisdiction has separate and sometimes inconsistent legislation in respect of feral, game and agricultural animals. The *National Feral Animal Control Programme* (NFACP) has been established in cooperation with State, Territory and Local Governments to develop and implement a programme to reduce the damage to agriculture caused by pest animals.⁸ Extending this program to address the damage done to biodiversity by pest animals, including animals that escape from agricultural production, would assist in the development of a consistent, integrated approach.

6.12 Some problems are too large and too widespread to be dealt with on a state-by-state basis. State agencies have had their pest-control budgets run down over many years. Mr Allan Holmes called for a national strategic approach to feral camels:

We have this massive camel infestation through arid Australia, with hundreds of thousands of camels doing enormous damage. You cannot deal with that at a state level; it has to be something that is dealt with nationally as the camels move over large areas. This is a massive problem that does need national attention.⁹

Weeds

6.13 Since the arrival of Europeans, over 28 000 exotic plants have been introduced into Australia. More than 2500 species have naturalised, and many of these threaten the integrity and viability of native ecosystems.¹⁰

6.14 Estimates of the extent of weed coverage vary significantly. WWF-Australia stated that 'just six of Australia's worst invasive weeds have degraded over 20 million hectares of grazing and natural lands'.¹¹ The Co-operative Research Centre for Australian Weed Management published estimates in 2003 for the extent of selected invasive weeds (Table 6.2).

7 Queensland Government, web site, *Fire Ants – What are they?*, <http://www2.dpi.qld.gov.au/fireants/>, accessed January 2007.

8 Bureau of Rural Sciences, web site, *National Feral Animal Control Programme*, 2006, <http://www.affa.gov.au/content/output.cfm?ObjectID=D2C48F86-BA1A-11A1-A2200060B0A06278>, accessed January 2007.

9 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 50.

10 CRC for Australian Weed Management, *Killing us softly – Australia's green stalkers. A call to action on invasive plants, and a way forward*, 2003, p. 2, http://www.weeds.crc.org.au/documents/kus_part_one.pdf, accessed January 2007.

11 *Submission 161*, p. 28.

Table 6.2 Lands infested by some invasive weeds

| <i>Weed</i> | <i>Area</i> |
|----------------|---|
| Blackberry | 8 million ha nationally |
| Prickly acacia | 6.6 million ha in Qld in 2002 (potential 50 m ha nationally) |
| Lantana | 4 million ha nationally |
| Mesquite | 800,000 ha of 'core' infestation |
| Rubber vine | 700,000 ha – now found across 20% of Qld |
| Para grass | 100,000 ha in Qld |
| Mimosa pigra | 80,000 ha in Top End of NT |
| Boneseed | 78,000 ha in Vic in 1981, potential 6.5 million ha in Vic alone |
| Gorse | 30,000 ha in Tasmania |

Source: Cooperative Research Centres web site¹²

6.15 Land management is primarily the responsibility of the states and territories. Although federal agencies including the Department of Environment and Water Resources, Australian Customs Service and the Australian Quarantine and Inspection Service have regulatory and enforcement responsibilities in relation to plants and plant material, 'the primary legislative means to regulate for the management, trade and movement of plants considered to be weeds rests with the states and territories'.¹³ Over 370 plant species are declared weeds under state legislation, but despite recent reforms, the legislation varies between and within jurisdictions with respect to which species are declared weeds, what control measures are required, and who is legally obliged to comply with the legislation.¹⁴

6.16 In 1997, following assessment of 74 weed species nominated by state and federal agencies against four major criteria: invasiveness, impacts, potential for spread and socioeconomic and environmental values, a list of 20 *Weeds of National*

12 CRC for Australian Weed Management, *Killing us softly – Australia's green stalkers. A call to action on invasive plants, and a way forward*, 2003, p. 6, http://www.weeds.crc.org.au/documents/kus_part_one.pdf, accessed January 2007.

13 Department of Environment and Heritage, Answers received to questions taken on notice, 31 March 2006, p. 4.

14 CRC for Australian Weed Management, *Killing us softly – Australia's green stalkers. A call to action on invasive plants, and a way forward*, 2003, p. 18, http://www.weeds.crc.org.au/documents/kus_part_one.pdf, accessed January 2007

Significance was declared (It is provided at Appendix 9).¹⁵ These weeds are 'considered to be nationally significant within an agricultural, forestry and environmental context'.¹⁶ The list and associated management arrangements (the National Weed Strategy) 'seek to improve weed management performance by utilising current knowledge and practices more strategically and effectively, co-ordinating and integrating the efforts of all interested parties across states and territories.'¹⁷

6.17 A further 28 plants are listed on the *National Environmental Alert List*. The purpose of that list is to identify those species that are in the early stages of establishment and have the potential to become a significant threat to biodiversity if they are not managed. As noted in *Turning back the tide*, preparation of this list did not involve thorough consultation or agreement with the States and Territories.¹⁸ The list is also provided in Appendix 9. Other weeds, not represented in the two lists above, were identified as significant threats to the reserve system during the course of the inquiry, including Paterson's curse, Lippia, Buffel grass, Olive and Camphor Laurel.

6.18 Feral animals and weeds are estimated to cost the Australian economy an annual total of \$720 million and \$4 billion respectively.¹⁹

6.19 Having concluded that most weed problems in national parks can be traced back to invasive garden plants that have jumped the fence, WWF-Australia notes:

These naturalised invasive garden plants now make up about 70% of Australia's environmental and agricultural weeds. They cost farmers and government agencies \$100m's a year in control costs and lost production – for example the cost of just three escaped invasive garden plants are: Paterson's curse costs \$30m/yr, lippia costs \$38m/yr and rubbervine costs \$27m/yr and occupies 700,000 ha. Just one escaped garden plant, lantana, now degrades over 4 million hectares of Australia's environment.²⁰

Current Management

6.20 There was general agreement in submissions that controlling feral animals and weeds is a high to urgent priority that requires ongoing active management.

15 'Criteria for Weeds of National Significance' in John Thorp & Rod Lynch, *The Determination of Weeds of National Significance*. Commonwealth of Australia & National Weeds Strategy Executive Committee, 2000, <http://www.weeds.org.au/docs/WONS/3>, accessed January 2007.

16 Department of Environment and Heritage, Answers received to questions taken on notice, 31 March 2006, p. 4.

17 Department of Environment and Heritage, Answers received to questions taken on notice, 31 March 2006, pp 4–5.

18 Senate References Committee on Environment, Communications Information Technology and the Arts, *Turning back the tide – the invasive species challenge*, 2004, p. 214.

19 World Commission on Protected Areas (Australia and New Zealand), *Submission 137*, p. 36.

20 *Submission 161*, p. 29.

Submissions from government agencies described their current control efforts, and made it clear that they consider controlling invasive pests essential for protecting biodiversity and preserving the values of national parks.

Figure 6.1 Parks Australia staff discussing weed control with the committee in Uluru-Kata Tjuta National Park



6.21 The Department of Environment and Water Resources described the strategic and co-operative approach taken with Commonwealth Marine Protected Areas:

To manage invasive marine pests the Department cooperates with Australian, state and territory government agencies in the National System for the Prevention and Management of Introduced Marine Pest Incursions. The National System is a way for government agencies to coordinate their efforts to control new pest outbreaks, pest control plans, and administer Australia's international convention responsibilities through a coastal regime for managing ballast water and biofouling.²¹

6.22 This approach contrasts with the management of terrestrial invasive species. As seen above, with the exception of the National Weeds Strategy and the National Feral Animal Control Programme, which predominantly targets the impacts of feral animals on agriculture, there is little evidence of a nationally co-ordinated approach to pest control.

6.23 The NSW Government reported record expenditure on pest and weed control for 2004-2005, and highlighted some of the factors that are making their efforts more expensive:

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.²²

21 Department of Environment and Heritage, *Submission 126*, p. 13.

22 *Submission 155*, p. 23.

6.24 The WA Department of Conservation and Land Management (CALM) reported that 'this year [the WA Government] has invested an extra \$8 million directly into biodiversity protection over and above our pre-existing budget with a large emphasis on ferals, weeds and dieback'.²³

6.25 In 1999 CALM developed the 'Environmental Weed Strategy for WA' which guides its weed management activities. The strategy identified 1,350 weeds considered to be of environmental concern. CALM is also party to the State Weed Plan which promotes an integrated approach across weeds of environmental and agricultural significance. Activities to control pest animals include baiting approximately 3.5 million hectares to control introduced predators and recover native fauna; research and operational trials to control feral cats; control of goats and other feral herbivores in the rangelands, developing and implementing a program to deal with cane toads in the Kimberley, addressing the feral pig problem in the southwest, and dealing with wild dogs. CALM noted that increased funding is required for the more effective control of pest animals and weeds on CALM managed lands.²⁴

6.26 Queensland indicated that a significant part of their budget is allocated to species that have been identified as priorities under Weeds of National Significance or state legislation:

Funding for pest plant and animal management is provided as part of overall funding for QPWS estate management, and in excess of \$4.5 million will be spent in 2005-06 on this function, with \$1.5 million tied to specific projects targeted at Weeds of National Significance and Class 1 pests under the *Land Protection (Pest and Stock Route Management) Act 2002*.²⁵

6.27 Most states acknowledged the need to develop cross-tenure approaches with nearby landholders and agencies, and provided evidence of joint projects with relevant stakeholders. The Queensland Government noted:

Many key protected area threats cannot be addressed purely within the boundaries of those areas. The management of fire, weeds, feral animals and water quality are substantial cross-boundary issues and frequently whole-of-catchment issues.²⁶

6.28 NSW provided evidence that approximately 70 per cent of the more than 900 pest animal control programs it conducts each year are managed in collaboration with neighbours and other stakeholders, sometimes on land outside the NSW reserve system.

23 Mr Kieran McNamara, *Committee Hansard*, 10 September 2006, p. 39.

24 *Submission 135*, pp 15–16.

25 Queensland Department of Parks and Wildlife, *Submission 175A*, p. 2.

26 Queensland Department of Premier and Cabinet, *Submission 175*, p. 33.

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.²⁷

6.29 In South Australia, where many of the parks near Adelaide are small, there is a material benefit to creating buffer zones around reserves by co-operating with nearby landholders in pest control, which also provides valuable opportunities for community education and the development of productive neighbourly relations:

Many conservation programs in South Australia adopt a landscape scale approach to addressing threats to the conservation values of reserves. This recognises that most reserves are not large and pristine enough to be self-sustaining in the face of threats. But there is also an added benefit in adopting an approach that looks beyond park boundaries, for these programs can engage directly with adjoining landholders and local communities and encourage them to participate in on and off park activities.²⁸

6.30 Dr Bob Inns provided the example of co-operating with neighbours on integrated weed control programs, incorporating the release of biological agents and physical control methods:

...there are some aspects of control of blackberries, bridal creeper and boneseed where there is introduction of biological control programs. These are in their early phases. While there is some success, biological control is still going to be a long-term program. On top of that, you also need physical methods of control – and you are working in an environment where you need to conduct your weed control program while limiting any impacts on your native species at the same time. Usually, where you have the interface with agricultural land alongside, it is a matter of working with neighbours to conduct weed control to the benefit of both the agricultural land and the park lands.²⁹

27 NSW Government, *Submission 155*, p. 30.

28 Department for Environment and Heritage, South Australia, *Submission 194*, p. 16.

29 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, pp 49–50.

6.31 Inconsistent state legislation hinders the development of cohesive approaches to weed and feral animal control. Mr Andreas Glanznig told the committee:

As the Australian biosecurity report highlights, there is still no harmonisation between weed classes so if you want to do that analysis you end up having to create a Rosetta Stone to be able to interpret the different approaches taken by the states and territories. There is still a lot of room for us to create this coherent and seamless national regulatory framework that we are talking about. Key elements of it would be a national noxious weed list and a national post-border plant permitted list. If it were on that list it could be sold; if it were not it would be subject to risk assessment or it would be prohibited. There are some quite soluble solutions out there, and they are what we will be encouraging governments to adopt when they revise the national weeds strategy this year.³⁰

6.32 Several submissions noted the difference between the cost to the nation of feral animals and weeds and the level of government funding allocated to address the problem. The Australian National Four Wheel Drive Council wrote:

The national estate is being overrun by noxious plants and feral animals as acknowledged by various ministers however the funding applied to this major problem is nowhere near enough to make any real difference. The minister [for Agriculture, Fisheries and Forestry] states in the attached media release [DAFF04/360WT 16 December 2004] that feral animals cost Australia over \$500 million per year in lost agriculture production, however he and the NHT are only going to contribute \$854,000 over 18 projects.³¹

6.33 Two of the three most significant feral predators: dogs and cats, are commonly kept as domestic pets and working animals. State laws and local government administrative initiatives that regulate the keeping of companion animals have been tightened significantly in some states. There is potential to further regulate the mobility and fertility of dogs and cats, to limit the ongoing transfer from domestic pets and working dogs to feral populations.

6.34 Given the history of introduced animals escaping or being released into the wild, Mr Allan Holmes considered the future, noting that the increasing popularity of keeping reptiles created a risk of release:

I think there are significant existing risks from reptile trade and that fascination with exotic reptiles which is there now...The potential for rattlesnakes or corn snakes to get loose in our environment is horrendous. You only have to see what the brown tree snake has done in Guam to understand the impacts that those sorts of animals can have in sensitive environments.³²

30 WWF – Australia, *Committee Hansard*, 31 March 2006, p. 15.

31 *Submission 89*, p. 7.

32 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 50.

Success stories

6.35 Several agencies provided examples of measurable success in controlling feral animals. In NSW, an intensive fox control program to protect yellow-footed rock wallabies in Mutawintji National Park and Mutawintji Nature Reserve has enabled the rock wallaby population – the only population known in NSW – to increase by as much as 600 per cent since 1995.³³

6.36 In South Australia, *Operation Bounceback* is a jointly-funded, long term landscape restoration program in the Flinders Ranges/Olary regions involving active partnerships with over 60 stakeholders. *Bounceback* has supported recovery of yellow-footed rock wallaby populations and measurable broadscale improvement in the condition of native vegetation communities. The program was designed around the following guidelines:

- sound baseline operations;
- rigorous, relevant and effective monitoring and evaluation;
- multiple, realistic scales of operation;
- effective buffer zones;
- demonstration programs to engage stakeholders;
- develop strong links with the community; and
- promoting biodiversity management as 'core business' – not just for government agencies, but for landholders in general.³⁴

6.37 Mr Allan Holmes described some of *Bounceback's* progress so far:

...we have, on a landscape scale, controlled rabbits with the release of the calicivirus—that was the great help, of course—and foxes, goats and cats. So there is significant control. Then you start to see ecosystems' equilibrium swing back and a whole set of changes occur as a result of that. Again, there is a fair bit of experimentation and a fair bit of learning associated with that, but at scale with significant resources—both state and Commonwealth—you can make a real difference.³⁵

6.38 The *Kuka Kanyini at Watarru – Caring for Country* project being undertaken in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in South Australia

33 NSW Government, *Submission 155*, p. 3.

34 Department of the Environment and Heritage, 'Bounceback - Flinders Ranges', 2006, <http://www.deh.gov.au/biodiversity/invasive/publications/bounceback/index.html>, accessed October 2006.

35 Department for Environment and Heritage, South Australia. *Committee Hansard*, 6 June 2006, pp 48–49.

establishes a partnership between the Traditional Owners and the South Australian Department for Environment and Heritage to address matters of joint concern.³⁶

6.39 A ten-year biological survey of the APY Lands conducted between 1991 and 2001, using the extensive traditional knowledge and skills of Anangu, found that populations of feral animals are having a significant impact on the biodiversity values of the area and identified that the main management issues were: to maintain the traditional pattern of fire and prevent wildfires, maintain and protect rockholes and soakages, and control camels, rabbits, foxes and cats.

6.40 *Kuka Kanyini* combines scientific information gathered during the biological survey with traditional Indigenous knowledge and skills to enhance biodiversity, revitalise traditional cultural and land management understanding and practice, provide employment and training, and improve health and wellbeing. The project, which builds on relationships developed during the survey, is a vehicle for broadly based community development, including job creation and health and wellbeing benefits, as well as strengthening local relationships and traditional knowledge.

6.41 Since the project commenced in January 2004, there have already been positive and measurable results: exclosures have been built over a number of rockholes to prevent damage and access to water by camels whilst still permitting access for native animals. Fences are being built to protect culturally significant areas from damage. Artificial water sources are being built to ensure water for the survival of preferred species. Over 1200 feral camels have been mustered, with the profits from sales returned to the community.

6.42 Monitoring of threatened species is being undertaken, with follow up control of dogs, cats and foxes, and the use of patch burning where required. Anecdotal evidence suggests that there is already an increase in kangaroo and emu numbers while new Mallee fowl nests and burrows for the Great Desert Skink have been located.

6.43 *Kuka Kanyini* is commendable for its integrated response to environmental and cultural issues. The project is currently funded partly from the SA Department for Environment and Heritage, with additional funding for Aboriginal employment provided by the Commonwealth. As Mr Allan Holmes pointed out, extension of this successful model would be difficult to implement without the provision of additional funding and support:

You would have to say that the South Australian park management model is fairly lean. We run it on moderate levels of resources. To think that you are going to resolve the aspirations of Aboriginal people through park management with our current resource base is just not possible. It is the sort

36 Department for Environment and Heritage, South Australia, *Submission 194A*, pp 1–3. See also: *Kuka Kanyini Pilot Project at Watarru. Annual Report November 2005*, provided as Attachment to *Submission 194A*.

of programs like the Kuka Kanyini program, where you have this much greater involvement in lifestyle and living, which contribute to nature conservation as well. It is multifaceted; it is achieving a number of goals. It seems to me that it is not reasonable to expect a park management agency to pay for that. If you were just managing for biodiversity conservation you would do it in a different way, but where you have these other aspirations and other requirements it is a much more complex mix and requires multiple resources.³⁷

Criticisms of current management

Harbouring pests

6.44 Submissions arguing that national parks harbour pest species that move off reserves to create problems for other land managers were received in most states, indicating that the perception is widespread, and not specific to the management strategies of a particular jurisdiction. The following comments, made by the Cook Shire Council in relation to the feral horse population in Mungkan Kandju, a remote national park in Cape York, express many of the concerns raised in relation to the current management of invasive species on reserves:

Feral horses need to be controlled in Mungkan Kandju NP. This park is a disgrace and only serves as a breeding block for horses which then move out onto neighbouring properties. This needs to be made a priority and dealt with immediately, as there is adequate scientific evidence to show that unmanaged horses spread weeds, cause erosion and destroy fencing. Parks need to stop bowing to the animal activists and get on with protecting the national park estate values. Other land managers bordering National Parks are tired of spending valued resources on feral animal control only to see their land reinvaded. Parks need to put meaning into its Good Neighbour Policy...³⁸

6.45 However it must also be acknowledged that national parks managers have inherited responsibility, often relatively recently, for species that were deliberately released from captivity, or have become feral due to poor husbandry practices. The National Parks Association of NSW stated that the view that national parks are the primary source of invasive species fail to recognise the complexity of the issues involved:

It is often claimed by critics of national parks that it is national parks that are the source of invasive species. The issue is much more complex than this, and as a simplistic statement, it is false. Invasive species are growing as a major threat to native biodiversity. The threat posed is second only to habitat destruction caused by land clearing such as for agricultural production or urban development.³⁹

37 *Committee Hansard*, 6 June 2006, p. 46.

38 *Submission 195*, p. 2.

39 *Submission 130*, p. 8.

6.46 Some of the frustration expressed by private landholders can be attributed to the lack of redress available when the perceived source of their problem is a government agency, and therefore exempt from the sanctions that apply to other land managers. The Cook Shire Council proposed the establishment of a compensation fund to cover property damage caused by large feral animals:

If feral animals such as horses and cattle are not controlled on National Parks, the government should provide funds for neighbouring properties to claim compensation for fencing destroyed by animals coming off park.⁴⁰

6.47 As with fire, the committee received evidence from managers of other forested land who argued that current management of national parks is allowing populations of invasive species to build up within park boundaries, then emerge to threaten other land tenures. The Australian Forest Growers stated:

...it is our belief that management of forested national parks and conservation areas presently involves gross management negligence that is delivering poor biological conservation outcomes, is exposing rural communities to disastrous wildfires, as well as harbouring unmanaged noxious plant and feral animal populations.⁴¹

6.48 The National Parks Association of NSW praised the efforts of NSW NPWS to control invasive species, comparing them favourably to other land management agencies in NSW:

Management of invasive species by park managers is far better than land managers of other public lands. NPWS spend about \$18 million on invasive species each year for about 8% of the state. This compares favourably to about \$200,000 each year by Department of Lands who directly manage about 3% of the state as vacant Crown land, Crown reserves and Crown roads, and 45% if Crown leases are included. NSW Forests spend about \$1 million each year on feral animals to manage between 2% and 3% of the State as State forests.⁴²

6.49 This data highlights the possibility that park management of pests is not the problem, but the overall priority given by all landholders generally to the issue may not be great enough. The Head of the NSW National Parks and Wildlife Service, Dr Tony Fleming, cautioned that blaming national parks for having excessive populations of feral animals and weeds when it is a problem shared by all land managers risks distracting attention away from addressing the issue. As NSW has developed a collaborative approach to pest control that relies on co-operation with neighbouring stakeholders, approaches that seek to divide land managers along tenure lines are counterproductive.

40 *Submission 195*, p. 2.

41 *Submission 98*, p. 1.

42 *Submission 130*, p. 8.

What I am concerned about, though, is any perception that this is somehow a problem dominated by national parks. It is a problem across the landscape. We have very active programs of control, and I am encouraged by the fact that many of those programs are containing the problem, and in some cases we are starting to see that problem diminish. But we share that problem with all land-holders, and it is actually going to distract the debate to suggest that it is a problem primarily of parks.⁴³

6.50 The source of invasive species must be looked at if the problem is to be solved strategically. Weeds that eventually make their way into national parks are usually escapees from urban gardens or farmland, yet many species identified as ecological or agricultural threats continue to be sold in commercial nurseries or traded by gardeners. WWF-Australia stated their concern at the failure of governments to implement coherent and strategic measures to deal with invasive garden plants, noting that they 'account for 7 in 10 of Australia's environmental weeds...[and] more than half of the emerging weeds are escaped garden plants, of which a third are still available for sale'.⁴⁴

Until very recently, even plant species classified as Weeds of National Significance (WoNS) have remained available for sale in some states and territories. The Department of Environment and Heritage advised the committee that, consistent with Recommendation 3 of *Turning back the tide*, 'it is expected that all WoNS will be prohibited from sale in all states and territories by the end of 2006'.⁴⁵

6.51 More co-ordinated effort needs to be directed towards preventing fertile non-native animals from leaving private property. Community education, more effective use of existing sanctions, and a consistent approach to regulating companion, agricultural and game animals are all required to limit the continual re-introduction of domesticated animals into feral populations.

Funding

6.52 Most submissions that raised concerns about the management of invasive species recommended that more funding be provided for feral animal and weed control. There was general agreement that 'effective management is often more expensive in the short-term, but is likely to prove more efficient in the long-term'⁴⁶ and that failing to spend money now would only make the problems more difficult and expensive to address in the future:

43 Dr Tony Fleming, Head, NSW National Parks and Wildlife Service; Deputy Director-General, Parks and Wildlife Division, NSW Department of Environment and Conservation. *Committee Hansard*, 12 May 2006, p. 12.

44 WWF - Australia, *Submission 161*, p. 4.

45 Department of Environment and Heritage, Answers received to questions taken on notice, 31 March 2006, p. 5.

46 World Commission on Protected Areas (Australia and New Zealand), *Submission 137*, p. 29.

...they are getting further and further behind in feral animal and noxious weed control. It might be fine for them to say that there is underfunding in that area, but while the underfunding continues they are getting further and further behind because the weeds and animals are not stopping.⁴⁷

6.53 The National Parks Association of NSW provided an extract from a submission on behalf of a number of environment groups to the NSW Government for the 2006-07 budget, recommending that the funding allocated to invasive species control across NSW Government agencies be doubled to \$40m per year:

Responding to the growing threat of invasive species requires a cross-tenure approach, with Government agencies working closely with private landholders to implement species-specific programs. This would be best implemented through the development of a new State-wide Invasive Species strategy.

An invasive species strike-force also needs to be established to quickly deal with new outbreaks before their control becomes too difficult. Some species have been identified as a major threat to Australian biodiversity and agriculture if established in Australia, such as stoats and fire ants.⁴⁸

6.54 Many submissions criticised the short timespans allocated to weed and animal control programs, noting that these programs were often a product of short or intermittent funding cycles. Mrs Maureen Baker OAM stated:

Through management of numerous landcare projects I am aware that after initial rehabilitation of an area a group cannot just walk away because the land usually requires ongoing weed control management. In the long term it is much easier to maintain weed control (so that weeds do not get a chance to take over an area) rather than having large sums of money being spent at infrequent intervals.

Maintenance Budgets for Pest and Weed Control should be provided on a continuing basis to be effective. The regular audit of park management should be carried out to ensure that the funds are being spent wisely.⁴⁹

6.55 The World Commission on Protected Areas pointed out that it is not only easier, but cheaper, to eradicate pest populations before they grow and disperse, and that planning for eradication of a target species should include provision for follow-up maintenance work:

...the management of landscape-scale pressures often requires a long-term commitment to management. An inability to commit funds for the required eradication period can result in a program being unsuccessful and thus wasting the initial funds committed.

47 Mr Paul Warner, President, Australian National Four Wheel Drive Council, *Committee Hansard*, 12 May 2006, p. 64.

48 *Submission 130*, pp 8–9.

49 *Submission 42*, p. 2.

While effective management requires adequate funding, it should not be forgotten that there is a cost to inadequate funding. For example, it will always cost more to eradicate an invasive species once it has become established, than it does when the species first emerges.⁵⁰

6.56 Funding conditions, including alignment of funding with financial years or electoral cycles, can restrict the flexibility of managers to respond to factors such as seasonal conditions, availability of control measures and critical incidents. The Foundation for a Rabbit-Free Australia (RFA) wrote:

RFA believes that inadequate funding for effectively-targeted park management continues to compromise proper stewardship of protected areas. This problem is not only about the quantum of funding governments may provide. It also can be created by the methods of funding and the inherent inflexibility of systems providing recurrent funding on an annual basis, with the strictures that annual funding can bring...There are numerous examples across Australia of investment in rabbit management programs that run for up to three years (around the term of government) and then are stopped or wound back, so that the value of the initial investment is lost within a decade...More flexible fund allocation systems that give recognition to this problem and that can span financial years would be most helpful.⁵¹

6.57 Some witnesses accepted that it was unlikely that the amount of funding required to fully address the damage caused by invasive pests would ever be available. Instead they called for available funding to be used strategically. Dr Tony Fleming told the committee that although park management plans were currently written on the basis of available funding, pest management needed to be understood and addressed on a cross-tenure basis:

...governments have difficult decisions to make about how to allocate money between departments with a finite budget. They do that. We do the work we can with the budget we have...we try to write our plans according to the resources that we can put on the ground. If the nub of the issue is whether enough resources are being applied to solve the issue of feral animals and weeds in national parks or in any other land tenure in New South Wales, then, no, more resources are needed. That has been clear through the work of various CRCs on feral animal and weed control. But I do emphasise the point that it is not an issue which is specific to parks. It is really important that it is managed as a cross-tenure issue, because you do not get to the heart of the problem by looking at just one tenure.⁵²

6.58 The eradication (or significant depletion) of key threatening processes was proposed as a potentially cheaper option than continuing to deal with the effects of the

50 World Commission on Protected Areas (Australia and New Zealand), *Submission 137*, p. 30.

51 *Submission 30*, p. 2.

52 NSW Department of Environment and Conservation. *Committee Hansard*, 12 May 2006, pp 14–15.

threat. Mr Bruce Thomson recommended additional funding for research into the biological control of foxes:

The strategic targeting of key threatening processes may be an effective way to assist protected area management and to greatly reduce the future costs of conservation. For example, the biological control of foxes would positively impact every protected area in Australia, apart from a few tropical areas...The overall costs of maintaining separate recovery plan actions for all of these species [threatened by fox predation and fox-borne diseases] will amount to hundreds of millions of dollars over the coming years; costs that may be mitigated through support for a single project to develop a biological (genetic) control to remove foxes...The strategic direction of funds into these types of research areas will greatly reduce the future costs of maintaining protected areas - almost incalculable cost savings.⁵³

6.59 Mr Allan Holmes cited the example of the depletion of the rabbit population in arid regions following the release of calicivirus. However, he warned that even after significant crashes in pest populations, control efforts need to be continue:

Have a look at the rabbit calicivirus. There was national cooperative management, and we were able to fund the analysis of what was going on with calicivirus for three or four years, and then we stopped funding it, which was an absurdity. We lost interest once we thought that we had dealt with the problem. What we will see in time is that rabbits will develop a resistance and rabbits will become a major problem for us again...

The release of the virus in the mid-nineties caused this just incredibly extraordinary event where you saw one of the most significant pests effectively taken out of arid Australia. There are some lessons to be learnt there.⁵⁴

Staffing

6.60 A concern reported by neighbouring landholders, particularly in remote areas, is the lack of park staff who are available to conduct weeding and culling operations, to monitor the progress and evaluate the effectiveness of control programs, or to respond to critical incidents. In WA and Queensland, destaffing policies have resulted in some large, remote parks having no permanent staff presence. Mrs Diana Morrison, representing pastoralists in the Gascoyne-Murchison region of WA, described the effect of destaffing on pest management:

...there has to be management, there have to be people on the ground doing these sorts of things. The control of feral animals—cats, foxes, goats et cetera—takes time, money, people and consistency. Control of plants and weeds is the same thing: if there is nobody there to see it when it comes up

53 *Submission 1*, p. 3.

54 Department for Environment and Heritage, South Australia, *Committee Hansard*, 6 June 2006, p. 50.

or when the problem happens and there is not the staff there to get on it, spray it, pick it or do whatever, it will not happen.⁵⁵

6.61 Lack of ranger presence also troubles park staff, who told the committee that regular observation and small-scale maintenance activities allow emerging weed or animal problems to be addressed before they escalate:

It is critical that we have people permanently out there on the ground every week driving around and doing things, spraying patches, picking up new weeds and continually keeping on top of the feral animals. We believe that we have clear evidence of how staff have improved it when they have been maintained on park.⁵⁶

6.62 The value of close, regular monitoring of familiar territory was borne out by Mr Jim Inglis, who attributes the loss of native species on and around his property to the transfer of an onsite ranger who was committed to feral animal control:

As an owner of 60ha situated between two of these national parks and adjoining both I have for the past 16 years witnessed the decline in numbers of these ground dwellers and the increase in predators, dogs, foxes and cats...I carry out daily monitoring of both wildlife and feral predators by maintaining several bare pads of damp raked earth over a distance of some 3 kilometres of fire trails which with daily inspection give me a good idea of abundance and activity of these animals. As a result of this and general daily observations I am aware that ground dwelling wildlife has seriously declined...⁵⁷

6.63 Maintaining a permanent presence of on-ground staff was supported by the Australian Workers Union, representing park rangers:

...our members are very strongly of the view that in most cases being based on-park is the best way to manage the estate, to protect it from vandalism and to manage pests and the myriad other issues. The best way to have a proper handle on looking after the place is to base rangers there, and sometimes it costs more money to do that. We do not want an agenda that locates staff on the basis of purely budgetary constraints—which again comes back to needing more money.⁵⁸

6.64 Another strand of criticism about staffing concerned the technical expertise of staff. This is particularly pertinent when staff with responsibility for animal and weed control are expected to take on a community education function when engaging with neighbours and other stakeholders:

55 Pastoralists and Graziers Association of Western Australia. *Committee Hansard*, 31 August 2006, p. 36.

56 Dr Paul Williams, *Committee Hansard*, 30 June 2006, p. 24.

57 *Submission 37*, p. 1.

58 Mr Christopher Simpson, *Committee Hansard*, 21 April 2006, p. 115.

QPWS have no specialist weed or feral animal officers. Lack of skill means less direction and a reduced result in pest management programs. There is also a lack of pest management plans for National Parks in Cook Shire resulting in ad hoc measures for pest control work. It is unrealistic for a ranger to be as multi-skilled as they are expected to be, especially in some of the larger remote Parks in Queensland, where staff numbers are ridiculously low.⁵⁹

Volunteer labour

6.65 A number of submissions, particularly those from four-wheel drive organisations, advocated the use of volunteer labour to perform maintenance including weed and feral animal control. The following comments by the Australian National Four Wheel Drive Council represent this position:

We propose that our national estate is best served by participative management between land management authorities and those that use and care for parks and other conservation areas...

In this regard, our members have demonstrated on numerous occasions that we practise what we preach by voluntarily performing rubbish clean-ups, track clearing, weed removal and minor track maintenance. Our members have gladly volunteered to assist with feral animal and weed eradication programs however these programs have faltered through liability and unionist concerns raised by those not interested in being part of the solution. We have undertaken these projects because we want to enjoy the national estate in its best condition now and into the future.⁶⁰

6.66 The committee supports the use of volunteer labour where appropriate, and notes that partnerships between national parks and local organisations offer excellent opportunities to share knowledge and build community support. In expressing this in-principle support, the committee takes the view that local park managers are in the best position to make operational decisions about the deployment of voluntary labour and the suitability of individual volunteers, subject to policy guidelines developed by the agency responsible for park management.

Management of game species

6.67 The committee received evidence in relation to the management of deer populations in Victorian national parks. Mr Philip Maguire, who has previously been licensed to run cattle in the Alpine National Park, wrote:

On Parks Victoria's own estimates there are up to 200,000 feral deer running in the Victorian high country, in contrast to 8000 well managed cattle with a limited annual presence of 16 weeks. Yet Parks Victoria has concluded a concordat with the Australian Deer Association which speaks

59 Cook Shire Council, *Submission 195*, p. 2.

60 *Submission 89*, p. 11.

of improving habitat for feral deer. I find this alarming. The ADA is an organisation which, in its own words, seeks to see deer take their 'rightful place amongst Australia's wildlife'. It sounds like a joke but it is not.⁶¹

6.68 The National Parks Association of NSW expressed the view that shooting in national parks should only be carried out by professional hunters:

NPA does not support the use of recreational hunters playing a role in the management of feral animals. Professional hunters should be used as part of a broader approach that includes baiting, trapping and biological control. Recreational hunters are not motivated to significantly reduce or eradicate feral animals, but by hunting for fun.⁶²

6.69 Arrangements between national parks and shooting organisations that follow approved animal welfare and safety protocols, and are carefully monitored, have contributed to successful culling programs in some ecosystems, for example in *Operation Bounceback*. There are currently few options available to control feral deer, other than shooting,⁶³ which, as Associate Professor Geoffrey Wescott points out, is an expensive and labour intensive method:

The deer are a pest in the high country...It is certainly a problem, and the agencies would love to have no deer in those parks. I think complete eradication is probably unlikely given the nature of the countryside. Those public-private partnerships seem to be the best bet at the moment...they are exploring partnerships as a way of addressing it given that they do not have the money to do it all off their own back. The alpine country is extraordinarily rugged and it is very difficult—particularly for deer, which can move so easily. Goats pose a similar problem in desert parks.⁶⁴

6.70 The purpose of agreements between national parks and shooting organisations should be strictly limited to progress towards the safe and humane eradication of feral species. While the committee does not accept at face value Mr Maguire's assertion that feral deer 'are welcome to wallow in the environmentally critical and delicate moss beds of the Alps and browse freely in alpine environments'⁶⁵ as a result of the *Memorandum of Co-operation between Australian Deer Association (Victoria) and Parks Victoria*, it expresses concern at the emphasis of the wording below. Specifically, the *Memorandum* should reflect more explicitly that its ultimate aim is the removal of deer populations (and consequently deer hunting) from Victorian national parks.

61 *Submission 5*, p. 2.

62 *Submission 130*, p. 11.

63 NSW National Parks and Wildlife Service, *Deer management plan 2005-2008 for Royal National Park and NPWS Parks and Reserves in the Sydney South Region*, http://www.nationalparks.nsw.gov.au/PDFs/RoyalNP_Deer_Management_Plan_2005_Approved.pdf, accessed October 2006.

64 *Committee Hansard* 5 June 2006, p. 18.

65 Mr Philip Maguire, *Committee Hansard*, 5 June 2006, p. 53.

This document establishes a frame-work to develop and maintain protocols for a positive and constructive working relationship between the Australian Deer Association (Victoria) and Parks Victoria that for areas managed by Parks Victoria where deer hunting is allowed, will preserve and enhance recreational deer hunting (stalking) opportunities and apply science for improved management of wild deer populations in Victoria's National and State Parks and Reserves.⁶⁶

Conclusion

6.71 The committee believes that, despite some recent improvements in relation to weeds, the management, funding, community understanding and political will to address issues related to invasive species across all tenures in Australia remains fragmented and insufficient.

6.72 The committee acknowledges that while the Commonwealth has the ability to control what species are imported into Australia, it has little direct control over the management of established pest species. The committee believes that greater state and territory partnerships are required due to the scale and urgency of the problem in all tenures. An agreed national framework that can support a co-ordinated response to the control of feral animals is required as a matter of urgency.

6.73 The committee is persuaded that the value of national parks will be significantly degraded by the presence of invasive species unless current control programs are better supported by governments and the community. Increased funding is required to support existing pest control measures within national parks in all jurisdictions. Alongside existing invasive species control programs in parks, it is essential that longer-term, integrated pest management programs that operate across tenures and cultivate broad stakeholder involvement are supported:

It would seem that there will never be enough resources to commit to conserving large parts of Australia, but it is clear that government must commit to long term (decades if not hundreds of years) programs that support integrated management. These programs should combine short and long term goals, but should address the joint issues of feral animal and weed control, revegetation with local species and the management of indigenous species at sustainable levels.⁶⁷

66 Australian Deer Association, *Memorandum of Co-operation between Australian Deer Association (Victoria) and Parks Victoria*, Attachment to *Submission 69*, p. 3.

67 Bakers Vertebrate Pest Control, *Submission 18*, p. 3.

Chapter 7

Other threats to the reserve system

7.1 This chapter will discuss a number of threats identified during the inquiry as matters of considerable community concern. Foremost amongst these was climate change. Land clearing, neighbours' management practices and mining are also discussed.

Climate change

7.2 Climate change was identified as a threat to protected areas in submissions by government authorities in every jurisdiction. Queensland, like others, noted the 'potentially serious impacts of climate change on terrestrial and aquatic biodiversity', while NSW rated it as a 'key threat' to conservation.¹ The WA Government acknowledged that climate change may require a strategic response informed by research:

It is particularly important in the light of global changes, such as climate change, to also invest in the science base to gain a better understanding of changes and effective management actions.²

7.3 A number of submissions supported the call for more research into climate change. Professor Ralf Buckley told the committee:

[Climate change] has not had a significant effect yet on protected areas in Australia or anywhere else. When it does, it will be through subtle mechanisms that will be hard to recognise at first. Research on those things is really only beginning. It is not at all well understood.³

7.4 The Department of the Environment and Water Resources noted that Parks Australia recognises the importance of climate change as a key management risk, and is proposing to prepare a discussion paper on the potential implications of climate change for the management of Commonwealth Reserves.⁴ The Department has since advised the committee that they have entered into contracts for the assessment of potential impacts of climate change on the national reserve system and the Australian Government's protected areas (other than the Great Barrier Reef Marine Park), and the implications of these impacts for development and management of these areas.⁵

1 Queensland Department of Premier and Cabinet, *Submission 175*, p. 27; NSW Department of Environment and Conservation, *Submission 155*, p. 29.

2 Department of Conservation and Land Management, Western Australia, *Submission 135*, p. 17.

3 *Committee Hansard*, 21 April 2006, p. 70.

4 Department of the Environment and Heritage, *Submission 126*, p. 15.

5 Australian Greenhouse Office, Department of the Environment and Heritage, personal communication with Committee Secretariat, 19 October 2006.

Current predictions and strategies

7.5 The impacts of climate change are expected to vary across the range of protected areas. For example, the principal concern in relation to Kakadu National Park is seawater intrusion to its extensive freshwater floodplains. In its submission, which draws upon information on the impacts of climate change in Australia prepared by the CSIRO,⁶ WWF Australia notes that:

A 2°C to 3°C rise in temperatures may result in the complete loss of freshwater wetlands in Kakadu, which would be inundated with salt water as a result of sea level rise.⁷

7.6 The Department of the Environment and Water Resources acknowledges the risk to freshwater floodplains, and advises that the draft 5th management plan for the Park provides for monitoring the effects of saltwater intrusion and for the implementation of actions and programmes, where feasible, that will mitigate against the impacts of saltwater on significant freshwater habitats.⁸

7.7 In relation to marine protected areas, climate change is one of the most challenging emerging issues, as it is now considered to be a real, serious and long-term threat to marine ecosystems.⁹ A direct effect of rising sea temperatures is coral bleaching, which is expected to damage the Great Barrier Reef Marine Park, and other coral reefs. On the basis of CSIRO figures,¹⁰ WWF Australia stated that:

The most likely outlook for the Great Barrier Reef is that mass bleaching, leading to the death of corals, will become a more frequent event in Australian coral reefs in coming decades. A 2°C warming is expected to bleach 95% of the reef leaving it devoid of coral and dominated by seaweed and blue-green algae.¹¹

7.8 On a global scale, climate change appears to be exacerbating the cumulative effects of human impact on the world's oceans, permanently changing their chemistry and circulation systems. Mr Harold Adams told the committee that as the oceans 'absorb more and more carbon from the atmosphere, they are becoming more acidic

6 Jones, R (2005), 'Recent Science – What is Dangerous Climate Change', Presented at Climate Action Network Conference, September 2005, Melbourne. Available at: www.cana.net.au. See also: B Preston and R Jones (2006), *Climate Change Impacts on Australia and the Benefits of Early Action to Reduce Global Greenhouse Gas Emissions: A consultancy report for the Australian Business Roundtable on Climate Change*, CSIRO.

7 *Submission 161*, p. 40.

8 Department of the Environment and Heritage, *Submission 126*, p. 15.

9 Department of the Environment and Heritage, *Submission 126*, p. 15.

10 B Preston and R Jones (2006), *Climate Change Impacts on Australia and the Benefits of Early Action to Reduce Global Greenhouse Gas Emissions: A consultancy report for the Australian Business Roundtable on Climate Chang*, CSIRO, p. 22.

11 *Submission 161*, p. 40.

and this is already impacting on the marine biodiversity of the oceans'.¹² Dr Gina Newton elaborated:

It has only recently come to light that the oceans are becoming more acidic, with some of the worst areas on our doorstep in the Southern Ocean. In addition, the Southern Ocean's so-called conveyor belt thermohaline circulation system, which has an important influence on global ocean circulation and the world's weather patterns, is starting to break down.¹³

7.9 Dr Newton went on to note that although changes to species distribution are already evident, we do not yet understand what the implications of climate change will mean for the physiology and behaviour of particular species:

We are already starting to document changes in the species distribution patterns, and changes in oceanographic conditions such as the southerly penetration of the east Australian current. Some of the changes in the species distribution patterns in particular have resulted in the establishment of pests such as the urchin barrens that are now taking over traditional rock lobster habitat in Tasmanian waters. As yet, we understand very little of the potential physiological effects of climate change which would include changes to reproductive behaviour and timing. It is likely that the impact of climate change will compound existing threats and pressures from human activities.¹⁴

7.10 The Burnett Mary Regional Group for NRM Inc stated that:

The wet tropical forests of North Queensland appear to be in great peril. The researchers in north Queensland are predicting indeed a catastrophic collapse of that forest for a warming of only a few degrees.¹⁵

7.11 WWF quantified this risk, citing research by Williams, Bolitho and Fox,¹⁶ predicting that global warming of greater than 2°C would see a 90 per cent reduction of the core environment of Australia's tropical rainforests, home to 65 vertebrate species in the North Australian wet tropics, and noting that 90 Australian animals have been specifically identified as being at risk from climate change.¹⁷

7.12 Across ecosystems, climate change is expected to exacerbate pre-existing threats, such as fire and feral plants and animals:

As a result of climate change we will see changes in fire regimes, so small changes in climate might result in significant changes in fire regimes, which

12 Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p. 26.

13 Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 38.

14 Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, pp 39–40.

15 *Submission 189*, p. 5.

16 S Williams, E Bolitho and S Fox (2003), *Climate Change in Australian Tropical Rainforests: an impending environmental disaster*, Proceedings of the Royal Society of London.

17 *Submission 161*, p. 41.

will have consequences not just for ecological communities but also for surrounding residential communities and farmers. Fire management compels us to look at the implications of climate change. We also expect—and we are starting to see—that climate change has implications for the spread of weeds and pests.¹⁸

7.13 The World Commission on Protected Areas (IUCN) noted that 'climate change is also most likely to result in increased intensity and frequency of extreme events, such as fires, droughts and floods.'¹⁹

7.14 The Blue Mountains Conservation Society identified climate change as a factor contributing to groundwater depletion:

In the Blue Mountains, climate change...means higher temperatures (equals more evaporation and less infiltration) and lower precipitation (equals less infiltration). Both lower the watertable, thereby reducing the available resource and adversely impacting on vulnerable ecosystems. Parks will inevitably suffer as climate change intensifies.²⁰

7.15 Birds Australia expressed concern at the effects of increased temperature on freshwater habitats, already at risk from the impacts of irrigation and other water use:

Increased ambient stream and river water temperatures result in stress on these habitats. Feral organisms and fish who prefer warmer water often replace natives. Systems are more vulnerable to toxic algae blooms.²¹

Responses to climate change

Building ecological resilience

7.16 Regardless of the specific ecosystem under discussion, many submissions that identified threats from climate change called for greater monitoring, and for management strategies that reduced other pressures and promoted resilience. In relation to marine reserves, the Department of the Environment and Water Resources wrote:

Significant rises in sea water temperature over the last 5–7 years have resulted in coral bleaching events worldwide, including a number of marine protected areas in Australia. Marine reserve managers now need to consider options to monitor the onset of a likely coral bleaching event, manage the reserve in a way that reduces as far as possible all other pressures and have strategies at hand to respond post-event.²²

18 Dr Tony Fleming, NSW National Parks and Wildlife Service, *Committee Hansard* 12 May 2006, p. 10.

19 *Submission 137*, p. 35.

20 *Submission 29*, pp 2–3.

21 *Submission 105*, p. 8.

22 Department of the Environment and Heritage, *Submission 126*, p. 15.

7.17 As the South Australian Fishing Industry Council pointed out:

The resilience of our marine ecosystems must be better understood and recognised in the context of existing uses, the consequences of a failure to manage terrestrial impacts and global climate change.²³

7.18 It was recognised that it was not only marine reserves that needed to build resilience against the threat of climate change. It was commonly suggested that terrestrial reserves needed to enhance resilience to cope with climate change and that the main solution was to increase the size and connectivity of reserves, so that they contained a continuum of different climatic zones, altitudes and aspects. This suggestion is consistent with Strategy 5.2 of the *National Biodiversity and Climate Change Action Plan*, which identifies the need to:

...strengthen the capacity of the reserve system to act as refuges for vulnerable terrestrial species and integrate reserve planning and management with broader landscape protected area networks to allow the movement of species across bioclimatic gradients.²⁴

7.19 As the World Commission on Protected Areas stated:

Arguably the concept of ‘ecological networks’ is the single most important consensus direction in global conservation. It has been strongly endorsed at an international level.... This direction recognises connectivity and ‘turning islands to networks’ is the way to achieve the international goal of benefits beyond boundaries and is essential to management effectiveness and a key component for building resilience in the face of rapid change, especially climate change, into the system.²⁵

7.20 It was also suggested that the impacts of climate change made it imperative to ensure that resilience was built into the parks systems by:

improving connectivity between parks and through ecosystem networks involving many lands to enable species, populations and communities to adapt to changes in climates and recover from local extinction events.²⁶

7.21 Other witnesses to the inquiry also highlighted the importance of landscape connectivity and resilience against climate change. Mr Graeme Worboys, a practitioner and author in the field of protected area management, called for:

...continental scale conservation connectivity for lands such as the Great Escarpment of Eastern Australia and Australia Alps corridor, northern

23 Mr Neil MacDonald, *Committee Hansard*, 6 June 2006, p. 14.

24 Natural Resource Management Ministerial Council (2004), *National Biodiversity and Climate Change Action Plan 2004–2007*, Australian Government, Department of the Environment and Heritage, Canberra, p. 27.

25 *Submission 137*, p. 20.

26 World Commission on Protected Areas, *Submission 137*, p. 35.

Australia and south-western Australia...to minimise the effects of climate change and forecast biome shifts.²⁷

7.22 Mr Worboys was involved in developing a proposal for the establishment of a protected corridor running 2,800 km along the Eastern Australian Great Escarpment, between Cairns and the Victorian border.²⁸

The Corridor could comprise extensive areas of inter-connected natural lands that cover a range of altitudinal gradients to facilitate adaptation to climate change...The Great Escarpment is still mostly undisturbed along many sections of its length, and still offers many opportunities for the retention of continuous, unfragmented natural bushland. A number of protected areas have already been established along the Great Escarpment, however, many of the natural areas in public ownership are still unprotected.²⁹

7.23 The Australian Bush Heritage Fund, an organisation which purchases private property for the purposes of conservation, raised the issue of how private landholders could better contribute towards a whole of landscape approach, and how:

Private land-holders generally can contribute by improving biodiversity conservation so that we are not dealing with a mosaic system or a jigsaw or little postage stamps of national parks and government protected areas dotted around the landscape. You build resilience by having cooperative, collaborative and complementary approaches.... it requires land-holders across all tenures and regardless of their ultimate motivation, whether it be for commercial profit or conservation, to work together to ensure that the whole landscape is more resilient by building more resilient drainage basins and riparian zones and working right across the system.³⁰

7.24 It was also confirmed by The Nature Conservancy, another key organisation that purchases private land for the purpose of habitat conservation, that efforts were being made by private landholders towards building ecological resilience, stating:

Importantly, we work across landscapes at a scale large enough to conserve ecological processes and to ensure that protected lands and waters retain their ecological integrity.³¹

27 *Submission 152*, p. 4.

28 See for example: Pulsford, I, Worboys, G, Gough, J & Shepherd, T (2004), 'The Australian Alps and the Great Escarpment of Eastern Australia conservation corridors' in David Harmon & Graeme Worboys (eds) *Managing Mountain Protected Areas: Challenges and Responses for the 21st Century*; Worboys, G, Lockwood, M, & De Lacy, T (2005), *Protected area management principles and practice* (second edition), Oxford University Press, Melbourne.

29 WWF - Australia, *Submission 161*, p. 42.

30 Mr Doug Humann, *Committee Hansard*, 5 June 2006, p. 10.

31 Dr Michael Looker, *Committee Hansard*, 20 October 2006, p. 32.

7.25 Basically, whole of landscape or bioregional approaches proposed to enhance connectivity between protected areas across different tenures of land ownership. The World Commission on Protected Areas noted that this concept had strong backing in Australia, but they cautioned that:

While there is high consensus on the desirability of such multiple tenure models based around core conservation lands, only a few working examples have emerged to date. The primary impediment remains the cost and complexity of putting together different land tenures and sea uses, gaining the cooperation of the many government departments and agencies in a federal system, as well as coordinating the private and community input. This will only occur with real and sustained commitment of policy and funding by both national and state /territory/local governments.³²

7.26 However, while there may need to be a more comprehensive strategy across jurisdictions towards building ecological resilience across the landscape, some states have already fully adopted the concept. The Department of Environment and Heritage South Australia stated that:

Resilience is something that is right at the forefront of mind with the climate change issue.... The resilience is really important and one way of achieving that is through the connectivity across the landscape. That is the whole way. It is not just the way we manage our parks now, it is the approach that underpins the whole approach to biodiversity conservation in South Australia.³³

Recommendation 6

7.27 The committee recommends that the Commonwealth, States and Territories boost the resilience of reserves against the effects of climate change by focussing on increasing their connectivity, so that they contain a continuum of different climatic zones, altitudes and ecosystem types.

Land clearing

7.28 Land clearing is listed as a key threatening process to biodiversity under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. In advice that supports that listing, 'land clearing' is understood as the destruction of the above ground biomass of native vegetation and its substantial replacement by non-local species or by human artefacts.

It includes clearance of native vegetation for crops, improved pasture, plantations, gardens, houses, mines, buildings and roads. It also includes

32 *Submission 137*, p. 20.

33 Mr Greg Leaman, *Committee Hansard*, 6 June 2006, p. 39.

infilling of wetlands or dumping material on dry land native vegetation, and the drowning of vegetation through the construction of impoundments.³⁴

The definition specifically excludes silvicultural operations in native forests and manipulation of native vegetation composition and structure by grazing, burning or other means.³⁵

7.29 In its submission, the World Commission on Protected Areas notes that the *Australian Terrestrial Biodiversity Assessment* found that vegetation clearing is the most significant threat to species and ecosystems in eastern Australia. Although protected areas are not directly cleared they can often be impacted by related problems such as salination, which is now having serious impacts on large areas across the continent, loss of water quality and fragmentation.³⁶

7.30 Despite an increase in revegetation and ecosystem restoration activity in recent years, the rate of land clearing continues to result in a net loss of native woody vegetation.³⁷ This increases pressures on remnant intact ecosystems:

It used to be that biodiversity was conserved in many different land tenures. There were huge areas of relatively undisturbed land that were outside protected areas, but most of those areas are gone and the remaining ones are going, and so parks are more and more critical for conserving biodiversity because there is less and less biodiversity outside parks. That means two things: firstly, that we should look at mechanisms to conserve biodiversity outside parks and, secondly, that we have to be particularly careful about threats to parks themselves.³⁸

7.31 Birds Australia also noted that clearing remnant vegetation removed the opportunity to reserve under-represented ecosystems, but made the point that such clearing often produced only marginal economic benefits:

Hundreds of thousands of hectares of Victorian mallee and Queensland woodland have been cleared of trees and scrubs for agriculture. Much of this land is marginally useful for agriculture but vital for biodiversity. It is

34 Threatened Species Scientific Committee (2000), *Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee on a public nomination of a Key Threatening Process under the Environment Protection and Biodiversity Conservation Act 1999*, <http://www.deh.gov.au/biodiversity/threatened/ktp/clearing.html>

35 Threatened Species Scientific Committee (2000), *Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee on a public nomination of a Key Threatening Process under the Environment Protection and Biodiversity Conservation Act 1999*, <http://www.deh.gov.au/biodiversity/threatened/ktp/clearing.html>

36 *Submission 137*, p. 36.

37 Department of the Environment and Heritage (2001), 'Biodiversity Theme Report', *Australia State of the Environment Report 200*, <http://www.deh.gov.au/soe/2001/biodiversity/biodiversity04-1b1.html#areaclearedormodified>

38 Professor Ralf Buckley, Griffith University, *Committee Hansard* 21 April 2006, p. 70.

clear that not all habitats are adequately represented in the reserve system, and this is particularly true of habitats that also offer agricultural opportunities.³⁹

Fragmentation

7.32 A number of submissions identified the fragmentation of habitats as a distinct threat to the viability of parks, others raised it within a broader discussion of reserve history and future planning. It is particularly a problem near coastal cities, where small parks reserved early last century are now surrounded by urban development, but larger parks in viable agricultural areas can be subject to similar pressures. The NSW Government identified some specific problems:

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.⁴⁰

7.33 The National Parks Association of Queensland raised the question of viability, particularly when populations are subject to additional stresses, such as drought:

There is a need to maintain an area that is sustainable. Dr Martin Taylor particularly drew my attention to Toohey Forest Park, where there is no connectivity there. A lot of the wildlife in that area has disappeared because of the current climate. It is a very dry site. There is very little water, so you cannot sustain the plants and the animals in that area. The area of concern that I have are that many of the areas that have been reserved by the state government are on the small side.⁴¹

7.34 The Coast and Wetlands Society pointed out that the effects of fragmentation may not become fully apparent for a long time:

On land, many of these threats arise from the fact that the conservation network now consists of fragments of habitat within a modified matrix; the consequences of fragmentation and the impact of edge effects may take decades to be fully experienced.⁴²

7.35 'Edge effects' refers to a number of problems that develop or are exacerbated when parks have large boundaries in relation to their total area. Problems endemic to

39 *Submission 105*, p. 13.

40 *Submission 155*, p. 32.

41 Mr John Bristow, *Committee Hansard* 21 April 2006, p. 30.

42 *Submission 7*, p. 3.

all parks, such as invasion by feral and domestic animals and weeds, and the movement of native animals off-reserve, can be increased because there are more opportunities to cross tenure boundaries and less area to sustain or protect native fauna.

7.36 Native species may require minimum areas or area/edge ratios in order to support or constrain their populations. For example, Friends of Waite Conservation Reserve, one of a number of small and isolated parks in the Mt Lofty Ranges of SA, pointed out that 'woodland birds like the Scarlet Robin need a home range of between 3 and 50 ha to be able to successfully raise their young'.⁴³ Some parks in this area were donated to the reserve estate by South Australian families, and may be as small as 7.5 hectares.⁴⁴

7.37 Populations of some native species, such as bell miners and associated insects, may build up to unsustainable levels on the edge of disturbed eucalypt ecosystems, and are associated with 'rural dieback' of eucalypt species.⁴⁵

7.38 Birds Australia identified areas of threatened remnant habitat that are vital to biodiversity, because they now act as corridors or refuges for species at risk:

There are strips of native habitat which are left along roads, in difficult to access areas, along stream beds and in some agricultural areas. These areas serve as corridors between parks, conservation reserves and natural habitats where animals and birds can move to breed, find water or food. Islands of natural habitat sustain gene pools of flora and fauna. Today many of these vital wildlife corridors and islands are disappearing to agriculture, housing development and road-works. These corridors, usually on non-government lands, are vital links in the reserve landscape and must be encouraged and facilitated by government programs and partnerships.⁴⁶

7.39 The Government of South Australia advised that South Australia has developed a framework for landscape-scale conservation. Through its NatureLinks program, public protected areas are to be managed as core conservation areas, and a range of complementary conservation and land management measures can be applied across the landscape. The goal of the program is to achieve long-term conservation outcomes in the face of ongoing threats such as fragmentation, inappropriate land uses, and climate change.⁴⁷

43 Friends of Waite Conservation Reserve, *Submission 94*, p. 3.

44 Government of South Australia, Department of Environment and Heritage (2006), *The Greater Mt Lofty Parklands – Yurrebill*,
http://www.parks.sa.gov.au/parks/parks/adelaide/adelaide_submap/index.htm

45 Department of the Environment and Heritage (2001), 'Biodiversity Theme Report', *Australia State of the Environment Report 2001*,
<http://www.deh.gov.au/soe/2001/biodiversity/biodiversity04-1b1.html#areaclearedormodified>

46 *Submission 105*, p. 13.

47 *Submission 194*, p. 10.

7.40 Professor Christopher Margules noted, in relation to particularly fragmented landscapes, that 'there is a serious risk in areas that have been severely transformed that some of those habitat remnants will not continue to perform the conservation function they currently perform.'⁴⁸ Considering how best to strategically allocate resources to increase their resilience to threat, he offered:

...if you have limited conservation resources to spend in these severely fragmented landscapes you should make the fragments bigger. If you had to do one thing or the other—join them up with corridors or make them bigger—I would make them bigger.⁴⁹

Responding to land clearing: options

7.41 There is currently no uniform legislation in Australia that sets conditions on land clearing. State and territory legislation mainly covers woody native vegetation and provides for many exemptions of a general nature, for example: 'day-to-day farm management' (NSW) and clearing for urban development (WA). The legislation does not apply to all land tenures in all states⁵⁰ and there may be no legislation at all:

Tasmania is now the only Australian state without land clearance legislation...You may wonder how important this is to the reserve system; well it is vital to achieve adequate conservation. Many vegetation communities are found predominantly on private land.⁵¹

7.42 The Queensland Government noted that about 32 million hectares, an area equal to 19 per cent of Queensland's total land area, has been cleared of remnant native vegetation. Clearing activity has been concentrated in the east of the state, severely compromising the reservation of regional ecosystems:

In the fertile agricultural areas such as the Brigalow Belt the pressure of development, enhanced by initiatives such as water infrastructure proposals, means that opportunities to develop a comprehensive protected area system [are] likely to be forgone unless urgent action is taken.⁵²

7.43 The Environment Association proposed that assigning a monetary value to ecosystem components may provide more options to land managers who are currently persuaded to clear land for economic reasons:

48 CSIRO, *Committee Hansard* 31 March 2006, p. 7.

49 Professor Christopher Margules, Tropical Landscapes Program, Tropical Forest Research Centre, CSIRO, *Committee Hansard* 31 March 2006, p. 7.

50 Department of the Environment and Heritage (2001), 'Biodiversity Theme Report', *Australia State of the Environment Report 2001*,: <http://www.deh.gov.au/soe/2001/biodiversity/biodiversity04-1b1.html#vegetationclearanceandoverview>

51 The Environment Association Inc, *Submission 129*, p. 2.

52 *Submission 175*, p. 24.

The land valuation system needs to be overhauled to include the valuing of ecological capital. Otherwise how can one either be rewarded for its conservation or penalised for its destruction or degradation if it is not valued with our other systems of value.⁵³

7.44 The Wilderness Society also expressed interest in exploring 'how people can get an economic livelihood out of protecting nature', noting some work that had been done in relation to quantifying the economic value of retaining native vegetation:

One obvious answer that...farmers are interested in is the issue of receiving payment, whether you are providing water services, carbon services or whatever...the best economic analysis has been done in the context of climate change and carbon services...the Research School of Biological Sciences was central to the analysis that was done for the Commonwealth in the lead-up to the decision to end land clearing in Queensland...Part of the argument behind that was the contribution it would make to stopping greenhouse gas emissions from land use change.⁵⁴

Neighbours' management practices

7.45 Ecological and hydrological processes do not respect land tenure boundaries. The management practices of national parks impact on their immediate and regional neighbours, and vice versa. This section will discuss the effects on national parks of land management and other practices carried out nearby.

Pollution

7.46 Professor Ralf Buckley nominated pollution generally as an external threat to parks:

The external ones [threats] are the same threats that threaten biodiversity in general—loss of habitat, which in the case of parks means encroachment around the boundaries, fires crossing into parks from other areas, pollution of water upstream of park boundaries, pollution of marine parks outside the marine park boundaries and so on.⁵⁵

7.47 The World Commission on Protected Areas identified littering, toxic runoff and sewage as specific pollution issues in the Great Barrier Reef World Heritage Area, Fraser Island and Kosciusko.⁵⁶ The Department of the Environment and Water Resources identified run-off as perhaps the greatest threat to the Great Barrier Reef:

In relation to the Great Barrier Reef Marine Park poor water quality is the greatest ubiquitous threat to marine species and marine ecosystems, particularly due to cumulative impacts, in the Great Barrier Reef. By far the

53 *Submission 129*, p. 4.

54 Ms Virginia Young, *Committee Hansard* 16 June 2006, p. 96.

55 *Committee Hansard*, 21 April 2006, p. 70.

56 *Submission 137*, p. 37.

greatest source of pollution leading to reduced water quality is land-based human activity.⁵⁷

7.48 Birds Australia listed four categories of pollution and described how they affect parks and protected areas:

Untreated human waste Most Australian rural and small town human waste is treated in individual home and business septic systems. Many of these systems have failed. A number of Australia's cities do not adequately treat sewage and pump their effluent into the ocean, rivers or streams. The result is severe damage to the habitats which receive this toxic effluent. Marine Protected Areas are particularly vulnerable to effluent discharges.

Agricultural toxic waste Farms are responsible for significant discharges of animal manure effluent, nitrogen loading of waters from fertiliser, and the spread of hormones and medicines used to treat livestock and pesticide residue. These materials often have an impact upon adjacent National Parks, other conservation reserves and Marine Protected Areas.

Mining impacts Mines are sometimes found in parks and conservation reserves. They are also frequently located near reserves. Mines often use tailing dams where toxic waters are stored. These dams can leak or fail, often poisoning streams which pass through parks and conservation reserves. Toxic air pollution from gold mining, arsenic, and lead mining have an adverse impact upon park and conservation reserve biodiversity. Some water-borne mining effluent can impact on marine reserves when uncontrolled waste enters the sea.

Industrial effluent Industry often creates untreated or inadequately treated effluent which can damage National Parks, other conservation reserves and Marine Protected Areas. Coal burning power stations are a source of acid rain which damages National Parks, other conservation reserves and Marine Protected Areas. Paper mills sometimes release dioxin into streams and rivers with serious consequences.⁵⁸

7.49 In Melbourne, Professor Elery Hamilton-Smith gave the committee a recent example, from the Limestone Coast area of South Australia, of how agricultural chemical use can lead to pollution incidents that may be difficult for the user to foresee:

We were doing a replication of a study I had done in 1961 to count the size of the bat population; we knew it had declined. When we arrived, we found that it had declined far more than we had thought. There were dead bodies of bats everywhere, all the insect fauna of the cave in which they roosted and reared their young was dead and the group had been moving constantly. We knew there was something desperately wrong. We got a chemical

57 Department of the Environment and Heritage, *Submission 126*, p. 14.

58 *Submission 105*, p. 9.

analysis, and that told us they were using methamidophos. It was the first time it had been imported into this country.⁵⁹

7.50 It became apparent from Professor Hamilton-Smith's account, however, that data from international regulatory authorities that was available at the time of importation indicated that the chemical posed a serious risk to groundwater, both on and off reserves:

The methamidophos was apparently imported and put on the market without any questioning, even though the United States EPA have constantly campaigned for its prohibition and most United States state governments totally prohibit it. We were able to get wondrous support from the US EPA, with all the data we needed to prove that this stuff should never have been allowed into the country. The South Australian government acted within one week, for which they deserve great credit. But they recognised immediately that it was a very serious problem. The half-life of methamidophos in daylight is about eight hours; in the dark, it is weeks—plenty of time to get into and totally destroy the quality of the ground water by killing all the living things in it that help to keep it pure and drinkable.⁶⁰

7.51 Methamidophos is licenced for use in Australia as an active constituent by the Australian Pesticides and Veterinary Medicines Authority.⁶¹

Upstream water use

7.52 A number of submissions identified water management as a threat to the reserve system, noting that, as the related issues were complex, solutions could be difficult to implement:

There are many threats to achieving the objects on management including...the adverse effect on water quality and quantity caused by human habitation and the withdrawal of ground water for irrigation and household purposes upstream.

It is acknowledged that what can be achieved to ameliorate the adverse effects of some of these threats may be limited.⁶²

7.53 The Wilderness Society identified water management as a threat to biodiversity more generally:

...in addition to salinity problems, the modifications to hydrological flows from broad scale clearing also have serious ramifications for biodiversity by, inter alia, modifying the distribution and availability of surface water.

59 Australasian Cave and Karst Management Association, *Committee Hansard* 5 June 2006, p. 64.

60 Australasian Cave and Karst Management Association, *Committee Hansard* 5 June 2006, p. 64.

61 Australian Pesticides and Veterinary Medicines Authority (2006), *Registered Products Database*, <http://services.apvma.gov.au/PubcrisWebClient/welcome.do>

62 Tamborine Mountain Progress Association, *Submission 84*, pp 1–2.

Such changes can have profound affects on wildlife habitat, particularly in the semi-arid and arid centre and seasonally dry tropical Australia.⁶³

7.54 All submissions received in relation to water issues saw catchment management and flow regulation as government responsibilities, both on and off reserve:

...often the greatest threat on which such areas depend, the water regime, is not addressed or resourced sufficiently well by governments. For freshwater protected areas, governments need to identify potential threats from parts outside the boundaries of the reserve.⁶⁴

7.55 Professor Richard Kingsford wrote to the committee concerned about the long-term effects of water resource development on freshwater protected areas that include downstream wetlands and floodplains, for example: the Macquarie Marshes, Kinchega National Park, Yanga Nature Reserve, The Coorong, and Hattah-Kulkyne National Park. He expressed the view that:

...the conservation objectives for which the reserves were originally declared are not being met. The critical resource of water that sustains the ecosystems on which the plants and animals depend is no longer available. Most of the floodplains and wetlands in the Murray-Darling Basin at the terminal end of rivers are in ecological crisis...These areas clearly demonstrate that governments cannot guarantee the future protection of such areas without water protection.⁶⁵

7.56 Some submissions expressed concern that the mechanisms that currently regulate water use are not rigorous enough to prevent ongoing and future environmental damage. Noting that many Great Artesian Basin discharge springs, home to endemic aquatic invertebrates, are already extinct from overuse of artesian water, and some discharge springs are listed as 'threatened ecological communities' under the EPBC Act,⁶⁶ Professor Kingsford stated:

The EPBC Act can protect against major developments threatening listed aquatic ecosystems but cannot deal with threats beginning before its enactment in 1999; enforce proactive biodiversity management; or control

63 *Submission 131*, p. 23.

64 Professor Richard Kingsford, School of Biological, Earth and Environmental Sciences, University of New South Wales, *Submission 118*, p. 2.

65 School of Biological, Earth and Environmental Sciences, University of New South Wales, *Submission 118*, p. 2.

66 Professor Richard Kingsford & Jon Nevill, 'Scientists urge expansion of freshwater protected areas', *Ecological Management & Restoration*, Vol 6 No 3 December 2005. *Submission 118 Attachment 1*, pp 161–162.

small cumulative threats or potentially threatening management regimes in the wider catchments.⁶⁷

7.57 Mr Jon Nevill pointed out that other planning and regulatory instruments are also failing to protect freshwater ecosystems and resources:

Existing water planning, land use planning, and development assessment frameworks are not providing adequate protection for Australia's freshwater ecosystems...There is still much scope for improving water resource management at the State level...Apart from the issues of over-allocation of water to extractive use, protected areas, and alien species, the most serious concern is a failure (principally on the part of State governments) to effectively control the cumulative effects of incremental water infrastructure development – particularly farm dams, levee banks, agricultural drainage, extraction of groundwater and surface water, and GDE [groundwater dependent ecosystem] matrix removal...⁶⁸

7.58 Australia was the first nation to become a contracting party to the Convention on Wetlands of International Importance (the Ramsar Convention). The mission statement of the Ramsar Convention is 'the conservation and wise use of wetlands, by national action and international cooperation, as a means to achieving sustainable development throughout the world.' This means ensuring that activities which might affect wetlands will not lead to the loss of biodiversity or diminish the many ecological, hydrological, cultural or social values of wetlands.⁶⁹

7.59 Mr Eric Fisher OAM, who owns and manages a private Ramsar-listed wetlands site in central western NSW, and chairs the NSW Ramsar Managers Network, noted not only a lack of support from governments for private wetland conservation initiatives, but that water allocations made by the NSW Government had directly threatened a number of significant wetlands whose owners had chosen Ramsar listing as a means of protection:

...the private landholders who had put their land under an international wetland agreement to which the State and Australian Government were signatories were not receiving any support in their attempts to maintain the ecological character of these listed lands. We have been successful in raising the awareness at most levels of government but still we have seen a decline in our Ramsar listed wetlands. The Gwydir and Wilgara Wetlands are both severely degraded by over allocation of water and up river development...

67 Professor Richard Kingsford & Jon Nevill, 'Scientists urge expansion of freshwater protected areas', *Ecological Management & Restoration*, Vol 6 No 3 December 2005. *Submission 118 Attachment 1*, p. 162.

68 *Submission 3 Attachment 1*, p. 4.

69 Department of Environment and Heritage (2004), *Ramsar in Australia*, <http://www.deh.gov.au/water/wetlands/ramsar/ramaust.html>

I chose Ramsar because of its principle of wise use to protect my land for future generations. My family has been on the property for close to a hundred years. In that time we have been able to maintain a bird colony of up to 30,000 breeding birds. Unfortunately we are losing this unique area due to matters beyond our control regarding water allocation.⁷⁰

7.60 Birds Australia noted that lower rainfall and higher evaporation rates caused by global warming would put environmental flows under increasing pressure from competing demand for water for agricultural, urban, mining, and industrial uses.⁷¹

7.61 While legitimate concerns were raised by some witnesses, it is worth noting what the State of the Environment Report 2006 points out:

There have been some positive moves in the past five years with environmental flow allocations, habitat restoration, and invasive species control programmes in many river systems. Controls on point-source nutrient and chemical pollution have also been reasonably successful over the past decade, though some concerns remain. Community attitudes to water are beginning to change, with water ‘left in the river’ no longer seen as wasted water, but as a valuable resource for Australia’s riverine ecosystems. Evidence of this is the increasing attention that is being paid to the development of a national system of freshwater aquatic reserves to ensure that those river and wetland ecosystems that are still largely ‘pristine’ can be protected into the future, especially those in northern Australia (Nevill 2006).⁷²

Groundwater

7.62 The Blue Mountains Conservation Society drew attention to the interrelationship between global warming and groundwater depletion. As noted above, climate change is expected to deplete available surface water by increasing evaporation rates and decreasing rainfall and humidity, but it will also affect the recharge rates of groundwater systems that are often little-understood.

For the Blue Mountains and over much of the State, there is an abysmal lack of knowledge regarding the economic benefits of leaving groundwater in situ versus exploiting it. For Blue Mountains’ aquifers, little is known regarding recharge sites and rates, and flow directions and their rates. There is doubt over the numbers and locations of springs and licensed and unlicensed water bores, the aquifer-geometry being tapped, and the amounts of water extracted. This is exacerbated by land-use changes in

70 *Submission 204*, pp 1–2.

71 *Submission 105*, p. 8.

72 Department of the Environment and Heritage, web site, *State of the Environment 2006*, <http://www.deh.gov.au/soe/2006/publications/report/inland-waters.html>, accessed 6 December 2006.

which ‘bush’ is replaced by development, such that run-off from hard surfaces reduces infiltration and the watertable suffers.⁷³

7.63 A number of submissions by scientists and speleological groups discussed threats to underground ecological communities that rely on groundwater and are therefore affected by changes in water use and hydrology. Activities that occur outside reserves, such as forestry operations and mining, were identified as having a significant impact on groundwater flow:

It is still our opinion that the key threat to this area [the 'Aquatic Root Mat Community in Caves of the Swan Coastal Plain', which is listed as a threatened ecological community under the EPBC Act] is the existence of pine plantations in the catchment of these caves – where the pine trees are reducing recharge to the superficial aquifers, and are removing water from the aquifer, thus contributing to the lowering of the Gnangara Mound (the watertable). The Government needs to hasten their plans to reduce the Pine Tree Plantations in the east. We reiterate that this should be a priority as the catchment to the east is significant to the karst hydrology...

The key threat to the [Cape Range] National Park [WA] would be if mining on the rest of the Cape were to change the hydrological regime. This would affect the karst hydrological system and subterranean fauna. It is important that the National Park boundaries be extended to include the rest of the Cape and that the Mining Reserve be removed.⁷⁴

7.64 The Australian Speleological Federation provided an example of the difficulty of attempting to replicate water flow once the original patterns have been disturbed:

The main concern is the situation for the cave fauna in the stream caves. Further to what was reported previously [in Yanchep National Park, WA] the CALM, Water Corporation and Waters and Rivers Commission have been artificially maintaining water to certain areas in attempts to maintain the subterranean stygofauna habitats. The Government project to direct artificial supplementation to the cave stream in the Crystal Cave lasted only several weeks and the water has been switched off due to concerns regarding oxidised irons in the karst system. It is our understanding that there is no longer any living stygofauna in this cave or in the Root Mat communities in this cave.⁷⁵

Commonwealth initiatives on water management and conservation

7.65 The Department of Agriculture, Fisheries and Forestry pointed out that surface water along with groundwater was continually under threat from pollution and over-exploitation, and therefore required active management. The difficulty was that, along with other natural resources, water management was the responsibility of state

73 *Submission 29*, pp 2–3.

74 Australian Speleological Federation, *Submission 79*, p. 3.

75 *Submission 79*, p. 3.

and territory governments, while the Commonwealth itself provided a role in the leadership and coordination of policy reforms across jurisdictions.⁷⁶

7.66 It was recognised in 2002 that within each state and territory there were significant impediments to the implementation of effective groundwater protection. These included a lack of technical expertise and/or number of people to identify what protection was required; poor communication between agencies responsible for groundwater protection; inadequate identification of agency responsibilities; inadequate tools for the identification and implementation of protection programs; and a lack of resources or regulatory tools to adequately check compliance and enforcement of groundwater protection.⁷⁷

7.67 Following these findings, the Commonwealth Government recognised the need for a more comprehensive and inclusive water management and conservation regime across Australia, and that this would require a deeper involvement of the states and territories. Following a water reform process started in 1994, the Council of Australian Governments (COAG) in 2003 agreed to develop a National Water Initiative (NWI) to:

- improve the security of water access entitlements, including by clear assignment of risks of reductions in future water availability and by returning over-allocated systems to sustainable allocation levels;
- ensure ecosystem health by implementing regimes to protect environmental assets at a whole-of-basin, aquifer or catchment scale;
- ensure water is put to best use by encouraging the expansion of water markets and trading across and between districts and States (where water systems are physically shared), involving clear rules for trading, robust water accounting arrangements and pricing based on full cost recovery principles; and
- encourage water conservation in our cities, including better use of stormwater and recycled water.⁷⁸

7.68 This represented a significant shift in water resources policy, one that required more consistent water management and conservation commitments at state level. To that end, in October 2004 the Prime Minister announced the formation of an

76 Department of Agriculture, Fisheries and Forestry, web site, *Groundwater*, <http://www.daffa.gov.au/natural-resources/water/groundwater>, accessed 6 December 2006.

77 Natural Resource Management Standing Committee, *Groundwater Quality Protection Discussion Paper*, Commonwealth of Australia, 2002, p. 4.

78 Department of the Environment and Heritage, web site, State of the Environment 2006, <http://www.deh.gov.au/soe/2006/publications/drs/indicator/212/index.html>, accessed 6 December 2006.

independent statutory body called the National Water Commission, created to assess progress in implementing the NWI.⁷⁹

7.69 As the Department of the Environment and Water Resources explained, preparation of an implementation plan by each state and territory government is now a requirement of the NWI. These plans include steps and timelines for implementation of key actions under the NWI, and there are fairly comprehensive guidelines provided by the Commonwealth as to what each plan must address. The NWI also requires the Commission to accredit these plans. The Commission has accredited five NWI Implementation Plans:

- Australian Government Implementation Plan;
- New South Wales Implementation Plan;
- Victoria Implementation Plan;
- Queensland Implementation Plan;
- South Australia Implementation Plan.⁸⁰

7.70 Tasmania, the Northern Territory and the Australian Capital Territory have drafted their implementation plans, while Western Australia is currently preparing its implementation plan in consultation with the Commission.⁸¹

7.71 While more can always be done to address water conservation issues, this Commonwealth initiative will go a long way towards ensuring a comprehensive water management regime right across Australia. Once fully implemented, it should address the major concerns of witnesses in regards to water conservation issues.

Mining

7.72 The committee received a few submissions that identified mining as a general threat to reserves. Birds Australia cited 'scale, sensitivity and inattention to environmental impact' as problems associated with mining and oil and gas extraction.⁸² The Tasmanian National Parks Association wrote:

Many so-called "reserved" areas are open to destructive mining activity. Resource extraction should only be allowed in certain reserve categories in

79 Department of the Environment and Heritage, web site, *State of the Environment 2006*, <http://www.deh.gov.au/soe/2006/publications/report/inland-waters.html>, accessed 6 December 2006

80 National Water Commission, web site, *National Water Initiative Implementation*, http://www.nwc.gov.au/nwi/nwi_implementation.cfm, accessed 6 December 2006.

81 National Water Commission, web site, *National Water Initiative Implementation*, http://www.nwc.gov.au/nwi/nwi_implementation.cfm, accessed 6 December 2006.

82 *Submission 105*, p. 10.

line with IUCN categorisation and always as a secondary activity in the particular reserve.⁸³

7.73 There were also some submissions that raised mining as a local issue, that is, as a threat to a particular national park or area. Lithgow Environment Group (LEG) expressed concern about a sand mine on the boundary of the Greater Blue Mountains World Heritage Area (GBMWhA):

There is already a sand mine on the Newnes Plateau north of Clarence which abuts the National Park and the GBMWhA and L.E.G. is not impressed with the way this site is looking or its impacts on the environment. It is an ugly eyesore and its difficult to see how this land can be rehabilitated in a satisfactory way.

L.E.G. is against further sand mining leases in this or other Blue Mountains areas as it is a unique and beautiful area which could attract many tourists and, of course, tourist dollars. Apart from this the Newnes Plateau adjoins the National Park and also needs protecting and should be included in the GBMWhA.

There are many problems associated with the current sand mining such as dust clouds, lowering of the watertable to the detriment of not only the residents of Clarence but also the drying up of swamps and water courses.⁸⁴

7.74 The Blue Mountains Conservation Society noted that expansion of sand mining in the Newnes Plateau area is being considered as part of the Department of Planning's Sydney Construction Materials strategy, before listing some effects of sand mines:

- they have a disastrous visual impact in terms of the total stripping of vegetation, the dimensions of the quarry and the associated treatment plant and workshops, the dust cloud associated with the workings, and the impossibility of meaningfully rehabilitating the site once the resource is exhausted – this could be visible from the GBMWhA, as well as locally;
- they have the potential to disrupt and contaminate surface drainage and, as quarries deepen, they can lower the local watertable – this is of particular concern to Clarence Village, but it could also impact beyond the immediate area in terms of the drying out of swamps and water courses and the consequent loss of habitat;
- they result in the total destruction of local habitat – this could include threatened and endangered species, and sites of archaeological significance;
- the associated quarrying and treatment machinery and the on- and off-site transport system create noise pollution – this could impact on nearby parts of the GBMWhA;
- related tracks and access roads open the immediate region to unauthorized use and increased fire risk; and

83 *Submission 78*, p. 5.

84 *Submission 116*, pp 1–2.

- concern is disproportionately magnified for several quarries in that the impacts are exponentially cumulative.⁸⁵

7.75 Blue Mountains Conservation Society supported Lithgow Environment Group's call for the area to be reserved, but stopped short of asking for the area to be included in the GBMWhA:

The solution to the problem is clear. If the GBMWhA, the national parks and the ambience of this spectacular region are to be preserved, existing sand extraction should be tapered off and no more licences granted. The region should become protected as a State Conservation area.⁸⁶

7.76 There are also underground coal mines in the vicinity of the GBMWhA, and the Blue Mountains Conservation Society nominated ways that those mines potentially threatened the GBMWhA:

- subsidence-related modifications to surface drainage (swamps and creeks) in terms of flow volumes and directions, watercourse gradients, and water quality;
- destruction of scenic value through subsidence-induced damage (toppling, cracking and rock falls) to pagodas and cliffs;
- substantial modification to the natural hydrologic regimes due to the mine workings breaching important aquifers – the inflow and disposal of large volumes of groundwater (e.g. 10+ megalitres per day) cannot be disregarded;
- creating a network of tracks (for monitoring the potential problems arising from subsidence) that open the area to trail bikes, 4-wheel drives and other destructive activities.⁸⁷

The Society noted that problems related to subsidence had been addressed in respect of new mines by 'subsidence management plans that present avoidance, minimization and mitigation practices, and/or emplace rehabilitation and compensation commitments.'⁸⁸

7.77 The Tarkine National Coalition identified mining as an ongoing threat to the Tarkine region:

The values of the Tarkine region were documented for the Australian Heritage Commission by the Tasmanian Conservation Trust in 1992 and while the recent Community Forest Agreement has seen an additional 73,512 hectares protected from logging; this same area has no protection

85 *Submission 29*, pp 4–5.

86 *Submission 29*, p. 5.

87 *Submission 29*, p. 5.

88 *Submission 29*, p. 5.

from other threats to its natural values such as mining exploration and ore extraction.⁸⁹

7.78 Mining in the Tarkine was also raised by the Tasmanian National Parks Association, who called for reservation of the Tarkine and the Styx Valley:

Instead, the Tarkine, which contains the habitat of about 50 rare and endangered species, including the wedge-tailed eagle⁹ and the giant freshwater crayfish, remains threatened by mining and other forms of development. Only by conferring national park status on the Tarkine and nominating it for World Heritage Area listing can the area be fully protected, as promised in Government publicity. For similar reasons, the TNPA also calls on the State Government to confer national park status on the forests reserved in the Styx Valley.⁹⁰

7.79 The Minerals Council of Australia (MCA) noted that mining activity was inappropriate in some areas, identifying World Heritage Areas as 'no go':

The MCA recognises that, in some cases, exploration and mining development may be incompatible with the objectives for protected areas, even after all technically and economically feasible steps to reduce adverse impacts have been considered.

In line with the International Council on Mining and Metals (ICMM) commitment of August 2003, the MCA recognises World Heritage Areas as 'no go' zones for mining and exploration. This was widely lauded internationally as a landmark commitment with respect to the interaction between mining and protected areas.

Where existing operations are within or directly adjacent to World Heritage properties, ICMM members, including MCA member companies, will ensure that operations on these sites are not incompatible with the outstanding universal values of these areas, and do not put the integrity of these properties at risk.⁹¹

7.80 The MCA further noted that they are currently engaged in strategic dialogue with the IUCN in relation to:

- developing and promoting best practice guidance in the area of biodiversity conservation;
- ensuring that the criteria for assessing potential protected areas are based on the principles of sustainable development and include a rigorous science-based assessment that includes both natural resource and mineral values;

89 *Submission 60*, p. 2.

90 *Submission 78*, pp 9–10.

91 *Submission 165*, p. 2.

- developing a science-based set of explicit principles and procedures to assist governments in decisions to restructure the management of degraded protected areas;
- developing a science-based approach to define the conditions under which mining may access (or be excluded from) each of the IUCN protected area classifications; and
- managing the de-designation and/or adjustment to the boundaries of legally designated protected areas.

It is anticipated that the outcomes of this dialogue will provide the basis for an agreed ICMM/IUCN position on:

- ‘no-go’ areas for mining;
- guidance for companies on biodiversity management; and
- the basis of a nationally consistent system for the management of interactions between mining and protected areas.⁹²

Chapter 8

Threats to the marine reserve system

8.1 The marine reserve system is in its infancy, and the threats that it faces are less well understood than those on land. The Department of the Environment and Water Resources assesses Commonwealth marine protected areas to identify threats posed by human activities, and inform management responses to those threats.¹ In addition to climate change (discussed in the previous chapter), the following activities pose threats to marine protected areas:

- illegal fishing;
- the deliberate or accidental capture of protected species;
- damage to physical habitat through poor anchoring practices or trawling;
- interference with protected species such as cetaceans, birds or sharks by sightseers or divers not following the relevant guidelines or permit conditions;
- ship or boating accidents resulting in physical habitat damage and pollution; and
- the introduction of invasive species through vectors such as vessel hulls and ballast water.²

8.2 Australia's marine environment more generally is exposed to the following additional risks from human activity:

- alteration of catchments – with consequent changes to the quality and quantity of water flowing to the sea;
- sewage and other waste disposal to oceans;
- commercial and recreational fishing;
- off-shore oil exploration and extraction; and
- coastal and estuarine developments such as port construction and residential development.³

8.3 As the committee outlined in chapter 4, there is considerable controversy over how marine protected areas should be managed, and how to accommodate demands for multiple-use. Although a wide range of threats face all reserves, two were the

1 Department of the Environment and Heritage, *Submission 126*, p. 13.

2 Department of the Environment and Heritage, *Submission 126*, p. 14.

3 Australian Marine Sciences Association, *Submission 125*, p. 3.

focus of discussion with witnesses during the committee's inquiry: climate change and the impacts of fishing. Climate change was discussed in the previous chapter. This chapter focuses on issues around fishing, as well as touching on the problems of marine pests and natural disasters.

Fishing

8.4 After climate change, the Australian Marine Conservation Society regarded fishing as the greatest threat to the sustainability of marine ecosystems, citing evidence of population crashes in some commercial species that have already affected the viability of the fishing industry:

We say this because we are noticing that there is an increasing number of marine species being overfished. We are seeing fishing industries trying to find structural adjustment assistance because they are not managing to stay afloat. We are seeing fishing boats rusting on the wharves in some regions of the country.⁴

8.5 Some commercial techniques, such as seabed trawling, are very destructive. Seabed trawling involves ships dragging heavy nets across the deep seabed to catch various fish species, destroying fragile and critical benthic marine ecosystems that may never recover.⁵ Dr Richard Kenchington recommended the creation of zoned networks, offering degrees of protection, to allow continuation of fishing using a range of less destructive catch techniques:

...by far the most destructive form of fishing is seabed trawling. Partly through research generated from GBR we now have substantial information in many areas around Australia on the impacts of trawls on undisturbed or already disturbed seabeds. So something which gives an incentive to convert from destructive fishing techniques to ones which do not destroy habitat is perhaps a way forward. But certainly the achievement of areas where the habitat is protected from the impacts of fishing or dredging—and a whole range of other physical impacts on the habitat—is important. That is where sitting around the table becomes important in terms of saying that we have our core no-protected areas and we have our habitat protection zones, and we can then build a more substantial network which is based on viable units ecologically.⁶

8.6 The commercial fishing industry cannot be held solely responsible for overfishing in Australian waters; recreational fishing and illegal fishing continue to have significant impacts, on fishing grounds and in reserves that are ecologically connected to them. More important than *who* is fishing is *how* they are fishing – the techniques that are being used, and the scale of the operation. Discussing the Great

4 Mr Craig Bohm, *Committee Hansard*, 6 June 2006, p. 25.

5 CSIRO, *ECOS*, Issue 129, p. 6, <http://www.publish.csiro.au/nid/216/issue/3810.htm>

6 Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p. 35.

Barrier Reef Marine Park, the Department of the Environment and Water Resources stated:

Unsustainable fishing activities, whether commercial or recreational, can affect target and non-target species as well as their habitats, and consequently have the potential for producing ecological effects in both the fished areas and the adjoining areas of the Great Barrier Reef Marine Park.⁷

8.7 The committee heard that recreational fishermen had developed a catch, tag and release practice in order to minimise impact of the sport:

Recreational fishing has come a long way in probably the last 30 to 40 years. It used to be about catching your bag limit. If you went into a tournament, those who caught the most fish won the tournament. They would catch their bag limit on all of the different species. Today what is happening is that you have a lot of catch, tag and release or catch and release. There is a mix. Sometimes they take photographs of the fish—it is done on length—and the fish is then released. All that goes up is the digital image of the fish and that is what is weighed, if you like. Sometimes it is done by targeting different species so that people have to move around and not concentrate on one particular species. The short answer is that it is definitely increasing. Austag, which is a program run around Australia, recently reached 500,000 tagged fish on its database. There is any amount of evidence that some iconic species are as high as 80 per cent to 85 per cent released. In the game fishing circles, marlin is somewhere in the vicinity of 95 per cent released. So it is increasing. There are fewer and fewer people needing to go home with an esky full of fish to have enjoyed the day.⁸

8.8 However, even using sustainable techniques and complying with bag limits, recreational fishing can become unsustainable if the number of participants is not controlled. One option for regulating recreational fishing is the use of licences. Mr Colin McKenzie suggested the introduction of fishing licences in Queensland as a means of raising money to manage the Great Barrier Reef, but licensing also provides a mechanism for controlling the scale of recreational fishing and the behaviour of participants:

We are one of the few states that does not have fishing licences. I think people should pay for the privilege of going out there. Our tourism operators go out and take photos and memories. Fishing operators are taking people out fishing and taking the fish. I am a fisherman myself and I think it is fine. It certainly would not worry me to pay for a licence.⁹

7 Department of the Environment and Heritage, *Submission 126*, p. 14.

8 Mr John Harrison, Australian Recreational and Sport Fishing Industry Confederation, *Committee Hansard*, 21 April 2006, p. 51.

9 Association of Marine Park Tourism Operators, *Committee Hansard*, 30 June 2006, p. 58.

8.9 As discussed in chapter 4, a stronger layer of protection against fishing impacts is to declare sanctuaries in areas that are identified as critical to support certain species. The National Parks Association of NSW notes in its submission that the vast majority of NSW marine parks still permit fishing and that there is strong evidence to suggest that many marine species are suffering decline, such as the nationally critically endangered Grey Nurse Shark. Further, many sanctuary zones put in place in the four marine parks presently established in NSW exclude some critical habitat of these threatened species, allowing the species to further decline.¹⁰

8.10 Excluding commercial and recreational fishing from marine protected areas will not provide sufficient protection from the impact of fishing unless illegal activity is also addressed. The impact of illegal fishing on marine protected areas was confirmed by the Department of the Environment and Water Resources:

Illegal fishing poses a direct threat as it diminishes the resource, interferes with the conservation of the protected area and (in the case of illegal longlining) directly threatens non target species such as albatrosses and petrels. Unregulated and unreported fishing outside of Australia's exclusive economic zone has an indirect, but potentially severe impact on marine resources, biodiversity and the conservation values of marine protected areas by directly depleting fish stock which straddle Australia's exclusive economic zone. The Commission for the Conservation of Antarctic Marine Living Resources estimated that hundreds of thousands of sea birds have been killed by unregulated longline fishing since 1996.¹¹

8.11 A range of organisations argued that agencies responsible for the management of the marine protected areas should be adequately resourced to ensure that the objectives of MPAs were realised and in particular that sanctuary zones were not fished.

Monitoring is a key issue for us. There must be an effective and adequately funded system for monitoring the ecosystem itself and the health of its component parts. If we are to have management intervention to support the security of the marine ecosystem then governments must invest in a better understanding of the processes and those interactions.¹²

8.12 The committee heard evidence which suggests that some fishermen disregard zones within marine parks and therefore a system to monitor vessel location was important:

There is no question that some protection is needed. Fishermen tend to be sometimes a law unto themselves and that is perhaps why they take on a dangerous occupation and get away from bureaucracy and governments. They do need careful watching. In some cases, as the Commonwealth has

10 National Parks Association of NSW, *Submission 130*, p. 6.

11 Department of the Environment and Heritage, *Submission 126*, p. 14.

12 Mr Neil MacDonald, South Australian Fishing Industry Fishing Industry Council, *Committee Hansard*, 6 June 2006, p. 16.

done with its own big area in the South Australian bight, you can actually put markers on those boats which then send back an indication as to where the boats are. So, sitting in Canberra, you can see exactly where a fishing boat is that is off in the Australian bight—whether they are outside or inside a protected area—and give them a warning, for instance.¹³

8.13 Similarly, Dr Richard Kenchington, from the Australian Association for Maritime Affairs highlight the value of a vessel monitoring system:

The capacity of vessel monitoring systems is quite extensive, but the more you use it the more expensive it is. You can fit fishing vessels with monitoring systems which will tell you when the winch is running, how heavy the net is and where they are. One of our remote surveillance things is that we should be specifying vessel monitoring systems up, so that we know where vessels are and what they are doing. This then means the surveillance task of vessels that are not reporting in on VMS becomes much easier to manage, and our understanding of the use of the areas of the ocean becomes clearer in terms of revising and revisiting our strategies.¹⁴

8.14 Mr Peter Franklin, from the Commonwealth Fisheries Association, argued that the industry is currently moving towards a vessel monitoring system:

I do not expect major issues in terms of fishermen violating the marine protected areas but, again, it is necessary that the marine protected areas are accompanied by a well-resourced effort. Certainly most of our fishermen by the end of next year will have vessel monitoring systems in place, and they are subject to quite extensive observer coverage, so I cannot see that being a major issue....¹⁵

8.15 Professor Frank Talbot, from the Australian Marine Sciences Association, argued that need for clear demarcation of zones, such as marker buoys:

In other places, I think it is essential that they be demarcated in some way. There are a number of ways of doing it. Virtually every commercial fisherman now, and most offshore fishermen, recreational fishermen, carry their GPSs, so it is very easy to identify precise spots. In some cases I think buoys can help too.¹⁶

8.16 Mr Peter Franklin from the Commonwealth Fisheries Association outlined a perception that once the fishing industry was excluded from certain areas there would not be a presence to monitor for illegal fishing by foreign fishing boats:

...everything will be okay and we can move on to the next marine protected area. There are other threats. For example, in some of these areas that are

13 Professor Frank Talbot, Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 42.

14 *Committee Hansard*, 16 June 2006, p. 32.

15 *Committee Hansard*, 16 June 2006, p. 24.

16 *Committee Hansard*, 16 June 2006, p. 42.

adjacent to high seas there is a responsibility on the part of the government to ensure that, if Australian fishermen are excluded from these areas, there is adequate surveillance to ensure that foreign fishermen are not operating in those areas either.¹⁷

8.17 However, the committee heard that Australia has developed a world-class capability under its joint offshore protection command, which is an amalgam of resources tasked and controlled from Canberra and centred on the Navy's 16 offshore patrol vessels in order to deal with this issue:

These resources are focused almost exclusively in the north and north-west offshore areas where foreign fishing vessels are placing great pressure on our northern fisheries. The availability and disposition of patrol and enforcement vessels appear to provide inadequate capacity for oversight of the substantial network of offshore marine areas and fisheries south of the Tropic of Capricorn. To meet the national requirement for surveilling and patrolling marine parks, which extend from the tropics to the Antarctic, will require additional resources working in conjunction with marine science missions.¹⁸

Invasive marine pests

8.18 There are three major issues in relation to invasive marine pests. Firstly, deliberately introduced commercial species, for example Atlantic Salmon and Rainbow Trout, may become feral, or serve as a vector for previously unknown diseases and parasites. Secondly, species may be introduced inadvertently, through irresponsible choice of materials, or inadequate quarantine measures:

There is a record of the introduction of a pest into New Zealand where oysters were packed in seaweed—they came from outside or wherever—and then the seaweed was thrown away and a new species of barnacle or worm was transported.¹⁹

8.19 Thirdly, the transfer of species on ship hulls and in ballast water is a major international problem. In addition to the transfer of species, there are difficulties associated with currently available control methods:

You can keep critters off the hulls of boats with very poisonous chemicals but they become toxic. We do not like tributyltin and we now use very toxic copper molecules to keep them off. But it is always a trade-off. It is a

17 *Committee Hansard*, 16 June 2006, p. 14.

18 Mr Harold Adams, Australian Association for Maritime Affairs, *Committee Hansard*, 16 June 2006, p. 27.

19 Dr Richard Kenchington, Australian Association for Maritime Affairs *Committee Hansard*, 16 June 2006, p. 33.

difficult problem. It is very difficult to get rid of the critters. I think the national effort on this is pretty good.²⁰

8.20 Protocols developed and implemented by the International Maritime Organisation are widely adopted by bulk carriers. The National System for the Prevention and Management of Introduced Marine Pest Incursions allows Australian government agencies to coordinate their efforts to control new pest outbreaks, develop pest control plans, and administer Australia's international convention responsibilities through a coastal regime for managing ballast water and biofouling.²¹

8.21 Due to the significance of the Great Barrier Reef and other marine systems, the Australian Government has established the Great Barrier Reef Marine Park Authority, the Australian Fisheries Management Authority and like organisations to manage such pest control issues.

Natural events

8.22 In addition to the impacts of human activity outlined above, marine protected areas are threatened by natural events that can be difficult to predict and virtually impossible to manage:

Cyclones, high sea surface temperatures and naturally occurring invasive species can all impact seriously on marine protected areas and the values for which they are declared...Cyclones have caused damage, such as coral loss, to a number of marine protected areas. Recovery can be slow. Invasive species that are believed to have naturally established on the terrestrial areas of some marine protected areas have also impacted visibly on vegetation and seabirds.²²

8.23 Given the limited management options available to respond to natural events, a heavy emphasis is placed on research, monitoring and ensuring that impacts by reserve users are minimised as appropriate.²³

Conclusion

8.24 Marine reserves face a distinctive set of threats quite different to those faced by most terrestrial reserves. Whereas extractive uses are almost universally prohibited in terrestrial reserves, the more complex relationship between marine reserves and

20 Dr Richard Kenchington, Australian Association for Maritime Affairs *Committee Hansard* 16 June 2006, p. 33.

21 Department of the Environment and Heritage, *Submission 126*, p. 13. For further discussion see the Committee's 2004 Report: *Inquiry into the regulation, control and management of invasive species and the Environment Protection and Biodiversity Conservation Amendment (Invasive Species) Bill 2002*, http://www.aph.gov.au/Senate/committee/ecita_ctte/invasive_species/index.htm.

22 Department of the Environment and Heritage, *Submission 126*, p. 16.

23 Department of the Environment and Heritage, *Submission 126*, p. 16.

fishing presents a distinct management challenge, as well as providing positive opportunities to build mutually beneficial relationships between reserve managers and users.

8.25 Despite the unique nature of marine reserves and the problems they face, they also share a great deal in common with the conservation estate on land. All reserves facing the overarching problem of climate change. All reserves must have adequate sources of funding if they are to be kept well. All reserves need good planning processes and to be managed as part of the overall landscape. It is to management and planning issues that the committee now turns.

Chapter 9

Effective planning for conservation

9.1 There are various reasons why people use national parks, and the management of these uses is discussed in chapter 10. Effective planning for conservation cannot occur without taking into consideration, in addition to environmental conservation objectives, the use of parks and reserves by people. The level of public access as well as other potential uses of protected areas needs, however, to be related to the objectives of the protected area. Effective planning will take account of these factors.

9.2 This chapter examines the whole-of-landscape approach to planning for conservation; the development of management plans and planning processes; and the development of Indigenous Protected Areas. The chapter also considers the need for co-ordination between stakeholders.

A whole of landscape approach

9.3 An integrated approach to Protected Areas (PAs) and the surrounding areas of land or sea is critical to effective environmental conservation.¹ Various called the 'whole of landscape', bioregional or ecosystem networks approach, the concept reflects the fundamental thinking of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Man and the Biosphere concept and the science of conservation biology.² This whole of landscape approach is an important factor in the formulation of management plans for parks and reserves.

9.4 The Natural Resource Management Ministerial Council, *Directions for the National Reserve System* (Directions Statement), acknowledged the need to establish and manage protected areas within a landscape context on the basis that conservation objectives can best be achieved through an integrated approach at the landscape level.³ The Ministerial Council document represents the collective efforts of Commonwealth and state and territory governments over several years to develop a common approach on key issues for the future of the National Reserve System (NRS).⁴

1 TWS, *Submission 131*, pp 1–4; WCPA, *Submission 137*, pp 20–21.

2 The UNESCO Man and the Biosphere Programme proposes an interdisciplinary research agenda and capacity building to improve the relationship of people with their environment globally. The Programme targets the ecological, social and economic dimensions of biodiversity loss and the reduction of this loss. It uses its World Network of Biosphere Reserves as a vehicle for knowledge-sharing, research and monitoring. See www.unesco.org/mab

3 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, 2005, p. 7.

4 Department of the Environment and Heritage, *Submission 126*, pp 7–8.

9.5 The concept of 'ecological networks' has strong backing in Australia and is being actively promoted by national non-government organisations (NGOs), especially Greening Australia and the Wilderness Society under the name *WildCountry*, which is discussed below. This approach recognises that connectivity and argues that 'turning islands to networks' is the way to achieve the international goal of 'benefits beyond boundaries' and is essential to management effectiveness and a key component for building resilience in the face of rapid change, especially climate change, into the system.

9.6 The Wilderness Society (TWS) stated that:

The conservation of biodiversity and our natural heritage demands a landscape-wide approach that recognises the importance of ecological connectivity. The processes that sustain and regenerate ecological systems and all their components operate across a range of spatial and time scales. Many, if not most, work at space and time scale exceed those at which humans manage land and natural resources. Thus, many important ecological processes involve connections at scales not considered by conventional conservation planning and management.⁵

9.7 The National Parks Association of NSW noted that:

Increasingly it is recognised that isolated reserves will not on their own safeguard our native biodiversity, particularly in light of growing threats due to climate change, invasive species, and even large bushfires. It is important the reserves are connected to allow species migration and movement, and improve long-term viability. This will require a range of approaches from all land managers – public and private. The concept of 'managing the matrix' will ensure that the reserve system is seen in a large context of connected landscape elements.⁶

9.8 The Commonwealth and state and territory governments have endorsed this approach. The SA Department for Environment and Heritage stated that:

Parks will not survive as islands. They have to be managed as a part of a bigger landscape, and that is where the resilience comes in and so Nature Links is about establishing connectivity in some form or another. It is not necessarily vegetation corridors. It involves biological connectivity based on a series of core protected areas, highly protected areas, buffered and then joined by areas that are managed for conservation objectives, and they can be in addition to production objectives and everything else, but that then provides those linkages that we are trying to achieve.⁷

9.9 The marine equivalent of the 'whole of landscape' approach is the zoned marine protected area. The Great Barrier Reef Marine Park World Heritage Area

5 *Submission 131*, p.2.

6 *Submission 130*, p. 14. See also National Parks Association Queensland, *Submission 134*, p. 5.

7 Mr Greg Leaman, *Committee Hansard*, 6 June 2006, p. 52.

pioneered the idea of cooperation and coordination across a large area between user groups and zoning for a spectrum of conservation management regimes.

9.10 While there is a broad consensus on the desirability of such multiple-tenure models based around core conservation lands, only a few working examples have emerged to date, such as the Gondwana Link project which is discussed below. The primary impediment to the further development of this model remains the cost and complexity of putting together different land tenures and sea uses, gaining the cooperation of the many government departments and agencies in a federal system, as well as coordinating the private and community input. This will only occur with real and sustained commitment of policy and funding by both national, state and territory and local governments. The emergence of a vibrant and innovative private conservation sector will be vital component in pursuing the goal of large ecological networks. The private sector can complement and add value to public protected areas.⁸

9.11 As noted in Chapter 7, South Australia has developed the *NatureLinks* concept for landscape-scale conservation whereby public protected areas are to be managed as core conservation areas and a range of complementary conservation and land management measures can be applied across the landscape to achieve long-term conservation outcomes.⁹

9.12 The South Australian Government noted that many conservation programs in the state adopt a landscape scale approach to addressing threats to the conservation values of reserves. This recognises that most reserves are not large and pristine enough to be self-sustaining in the face of threats. There is an additional benefit in adopting an approach that looks beyond park boundaries, as these programs can engage directly with adjoining landholders and local communities and encourage them to participate in on-and off-park activities.¹⁰

9.13 Submissions noted that the national reserve system cannot be built solely on public lands. Dr Robyn Bartel of the University of New England noted that the historic division between public and private property management has been damaging for the environment. Conservation aims must be pursued on both private and public lands not only to meet environmental outcomes but also to trigger institutional changes that will ensure more effective and environmentally conscious management of all land. Dr Bartel argued that new community participation and processes are evolving to manage land degradation, native vegetation and water management issues on private land, such as Catchment Management Authorities and Landcare groups. Similar bodies and processes may be brought into play to assist in the management of public lands.¹¹

8 World Commission on Protected Areas, *Submission 137*, p. 20.

9 Department for the Environment and Heritage, SA Government, *Submission 194*, p. 13.

10 Department for the Environment and Heritage, SA Government, *Submission 194*, p. 16.

11 *Submission 47*, pp 1–5.

9.14 Witnesses emphasised the need to build resilience into reserve system, planning to especially take account of such issues as climate change. Mr Chris Tallentire, Director of the Conservation Council of WA stated that:

...we need to maintain the linkages to act as some sort of safety for climate change effects. The resilience is dependent on the ability of adjacent land forms to accommodate the ecological system that has to migrate somewhere else. I think the resilience could in fact be a test to see whether or not we have the connections that will provide for the future of those systems that will need to move because of moving rainfall patterns or increasing temperatures.¹²

9.15 Mr Andreas Glanznig, Senior Policy Adviser with WWF-Australia also noted that:

...if you put resilience into the CAR sort of approach, it highlights the need for these very large conservation corridors. One of the options...is an eastern escarpment conservation corridor which could span from Cairns right through nearly to Eden. Of course, being an escarpment, it would include a range of altitudinal climes, and a lot of that is already within the national parks estate. So the opportunity with a proactive response to climate change is to think big, and really to build in as many opportunities for our ecosystems and species to adapt.¹³

9.16 Targeted acquisition, private land conservation (especially in situations where the only remaining healthy examples of particular ecosystems are on private land), reform of agriculture, revegetation, zoning and urban growth boundaries provide mechanisms for restoring natural ecological function in areas around and between national parks.¹⁴

Gondwana Link

9.17 The Gondwana Link project was cited in evidence as an effective model for landscape scale work in Australia.¹⁵ The project involves national, state and other groups cooperating to reconnect fragmented natural vegetation country over a distance of almost 1,000 kilometres between the ecosystems of inland Western Australia and the unique tall karri and jarrah forests of the south west corner. This region is one of the world's biodiversity hotspots where exceptional concentrations of endemic species are suffering extensive loss of habitat through fragmentation and other threatening processes. The project seeks to restore ecological connectivity and maintain ecosystems. Major government, community and non-government players are involved with the project, and a crucial element of the project is the purchase of key properties by private land trusts, including the Australian Bush Heritage Fund, one of the key

12 *Committee Hansard*, 1 September 2006, p. 8.

13 *Committee Hansard*, 31 March 2006, pp 19–19.

14 National Parks Association of Queensland, *Submission 134*, p. 5.

15 Dr Michael Looker, The Nature Conservancy, *Committee Hansard*, 20 October 2006 pp 35–36.

players in private conservation in Australia, and Greening Australia (WA)¹⁶ as well as the Australian Government's significant investment under the NRS Programme.

9.18 Dr Beth Schultz, Director of the Conservation Council of WA, further elaborated on the operation of the project:

[The Gondwana Link] are trying to acquire the remaining bits of native vegetation and they are buying other properties and replanting them with native species and also with commercial species. They are trying to grow Sandalwood to provide an income to provide funds for management. So this is an area where there has been extensive fragmentation but it is being addressed in this way.

That is one illustration of the problem that exists and an attempt to address it. The ultimate goal is to have a belt of native vegetation starting at Margaret River and going right across the south west—on the South Coast, especially in the forested areas, there is still native vegetation—and to link it up through Stirling Range, across to Fitzgerald River, to Alice Springs and then eventually right across the country. It is a huge vision but they are moving on it and it has created a lot of excitement because it is such a worthwhile project.¹⁷

9.19 The Gascoyne-Murchison Strategy (GMS) in Western Australia provides another example of a recent development in strategic broad scale planning for protected area establishment. The Strategy was developed to address the environmental, economic, and social needs of this rangelands area in Western Australia. When the GMS was announced in 1998, approximately one million hectares, or 2 per cent of the Strategy area, was within conservation reserves. The Strategy area covers some of the most arid land in WA but is known to have high biological diversity. A concerted effort to identify gaps in representation of ecosystem's of the region's protected areas subsequently led to the strategic purchase of nearly 4 million hectares of pastoral leasehold properties. By November 2004, about 5 million hectares, or 8.8 per cent of the GMS area was within conservation reserves or had been purchased for reservation as part of the formal conservation reserve system in WA. This has resulted in 74 vegetation types within the reserve system, bringing the total to 148 or 57.1 per cent of all vegetation types in the region of which 83 (32 per cent) have more than 10 per cent of their area represented.¹⁸

WildCountry

9.20 The Wilderness Society (TWS) has developed a conservation planning framework – *WildCountry* – which integrates protected area design and natural

16 World Commission on Protected Areas, *Submission 137*, p. 20.

17 *Committee Hansard*, 1 September 2006, p. 12.

18 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, 2005, p. 25; See also Mr Keiran McNamara, WA Department of Environment and Conservation, *Committee Hansard*, 1 September 2006, p. 34.

resource management to achieve biodiversity conservation objectives at a landscape scale. Central to the approach being developed is the need to evaluate biodiversity and identify priorities for biodiversity protection and restoration at a range of scales – continental, regional and landscape.

9.21 Using a new understanding of large-scale connections across the continent, *WildCountry* is developing a science-based, continent-wide approach to conservation planning that involves both protecting the best of what is left of Australia's natural environment, and restoring important areas. *WildCountry* has a particular focus on maintaining and/or restoring ecological connections in landscapes and seascapes.

Establishing core protected areas, free from destructive and degrading practices, is a cornerstone of *WildCountry*. We know if we are to ensure the long term survival of species and ecosystems, we must establish resilient fully protected areas as well as significantly reduce the impacts of all human activity across marine and terrestrial environments. In this context, it is important that the establishment of highly protected areas should occur on both public and private lands and with support from both the public and private sector.¹⁹

9.22 *WildCountry* provides a scientific framework for tackling protected area network design, as well as for tackling threats to nature such as land clearing, intensive logging and damage to river, marine and other aquatic systems. *WildCountry* aims to provide a framework of conservation priorities which will give long term relevance to today's environmental issues and promote close cooperation with, and integration across, a wide range of community, public and private conservation programs.²⁰

9.23 The fundamental principles underlying the approach being taken include:

- Conservation planning must take a large-scale perspective (in space and time);
- The key elements to long term conservation planning include large, relatively undisturbed core areas, embedded within a landscape matrix of buffers and linkages;
- Core reserves must be complemented by appropriate off-reserve management that together ensure connectivity of key ecological patterns and processes, particularly at larger space/time scales. Off-reserve management can involve formal private conservation reserves such as conservation agreements and nature refuges or wider regulatory approaches or the protection of vegetation through vegetation clearing laws and regulations; and

19 The Wilderness Society, *Submission 131*, p. 1.

20 The Wilderness Society, *Submission 131*, p. 1; Ms Young, The Wilderness Society, *Committee Hansard*, 16 June 2006, pp 91–94.

- 'Connectivity processes' need to be brought together in an integrated framework and applied in a substantial way to inform and guide conservation planning.²¹

9.24 *WildCountry* is working with the South Australian and Northern Territory Governments on several projects. The Northern Territory Government is a partner in one of the Australian Research Council projects – the project is attempting to look at the reasons why species are becoming extinct in Northern Australia. The South Australian Government has been working on trophic regulation. The Government has provided their state environmental data to the program and *WildCountry* is working with them on a number of levels, attempting to better inform their biodiversity strategy for the state.²²

Biosphere reserves

9.25 Biosphere Reserves are areas designated by the International Co-ordinating Council of the Man and Biosphere program of UNESCO.²³

9.26 Biosphere Reserves are a landscape-based approach to environmental conservation and its sites are recognized under UNESCO's 'Man and the Biosphere Programme' which innovate and demonstrate approaches to conservation and sustainable development.²⁴ Biosphere Reserve designations are flexible and proactive declarations of a commitment to sustainable development, and are one of the few international environmental mechanisms that can be applied to urban areas.²⁵

9.27 UNESCO's aims in designating Biosphere Reserves are to:

- (a) Foster sustainable economic and human development;
- (b) Preserve landscapes ecosystems, species, and genetic resources; and
- (c) Support demonstration projects, environmental education and training, and research and monitoring related to local, national and global issues of conservation and sustainable development.

9.28 They remain under national sovereign jurisdiction, yet share their experience and ideas nationally, regionally and internationally within the World Network of Biosphere Reserves.

21 The Wilderness Society, *Submission 131*, p. 3.

22 Ms Young,, The Wilderness Society, *Committee Hansard*, 16 June 2006, p. 93.

23 *The Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, s. 337.

24 UNESCO web site, *Biosphere reserves: reconciling the conservation of biodiversity with economic development*, <http://www.unesco.org/mab/BRs.shtml>, accessed 2 March 2007.

25 Christine Alfsen-Norodom, 'Urban Biosphere and Society: Partnership of Cities: Introduction', in C. Alfsen-Norodom, Benjamin D. Lane, and Melody Corry (eds), *Urban Biosphere and Society: Partnership of Cities*, *Annals of the New York Academy of Sciences*, vol. 1023, pp 1–9, 2004.

9.29 Nomination of the Australian Capital Territory (ACT) as a Biosphere Reserve was suggested by the Nature and Society Forum during 2003,²⁶ and the ACT Government affirmed that it was pursuing the nomination in October 2005.²⁷ The proposal is currently before a committee of the ACT Legislative Assembly, and documentation and submissions on the proposal are publicly available.²⁸

9.30 The World Commission on Protected Areas in their submission to this inquiry noted that such a landscape-based approach reflects the fundamental thinking of the 'Man and the Biosphere' concept, and that such an approach had strong backing in Australia by all national Non-Government Organisations (NGOs).²⁹

Conclusion

9.31 The committee believes that planning for the conservation of biodiversity and our natural heritage demands a whole-of-landscape approach. It is abundantly evident that national parks and reserves will not survive as 'islands' and will have to be managed as part of a larger landscape.

9.32 The committee notes that the Directions Statement acknowledges the need to establish and manage protected areas within a landscape context on the basis that conservation objectives can best be achieved through an integrated approach at the landscape level. The committee is pleased to note various initiatives at the Commonwealth and state level, and by non-government organisations, to promote this approach and encourages all stakeholders to further develop initiatives in this area.

Management plans and planning processes

9.33 Once protected areas are declared, protected area managers must ameliorate or control current threats to the biodiversity values for which they were established and put in place arrangements for their long-term management. The Directions Statement notes that current protected area management reflects the growth in the acceptance by land managers of a landscape-based approach for the maintenance of ecological functions.

9.34 The Directions Statement notes that there are a series of underlying principles in relation to protected area management. These include the requirement that protected areas be managed through the development and implementation of appropriate plans

26 Australian National Commission for UNESCO, 'New Biosphere Reserve proposed', *UNESCO News*, 12 June 2003.

27 ACT Chief Minister Jon Stanhope made the announcement at the 'Making Canberra Sustainable' forum in October 2005.

28 See ACT Legislative Assembly web site, Standing Committee on Planning and the Environment, Inquiries, papers and reports: *ACT as a UNESCO Biosphere Reserve*, <http://www.parliament.act.gov.au/committees/index1.asp?committee=55&inquiry=226&category=14>, accessed 2 March 2007.

29 Submission 137, p. 20.

of management. Management plans should be based on good baseline biological information and involve stakeholder consultation. Management programs must be consistent with the primary aim of maintaining biodiversity values and relevant IUCN protected area category objectives. In addition, protected area agencies should have in place monitoring and evaluation programs.³⁰

9.35 The Directions Statement also notes that management plans:

...contain strategies and actions that will lead to the achievement of the primary management objective and inform the manager on the effectiveness of the actions undertaken.³¹

9.36 Management plans should contain performance indicators, be open to independent scrutiny and reporting, and must be authorised by the government or agency responsible for protected areas in the relevant jurisdiction.³² As pointed out in chapter 10, one of the challenges for parks managers is to take into consideration, along with environmental concerns, the various uses of parks by people. The Directions Statement notes that factors such as the level of public access, the extent of facility development, and all use of the area should be related to the objectives of the protected area, the relevant IUCN protected area category, and should be specified in management plans.³³

9.37 The Directions Statement provided two specific directions aimed at ensuring management plans were in place consistently across jurisdictions:

Direction 28: Management plans or, where this is not possible, statements of management intent, to be in place for all existing NRS reserves and for any new reserves within three years of establishment unless Native Title Act considerations preclude this;

Direction 29: Interim management guidelines to be in place within nine months of acquisition of protected areas under the NRS program.³⁴

9.38 The Directions Statement also outlined the key management issues that needed to be considered by protected area managers in the context of establishing management plans. These included the management of fire, introduced species,

30 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, p. 50.

31 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, p. 50.

32 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, p. 50.

33 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, p. 50.

34 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, p. 51.

tourism/park visitation, neighbour relations, resource use, and stakeholder involvement.³⁵

9.39 Although the Directions Statement laid the foundations and set out directives for a more consistent reserve planning and management system, it seems that more work still needs to be done in State jurisdictions to achieve the aims of the Statement. This is apparent from some of the evidence presented to the committee during the inquiry.

Concerns about the current system

9.40 A range of explanations were presented during the inquiry as to why the current management planning regime was not working as well as it could. These related to factors such a lack of a thorough knowledge of the values and objectives of management, a lack of resources and the lack of a 'knowledge-base' on which to make decisions.

9.41 Dr Marc Hockings cited a lack of clarity about values as affecting park planning:

Information on values is also needed by park management agencies for planning purposes. The inquiry has already heard that many national parks and protected areas around Australia lack management plans. Things are getting better; for example, in New South Wales a couple of years ago together with the park management agency we did a management assessment of every reserve in the state. The assessment revealed that 90 per cent of the protected areas of the state are covered by management plans, either in draft or completed. More significantly, the assessment showed the benefits of having management plans. Those parks that had management plans, either in draft or approved, were performing better in relation to a whole series of aspects of park management, such as those relating to the knowledge of the park or the park values and relating to the users of the park and the application of that information in decision making. They also performed better in terms of understanding and managing key impacts on the parks, and in terms of consultation with the community...If we have a better understanding than we have now of the values of the reserves then we can look at what are compatible uses in relation to that....The management plans that we have vary in terms of how well they do that.³⁶

9.42 Another issue raised by Dr Hockings was the tendency for park managers to write management plans around the availability of resources rather than what resources are actually needed to manage a park effectively.³⁷ This highlights the need

35 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, pp 51–53.

36 IUCN, *Committee Hansard*, 20 October 2006, pp 24 & 27.

37 IUCN, *Committee Hansard*, 20 October 2006, p. 25.

for State governments in particular to commit recurrent resources for ongoing management of the national parks every time they expand their conservation estate.

9.43 Concerns were also raised about delays in incorporating information about such things as key threatening processes into plans, and that the need to facilitate more research before effective plans could be put into place was paramount:

Governments (State and Commonwealth) have been creating lists of key threatening processes (which apply more broadly than just to conservation reserves), but have been woefully slow in developing practical responses in terms of preparing and implementing threat abatement plans.³⁸

Conservation research tends to be ad hoc and opportunist and long term systematic data collection and monitoring is difficult to find...In our view governments need to give much more attention to planning to accommodate future environmental change – even if we cannot necessarily predict specific changes that change will occur is inevitable.³⁹

There is a growing body of evidence to suggest that active management is essential to maintain the biodiversity values and forest health of this asset. In addition, given the significant value, there is evidence that national parks are not being well managed for the risks associated with such a large asset. If you have an asset worth over \$20 billion, it makes sense to have an active management plan to protect this asset from deterioration.⁴⁰

9.44 A lack of funding was cited as another major reason why managements plans had not been put into effect properly:

There is not enough funding towards the management planning side. A lot of time, money and effort has been put into draft plans and a lot of them have been sitting in the office for a long time. A lot of good work has been done but they have not been released for comment.⁴¹

The key threat that we mentioned is one of funding. Collectively as a community we may not allocate sufficient funds to the management of this asset. We know from any other asset resource that we may own collectively that it has to be maintained.⁴²

9.45 A lack of proper management plans can result in inappropriate uses being tolerated in parks. Dr Paul Williams pointed out some of the threats faced when there was a lack of adequate planning:

38 Coast and Wetlands Society, *Submission 7*, p. 3.

39 Coast and Wetlands Society, *Submission 7*, p. 4.

40 Mr Allan Hansard, National Association of Forest Industries, *Committee Hansard*, 20 October 2006, p. 16.

41 Mr David Green, *Committee Hansard*, 30 June 2006, p. 27.

42 Mr Daniel Gschwind, Chief Executive, Queensland Tourism Industry Council, *Committee Hansard*, 21 April 2006, p. 64.

If we do not have a management plan, there are practices that can start up and, especially with commercial operations, can then be hard to deal with. If there is no management plan that, for example, says, 'This cannot be done in the national park,' and someone starts building up a business, later on it is very hard for the department to say, 'No, this is not really in tune with the Wet Tropics values or with the national park's values.' It becomes very hard to stop that operation because people have created a business.⁴³

9.46 The importance of the formation of management plans was strongly supported by conservation groups and land managers. Management plans are important, not just for publicly managed reserves, but for private landholdings as well. Dr Michael Looker from The Nature Conservancy stated:

In terms of our program, the formation of management plans is a very important part of what we do..... It is important... that we have smart objectives in those management plans so that we do know what to measure over time.... our organisations generally around the world that I know of, and certainly within TNC, have perhaps not attended to that end of things as much as they should or could have.... We have tended to work very hard to get hold of those opportunities when they arise and to protect those areas but then perhaps have not had the follow-through to get the management and monitoring to the level that we should.⁴⁴

9.47 Mr Atticus Fleming, Chief Executive of the Australian Wildlife Conservancy stressed the importance of such plans, but pointed out that management plans were not useful unless they became operational and resulted in appropriate actions:

We work primarily on the basis of what I call operational plans, not management plans. That might reflect my own bias. I see a lot of management plans sitting on the shelf and not making a lot of difference on the ground. We focus on our operational plans. We set out what our strategies are and we list the actions we are going to do in the field to achieve our objectives. The objective might be to reduce weeds along five kilometres of a particular river; it might be to de-stock 60,000 hectares; it might be to lay 70,000 baits before the end of June. We have operational plans for each of our properties that specify those sorts of actions and we report against them quarterly. It is a good question, because you can put a lot of resources into a management plan or a management planning process that does not necessarily translate into good on-ground outcomes. It is much more important to get straight to what you are going to do on the ground and then do it. That is why most of our staff is in the field and why most of our money goes into the field.⁴⁵

43 *Committee Hansard*, 30 June 2006, p. 32.

44 *Committee Hansard*, 20 October 2006, p. 33.

45 *Committee Hansard*, 20 October 2006, p. 42.

Recommendation 7

9.48 The committee recommends that management plans clearly identify practical on-ground outcomes and that protected area agencies have in place comprehensive monitoring and evaluation programs to continually assess management effectiveness and the extent to which protected area values are being maintained.

Co-ordination between stakeholders and conservation across tenures

9.49 Witnesses to the inquiry emphasised the importance of co-operation and co-ordination between governments, private land conservation groups and other stakeholders in furthering a whole-of-landscape approach to planning. Mr Atticus Fleming of the Australian Wildlife Conservancy, provided examples of the benefits of a partnership approach involving the private sector and governments:

Even though the private sector conservation needs to be able to do more in Australia, a lot of what the private sector will do will be in partnership with governments, so that is where a lot of the real opportunities lie. Paruna sanctuary is a property in south-western Australia. We actually acquired six different properties to link those two national parks—Avon Valley National Park and Walyunga National Park. Without AWC acquiring that land, the national parks would have been isolated.

It is a great example of what you can do on a landscape scale approach with government and private sector working together. Having done that, we then worked with the WA conservation department to implement a regional baiting program, a regional fire management program and together we have re-introduced over five mammals that were extinct in this region. That would not have occurred if it was only government and it would not have occurred if it was only the private sector but together we have achieved quite a lot there.⁴⁶

9.50 The need to encourage cross-tenure networks of significant lands that could be planned and managed collaboratively was also emphasised. Mr Brian Gilligan cited several positive examples of where this is occurring:

...certainly there are some positive examples of things like the collection of reserves in the Gascoyne-Murchison in Western Australia, or the collaboration that has been possible with the Australian Alps. The Australian Alps is a pretty good example where the Commonwealth, without having a direct land management role, has sat very comfortably at the table with the state jurisdictions and collaborated in the management of the Australian Alps collection of parks and reserves. There have been various discussions—which I presume are still going on.

From time to time there have been discussions about what could and should happen, say, along the Murray River. You would need a collaborative arrangement between New South Wales and Victoria—and presumably also

46 *Committee Hansard*, 20 October 2006, pp 37–38.

South Australia—but maybe with some involvement of the Commonwealth to get a particular kind of protected area regime along that linear area. I think those things are possible but the challenge is there also. In south-eastern New South Wales, for example, some good work was done at the time of the Eden regional forests agreement. Some areas went into reserves and voluntary conservation agreements were entered into to establish and secure the linkages between some of the areas that would not have otherwise been able to be secured.⁴⁷

9.51 Mr Gilligan suggested that pilot arrangements could be undertaken on cross-tenure collaborations in relation to land management. Such pilots could be funded or co-ordinated by the Commonwealth.⁴⁸

9.52 The Directions Statement highlights the critical role of partnerships between all governments and non-government organisations in ensuring the success of the National Reserve System.⁴⁹

9.53 Evidence indicated the need for greater co-operation between stakeholders in furthering a whole-of-landscape approach. The Australian government has increased the range of stakeholders it deals with to include sectors that were previously ignored; these included private landholders.

9.54 Some private land conservation groups also raised issues related to the level of co-operation with state governments. Mr Atticus Fleming argued that the level of co-operation with these governments has been 'mixed'. He added however that 'overall, all of the state agencies are positive, but in each of the states you come up with resistance at various levels at various times'.⁵⁰

9.55 Witnesses pointed to the need to further cultural change within stakeholder groups and develop trust between the various players seeking to achieve a common aim:

...That sort of thing [the Gondwana Link] cannot happen without partnerships, and partnerships cannot happen without trust. So how do you get trust if you are representing government? You have to sit down and build trust. That is really the only way to do it. So initiatives designed to bring about those sorts of cultural changes within government and within the private sector are the sorts of initiatives which will reap enormous rewards. And it is not just in government agencies or this level of

47 *Committee Hansard*, 16 June 2006, p. 5.

48 *Committee Hansard*, 16 June 2006, pp 5–6.

49 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, Department of the Environment and Heritage, 2005, p. 7.

50 Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 42.

government where the resistance lies. I certainly notice it within government, but I notice it equally within the private sector.⁵¹

9.56 Mr Peter Cochrane, Director of National Parks, however, pointed to examples of effective cooperation between the Commonwealth and the states and with other stakeholders arguing that current arrangements generally work well:

[the committee] heard evidence before from the Bush Heritage Fund as to some of those things that have been put in place and others that would be desirable. So there is good interagency cooperation on that. There is very good cooperation between our staff who work on the Indigenous Protected Areas Program and other parts of the portfolio—the Office of Indigenous Policy Coordination, the Indigenous Land Corporation and state agencies.

...most of these activities do not sit entirely within any one portfolio and therefore collaboration and cooperation are essential for us to achieve our objectives. I do not think I could point to a relationship that is not functioning well. Perhaps some of them could function better or more effectively, but that is probably true in many other areas of government. In general, I would have to say that our cooperative arrangements work very well at both the Commonwealth level and the Commonwealth-state level.⁵²

Coordination of conservation across jurisdictions

9.57 A number of submissions noted inconsistencies and conflict between Commonwealth and state jurisdictions, and called for the Commonwealth to lead the co-ordination of marine legislation and program direction:

Much of the process to date has been the states or the Commonwealth doing their own thing with very little commitment to engaging the other side of government in the process...There is a lot of resistance at the moment through the south-east process about the fact that the states believe they were largely left out of it and it was run by the Commonwealth...

The worst thing that industry can see is one government implementing a set of criteria and arrangements in an area only to see a different set of rules supposedly addressing the same principles applied in another jurisdiction. From our perspective, an enhancement and improvement in the system would be a greater level of engagement between state and Commonwealth agencies and in the planning process generally.⁵³

9.58 One way of ensuring a consistent legal and policy framework to deal with marine environments would be to develop a Commonwealth Act in collaboration with the states. Mr Anthony Flaherty referred to a discussion paper on the need for national

51 Dr John Bailey, Conservation Commission of WA, *Committee Hansard*, 1 September 2006, p. 83.

52 *Committee Hansard*, 16 June 2006, pp 68–69.

53 Mr Neil MacDonald, SA Fishing Industry Council, *Committee Hansard*, 6 June 2006, p. 22.

legislation, prepared by the Australian Conservation Foundation and the National Environmental Law Association:

Until you start to get consistent legislative and jurisdictional approaches to land and sea management you will always get inconsistencies between states, which means you will get inconsistencies in the way things are managed and conserved between states. That is important in the marine environment when you have a range of wildlife that is highly migratory but when you have impacts in marine environments that are across jurisdictions—things like marine pests and marine pollution.⁵⁴

9.59 The CSIRO's submission noted that insufficient coordination of government efforts at federal, state and local levels, and between government and non-government agencies, poses a threat to the achievement of the objectives of protected areas.⁵⁵

9.60 This observation was supported by a number of people who had prepared submissions based on their personal experiences dealing with various agencies about parks or related matters. Ms Lynda Newnam wrote:

In my experience there is a lack of coordination between government agencies and at each level of government. There appears to be no commitment to bringing players to the table to solve problems in a whole of government approach and certainly no commitment to provide leadership in the solution of any such problems.⁵⁶

9.61 Dr Richard Kenchington noted that even within governments, there is a lack of co-ordination between agencies who are key stakeholders in marine policy development:

...there are a number of sectoral areas that are not involved in the development of oceans policy. One, of course, is the area of defence and national security, which is integral to it. In fact, I think there are nine departments of state which have major maritime interests, whether it is transport or fisheries or science—they all come under different areas. I think there is this lack of a clearing house.⁵⁷

9.62 Ms Claire deLacey and Mr Steven Chamberlain also referred to 'lack of co-operation and co-ordination between various government agencies...particularly where large-scale or potentially damaging processes such as bushfire are being considered'. They also noted that 'policy emphasis often differs between different levels of government, often to the detriment of biodiversity values.'⁵⁸

54 Marine and Coastal Community Network, South Australia, *Committee Hansard*, 6 June 2006, p. 8.

55 *Submission 41*, p.9.

56 *Submission 50*, p. 2.

57 Australian Association for Maritime Affairs *Committee Hansard*, 16 June 2006, p. 36.

58 *Submission 21*, p. 1.

9.63 Inconsistent policies and practices have ramifications in many areas of marine park development and management. Dr Gina Newton provided the example of inconsistent data collection protocols, that impede the collation and comparison of historical information:

One of the fundamental issues regarding governments relates to data collection. Because there are so many jurisdictions involved, often data that informs science is collected in different manners at different spatial scales or time scales and therefore it is difficult sometimes to get national pictures or even large cross-state pictures of what is going on because the data is not compatible. So from that point of view and from a scientific understanding point of view, that is an important issue. If there could be standard and consistent methodologies and data collection protocols, that would be very helpful.⁵⁹

Marine planning – a case of the need for national planning

9.64 The need for the Commonwealth and the states to have a complementary and collaborative approach to the planning and design for MPAs was highlighted in regard to the fish stock and marine protection.⁶⁰ Mr Craig Bohm from the Australian Marine Conservation Society told the committee:

There needs to be a network because of the fluidity of the systems. The network is important. For example, a snapper coming out of a river in south-eastern New South Wales moves up the coast towards Wollongong or Sydney and grows larger. At some stage it might migrate back or it might stay up there to produce a lot of babies, if it is allowed to grow big enough. You can have a marine park in the nursery area where that snapper comes from, but if you do not have one where the fish ends up, the big fish might be able to be caught but you lose the productivity because the big fish that produce all the babies are killed before they get a chance to spawn.⁶¹

9.65 Similarly, Professor Frank Talbot from the Australian Marine Sciences Association told the committee:

One of the issues here is what your fish actually do, what your organisms do—the distribution pattern of your organisms. If you were trying to protect an area fairly thoroughly where there are species that are migratory and they migrate well beyond that area and get into a fishery, you will do just as much damage as if it were not there. So you really have to look at what you are trying to protect.⁶²

59 Australian Marine Sciences Association, *Committee Hansard*, 16 June 2006, p. 47.

60 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard* 6 June 2006, p. 33.

61 *Committee Hansard*, 6 June 2006, p. 25.

62 *Committee Hansard*, 16 June 2006, p. 47.

9.66 The committee was told the despite the offshore constitutional arrangements between Commonwealth and state managed fisheries there remains some difficulty in linking up the management regime of governments and fishermen:

So I think there are still some areas, but probably at the margin, where the offshore constitutional settlement has not really resolved some of those issues.⁶³

9.67 Similarly the committee heard:

In some cases there is good cooperation between states where fishermen are working both inside and outside the three-mile limit. It is a problem in that, in some cases, people given a licence to fish by the Commonwealth actually cross the border—the three-mile limit—and fish inside a state where they do not have a licence and would not get one. So there is no question that the issue is an important one and that some conformity would be enormously useful. How you achieve that I do not know. It does need cooperation between the states and the Commonwealth. Any move in that direction I think would help marine protected areas enormously.⁶⁴

9.68 The need for greater Commonwealth and state, and state to state, legislative consistency was raised across a wide range of marine management issues. For example:

When you look at specific wildlife management issues there is a need to manage wildlife populations consistently under similar legislation. So for seal populations across southern Australia we should have state legislation that is similar to that for whales. We have come some way with whales. It also extends to fisheries regulations and aquaculture regulations—the whole gamut.⁶⁵

Some would argue that there is a need for a national oceans policy. We had an oceans policy which was developed and launched by the Commonwealth government, but it was a Commonwealth policy. It was very hard to get commitment across the states, as is the case with any of these things unless there is some funding tied to it...

Until you start to get consistent legislative and jurisdictional approaches to land and sea management you will always get inconsistencies between states, which means you will get inconsistencies in the way things are managed and conserved between states. That is important in the marine environment when you have a range of wildlife that is highly migratory but

63 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard* 16 June 2006, p. 24.

64 Professor Frank Talbot, Australian Marine Sciences Association, *Committee Hansard* 16 June 2006, p. 47.

65 Mr Anthony Flaherty, Marine and Coastal Community Network, *Committee Hansard*, 6 June 2006, p. 8.

when you have impacts in marine environments that are across jurisdictions—things like marine pests and marine pollution.⁶⁶

Marine parks or marine reserve no-take zones are certainly one tool in the toolbox for managing the marine environment. What has been done in Victoria is admirable, but if there is ineffective fisheries management adjacent to those marine parks or if you then have large oil and gas leases or areas of prospectivity sitting over other areas of high biodiversity, it negates the benefits that you would have from establishing those marine reserves.⁶⁷

9.69 A lack of complementary management practices between fishery management and environmental protection agencies has meant that at times there is a poor overlay of areas which have been closed to the fishing industry:

For example, in fisheries management, quite often spatial closures are introduced for specific reasons—maybe to protect spawning areas or pupping areas for sharks. There is a whole range of reasons why you might have a spatial closure. It is important that, as the marine protected areas roll out, there is some engagement between the conservation agency and the fisheries agency to try and develop the synergies and make sure that those area closures complement each other rather than being developed in isolation so you have an area closed off for fisheries management reasons and another area that is close by is that closed off for conservation reasons.⁶⁸

9.70 A lack of high quality data recognised and trusted by all stakeholders may also be discouraging progress, as disagreements continue around important matters such as the status of fish stocks:

State fisheries reports are not independent. The Department of the Environment and Heritage strategic fisheries assessments are not independent—they are not an audit and they are not able to be applied at a generic level across the country for us to get that picture which you asked for. I wish we had that, and I think it is something which the Commonwealth could take stronger leadership on. I have certainly been lobbying for a group like the Bureau of Rural Sciences to have massively increased funding to provide that marine audit function at least on our fish stocks, let alone the broader marine ecosystem and the impacts we may be having on it.⁶⁹

66 Mr Anthony Flaherty, Marine and Coastal Community Network, *Committee Hansard*, 6 June 2006, p. 8.

67 Mr Richard Leck, National Marine and Coastal Policy Officer, WWF Australia, *Committee Hansard*, 21 April 2006, p. 45.

68 Mr Peter Franklin, Commonwealth Fisheries Association, *Committee Hansard*, 16 June 2006, p. 15.

69 Mr Craig Bohm, Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 28.

9.71 Evidence to the inquiry indicated the need for the Commonwealth and the states to adopt a complementary and collaborative approach to marine planning issues, including the design of MPAs and the relationship between governments and stakeholders. Evidence also highlighted the need for greater consistency between Commonwealth and state and territory legislation across a range of marine management issues.

Public consultation

9.72 Discussion of the management planning system cannot take place without taking into consideration the role of public and community consultation in the process. The contributions and views of the wider community certainly play a role in the establishment of management plans for parks and reserves, and also in the creation of new reserves. During the inquiry the committee heard about concerns with the poor coordination and communication extended to dealings with stakeholders. Mr Dudley Maslen, the Shire President of Carnavon (WA) noted that 'the biggest threat that I see here...is communication or consultation with the local communities.'⁷⁰

9.73 Mr Maslen's concerns were shared by a diverse range of organisations. The Prospectors and Miners Association of Victoria described their experience of consultation prior to the creation of new national parks in Victoria:

We spent an enormous amount of our resources to ensure our involvement was as detailed and complete as possible. This was largely a waste of time and money and we believe that we were only given minimal consideration.

It became clear early in the process that there was a pre-determined outcome. There would be a series of parks, nothing was going to stop this.

While the ECC claimed to consult with those affected, it was obvious that their idea of 'consultation' was to bring us in for meetings and send us away with a condescending pat on the head while ignoring anything we had said. It was patronisation, not consultation.⁷¹

9.74 The Tasmanian Association for Recreational Fishing (TARFish) attached to its submission a recent letter to Senator the Hon Ian Campbell, Minister for Environment and Heritage, reporting its exclusion from consultative processes prior to the creation of Marine Protected Areas in Tasmania:

The establishment of these MPAs has fallen far short of 'due process' and genuine consultation. Your press release on 5 May 2006 stated that the MPA network was 'the culmination of extensive discussions with stakeholders...' As a major stakeholder, TARFish is astonished by the fact that it has NOT been invited to participate in this process, despite our ongoing requests for such involvement. We understand that, alarmingly, our

70 *Committee Hansard*, 31 August 2006, p. 2.

71 *Submission 153*, p. 5.

national body, Recfish Australia, was also excluded from the consultative process.⁷²

9.75 The Snowy Mountains Horse Riders' Association described their sense that there had been no consultation with local stakeholders about significant changes to horse access within Kosciusko National Park:

Our Association and the local community is still at a loss to understand how such major changes could be made that would affect the community at large, unopposed and without public consultation.

The local community was not notified nor consulted –our heritage has been hijacked!!⁷³

9.76 The Head of the NSW National Parks and Wildlife Service (NSW NPWS), Dr Tony Fleming, understood the consultation process in relation to Kosciusko differently, and told the committee:

We are continually trying new ways of consulting with the community. The development of the Kosciuszko plan of management involved extensive community consultation and tried novel approaches to achieve effective engagement with the community in what finally appeared in that plan.⁷⁴

9.77 The Australian Trail Horse Riders' Association, a participant in the Kosciusko consultations, described their usual experience with consultation in NSW:

The usual sequence of events is that a draft plan of management is drawn up by park staff. It is then placed out for public consultation for a period of three months. People make submissions. There are some modifications—usually basically no modifications—to the plan of management that then goes to the local advisory committee, of which there are, I think, 19 in New South Wales, that has some input. It then goes back to the service and maybe some minor changes are made. It then goes to the peak body, the advisory council, and from there to the minister for ratification.

Our experience is that, once a plan has actually been scripted or drafted, there is generally no modification or very little modification.⁷⁵

9.78 The Local Government Association of Queensland (LGAQ) conducted a public Inquiry into Queensland National Parks in 2000. Their report found that relations between QPWS staff and their local communities varied significantly across the state:

While some Councils indicated a positive working relationship, others suggested that there was very limited consultation at a local level and little

72 *Submission 104A*, p. 1.

73 *Submission 205*, p. 4.

74 *Committee Hansard*, 12 May 2006, pp 4–5.

75 Mr Graham Crossley, Australian Trail Horse Riders' Association, *Committee Hansard*, 12 May 2006, p. 58.

attempt to involve the local community. The Inquiry could not fully establish the basis of this variation, however, some explanation may lie in the poor resourcing issues and service culture.⁷⁶

9.79 The LGAQ report went on to recommend that:

An objective of QPWS should be to establish local community participation and involvement in Park Management. This will require development of consultative and advisory mechanisms, effective communication strategies as well as greater engagement of the local community by QPWS staff.⁷⁷

9.80 The WA Department of Environment and Conservation acknowledged the need for community engagement, but noted that their efforts produced variable results:

As part of our general processes, we engage with all the other jurisdictions and we have shared information and tried to develop approaches towards public participation, involvement and consultation. They can be quite variable, depending on what resources you have in the district, region or country town, and that is part of the variability there.⁷⁸

9.81 The Department also noted that some complaints about consultation processes arose when people did not get the results they sought:

There will always be some people who do not agree with the outcome and who also claim that there was not adequate consultation because they did not get the outcome that they specifically wanted. We try and get the majority of people to come to the point where there is an agreement with either a management plan or an approach.⁷⁹

9.82 Similar issues were raised in the marine park planning context, discussed in Chapter 4. The South Australian Fishing Council had argued:

When draft plans are put on the table, we would like to consider that the planning process is rigorous enough that it actually seeks the correct information and then balances it up before it releases even a draft plan, let alone seeks to finalise an arrangement.⁸⁰

9.83 The inquiry received a lot of input about community consultation, from many sources. Dissatisfaction with outcomes, and a failure to understand consultative processes, may account for some of the complaints and observations received. They can also be understood as signals that current consultation processes are not appropriate for particular situations, have been poorly explained to stakeholders, or have been finalised prematurely.

76 *Submission 163*, Attachment 1, p. iii.

77 *Submission 163*, Attachment 1, p. iv.

78 Mr James Sharp, *Committee Hansard* 10 September 2006, p. 42.

79 Mr James Sharp, *Committee Hansard*, 10 September 2006, p. 42.

80 Mr Neil MacDonald, *Committee Hansard*, 6 June 2006, p. 15.

9.84 NSW NPWS recognised that consultation processes need to be appropriate for particular times and community needs:

A technique of consultation may work at one time in history and then not work, so you have got to keep refining and improving those things. The fact that we are developing branch visitation management plans—which is just one part of the planning that we do—indicates that we recognise that there is a change in the landscape over the years.

There has been an increase, particularly in the eastern part of the state, in the amount of reserves, which has changed the balance of reserve to non-reserve land. We need to look carefully at what that means for recreational opportunities for people. That is one of the drivers behind the development of the Living Parks strategy and the need for these plans. It was not driven so much by the fact that we perceived our consultation was inadequate—I think there are always ways that we can look to improve our consultation. It was more about the changing nature of the landscape and building the reserve system.⁸¹

9.85 The Australian Trail Horse Riders' Association, having identified problems with the usual consultation processes they had encountered in NSW, went on to describe an alternative model, based on engaging stakeholders prior to the preparation of a written plan, which had proved more satisfactory:

We actually think that the process is the wrong way around. Public consultation should take place before the actual drafting of the plan of management. That way, people have a chance to have an input. The flavour for that particular area, specific issues and expert opinion from people who are actually out on the ground and know those areas can then be brought into the plan of management process. I have been involved in one single park where that has actually happened. The end result was a much better and more balanced plan of management without the usual level of antagonism and position-taking that has been our experience in the past.⁸²

9.86 This approach was endorsed by Mr John Harrison, CEO of RecFish Australia:

If you do not engage stakeholders—whether they are recreational, commercial or whoever—and you simply come up and plonk something on the table, there is the answer. That is when you are going to get people's backs up. Bring people into the debate and into the discussion when it starts and say: 'This is what we are trying to achieve. This is the big picture and the long-term objective. How can you help us in that process? Where is it going to impact on you? What are the areas that are critical to the long-term requirements for your particular sector—again, whether it be rec or commercial?' I think the best way to get an enemy is to force-feed someone—you know, the carrot and the stick. But, if you encourage people

81 Dr Tony Fleming, *Committee Hansard* 12 May 2006, pp 4–5.

82 Mr Graham Crossley, *Committee Hansard*, 12 May 2006, pp 58–59.

to contribute and participate, to be involved and to be part of the solution, you will get a good outcome.⁸³

9.87 There was widespread concern about the extent to which stakeholders are being consulted, particularly in the preparation of park management plans. As a number of stakeholders pointed out, consultations do not necessarily mean that every party gets what they want. Effective consultation processes can still lead to disappointment for some people.

9.88 The committee believes that earlier engagement with various user groups and neighbours could improve planning procedures. There emerged from the evidence a sense that there was little flexibility in reserve planning by the time interested parties got to have a say in the process. This appeared to emerge partly because conservation agencies' seemed sometimes too strongly committed to their initial drafts of management plans. The committee is of the view that stakeholders should be engaged from the very beginning of management plan development, not just once a draft plan is available for comment. It also believes that a landscape-based approach to planning should be cognisant of adjacent land uses, particularly when it comes to opportunities for recreational use, a topic discussed further in the next chapter.

Recommendation 8

9.89 The committee recommends that best practice preparation and revision of reserve management plans should ensure that stakeholders, are consulted at the commencement of planning processes, rather than beginning with seeking comment on draft plans.

Indigenous Protected Areas

9.90 Indigenous Australians are custodians of significant areas of Australia's land, important managers of the landscape, and crucial to the future of the reserve system. The Indigenous Protected Areas (IPA) Programme is part of the National Reserve System Programme (NRSP) which aims to establish a network of protected areas which includes a representative sample of all types of ecosystems across the country.

9.91 The IPA Programme seeks to provide a planning and land management framework for Indigenous owned lands to be managed as part of the NRSP. It is funded as part of the Natural Heritage Trust. Incorporated Aboriginal and Torres Strait Islander (ATSI) organisations including land management agencies, community councils, land councils, ATSI land trusts or representative bodies as well as land management, nature conservation and cultural heritage agencies that wish to enter into cooperative management arrangements with ATSI organisations may apply for IPA

83 *Committee Hansard*, 21 April 2006, p. 49.

funding.⁸⁴ In 2005-06, the Commonwealth provided funding of \$2.5 million for the IPA Programme. This will increase to \$3.1 million in 2006-07.⁸⁵

9.92 With support from the IPA Programme, Indigenous landowners commit themselves to managing their lands for the protection of natural and cultural features in accordance with internationally recognised standards and guidelines.

9.93 The 22 declared IPAs cover a total of 14.9 million hectares representing 66 per cent of the total area of land added to the reserve system by the NRSP over the last decade. The land includes some of the most biodiverse and highly valued of all NRS properties. The IPA Programme funds management and practical work to protect natural and cultural features and to contribute to conserving biological diversity.⁸⁶

9.94 Evidence to the committee generally commented favourably on the operation of the Programme. The ACF noted that:

Indigenous Protected Areas are one Australian example of the IUCN governance type 'community conserved areas' and can provide another vehicle for empowering communities through pride in their land; enabling them to care for country and pass on important traditional ecological knowledge to successive generations. Moreover, Australia is only just beginning to appreciate the great value of Indigenous customary knowledge to conservation and natural resource management, i.e. what Indigenous Australians can teach non-Indigenous Australians about looking after the land and seas.⁸⁷

9.95 Similarly, The Wilderness Society (TWS) noted that it is critical that Commonwealth and state governments recognise the important biodiversity, scenic and cultural heritage benefits which accrue to the Australian community through the voluntary declaration by traditional owners of IPAs. TWS argued that governments should provide ongoing support to enable traditional owners to build and maintain management capacity based on Australian and international best practice standards.⁸⁸

9.96 The recent Gilligan report into the IPA Programme, which reviewed its overall effectiveness and its success in meeting the needs and aspirations of Indigenous participants, found that the Programme was highly cost-effective and

84 Department of the Environment and Water Resources, web site, *Indigenous Protected Areas Funding*, <http://www.environment.gov.au/indigenous/ipa/funding.html>, accessed 27 March 2007.

85 Department of the Environment and Heritage, *Annual Report 2005-06*, p. 73; B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, pp 3,17.

86 B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, p. 3; Department of the Environment and Heritage, *Annual Report 2005-06*, p. 73.

87 *Submission 178*, p. 9. See also the Wilderness Society, *Submission 131*, p. 8; Professor Robyn Bushell, *Submission 121*, p. 4.

88 *Submission 131*, p. 8. See also Professor Jon Altman, *Submission 167*, pp 2-5.

provided significant economic, social and cultural benefits to Indigenous communities.⁸⁹

9.97 Each of the IPAs have unique land management issues to address, such as introduced and invasive species such as *mimosa pigra*, Yellow Crazy Ants and cane toads. At the same time the landowners' activities help to maintain spiritual, cultural and natural values of the land by the promotion of customary practices such as fire management.

9.98 As noted above, the benefits of these projects are much broader than biodiversity and heritage management. Indigenous communities are linking their IPA activities to training and employment outcomes and working with the private sector to develop economic opportunities in remote areas. Mr Gilligan emphasised to the committee that IPAs 'offer enormous potential to achieve socioeconomic and community development goals' and are 'recognised as being very positive and worthwhile.'⁹⁰ The review that Mr Gilligan undertook into the IPA Programme confirmed these statements.⁹¹

9.99 Others commented on the importance of IPAs in meeting NRS targets:

If you look at Australia's land tenure and also start looking at where the priority bioregions are for consolidating NRS, the Indigenous Protected Areas program is absolutely critical to achieving the NRS target. Developing a way to partner with Indigenous organisations is absolutely crucial. I think the real challenge is that, obviously, it has to be in the interests of the Indigenous communities; it is their land.⁹²

9.100 CALM argued that, while supporting IPAs, they should be seen as complementary to, rather than substituting for, the formal public system of conservation reserves.⁹³ In other evidence, Mr Allan Holmes, Chief Executive of the SA Department for Environment and Heritage noted that in the Anangu Pitantjatjara Yankunytjatjara (APY) lands there are two IPAs – 'not all that successful in many respects; work is in progress – but out of that has come this very positive story with the Watarru community'.⁹⁴

9.101 The *Kuku Kanyini at Watarru – Caring for Country* project is an innovative project for the protection of biodiversity and the conservation of a significant Indigenous environment in a remote area of South Australia. It combines scientific information gathered during a biological survey of the area with traditional Indigenous

89 B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, pp 2–3.

90 *Committee Hansard*, 16 June 2006.

91 B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, pp 2–4.

92 Mr Andreas Glanznig, WWF-Australia, *Committee Hansard*, 31 March 2006, p. 22.

93 *Submission 135*, pp 8–9.

94 *Committee Hansard*, 6 June 2006, p. 45.

knowledge and skills to enhance biodiversity, utilise traditional land management practices, provide employment, and improve health outcomes. There is widespread community support and involvement in the project and it has increased self-esteem, especially among young men. Positive results of the project include the monitoring of threatened species, the construction of fences to protect culturally significant areas; and the establishment of a sanctuary as a breeding ground for certain species.⁹⁵

Funding for the IPA Programme

9.102 As noted above, in 2005-06, the Commonwealth, under the Natural Heritage Trust, provided funding of \$2.5 million for the IPA Programme. This is scheduled to increase by \$600 000 in 2006-07 to \$3.1 million.⁹⁶

The program this current financial year is \$2.5 million. It has been at that level for a year or so but did increase a couple of years ago from \$2 million. So the program has grown, in those terms, significantly over the last few years.⁹⁷

9.103 Submissions commented that funding under the Programme was inadequate and that the Commonwealth needed to devote more resources to the Programme. Professor Jon Altman, Director of the Centre for Aboriginal Economic Policy Research, reflecting much of the evidence, stated that:

The current levels of funding within this program are grossly inadequate to meet the day-to-day management of the growing number of IPAs. IPAs are highly dependent on the CDEP program. There needs to be a firm commitment for on-going recurrent funding (that is not project based) for IPAs from the Australian, State and Territory governments.⁹⁸

9.104 Mr Andreas Glanznig of WWF-Australia also raised the issue of the need to provide appropriate resources 'to enable effective management or looking at how you could put an effective management regime in place to protect the biodiversity values that are within that IPA'.⁹⁹ Mr Peter Cochrane, Director of National Parks, conceded that the Programme could achieve more with additional resources.¹⁰⁰

9.105 The Gilligan report noted that at current funding levels, only very basic management of the lands is possible. The intention of the Programme has been to

95 SA Government, *Submission 194A*, pp 1–3.

96 Department of the Environment and Heritage, *Annual Report 2005-06*, p. 73; B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, pp 3, 17.

97 Mr Peter Cochrane, Department of the Environment and Heritage, *Committee Hansard*, 31 March 2006, p. 101.

98 *Submission 167*, pp 4–5. See also Professor Jon Altman, *Committee Hansard*, 16 June 2006, pp 81, 84.

99 *Committee Hansard*, 31 March 2006, p. 22.

100 *Committee Hansard*, 20 October 2006, p. 60.

provide a planning framework and seed funding for ongoing land management rather than fully funding management at a level equivalent to state and territory public reserves.¹⁰¹

9.106 The report recommended that funding to at least a minimum base level of ongoing management of IPAs should be sought. This funding should be sought within a framework of tripartite agreements between Indigenous landowners, the Commonwealth and state and territory governments, if their full value to the NRS is to be realised. The report argued that, depending on the timing of new IPA declarations, maintenance of the current Programme at a basic level of operation would require a doubling of the current budget to around \$6 million in 2008-09 and further increases to around \$10 million by 2010-11.¹⁰²

9.107 The report argued that it is difficult to estimate the level of funding required for a fully fledged system of Indigenous managed protected areas, but if progress can be made in tripartite negotiations for an appropriate funding of different levels of Indigenous land management activity, \$20-30 million 'might be able to be well invested' by 2010-11, increasing to \$50 million in subsequent years. The report noted that increases of this magnitude in the scale of the IPA budget should be conditional on the achievement of well defined conservation outcomes by the IPA Programme. The report also recommended that management funds should be provided on the basis of three to five years forward estimates and that the recurrent funding formula should be reviewed to reflect different levels of Indigenous land management activity negotiated in tripartite agreements.¹⁰³

9.108 Several submissions highlighted the heavy dependence of IPAs on the Community Development Employment Projects (CDEP) program (an Indigenous 'work-for-the-dole' program). Professor Jon Altman argued that Indigenous peoples' efforts to use CDEP to maintain biodiversity over large tracts of land in the absence of government agency support is an 'unacceptable form of cost shifting'.¹⁰⁴

9.109 The committee questioned DEW on the extent of CDEP moneys being used in the IPA Programme. Mr Peter Cochrane, Director of National Parks, stated that the majority of IPAs draw on CDEP funding in a type of 'partnership' arrangement:

...most of the IPAs around Australia...are built around either pre-existing or developing community ranger programs in the communities. Most, if not all, of those community ranger programs draw on CDEP funding for a core part of their resources. Therefore, you could see the IPAs as in a bit of a partnership with the CDEP program in that the community ranger

101 B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, p.26.

102 B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, p. 58.

103 B. Gilligan, *The Indigenous Protected Areas Programme: 2006 Evaluation*, 2006, pp 5-6, 58-59.

104 *Submission 167*, p. 3.

component is funded by CDEP and the funding that we provide helps with coordination of the program, management of the program and on the ground activities.¹⁰⁵

9.110 On a related funding issue, some submissions argued that few mechanisms exist to ensure ongoing public and private sector funding and management support for IPAs. The Wilderness Society argued that private sector interests, including industry, should be encouraged to support and fund management operations for IPAs.¹⁰⁶

9.111 DEW commented on the trend towards diversifying funding sources:

Quite an interesting part of the program is the innovation with which the communities seek resources from a variety of places. We think there is a great opportunity to continue to build a stronger relationship with state agencies and get more support from them. I think there is also a small but growing interest for the philanthropic sector in supporting Indigenous Protected Areas. They see Indigenous Protected Areas as a very useful framework in working more closely with Indigenous people in a constructive way that has a good track record, is a good framework within which to work and has good government support. So, yes, more resources would help and, along with our partners in the Indigenous communities, we are constantly looking at ways to find those resources.¹⁰⁷

9.112 Dr Michael Looker, Director, Australia Program, The Nature Conservancy noted that their partner organisations are beginning to provide funding to IPAs:

As an organisation we have only been here for a couple of years, so we are in the initial stages of thinking about that. Our partner organisations are working those managers, though, and essentially we have been working through them. In recent times, the Australian Bush Heritage Fund, for instance, has got more involved in Indigenous protected areas and management, and we have recently provided some funding for some of that work up on the Cape in particular.¹⁰⁸

Recommendation 9

9.113 The committee endorses the Gilligan report findings and recommends that the Commonwealth substantially increase funding to the Indigenous Protected Areas Programme, and that funding for this Programme also be provided by state and territory governments.

105 *Committee Hansard*, 31 March 2006, p. 101. See also *Committee Hansard*, 16 June 2006, pp 75–76.

106 *Submission 131*, p. 8.

107 Mr Peter Cochrane, *Committee Hansard*, 20 October 2006, p. 60.

108 *Committee Hansard*, 20 October 2006, p. 35.

Conclusion

9.114 A world-class conservation estate can only emerge through effective planning. The committee heard evidence of planning processes that have emerged at the national level, particularly through commitments to create a Comprehensive, Adequate and Representative (CAR) reserve system. These are supporting one of the most important parts of conservation planning: setting priorities and meeting targets for the conservation of under-represented ecosystems.

9.115 The committee also saw first hand some of the country's most spectacular parks, including a visit to the network of land tenures and reserves that make up the Wet Tropics World Heritage Area in northern Queensland. Here the committee saw the importance of relationships between neighbours, and the crucial importance of conservation achieved not in isolation, but as an endeavour pursued within the social and ecological context of the surrounding landscape. Both at Uluru, and again in the Wet Tropics, committee members saw evidence of the benefits of engagement with Indigenous land holders in particular, but also barriers working against adequate recognition of their skills, knowledge and rights. Closer involvement of Indigenous stakeholders in management of Parks and other protected areas, and closer cooperation in planning processes between park managers and all stakeholders, together with more cross-jurisdictional cooperation, should deliver the planning necessary to create not only a CAR reserve system, but to sustain it in the face of the many threats and pressures that have already been outlined.

Chapter 10

Responding to the management challenge

10.1 Recurrent themes have emerged throughout the inquiry of the many different threats and management challenges that are faced by the conservation estate. The most obvious theme is that conservation objectives have to be understood and pursued in a whole-of-landscape context. The second theme is that effective management means effective planning for all the uses of land that occur in and around areas of the conservation estate. Thirdly, there is debate around the adequacy of funding and resources in the park system, particularly in regard to the management of the existing conservation estate.

10.2 Taking into account these themes, this chapter will look at the challenges that arise when trying to managing parks for a range of uses, including the impact of recreational use, visitor numbers, and tourist developments within the parks system. It will also examine the effect of staffing levels and other resources on the management of the conservation estate, and how public education and maintaining public support for the parks system represents a challenge for parks managers. Management planning incorporating a whole of landscape approach was discussed in chapter 9.

Managing for a range of uses

10.3 The committee was made aware of issues surrounding the threats and impacts arising directly from human activity within national parks and the management challenge this presented. The most commonly identified problems were managing the range of recreational activities, the management of visitor numbers, and the development of tourist infrastructure within park boundaries.

Recreational use

10.4 In terms of responding to management challenges, it is important to have an understanding of both the opportunities that are, or could be, available to the significant array of recreational users of the national parks system, and the impacts that these users have on protected areas.

10.5 To this end the committee raised questions about the use of national parks by recreational users, for example horse riders, four wheel drivers, mountain bikers and caravanners, and to what extent such use was generally permitted in national parks. As Mr Alan Feely of the Queensland Government outlined:

Our tracks are open, public tracks rather than management tracks. They are generally open to four-wheel drives. We do not have horse riding in national parks, but the minister has been discussing that and we do have other options for that. There is a range of other tenures and other tracks. We are looking at that at the moment. There is mountain biking in Cairns and at various parks and state forests. We are very keen to ensure that people

understand that parks are part of the lifestyle of Queensland and that they are there to be used providing we can protect the underlying biodiversity values—and we would advocate that for most things.¹

10.6 Some recreational users were dissatisfied that they were not allowed access to national parks. The Snowy Mountains Horse Riders Association (SMHRA) expressed their concerns:

Horse riding and many other recreational uses are prohibited from National Parks based on the Precautionary Principal. The adoption of the Precautionary Principal is rarely if ever substantiated (as required). We contend that horse riding areas should be increased and widened to disperse and reduce any perceived impacts instead of crowding into smaller and smaller areas. As a result of this concentration of activity, the impacts naturally will be intensified and again used as a means of convenient adverse impact for the anti horse riding lobby.²

10.7 The SMHRA went on to argue the significant community benefits of allowing horse riding in national parks, especially in relation to search and rescue operations. It was claimed that restricted access to national parks by horse riders meant that the opportunities for gaining valuable experience and training in rugged terrain was being lost:

In defence of retaining this historical knowledge we note that whilst much of a foot searcher's energies are used in watching where they are stepping and focusing on not getting lost or injured themselves, a horse rider has the benefit of being able to actually scan the landscape around him and leave the groundwork and terrain to his horse. Consequently the rider has a greater capacity to seek out people in dense bush and can endure much longer search hours without rest. With continued restrictions on horse riding, these vitally important skills will be lost forever, we are the last generation with this experience and expertise to pass on.³

10.8 Four wheel drive enthusiasts were among the types of recreational users who displayed a sense of frustration at the lack of access to pursue their interests:

Over the last couple of decades there has been a significant shift in the management and subsequent access to national parks, conservation areas and public lands. During this period there has been a significant rise in the conservation movement which has resulted in reduced access for groups such as ours for recreation access. During this period we have experienced lockouts and restrictions to access public lands, resulting in less places to go, specifically areas close to the major regional areas.⁴

1 *Committee Hansard*, 21 April 2006, p. 22.

2 *Submission 205*, pp 8–9.

3 *Submission 205*, pp 10–11.

4 Bayside Offroaders Club Inc., *Submission 48*, p. 3.

10.9 Mountain bikers were another group who also expressed frustrations. Along with concerns about restricted access to some areas, the issue was mainly one of concern with the poor standard of available mountain biking trails, and planning for these could be improved. The Adelaide Mountain Bike Club stated:

Historically, many trails in our natural areas have evolved in an ad-hoc manner which did not consider long term sustainability. Once, either the number of trail users increased or additional types of trail users, such as cyclists, were incorporated then these trails demonstrate signs of deterioration. World's best practice for trail design and maintenance can ensure narrow trails over natural surfaces within our parks are sustainable. Some existing trails might be able to be modified to meet world's best practice, and some trails may need to be closed down and rehabilitated now to prevent further damage. Trails to meet world's best practice are more expensive and take more time to design and construct compared to the traditional ad-hoc type of narrow trails.⁵

10.10 Government agencies acknowledged the concerns of recreational users who feel that their access to conservation reserves is too constrained, but pointed out that there was already significant access available for many recreational park users and a balance needs to be maintained. As Dr Tony Fleming of NSW National Parks and Wildlife explained:

There are some sectors of the community, and some locations, where they feel that their recreational use is not adequately catered for. We need to look at each case on its merits, through the planning process, whether it is development of management plans for parks or through the broader planning processes such as I have described, with the visitation management plans...I would argue very strongly that there is a lot of access, that a lot of different recreational groups enjoy parks and that when they come they have a great time. Many thousands of kilometres of tracks and trails are available for horse riding and for four-wheel drive use. I acknowledge that for some individual parks there is a concern that there is not enough access for those uses, but we have tried to strike a balance in those cases, and in some parks we will look more closely at it.⁶

10.11 The committee also heard evidence of new trends emerging by recreational users of parks which posed significant threats to some areas and needed to be managed. Professor of Ecotourism at Griffith University, Ralf Buckley, stated:

If I were to use one example of the current trends, one of the things not mentioned during the last discussion is that many national parks now suffer major problems from groups of people on pyramided SMS messages. For example, at five minutes notice 500 people might arrive with trail bikes and

5 *Submission 124*, p. 1.

6 *Committee Hansard*, 12 May 2006, p. 5.

decide to ride down a walking track in the middle of the night. That is not easy to manage, but it is starting to happen.⁷

10.12 Despite the damaging threat posed by some reckless users of national parks, many recreational users displayed a strong interest in conservation, showing that their recreational goals were not necessarily inconsistent with those of conservationists and parks managers. The Phoenix Four Wheel Drive Club of Victoria highlighted their commitment to the environment, as did the Victorian Association of Four Wheel Drive Clubs:

In the twenty first century, Phoenix Four Wheel Drive Club resolves that all public land should receive a level of management that is commensurate with the needs of that environment - rather than man's use of it.⁸

Our members, where they can, assist the management authorities in track clearing, field and park management, rehabilitation and land care. We all have an obligation to care for the bush.⁹

10.13 One solution put forward to the committee to increase opportunities for recreational users of national parks was to encourage the use of less intact ecosystems for recreational pursuits:

Adjoining areas can be allocated for some of these activities and there is scope for governments to help acquire such land. The development of a mountain bike park in an old quarry not far from Cleland, Brownhill Creek and Waite reserves is a good example of how governments can help release the pressure on nearby high quality vegetation.¹⁰

10.14 In terms of finding solutions to some of the challenging issues surrounding the recreational use of parks and reserves, it was suggested that more regulation was needed in order to plan for such park users to ensure that the values of protected areas were not compromised. The Oatley Flora and Fauna Conservation Society suggested that:

...the unregulated use of a reserve for multiple purposes may depreciate some of its values. For example, excessive tourist development and/or recreational activities in a reserve may significantly reduce its value for the conservation of biodiversity. Competent planning and management should minimise such problems.¹¹

10.15 Other solutions included the idea that park resources and conservation values could be better maintained if community groups and recreational users were more involved in management processes. As Mr Ian Coombs argued:

7 *Committee Hansard*, 21 April 2006, p. 73.

8 *Submission 23*, p. 8.

9 *Submission 40*, p. 8.

10 Friends of Waite Conservation Reserve, *Submission 94*, p. 4.

11 *Submission 83*, pp 2–3.

What is lacking is resourcefulness in active management with inclusion of voluntary contribution by community groups. If interest groups were welcomed to actively contribute to management, and be treated with respect as part owners of the asset (rather than as pariahs) then great improvements would be made. For example: Parks Association members could be invited to participate in research observations and collections of data, track maintenance and all other things in accord with their skills and interests.¹²

10.16 In fact there were numbers of recreational groups who signalled to the committee their willingness to be involved in such programs, in exchange for better access to national parks. The Caboolture 4WD Club stated in their submission to the inquiry:

The lack of access to certain areas for clubs, such as ours, has been identified as an issue in fire management strategies. We are in a position to contribute to track clearing and other management issues, even if on a volunteer basis.¹³

10.17 Some recreational organisations spoke of attempts to actively engage more closely with parks agencies to contribute to park management goals, but felt they did not receive adequate support in pursuing those goals. The Queensland Association of Four Wheel Drive Clubs advised the committee:

For a number of years on numerous occasions FWD Qld has suggested to the QPWS, a more cooperative approach to managing public lands that would allow the 4WD community to assist forestry personnel to maintain keys areas of public lands. The suggestions were often met with enthusiasm from the field staff just to be dropped at a later date by office staff...The 4WD recreation movement has recognised for many years that in order to be sustainable we needed to be more involved in conservation activities and reduce our impact on the environment....With the cooperation and support of the recreational users, including the 4WD recreation movement we could revolutionise land management principles by developing alliances that ensure access to the community and environmental education which is based on sustainable use – not lock up and forget.¹⁴

10.18 While some witnesses to the inquiry argued that more needed to be done to facilitate this type of joint relationship with parks agencies, there was also evidence that some government agencies have taken proactive steps to encourage recreational users to co-contribute to the management of parks. This was evident from the advice given by NSW National Parks and Wildlife to the committee:

Every time we develop a plan of management for a national park...the key considerations are how access will be provided, the range of uses that are going to occur in those areas and whether access is for purposes such as

12 *Submission 212*, p. 2.

13 *Submission 14*, p. 1.

14 *Submission 24*, p. 7.

bushwalking or whether it is for horse riding or fourwheel driving. All those things have to be considered in the development of a plan of management...There is always a balancing act between competing uses, and sometimes uses are incompatible in the same area of land. But overall, we acknowledge that these are all legitimate recreational activities and we have to provide opportunities for them to occur—particularly as the reserve system grows and opportunities in other parts of the landscape may be constrained.¹⁵

Recommendation 10

10.19 The committee recommends that the Commonwealth Government examine ways to encourage State and Territory Governments and their relevant agencies to engage more fully in programs that provide opportunities for recreational groups and users to contribute in positive ways to the conservation and maintenance of park resources.

Recommendation 11

10.20 The committee recommends that the Commonwealth Government examine ways to encourage State and Territory Governments and their agencies to work collaboratively with recreational groups to identify further opportunities for activities such as horse riding, mountain biking and four wheel driving, where these activities will not unduly impact on the environment.

Bio-cultural uses by Traditional Owners

10.21 Along with recreational users, there are others who rely on the conservation estate out of necessity, lifestyle, or tradition. For example, Indigenous landowners may use conservation areas for the harvesting of plant and animal species needed in order to sustain their existence.

10.22 The customary take of sea turtles was an issue that was raised during the inquiry, where it was pointed out that current levels of customary hunting may not be sustainable:

While we support sustainable traditional hunting for sea turtles in principle, it appears that an increasing take of turtles, particularly adult female turtles by indigenous people in north Queensland Marine Protected Areas (MPA) is going to rub up against sustainability. The hard facts of this issue are that:

- In Northern Australia the harvest of sea turtles and their eggs is ongoing and significant;
- The breakdown of some traditional checks and balances has meant some take is not sanctioned by elders within a community;
- The use of power boats allows access over far greater distances and the capture of turtles is easier...

15 Dr Tony Fleming, *Committee Hansard*, 12 May 2006, p. 3.

Far greater resources are needed to tackle the issue of determining and controlling the sustainable take of sea turtles and their eggs. This must be done by working with the Aboriginal and Torres Strait Island communities, and the reality is that a sustainable harvest increasingly appears to be a zero level of take.¹⁶

10.23 However, it was argued that singling out the customary take of turtles from other issues was a simplistic approach:

There is no research that I am aware of that differentiates Indigenous customary take of turtles—and I will throw in dugong as well—from some of the impacts of a range of other factors, including feral predation of nests in relation to turtles, marine strikes, by-catch, loss of seagrass beds and run-off through rivers from agricultural production. I think this is an area where very visible Indigenous harvesting can be highlighted as the one factor that might impact on populations, but I think the scientific evidence suggests that there is a number of variables that we have to take into account...before we look to limit the customary rights of Indigenous people to harvest species we need to look at what else is impacting on those species.¹⁷

10.24 The Committee heard evidence in Cairns from the Aboriginal Rainforest Council, which represents 18 Aboriginal tribal groups covering the Wet Tropics world heritage area. In April 2005, the tribal groups signed a regional agreement with the Wet Tropics Management Authority, the Environment Protection Agency / Queensland Parks & Wildlife Service, the Queensland Department of Resources and Mines and the federal Department of Environment & Heritage. The agreement

recognises the significant contribution Rainforest Aboriginal people make to the management of the region's cultural and natural heritage values of the wet tropics area

10.25 and commits to mechanisms for cooperative management of the Wet Tropics of Queensland World Heritage Area.¹⁸

10.26 Ms Alison Halliday, the Acting Executive Officer of the Aboriginal Rainforest Council, explained that 'we see culture and biodiversity as one and the same. You cannot get culture without biodiversity and you cannot get biodiversity without culture. We basically call it "biocultural".¹⁹

10.27 The Chairperson of the Cape York Land Council, Mr Michael Ross, expressed frustration at the lack of involvement of traditional Aboriginal owners in the management of National Parks on Cape York, saying the creation of National Parks

16 Neil Mattocks and Ian Bell, *Submission 70*, pp 1–2.

17 Professor Jon Altman, *Committee Hansard*, 16 June 2006, pp 82–83.

18 *Submission 198*, Attachment 2.

19 *Committee Hansard*, 30 June 2006, p. 63.

was one way in which the 'traditional owners have had their land taken away from them':

The failure of the Queensland government to hand back national parks means that our elders are passing away without having their connection to their country recognised. Our land is our life. We look after it and it looks after us. Without our land, our children's future in Cape York is uncertain. Traditional owners should be allowed to take back responsibility for their country. When they do, benefit will flow. There will be community development, employment and skill acquisition for our young people. Aboriginal owners need to manage and work in the park and not be patient onlookers, which we have been for many years. Proper Aboriginal involvement also benefits the national park, using our traditional knowledge of fire, animals and plants to manage country. All things great and small, alive and dead, moving and still, seasonal and annual are all connected and viewed as resources, food, natural calendars and essential messengers.

10.28 The committee was of the view that establishing improved consultation with elders regarding population levels and appropriate take, as well as developing joint management strategies that supported traditional owners' authority, might be steps needed to ensure sustainable continuous bio-cultural use by traditional landowners.

Tourism

10.29 Tourism is also recognised as an important activity in national parks, and the committee heard from a range of witnesses who had differing views about the pros and cons of allowing tourism in national parks. It was generally recognised that it was a challenge to achieve a sustainable balance between tourist activities and conservation, and that this needed appropriate and effective management:

Whilst tourism is an important component of recreational access to reserves, a key emerging issue is how increasing tourism and visitation can be effectively managed to deliver ecologically sustainable human use without degrading the area's natural and cultural heritage. The TNPA supports the need for reserve management plans to have an integrated visitor strategy.²⁰

10.30 The tourism industry itself is not at odds with those aims, also having recognised the broader benefits of preserving the conservation estate to ensure long term viability. As the Tourism and Transport Forum Australia stated:

The tourism industry, and particularly many of the members of the TTF, have a huge stake in ensuring the preservation and proper management of the parks and also in the sustainable growth of tourism to this country, as it is such an important export earner, job creator and regional development catalyst. Fundamentally our members and our industry are committed to sustainability—the economic sustainability of the tourism assets, whether

20 Tasmanian National Parks Association, *Submission 78*, p. 3.

they are natural assets or other built attractions, and the social and environmental sustainability of them.²¹

10.31 The committee heard evidence that, in addition to conservation concerns, tourist activities are a significant management issue as they also place demands on park rangers, particularly in larger centres such as Sydney. Much of the demand is from local tourists and tourism businesses:

Certainly in New South Wales you have a ring of parks around Sydney. With nearly five million people in Sydney, they get a lot of visitation. Being the gateway for international and domestic flights, you get a lot of visitors coming into Sydney, and then they sprawl out from the hub of Sydney. Just from my experience, yes, there is a major tourism reliance on the parks in those larger centres. I know from my experience and from the feedback I am getting from my ranger colleagues that a lot of the local tourism operators strongly rely on us.²²

10.32 The committee noted the importance of encouraging Indigenous participation in ranger work to enhance and promote tourism. This issue was highlighted during the inquiry when the Queensland Government discussed its support for such initiatives:

We think that parks, World Heritage, tourism and the environment are a natural fit with Indigenous cultures, and we have begun some initiatives to encourage Indigenous people to work with us as rangers, through management rights to the land and through tourism opportunities that flow from it.²³

10.33 The tourist industry recognises the value of employing Indigenous people in tourism. One resort manager in Uluru told the committee that:

In El Questro—which is another business that I look after—out of 190 employees, there are 11 Indigenous positions filled. I have to say that I was very proud to see them there. They were laughing. They love their jobs; they were dealing directly with the people.... We even have an Indigenous employment person on staff whom we pay for.²⁴

10.34 While some progress has been made in encouraging Indigenous employment within the industry, it is evident that there are still improvements to be made in encouraging such employment and fostering relationships between the traditional landowners, tourism operators and the community. The committee received some suggestions:

21 Ms Joyce Dimascio, *Committee Hansard*, 12 May 2006, p. 22.

22 Mr Adrian Johnstone, Australian Ranger Federation Inc., *Committee Hansard*, 31 March 2006, pp 67–68.

23 The Hon. Desley Boyle, *Committee Hansard*, 21 April 2006. p. 8.

24 Mr Gareth Boyte, Voyages Hotels and Resorts, *Committee Hansard*, 28 June 2006, p. 6, 12.

One would be increased employment programs. I think traditional owners are of the view that the tourism industry often does not give the right messages about their culture, their beliefs and information about the park, so we certainly want to improve that. There is a tourism consultative committee. Some of the major players from the tourism industry and traditional owners, including some of the board members, sit on that committee. I often sit on that committee. That is one forum where we are trying to improve those relationships and agreements.²⁵

10.35 It is clear from the preceding discussion that there are many facets to the issue of allowing and encouraging tourism in parks, including such things as conservation issues, demands on resources and encouraging Indigenous employment. The topic at large is summarised in the following quote from Professor Ralf Buckley:

Tourism in parks is currently a contentious issue in Australia. Protected area management agencies (PAMA's) have to provide for increasing numbers of visitors, while tour operators try to obtain preferential access to icon sites, and tourism promotion agencies try to recast protected areas as regional tourism honeypots. As with many other environmental issues, Australia seems to have adopted a strange and ambiguous blend of developed and developing-country politics, policies and practices.²⁶

Visitor numbers

10.36 While it is apparent that tourism is well established on a broad scale throughout Australia's national parks and conservation reserves, there are ongoing concerns about how the balance between visitor numbers and conservation objectives can and should be managed.

10.37 The majority of park managers and government agencies attempt to keep records which are as accurate as possible about visitor numbers, and park managers are well aware of the pressures placed by visitors in particular reserves – especially where visitor numbers are highly concentrated. However, a compilation of the total visitor numbers to all of Australia's national parks annually is difficult to source and there appears to be no single comprehensive or consistent database that summarises this information on an Australia-wide basis.²⁷

10.38 Information compiled by the Department of Environment and Water Resources via the annual National Visitor Survey (NVS) does provide some indication of the number of visitors to national and state parks over recent years, although the

25 Mr Sean Moran, Uluru-Kata Tjuta National Park Central Land Council, *Committee Hansard*, 28 June 2006, p. 19.

26 Ralf Buckley, *Tourism in Parks: Australian Initiatives*, International Centre for Ecotourism Research, Griffith University, Queensland, Australia, 2004, p. 194.

27 Carrie Stefan, 'Parks and Tourism Partnerships: An Industry Perspective', *Tourism in Parks: Australian Initiatives*, Ralf Buckley, ed., International Centre for Ecotourism Research, Griffith University, Queensland, Australia, 2004, p. 58.

survey only records visits to parks where nights have been spent away from home and therefore does not necessarily include numbers for day trippers. This means that in reality the number of visitors to parks may in fact actually be higher than those recorded by this survey. Nevertheless, the information does provide a useful overview idea of the number of visitors to parks Australia-wide, as Table 10.1 shows.

Table 10.1 Sum of Overnight Trips (000) to National or State parks and expenditure (\$000)

| Year | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Visitors | 10 646 | 9507 | 4723 | 4652 | 4293 | 5032 | 5617 |
| \$ | 6 720 406 | 6 747 962 | 4 294 715 | 4 225 242 | 4 060 386 | 4 803 580 | 5 431 796 |

Source: Extracted from Department of Environment and Heritage web site, *State of the Environment 2006: Indicator: LD-13 Value of and numbers participating in landscape-based tourism and recreation*, <http://www.deh.gov.au/soe/2006/publications/drs/indicator/155/index.html>, accessed 18 January 2007.

10.39 The above figures show that in 2004 there were at least 5.6 million recorded surveyed visitors to parks generating over \$5.4 billion in revenue. While these numbers show a downward trend from visitor numbers in 1998-99, such numbers still point to significant visitor activity that has the potential to result in significant impacts on parks and park resources.

10.40 Collective data provided by parks agencies of visitation numbers to national parks during 2001-02 estimated that there were 63 million visits during that year.²⁸ This is significantly higher than the 5.6 million visits recorded by the national visitor survey above, and shows how contrasting the visitor data from different sources can be.

10.41 Information from the Director of National Parks 2005-06 Annual Report shows that an estimated 1.4 million visitors visited made use of Commonwealth reserves in 2005-06, primarily in Booderee, Uluru, Kakadu and the Australian National Botanic Gardens. The Director relied on data collected and analysed by Tourism NT for the Northern Territory parks (Kakadu and Uluru) and explained that these data have consistently shown high visitor satisfaction at both parks. The data ceased to be collected in 2005-06 and new survey arrangements are being developed and implemented for all Commonwealth high visitation parks to measure future visitor satisfaction.²⁹

28 Carrie Stefan, 'Parks and Tourism Partnerships: An Industry Perspective', *Tourism in Parks: Australian Initiatives*, Ralf Buckley, ed., International Centre for Ecotourism Research, Griffith University, Queensland, Australia, 2004, p. 59.

29 Department of the Environment and Heritage web site, *Director of National Parks Annual Report 2005-06: Director's Review*, <http://www.deh.gov.au/parks/publications/annual/05-06/review.html#vm>, accessed 19 January 2007.

Figure 10.1 High tourism levels: coaches lined up at Uluru National Park

10.42 To plan for the potential impact of visitor numbers in the future, it makes sense for parks managers to have some idea of the projected future increase in visitor numbers in particular conservation regions. Such projections have been formulated for the Wet Tropics region as summarised in Table 10.2 below.

Table 10.2 Wet Tropics visitor trends and projections, 1993-2016

| | Trends | | | | Projections | | |
|----------------------|--------|--------|--------|--------|-------------|--------|--------|
| Visitor details | 1993 | 1996 | 1999 | 2001 | 2006 | 2011 | 2016 |
| Domestic | | | | | | | |
| Number ('000) | 1 456 | 1 640 | 1 773 | 1 900 | 2 180 | 2 450 | 2 700 |
| Average per day | 19 147 | 20 219 | 21 859 | 23 425 | 26 877 | 30 205 | 33 288 |
| International | | | | | | | |
| Number ('000) | 541 | 642 | 837 | 940 | 1 250 | 1 550 | 1 850 |
| Average per day | 10 375 | 11 611 | 1 405 | 16 740 | 22 260 | 27 630 | 32 945 |
| Total ('000) | 1 997 | 2 292 | 2 610 | 2 840 | 3 430 | 4 000 | 4 550 |
| Average per day | 29 523 | 31 830 | 36 764 | 40 164 | 49 137 | 57 80 | 66 233 |

Source: Extracted from Department of Environment and Heritage web site, *State of the Environment 2006: Indicator: BD-25 Tourism activities based in areas of high biodiversity significance*, <http://www.deh.gov.au/soe/2006/publications/drs/indicator/112/index.html>, accessed 18 January 2007.

10.43 These figures predict that between 2006 and 2016 total visitor numbers to the Wet Tropics region are expected to increase from around 49 000 to 66 000 visitors per day, and increase of over 30 per cent over the next ten years. It would be logical to expect that this type of surge in visitor numbers would place significant additional pressure on parks in the area. Therefore, those involved in the formulation of management plans for Australia's conservation estate in the short term might need to take into account such long term indicators in order to implement appropriate conservation measures and allocate resources to account for such increases.

10.44 The impact of visitor numbers, not only in the future but in the present day, throughout Australia's protected areas was an issue raised by a number of witnesses to the inquiry. As the Mountain Cattleman's Association of Victoria pointed out:

I come to the threats to national parks. People pressure, which I have already referred to, is one. As we become more affluent, there is more pressure on the parks. As you know, there are more four-wheel-drives, greater expectations and more leisure time³⁰

10.45 The negative impacts of visitors to national parks were also raised by the Tasmanian National Parks Association, which cited walking track and road degradation as evidence of intense pressure. The Association was concerned about the threat of tourism in conservation reserves:

Tourism, through creeping development and the attrition of natural and wilderness values, is a major threat to the integrity of Australia's reserves and the achievement of sustainable conservation and protection of their associated values. For example, within Tasmania the demand for car-parking at places like Dove Lake and the Blowhole and for camping in coastal reserves outstrips supply leading to overcrowding and loss of naturalness...While these are usually carefully managed to minimise the environmental impacts, they are never the less degrading to the naturalness of the reserves and cumulatively dramatically altering the quality and tone of visitor experience from one of informal naturalness based on the reserve being an anti-thesis to the 'developed' world to a contrived built environment experience offering a range of consumption choices not dissimilar to the world outside the reserve..... the qualities that people visit parks for need to be carefully managed when developing them for visitation.³¹

10.46 The National Parks and Wildlife Service of NSW highlighted their concerns about the impact of tourists on popular locations and the challenge this posed to the management of parks:

What that means is that you are getting a lot of people in a restricted number of locations, because tourism tends to promote a small number of areas..... The challenge is to manage those sites in a way which sustains

30 Mr Douglas Treasure, *Committee Hansard* 5 June 2006, p. 72.

31 *Submission 78*, p. 5.

the impact of those numbers of people on them and also keeps them looking fresh and enjoyable.³²

10.47 The committee heard how the number of visitors to Mossman Gorge in the Daintree National Park was placing significant pressure on park facilities and resources (see Figure 10.2):

...having been out in the field with the Mossman people only a few weeks ago in the Mt Windsor Tablelands area, these poor people are spending all of their time managing the infrastructure, such as you have just described, and they are desperate to get back out there. Daintree National Park, and the associated forest reserves and state forests, is a huge chunk of land—it is hundreds of thousands of hectares—and they are really keen to get out there and manage it. The World Heritage area is not just rainforest; it is eucalypt forest on the edge, in the lowlands and behind the rainforest as well, and we have got feral animal problems and we have got weed problems. These poor people are very keen to get out there. They are doing the best they can, but they have not got time to get away from that infrastructure.³³

Figure 10.2 Crowded car parking facilities on a weekday at Mossman Gorge



32 Dr Tony Fleming, *Committee Hansard*, 12 May 2006, p. 21.

33 Dr Paul Williams, *Committee Hansard*, 30 June 2006, pp 24–25.

10.48 One witness to the inquiry explained that the types of problems being experienced at places like Mossman Gorge could be ameliorated by proper management planning:

I do not specifically know what the problem is at Mossman Gorge, but in my opinion this all relates back to management plans. If you have a good management plan for a park, you develop a capacity for tourism and other threats. I hate to say it, but too many people can be a threat to the natural values of a national park. Inappropriate location of facilities has been a major problem for this department...If you have a management plan, you can look at a specific site, develop guidelines for appropriate and sustainable use for visitors and for recreational opportunities. I am not saying that we should exclude these areas, but we should use them carefully.³⁴

10.49 The committee heard evidence where park management plans had strived to include measures to adequately manage tourism and visitor numbers. The Queensland Parks and Wildlife Service advised:

Management plans give us and the community some good, high-level direction. We looked at Fraser Island yesterday. They set very clear frameworks there in terms of how we might manage the place and what we do with regard to fire—the strategic fire management plans—what we might do in terms of priorities for weeds and pests, and long-term views of what areas are to be set aside for possible high-level tourism infrastructure versus what areas are to be set aside for more remote experiences. The area we looked at on Fraser yesterday was obviously a very high tourism area to go to the north of the island and some of it is designated remote, so there is limited access there and that is done intentionally. It gives you a mix of opportunities to manage and plan and set those rules in place. I think it is important for the iconic parks like Fraser, in particular, to put those rules in place.³⁵

10.50 The committee also heard evidence that, some sectors of the tourism industry were working in close collaboration with state governments to plan for sustainable visitor numbers. As the Queensland Tourism Industry Council pointed out:

We are currently working with the Queensland government on a site capacity process under the heading of ‘tourism in protected areas’—national parks in Queensland at least. As part of that process, it is envisaged that we will grade high-visitation sites in terms of vulnerability or preciousness. For the most highly valued sites and most highly visited sites, we would certainly envisage that it would be plausible to have a mandatory requirement for those operators who are allowed to bring visitors into those sites that they comply with a higher level of operational practice, for lack of

34 Mr David Green, *Committee Hansard*, 30 June 2006, p. 25.

35 Mr Alan Feely, *Committee Hansard*, 21 April 2006, p. 9.

a better word. We would have no issue with that being made mandatory in such circumstances.³⁶

10.51 One solution put forward to the committee was that tourists and other park users might make less of an impact on protected areas if they were allowed to spread more widely around the area:

Anyone who has visited the Royal National Park over a weekend will agree that unless they move away from the more popular areas the experience is more like a city park. It is encouraging that so many people wish to visit such areas but there is need to spread the impact into other areas otherwise the prime reason of protecting flora and fauna are threatened.³⁷

10.52 The committee was interested to see how other countries dealt with the pressure of increased visitor numbers in their reserves. In New Zealand, there were similar problems experienced to those in some Australian parks. The New Zealand Department of Conservation provided the committee with an overview of their experiences and how they might deal with such issues:

In the last three or four years we have started to experience people pressures that we have not had before. That is purely off the back of tourism. We are finding that some of the icon sites like Milford Sound and some of the glaciers, things that you cannot see in other places, are now having pressures when people arrive. Our monitoring is showing that people are finding that there is a perception of crowding that we have not had before. We have been doing that monitoring for about three years now. On the glaciers, in particular, we have got to that point where people are saying, 'We don't think this is really what we expected.' Within the conservation management strategies I talked about that are now being redone for the second 10-year term, we try to set guidance for activities at places. This time around, we will be looking at what sorts of numbers we think we might have so that when a new concessionaire comes along and says, 'I would like to take some people to do this activity in this place', we can say, 'That'll be okay, there's enough scope left to allow for that' or, 'There isn't any scope, we're sorry, there's no opportunity'.³⁸

10.53 Having high numbers of visitors was not always perceived as having a negative impact on protected areas if managed well and if adequate facilities were provided:

There is a lot of controversy about whether more visitors to a protected area are going to automatically desecrate the area. Quite a lot of the research that we are involved in is saying that more people in the park can actually do good things, as long as the access and the experience is such that it is well managed.....Sometimes smaller numbers going into parks without those

36 Mr Daniel Gschwind, *Committee Hansard*, 21 April 2006, p. 61.

37 North Coast Environment Council, *Submission 28*, p. 5.

38 Mr John Cumberpatch, *Committee Hansard*, 20 October 2006, pp 11–12.

management services and facilities can do far greater damage—as you would appreciate, I am sure—than some of the larger, perhaps more controlled numbers. So I think that we have to be really cognisant of that.³⁹

10.54 The Department of the Environment and Water Resources advised the committee about measures being taken to ensure adequate facilities for visitors to Commonwealth national parks, while at the same time stressing the importance of maintaining the balance between tourism and the protection of natural assets:

We do our best to provide high-quality facilities. We work very closely with tour operators and the tourism industry to address any issues that they raise that appear to be barriers to visitation. However, we do place a priority on protecting the natural assets that we are looking after as well, so that does not mean it is open slather for tourism. We enjoy close relationships with the tourism industry and tour operators in the parks where we have significant visitation. Only four of our properties in particular have high visitation. Others are much more remote. For some of them, visitors are a few hundred a year, if that in a couple of cases because they are very remote. If the industry is large enough we will have formal consultative committees. And, again, if the industry is large enough and the park is large enough we will have specific staff identified as tourism and visitor services managers or there will be a tourism and visitor services unit in the park whose job will be to liaise and work closely with the tourism industry.⁴⁰

Development of tourist infrastructure

10.55 One of the challenges faced by governments and their environmental management agencies is achieving a sustainable balance in permitting development in conservation areas. The management of tourist developments in particular is an area that will be examined more closely in order to gain an understanding of how such challenges might be addressed.

10.56 The Commonwealth's *Environmental Protection and Biodiversity Act 1999* requires that Commonwealth approval be obtained for any development action proposed on Commonwealth land, including within and adjacent to national parks and conservation reserves.⁴¹ Developments not on Commonwealth land require approval under the individual legislation of each State or Territory in the jurisdiction where any development action is proposed. This means that any developments, tourist or otherwise, located in State and Territory reserves are approved by individual government and the legislation differs somewhat between each of these jurisdictions.

10.57 Approvals processes aside, there is ongoing debate about the merits or otherwise of allowing tourist developments within and around areas of conservation

39 Ms Wendy Hills, Tourism Australia, *Committee Hansard*, 31 March 2006, p. 78.

40 Mr Peter Cochrane, *Committee Hansard*, 31 March 2006, p. 104.

41 Department of the Environment and Heritage web site, *About the EPBC Act*, <http://www.deh.gov.au/epbc/about/index.html>, accessed 19 January 2007.

value including national parks. In terms of this debate, the benefits of allowing tourist related developments inside protected areas have been argued strongly. During the hearings Professor Ralf Buckley pointed out that, in addition to the obvious financial benefits, there are other reasons for encouraging private development:

.... where there are large and relatively inaccessible national parks, such as some of those in the Top End, where it is not realistic for all tourist accommodation to be outside the park, because the parks are too big. So there has to be some tourist accommodation inside the park. Very often there are iconic sites where people tend to gather, and very often the parks agencies themselves would like to have visitors cluster at those points so they know where they are and what they are doing... where parks agencies were happy to have commercially managed tourist accommodation and infrastructure in particular areas, essentially as a visitor management tool.⁴²

10.58 Others advocated having tourist developments located nearby but outside national parks, with only essential infrastructure within the confines of the parks themselves:

Such infrastructure should principally be for the needs, interests and abilities of day visitors, with overnight accommodation facilities to be sited outside such reserves.⁴³

It is quite possible for Governments to create a “win-win” for both the local economy and the environment by allowing for privately owned tourist developments outside national parks as has been done at Cradle Mountain, at Freycinet National Park and which could have been done at Cockle Creek, southern Tasmania, instead of excising part of the South-West National Park to hand over to a (non-local) developer.⁴⁴

10.59 Some put forward concerns about the lack of uniformity of guidelines for development approvals in such areas, and that ad hoc approvals for developments should not be permitted. The Australian Network of Environmental Defender’s Offices (ANEDO) cited an example from Tasmania, where the *Tasmanian Wilderness World Heritage Area Management Plan 1999* was altered to allow the development of a tourist resort at Cockle Creek. Their submission stated:

...a management plan cannot provide adequate protection if the response to a development that is inconsistent with the plan is to alter the plan, rather than refuse the development.

Amendment of Management Plans on an ad hoc basis to permit new developments periodically has the potential to significantly undermine the management planning process and purpose. ANEDO supports entrenched

42 *Committee Hansard*, 21 April 2006, pp 73–74.

43 Tasmanian National Parks Association, *Submission 78*, p. 7.

44 Ms Catherine Errey, *Submission 25*, p. 2.

legislative processes that require public participation and consultation as well as Federal assessment in such circumstances.⁴⁵

10.60 ANEDO noted that special legislation to allow development sometimes involved the revocation of parks and reserved land, and that this process had become regular in NSW during the last five years. They cautioned that revocation should be subject to clear protocols:

ANEDO submits that revocation must only occur in exceptional circumstances, and does not support revocation to facilitate commercial developments in parks or wilderness areas. If there is no alternative to revocation, there must be clear protocols in place including large offset ratios of compensatory reservation.⁴⁶

10.61 And continuing with the argument against allowing continued development within the reserve system, it was suggested that parks were becoming too much of a tourist industry resource. As the North Coast Environment Council argued:

There has been a tendency for tourism operators and authorities to view the Park system as a resource for their use. They therefore often demand facilities which do or can have adverse effects upon the primary purpose of the Park namely conservation of flora and fauna. As a large export earner for Australia there is no doubt that one of the major attractions for overseas visitors are the National Parks whether they are Uluru or the Great Barrier Reef or Kakadu. However if they are over developed they can become “theme parks” and their value to both tourism and the protection of flora and fauna are diminished.⁴⁷

10.62 Recent figures show how developments are forging ahead in some areas of environmental significance. The State of the Environment Report 2006 shows that there were 62 tourist developments underway in areas of high biodiversity significance in south-western Australia during 2002. These included both public and private sector tourist accommodation and tourism infrastructure projects totalling around \$265 million.⁴⁸

10.63 The Commonwealth has also invested heavily in tourist developments in national parks. In May 2006 the Federal government announced additional funding for Kakadu and Uluru which was to include a capital injection of \$5.45 million to begin the development of a major new visitor node at Uluru-Kata Tjuta National Park – the largest development in the park since the cultural centre in 1995. This 'sunrise project'

45 *Submission 145*, p. 13.

46 *Submission 145*, p. 17.

47 *Submission 28*, p. 5.

48 Department of the Environment and Heritage, web site, *Indicator: BD-25 Tourism activities based in areas of high biodiversity significance*, <http://www.deh.gov.au/soe/2006/publications/drs/indicator/112/index.html>, accessed 18 January 2007.

would develop a new viewing area to the south-east of Uluru, at a site chosen by the park's traditional owners – providing an all-day experience for visitors, with panoramic views of both Uluru and Kata Tjuta, and new Indigenous business opportunities to enhance the park's World Heritage values. The development would accommodate a potential doubling in visitor numbers and eventually replace the current congested sunrise viewing area.⁴⁹

10.64 It is apparent then that Commonwealth, State and Territory governments all support both private and public sector tourist developments within the sphere of national parks and reserves. The objectives of tourism and related developments are not necessarily inconsistent with the aims of conservation, providing these are well-managed to support a healthy symbiotic relationship.

10.65 The legislation of each jurisdiction is in place to ensure that proposed developments and development actions, whether public or private sector initiatives, are consistent with conservation objectives. An additional layer of protection in relation to tourism developments can also be assured through the effective use of management plans for individual parks and conservation areas, and the role of such plans will be discussed in more detail below.

Staffing – the over-arching issue

10.66 During the inquiry lack of staffing and inadequate funding were recognised as key threats to protected areas and posed serious management issues. Issues related to the adequacy of funding are considered in chapter 12.

10.67 The Wet Tropics Management Authority (WTMA) graphically illustrated the impact that reductions in staff numbers has had in achieving its management objectives, including its ability to initiate projects and access research. Ms Josh Gibson, Executive Director of the WTMA noted the impact of declining funding:

It has resulted in a reduction of staff numbers over the years. It has also reduced our capacity to be able to initiate a number of programs and projects. Currently we are in a situation where most of the money that we receive is utilised for salaries and direct operational costs. One of the key issues is ensuring that we do have discretionary funds to be able to progress a number of key initiatives...We are tasked with ensuring that our World Heritage area is managed to the highest standard. It is not only what we do in terms of the highest standard and best practice; it is also about how we do it. That is the participatory approach. That all takes resources. If we want to manage this area to the highest standard and in line with best practice, we need to have access to good science and to good research. We also need to

49 Department of the Environment and Heritage, web site, *Director of National Parks Annual Report 2005-06: Director's Review*, <http://www.deh.gov.au/parks/publications/annual/05-06/review.html#vm>, accessed 19 January 2007.

have access to resources to engage meaningfully with the community. That is really where there has been a bite.⁵⁰

10.68 Submissions noted that problems of inadequate budgets and staffing numbers have been exacerbated by the rapid growth in protected areas in a context of fairly static, or even declining, staffing and budget levels.

Increases in the conservation estate have not been accompanied by a concomitant increase in staffing levels. By world standards the ratio of conservation land area to conservation staff is amongst the highest. While this is in part achieved by efficient management practices there are some management tasks which are essentially labour intensive and there must be doubt that there are sufficient resources to meet management requirements.⁵¹

10.69 While staffing levels have increased over recent years, some submissions suggested that they have not kept pace with increases in the reserve area.⁵² As discussed in chapter 12, in NSW the National Parks and Wildlife Service (NPWS) engaged 185 rangers and 477 field officers/tradespeople in 1997. In 2005, 256 rangers and 570 field officers/tradespeople were employed by NPWS.⁵³ In Queensland, terrestrial and marine managed areas in 2006 were staffed by 620 permanent ranger positions (both full-and part-time), whereas in 2002 some 470 rangers were employed.⁵⁴

10.70 Submissions also noted that in comparison with overseas countries Australia spends less on its parks' management than many comparable countries. Professor Geoff Wescott of Deakin University in a comparative study of several countries found that Australia spends less than Canada and far less than the USA on its national parks and reserve system, and employs far fewer staff than both those countries.⁵⁵ This issue is further discussed in chapter 12.

10.71 A study by GHD Pty Ltd compared the operating budgets, in real terms, for conservation management agency in NSW, Victoria and Western Australia from the late 1990s to recent years. The study found that the operational budgets of these agencies increased in line with reserve expansions in real terms in the case of NSW, Victoria and Western Australia, but declined in the case of Queensland.⁵⁶

50 *Committee Hansard*, 30 June 2006, p. 8.

51 Coast and Wetlands Society, *Submission 7*, p.3.

52 Professor Geoff Wescott, *Submission 49*, Attachment 1, p. 6; NAFI, *Submission 186*, p. 7; Mr David Green, *Submission 66*, p. 1.

53 NSW Government, *Submission 155A*, p. 2.

54 Queensland Government, *Submission 175*, p. 17.

55 *Submission 49*, Attachment 1, p. 6.

56 *Submission 164*, pp 5–7.

10.72 The GHD study found that there were considerable differences in the level of resourcing per unit area reserved for each state. Resourcing levels in NSW and Victoria were at least double those in Western Australia and Queensland. Only in Western Australia had the operational expenditure per unit reserve area increased continuously in real terms. In Queensland the expenditure per unit area declined in real terms, whilst in NSW there has been a steep recent decline. In Victoria a recent increase in funding per unit area reinstated investment levels to those reported in the 2000-2001 reporting year.⁵⁷ A further discussion of this study is contained in chapter 12.

10.73 The Australian Ranger Federation (ARF) commented on the decline in operational funding for national parks:

We are getting more funding than we did 10 years ago, but unfortunately along the way there have also been other incremental increases to do with fixed costs and a few other things. So our actual operational budgets—being able to achieve objectives on the ground—have actually fallen.⁵⁸

10.74 The ARF argued that this has had serious consequences for management activities:

...we are increasingly pressured into applying for special projects funding in an attempt to prop up the shortfall. Ironically, the special projects funding is not designed to pay for operational activities and the constraints placed on the funding are increasingly designed to ensure it doesn't get spent in that way. The result is that we build infrastructure and engage in activities which can be paid for with this funding, but cannot maintain what we have nor continue in a productive way, the management activities we initiate with that funding.⁵⁹

10.75 Ms Kristen Appel of the ARF stated that 'the operational budget is probably the one thing that affects the rangers the most—in particular, if you are looking at whether we are achieving the objectives of our parks. We are the ones on the ground trying to do that, and it is very hard'.⁶⁰

10.76 Several witnesses commented on the decline in the operational budgets in Queensland in particular, and the negative effects that this is having on parks management. Witnesses argued that natural resource management issues, such as fire, pest and weed control are often being neglected:

57 *Submission 164*, p. 9.

58 Ms Kristen Appel, *Committee Hansard*, 31 March 2006, p. 64.

59 *Submission 57*, p. 2. Operational funding funds on-ground activities, such as eradication programs, leasing of offices, power costs and overtime. Salaries are not included. See Ms Kristen Appel, *Committee Hansard*, 31 March 2006, pp 70–72.

60 *Committee Hansard*, 31 March 2006, p. 73.

Through the efforts and pressure of conservation groups...additional project funding has been given by the state government to initiate basic—and I mean basic—park protection work for fires, weeds and ferals. However, a long-term funding commitment—not three-year, short-term programs—by state and federal governments is required to address pest management problems. Otherwise, park standards will deteriorate rapidly.⁶¹

There is currently insufficient ranger time allocated to implementing weed and feral animal management on parks...Increased available funding for weed and feral animals has been provided to QPWS, however the primary limiting factor in weed and feral animal control is labour, and the increase in funds is not available to be spent on casual, temporary staff.⁶²

10.77 Witnesses also pointed to the imbalance in resources devoted to maintaining visitor infrastructure as compared to habitat management:

...there is inequity in allocation of current resources—and I am referring to funding and staff time—state wide, whereby a larger proportion of operational funding is directed to visitor and departmental infrastructure, development and maintenance than to NRM issues. The department has an ongoing capital works program but limited fire, pest and weed funded programs.⁶³

A high proportion of rangers' time is spent maintaining visitor infrastructure (i.e. camp grounds and walking tracks). While visitor infrastructure is very important and must be maintained, its maintenance currently occurs at the cost of limited habitat management. Increased resources are needed to be able to manage both visitor infrastructure as well as the habitats, for which visitors come to see.⁶⁴

10.78 Witnesses emphasised the importance of maintaining sufficient operational funding and staffing levels for 'on-the-ground' activities in national parks:

The thing with management of any rural landscape is that it requires people to do the management. The biggest cost that my organisation has is people, and you have to have people to do the pest plant and animal control, to do the fire management and to do the other things that are necessary. If you do not have staff in remote areas or adequate staff in areas that require a high concentration of natural resource management skills then you are not going to get the job done effectively.⁶⁵

...staff time doing on-ground work is a critical resource that is far too limited...There are at least four causes for this: not enough field staff employed, moving staff from remote areas to regional centres, holding

61 Mr David Green, *Committee Hansard*, 30 June 2006, p. 21.

62 Dr Paul Williams, *Submission 34*, p. 3.

63 Mr David Green, *Committee Hansard*, 30 June 2006, p. 21.

64 Dr Paul Williams, *Submission 34*, p. 2.

65 Mr Doug Humann, ABHF, *Committee Hansard*, 5 June 2006, p. 11.

positions vacant for too long, and too high a proportion of staff time spent maintaining visitor infrastructure and filling in paperwork rather than managing the land.⁶⁶

10.79 Insufficient 'on-the-ground' staff can lead to a lack of physical up-keep of parks the increased risk from fire and other threats:

The people [staff] that go out to the parks do not have ownership of the parks because all they are doing is visiting. They are just doing a job; they are going out and back and that is it. The natural resource aspect of the park is downgraded. The maintenance is downgraded...There is vandalism, theft, stock invasion and a whole range of issues. We will be opening the doors to threats if there are no staff on park managing them.⁶⁷

10.80 There are also increased risks for neighbourhood properties:

There not only was insufficient funding left for management of conditions as they stood but now there is not a custodian on site much of the time to gauge progress on those issues, particularly when it comes to fire. It is left for neighbouring properties to manage or alert parks to these issues in many cases.⁶⁸

10.81 Witnesses also commented on the problems of 'destaffing' parks, especially in remote areas in Queensland.

...keeping rangers based on remote parks is essential for appropriate land management....Weeds in particular are an increasing problem requiring extra efforts, because ongoing control programs for existing weeds need to be maintained, plus each year additional weeds establish in parks, thus requiring additional work....

Fire management in parks requires a great deal of staff time to implement appropriately...more funds are also needed to increase the availability of ranger time to implement and evaluate fires, including funding for travel, overtime for night burns and possibly even casual extra employment.⁶⁹

10.82 Similar arguments were advanced by AgForce Qld. AgForce noted that the Queensland National Parks & Wildlife Service has recently introduced a new policy regarding the remote management of national parks that effectively removes permanent staff who live within these parks and has replaced them with 'roving teams' that periodically visit the parks concerned:

66 Dr Paul Williams, *Committee Hansard*, 30 June 2006, p. 19.

67 Mr David Green, *Committee Hansard*, 30 June 2006, p. 23.

68 Mr Brett De Hayr, Chief Executive Officer, AgForce, Queensland, *Committee Hansard* 21 April 2006, p. 88.

69 Dr Paul Williams, *Committee Hansard*, 30 June 2006, pp 19–20; See also Dr Paul Williams, *Submission* 34, pp 1–2.

AgForce believes that the vast size of National Parks in Queensland makes this policy impractical and unworkable. The strategy raises serious concerns that there will be a more relaxed approach to the management of feral animals, weeds, fire and general monitoring of National Park visitors.

Withdrawing fulltime staff is in contradiction with the 'Good Neighbour' policy that was implemented to ensure that National Parks are integrated with the local community and adjoining neighbours. Landholders not have difficulty locating the relevant person in charge of their adjoining Park when trying to undertake management actions. This causes concerns for emergency situations such as bushfires, where immediate action is required.⁷⁰

10.83 Mr Damien Head, Member of the AWU-Queensland Branch, noted that 'on the issue of rangers in remote parks, undoubtedly there is a benefit if you can have rangers in the park. There are going to be better neighbour relations through that incidental contact. It might be passing on the road. Those opportunities can be missed'.⁷¹

10.84 In Western Australia, by contrast, the Department of Environment and Conservation has maintained a physical presence on many properties acquired for conservation purposes. Mr Keiran McNamara, Director-General of the Department noted that:

We have kept caretakers, and sometimes the people we have bought the stations from, on a number of those leases. We have kept them on nine of the 23. That is quite deliberate. You do not necessarily need to keep the people on in every case but we have kept people on. In the early stages we basically remove pastoral infrastructure and stock to begin the process of ecological restoration for park and reserve purposes, but we have a very strong commitment to nature-based tourism and recreation.⁷²

10.85 The committee believes that adequate staffing and funding levels are essential to the proper functioning of national parks and reserves. The committee notes that while some states have increased their operational budgets in real terms in line with reserve expansions this has not occurred in all states. The committee believes that states and territories should aim to maintain their operational budgets in real terms in line with any expansion of the conservation estate.

10.86 Evidence indicates that staffing resources, especially on-the-ground staff, need to be present to address natural resource management issues, such as fire, pest and weed control. There also needs to be sufficient balancing of resources devoted to parks' programs so that important conservation management programs are not disadvantaged in the allocation of overall parks' resources. The committee also

70 *Submission* 160, p. 1.

71 *Committee Hansard*, 21 April 2006, p. 118.

72 *Committee Hansard*, 1 September 2006, p. 44.

believes that the allocation of rangers' time, in particular, needs to be devoted to their primary tasks related to conservation management activities.

Marine management challenges and resourcing

10.87 The committee heard that existing staff levels were inadequate to plan for, monitor and manage marine protected areas. There was concern that in some states, marine sections do not have a dedicated budget, which makes it difficult to determine where resources are being allocated.⁷³ Mr Anthony Flaherty noted that marine staff require specialist skills, and expressed concern about the availability of appropriate training:

Over the last decade we have seen, particularly in South Australia, the dropping off of marine and coastal components in a number of the natural resource training programs that are meant to be churning out rangers. Some of them might get it in the university system, but a lot of that has been lost... There is also a real need—and Victoria is doing it—to make sure you are retraining or giving new skills to current terrestrial staff, so that they know what they are meant to be doing and they do not see marine protected areas as a threat or another impost on their job or another loss of resources that they could otherwise be spending on terrestrial park systems.⁷⁴

10.88 Evidence was received from marine scientists that we do not have sufficient knowledge of the Australian marine environment, and this may affect our capacity to make informed management decisions. Mr Craig Bohm made this point in relation to commercial fish species:

We do not actually have a national audit to really determine independently what species are being overfished, what species are not, what species have already been overfished and what species are threatened.⁷⁵

10.89 The Australian Marine Sciences Association identified a significant knowledge gap in relation to invertebrate marine species:

It is also important to recognise that some 95% of Australia's marine biodiversity is represented by the invertebrate phyla, and the bulk of these have yet to be discovered or described.

We are potentially in the position of losing functionally important marine invertebrate species, without ever knowing they existed.⁷⁶

73 Mr Anthony Flaherty, Marine and Coastal Community Network, South Australia, *Committee Hansard*, 6 June 2006, p. 4.

74 Marine and Coastal Community Network, South Australia, *Committee Hansard*, 6 June 2006, p. 12.

75 Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 27.

76 *Submission 125*, p. 3.

10.90 To redress this gap in knowledge, it is critical that more specialised taxonomists be trained and engaged to classify and describe marine fauna:

Australia's taxonomic experts are mainly employed in State museums and herbaria of which there are only a limited number (~15) around the country and in CSIRO. Individual taxonomists tend to specialise in a particular group of organisms and therefore can only provide limited coverage of the wide diversity of Australia's marine biota. While taxonomic problems are few in marine mammals or birds and slightly greater in fishes, they are overwhelming for the limited number of taxonomists involved with the 30+ phyla of invertebrates and algae occurring in the marine environment.⁷⁷

10.91 Alongside the lack of scientific knowledge about marine environments is a lack of public awareness about what is under the sea and why it needs protection. The committee heard that as so few people experience the marine environment first-hand there is a limited appreciation about the value of the marine estate:

The problem with the marine estate is that there are so very few people who actually stick their head under the water. Most people basically see the sea; they do not see what is beneath the sea. A number of people take things out of the sea—recreational fishers and commercial fishers—but even then you are limited to the dive fisheries like abalone fishers and scallop fishers who actually spend large amounts of time under water. There are very few recreational divers in Australia, compared to, say, the terrestrial estate and the number of bushwalkers or birdwatchers who can get out there and be vocal advocates for protecting wildlife and habitat.⁷⁸

10.92 Mr Anthony Flaherty advocated educating the community as a means of cultivating support for marine protected areas and sanctuaries:

We really need the ability to get out good images to show people what exists under the sea to help them understand why it needs protection—and that needs some investment. It is difficult to get good-quality images. We try very hard, and we have a very strong dive network of people who are willing to donate images for our public talks and other things. If the agencies are out there looking under the water, there is a need to communicate why we are protecting these areas; otherwise, people's perceptions are, 'That was a good spot to fish; why can't I fish there anymore?' If a place is a good spot to fish, it probably means that there is a lot of marine wildlife under there.⁷⁹

10.93 Dr Gina Newton endorsed the need for public education, stressing the need to distinguish between terrestrial and marine parks:

77 Australian Marine Sciences Association, *Submission 125*, p. 3.

78 Mr Anthony Flaherty, Marine and Coastal Community Network, *Committee Hansard* 6 June 2006, p. 6.

79 Marine and Coastal Community Network, South Australia, *Committee Hansard* 6 June 2006, pp 5–6.

People are very used to understanding and living with national parks on land, and that probably took a while to get into the psyche of the community. Similarly, marine protected areas I guess need that lead time to get into the psyche, and perhaps people need to be educated to understand that marine parks are very different to terrestrial parks.⁸⁰

10.94 The committee was informed of the Australian Marine Conservation Society's attempts to educate consumers of seafood. The AMCS has published a successful and useful resource the *Australia's Sustainable Seafood Guide*, which classifies seafood abundance or scarcity and encourages consumers to purchase only seafood that has not been overfished. However, currently the effectiveness of this public education is limited as there is no established system of accurate labelling in regard to seafood. Mr Craig Bohm told the committee:

We have come to a point in our history where we are trying to standardise the marketing names. It is really early days. With regard to quality control and public health, there are a range of mandatory requirements in place but, with regard to information provision about sources, sustainability and companies that provide the seafood, this sort of information is not yet forthcoming...I cannot think of a time when I have not spoken to industry about labelling, labelling clarity and identifying individual fisheries where I have not had industry saying, 'Yes, we want that too.' It is a fairly complicated and antiquated system of just getting fish names standardised in Australia, so there is quite a bit of work to go into the whole labelling side.⁸¹

10.95 The committee believes that there is a need for consumers to be provided with adequate and correct information in regard to seafood which they may purchase. It is apparent that at present this information is not available on a consistent and accurate. The committee encourages those in the seafood industry to work towards product labelling in their industry.

Maintaining public support for parks

10.96 Loss of public support as a consequence of perceived unsatisfactory consultation and/or poor management practices was identified as a threat to parks in several submissions, particularly those for whom recreational access was a major issue. The Australian Trail Horse Riders Association noted that:

We believe that unless a widespread support for the national park system is engendered within the community by people participating in and valuing the parks, we will lose support. I believe that will probably become the single greatest threat to the whole park system.⁸²

80 Australian Marine Sciences Association *Committee Hansard* 16 June 2006, p. 45.

81 Australian Marine Conservation Society, *Committee Hansard*, 6 June 2006, p. 37.

82 Mr Graham Crossley, *Committee Hansard*, 12 May 2006, pp 55–56; See also Mirani Shire Council, *Submission 196*, p. 2.

10.97 Similarly, Horse SA argued that:

Marginalizing the broader public who wish to enjoy parks for tourism, recreation, social and cultural values (social includes mental health, physical health, family relationships) through not spending equal funding, higher level thought or requirement to consider these (and validate on ground delivery). This is a failure to “pay it forward” to ensure our migrants and future children understand what the values of the landscape are.⁸³

10.98 In Queensland, the Tableland Trail Horse Riders Club stated that:

There is also the threat of public cynicism about National Parks. The huge areas concerned and the limitations and cost of access throughout Far North Queensland is already an unpopular concept in the eyes of the general public, as noted in Lakefield National Parks.⁸⁴

10.99 Loss of public support was also cited as a response to dissatisfaction with fire management. Mr Clyde Leatham submitted that:

Given the devastating fires in Canberra and the Vic Alps and other areas in recent years, and given that these fires escaped from improperly fire managed crown lands, public support for more parks, etc is declining.⁸⁵

10.100 Many submissions argued that the perceived decline in support for national parks should be addressed by increased public education about the benefits and value of parks. One submission noted that:

To provide sufficient resources for national parks the community has to be convinced that it is worthwhile for their taxes to be spent in that way. This means more and more education in schools, industry and the community to encourage everyone to understand that:

- looking after the environment is part of looking after one’s own health and the health of future generations;
- it requires management on bio regional or at least a catchment level;
- all land across the landscape (regardless of ownership) should be managed according to its vulnerability and that needs to include areas (such as national parks) put aside with the primary purpose of conservation;
- if necessary it is worthwhile waiting longer for some other type of local amenity rather than short-change on funding for management of national parks.

In other words a greater value should be placed on the benefit of national parks.⁸⁶

83 *Submission 185*, p. 2. See also Bayside Offroaders Club, *Submission 48*, p. 6.

84 *Submission 26*, p. 1.

85 *Submission 45*, pp 5–6.

86 Ms Maureen Baker OAM, *Submission 42*, p. 3.

10.101 Some submissions saw community education as a way to address misconceptions or adversarial attitudes in relation to the values and objectives of national parks. The Clarence Valley Branch of the National Parks Association of NSW, told the inquiry:

Many of the threats to sound management of the reserve system result from ill-informed ideas of the value and the objectives of national parks. There should be sufficient funding to allow agencies to provide good resources for community education, interpretation and support for some guided activities, such as flora and fauna observation...Success in this area would lead to fewer problems that result from inappropriate demands and activities, with a consequent freeing up of resources to be devoted to national park objectives.⁸⁷

10.102 Ms Victoria Jansen-Riley saw benefits in public education about specific issues related to park management:

There could also be more funding directed towards education of the public (perhaps via both Councils and Parks and Wildlife) eg in relation to preserving natural values of the areas they live in – why mass clearing is to be avoided; why vehicles are not allowed on beaches, etc.⁸⁸

10.103 The Clarence Valley Conservation Coalition argued that community education about the importance of national parks should be a responsibility of government:

Provision of education services to the community...should include educating the community in the importance of national parks as places where natural values are protected and their importance to future generations.⁸⁹

10.104 The Tasmanian National Parks Association noted that the Tasmanian Parks and Wildlife Service has recognised the need to promote the value of parks to the Tasmanian community and has built strong positive relationships with the local community.⁹⁰ The Victorian National Parks Association, by contrast, stated that there has been a 'marked decrease' in community conservation education in recent years at the Commonwealth and Victorian Government levels.⁹¹

10.105 Both the Clarence Valley Conservation Coalition and the Clarence Valley Branch of the National Parks Association of NSW cited the NSW NPWS Discovery Ranger program as a successful example of community outreach.⁹²

87 *Submission 142*, p. 4.

88 *Submission 51*, p. 2.

89 *Submission 140*, p. 3.

90 *Submission 78*, p. 8.

91 *Submission 146*, p. 4.

92 *Submission 140*, p. 3; *Submission 142*, p. 4.

10.106 Dr Marc Hockings of the University of Queensland made the point that better education about the social and economic benefits of protected areas is required at all levels, to inform and support management decisions:

There is little understanding in the wider community of the social and economic values of protected areas and little data on economic flows generated by parks in a form that is recognized by Treasury officials and politicians who are making budget decisions that affect protected areas. The Commonwealth Government, through the National Reserves System program could play a leading role here in establishing a program to provide a more thorough understanding of these values and the contribution that they make to the Australian community. This information is needed to support a program of awareness and advocacy both within the general public and amongst key decision makers.⁹³

10.107 The committee believes that it is important to encourage and maintain public support for the conservation estate. The committee supports increased public education initiatives emphasising the importance of national parks and their value as community assets and the necessity to preserve these assets for future generations. The committee considers that parks management has an important role in providing increased community education in educating the public in relation to the value of the conservation estate.

Pastoralists and management practices

10.108 An issue raised during the inquiry was the use of leasehold lands, whose primary purpose is agricultural production, for conservation. Vast areas of the continent are under leasehold and contain significant ecosystems and constituent biota, particularly in the more arid regions. Some jurisdictions are looking at how legislative provisions may provide for leasehold properties, or, portions of such properties, to be managed for conservation.⁹⁴

10.109 In Western Australia since 1989, for example, some 29 whole pastoral leases, comprising 4.5 million hectares, have been purchased by CALM (now DEC). This comprises 10 per cent of the productive land in the rangelands. In the Kimberley region over 30 per cent of pastoral leases have been acquired by government for a variety of purposes.⁹⁵

10.110 Evidence to the inquiry raised several concerns about the land management practices of DEC in relation to leasehold land acquired for conservation purposes. These concerns centred on the lack of on-the-ground staff on properties and the

93 *Submission 110*, p. 2.

94 Natural Resource Management Ministerial Council, *Directions for the National Reserve System – A Partnership Approach*, 2005, p. 45.

95 Pastoralists and Graziers Association of WA, *Committee Hansard*, 31 August 2006, p. 36.

consequent adverse effects this is having with regard to a range of property management issues.

Homesteads have been left empty, old access roads left to become overgrown with scrub and trees. Little regular or co-ordinated action is taking place to manage the native and feral animals on these properties many of which contain permanent water holes or river pools. Without proper access roads control will be difficult if not impossible.⁹⁶

10.111 Some of the problems identified include the lack of maintenance of fire breaks and fire access tracks. A representative of the Pastoralists and Graziers Association of WA noted that in usual station activities firebreaks and access tracks are kept open and accessible but it is not the case in CALM estates.

You need to be able to get into these places. It is no use flying over them from the air. You cannot see what is happening on the ground from up in the air. There needs to be access. To gain this access, there has to be management, there have to be people on the ground doing these sorts of things.⁹⁷

10.112 The lack of maintenance of boundary fencing was also a concern. Murchison Shire noted that the exemption of DEC from the Dividing Fences Act (WA) effectively makes any DEC owned property neighbouring an active pastoral property 'a very real liability for the active pastoral station' as DEC is under no obligation to maintain or repair boundary fences.⁹⁸

10.113 An additional concern raised was the lack of early detection of fire threats due to the lack of physical presence on DEC properties:

Fire is a valuable tool in pastoral management, however if under managed, damage to both brittle environments, stock and infrastructure can be devastating. A proactive approach to fire detection and control is required.⁹⁹

10.114 Witnesses also noted the lack of control of feral animals and weeds caused by the lack of on-the ground presence on DEC properties:

The control of feral animals—cats, foxes, goats et cetera—takes time, money, people and consistency. Control of plants and weeds is the same thing: if there is nobody there to see it when it comes up or when the

96 Mrs Foulkes-Taylor, *Submission 211*, p. 1.

97 Mrs Morrison, *Committee Hansard*, 31 August 2006, p. 36. See also Mrs Foulkes-Taylor, *Submission 211*, p. 1.

98 Shire of Murchison, *Submission 208*, pp 1–2. See also Mrs Foulkes-Taylor, *Submission 211*, p. 1.

99 Mrs Morrison, *Submission 210*, p.1.

problem happens and there is not the staff there to get on it, spray it, pick it or do whatever, it will not happen.¹⁰⁰

10.115 The social and economic implications of a lack of a physical presence were also highlighted. The social impact includes fewer people to undertake community tasks and carry out a range of community tasks vital to small, often isolated communities.

The pastoral community has always been a sparsely populated one however with the advent of the conservation land grab... the national rural downturn and now the drought people are becoming the endangered species.¹⁰¹

10.116 The Shire of Murchison provided the example of the two stations sold to DEC in the shire which previously represented active family units that contributed socially towards the local community. The Shire argued that DEC should attempt to attract family units to these properties to assist in the survival of the shire.¹⁰²

10.117 Economic implications include a reduced tax base, including rates paid by landholders for the upkeep of essential services. Reduced numbers of people on pastoral properties also have flow-on effects to other service providers in, for example, local towns.¹⁰³

10.118 Witnesses at Muggon Station were concerned with the lack of access to water at abandoned DEC station homesteads. With the increasing popularity of outback tourism, many tourists are using station roads and in the event of a breakdown are unable to gain access to water at these stations. The current policy of removing taps, rainwater tanks and windmills is of great concern.

10.119 DEC had a different perspective to the pastoralists in relation to land management practices on land acquired for conservation purposes.

10.120 The department indicated that it seeks to preserve an on-the-ground presence on properties. In nine of the 23 leases acquired by DEC caretakers have been kept on properties, in some cases the former owners of these properties:

You do not necessarily need to keep the people on in every case but we have kept people on. In the early stages we basically remove pastoral infrastructure and stock to begin the process of ecological restoration for park and reserve purposes, but we have a very strong commitment to nature-based tourism and recreation.¹⁰⁴

100 Mrs Morrison, Pastoralists and Graziers Association of WA, *Committee Hansard*, 31 August 2006, p. 36. See also Mr Keynes, *Submission 209*, p. 2.

101 Mrs Morrison, *Submission 210*, p. 2.

102 *Submission 208*, p. 1.

103 Mrs Morrison, *Submission 210*, p. 2; Mrs Webb-Smith/Mrs Morrison, Pastoralists and Graziers Association of WA *Committee Hansard*, 31 August 2006, pp 37–40.

104 Mr McNamara, *Committee Hansard*, 1 September 2006, p. 44.

10.121 Mr McNamara, Director-General of DEC stated that the accusation that the department's program is 'depopulating the rangelands' is a 'myth':

I have been on many pastoral stations, both working stations and the ones that we have acquired...By and large, due to the economic circumstances of the last decade, on most of those stations, particularly the sheep ones, there is just the family and maybe one extra hand. We have come in, in many cases, at the end point of a process of significant downsizing of those communities and I think we will help give some of them another future—or another part of their future.¹⁰⁵

10.122 The department indicated it has been provided with increased management resources to deal with additional land purchases. In the Gascoyne-Murchison area, for example, DEC was allocated \$6.4 million for the acquisition program and in excess of \$1 million per annum in recurrent expenditure.¹⁰⁶

10.123 In relation to the issue of fire, DEC questioned the notion that increased fire threat comes from DEC acquired properties, especially in the Kimberleys:

The notion that all fires and pestilence come from crown land is nonsense. I honestly would have thought in the Kimberley that the ignition points would be independent of land tenure to a considerable degree, and in fact pastoral burning for pasture management purposes would probably have more escapes beyond pastoral leases than deliberate burning on crown reserves would have in the other direction.¹⁰⁷

10.124 The department acknowledged that fire in the Kimberley region and fire outside the south-west of the state remains a concern but claimed that it is addressing this issue:

Fire in the north and inland is a problem, and altered fire regimes—with the cessation of traditional Aboriginal burning and with large, intense wild fires that run for months and cover hundreds and hundreds of thousands, if not millions, of hectares in single fires—are a serious problem in terms of the homogenisation of that landscape.¹⁰⁸

10.125 CALM stated in its submission that the state government has 'allocated significant additional funding' in recent years for fire management in the south-west and also in the more remote parts of the state.¹⁰⁹ This funding is allowing for improved fire preparedness and on-ground fire management. Additional fire ecology

105 Mr McNamara, *Committee Hansard*, 1 September 2006, p. 45.

106 Mr McNamara, *Committee Hansard*, 1 September 2006, p. 39.

107 Mr McNamara, *Committee Hansard*, 1 September 2006, p. 39.

108 Mr McNamara, *Committee Hansard*, 1 September 2006, p. 40.

109 CALM, *Submission 135*, p. 16.

research has also been funded and a fire ecologist has been appointed to the Kimberleys.¹¹⁰

10.126 The committee notes the concerns expressed by pastoralists and others on the impact of DEC land management practices and the lack a physical presence has on local landholders. The committee believes that where state or territory governments have acquired properties for conservation purposes the relevant authorities should ensure that effective land management practices are in place including proper maintenance of properties and control of threats to the environment and, wherever possible, provision for an on-the ground presence.

110 CALM, *Submission 135*, p. 16; Mr McNamara, *Committee Hansard*, 1 September 2006, p. 40.

Chapter 11

Private conservation – a valuable contribution

Introduction

11.1 Private land owners and managers are increasingly playing a role in nature protection and conservation. While over 10 per cent of Australia's landscape is made up of national parks, reserves and other protected areas, private land owners can effectively increase this percentage by also engaging in and contributing to conservation measures on land under their control and ownership.

11.2 While individual land owners and managers can and do play a significant role to this end, there are also a number of dedicated private organisations whose aim is to secure and manage private landholdings specifically for the purpose of ecological conservation.

11.3 It is apparent that governments and other organisations generally recognise the valuable contribution that private conservation efforts make in complementing the overall objectives of a comprehensive reserve system in Australia. There are various ways that private conservation activities are encouraged, through financial assistance and other government programs.

11.4 Questions have been raised as to whether enough is being done by governments with respect to encouraging private conservation efforts. This chapter will examine the contribution that private conservation efforts make to the conservation estate in Australia, and this will then lead to a discussion of the adequacy of government initiatives for encouraging such efforts.

The role of private conservation

11.5 Facilitating conservation on private land is important because the preservation of Australia's natural heritage necessitates a landscape-wide approach, one that recognises the importance of ecological connectivity.¹ As Mr Graeme Worboys from the IUCN pointed out to the committee:

That connectivity—core protected areas perhaps managed by government; private property protected areas linking in—will mean that animals and plants have some hope for the long term. That is in a context of very large increases in population around the planet in the next 30 years and in the context of pretty significant climate change forecasts based on science and what they call biome shifts; in other words, a lot of the plants and animals will be without a home through latitudinal changes because the vegetation

1 The Wilderness Society, *Submission 131*, p. 4. See also chapter 9 of this report.

habitats will move. So there needs to be that connectivity to keep biodiversity extant.²

11.6 This 'whole of landscape' approach has been actively promoted by various Non-Government Organisations (NGOs), including Greening Australia and the Wilderness Society through their *WildCountry* Science Council.³

11.7 Conservation on private land is also important because, as the Foundation for National Parks and Wildlife argues:

Many under-represented ecosystems and wildlife corridors occur in areas of high land value out of the reach of Governments to purchase.⁴

11.8 Non-profit organisations have mobilised significant private sector funding for conservation. For example, it is estimated that two organisations – the Bush Heritage Fund and the Australian Wildlife Conservancy – have raised more than \$20 million in private donations in 2005-06.⁵ Accordingly, increasing the role of non-government organisations will increase the level of resources for conservation.

11.9 The Gilligan report also noted that non-government proposals add significantly to the overall NRS outcome because of their capacity to attract private philanthropy. For example, conservation NGOs had purchased 28 properties for addition to the NRS, representing a total area of 1 244 088 hectares, and leveraging NGO funds of \$17 063 080, to March 2006.⁶

11.10 Private conservation initiatives can access charities and philanthropic organisations, bringing those resources to bear on nature conservation objectives 'in a way not possible with public protected areas'.⁷ This leveraging extends beyond Australia's domestic community with international organisations such as the US Nature Conservancy supporting private land conservation in Australia.⁸ Private conservation organisations have also argued that they can negotiate competitively in the market for properties.⁹

2 World Commission on Protected Areas, *Committee Hansard*, 31 March 2006, p. 53.

3 World Commission on Protected Areas, *Submission 137*, p. 20. The Wilderness Society, *Submission 131*.

4 *Submission 144*, p. 7; Natural Resource Ministerial Council (2004) *Directions for the National Reserve System – A Partnership Approach*, Australian Government, Department of the Environment and Heritage, Canberra, pp 38–43.

5 Australian Wildlife Conservancy, *Submission 220*, p. 4.

6 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, pp 53–54, 70.

7 Australian Bush Heritage Fund, *Submission 188*, p. 3.

8 Australian Bush Heritage Fund, *Submission 188*, p. 3; Dr Michael Looker, Director, Australian Program, The Nature Conservancy, *Committee Hansard*, 20 October 2006, pp 32–36.

9 Foundation for National Parks & Wildlife, *Submission 144*.

Where private and public conservation meet

11.11 The idea that a system of private conservation should complement core public reserves was a recurrent theme in submissions to the inquiry. Speaking on private conservation in general the Wilderness Society stated that:

Core reserves must be complimented by appropriate off-reserve management that together ensure connectivity of key ecological patterns and processes, particularly at larger space/time scales.¹⁰

11.12 The need for a partnership approach was also highlighted by the National Parks Association of NSW who stated:

It is best if they (privately run conservation organisations) complement, rather than compete with Government land management agencies. This may mean that they identify different roles or emphasis in the establishment of the reserve system, or agree to co-operate where there are similar objectives attempting to be met. This may involve a sharing of resources and expertise, or even sharing management.¹¹

11.13 Mr Atticus Fleming, Chief Executive of the Australian Wildlife Conservancy also emphasised the need for government and non-government organisations to work together in conserving Australia's biodiversity:

there is a lot of potential to raise funds from the private sector for conservation in Australia...We do not want that replacing what the government is doing; we want that to be on top of what the government is doing".¹²

11.14 Inland Queensland is an example where private conservation initiatives are significantly enhancing the public reserve system. Queensland has relatively little land in reserves: just under five per cent of the land area, the lowest proportion of any Australian state or territory (see chapter three). Its major outback reserves are significant, but limited in number.¹³ However the Bush Heritage Fund now operates three additional reserves in the region totalling around half a million hectares.¹⁴

11.15 Partnerships and effective coordination between private conservation groups and governments are critical to the effectiveness of private conservation. Successful

10 The Wilderness Society, *Submission 131*, p.5; See also Department of Conservation and Land Management, Western Australia, *Submission 135*, p. 8; Department of Environment and Heritage, SA Government, *Submission 194*, p. 13; Birds Australia, *Submission 105*, p. 12; The Wilderness Society, *Submission 131*, p.5.

11 *Submission 130*, p. 14.

12 *Committee Hansard*, 20 October 2006, p. 40.

13 The main inland reserves are Astrebla Downs, Bladensberg, Boodjamulla, Diamantina, Idalia, Simpson Desert and Welford, totalling around 2.3 million hectares.

14 Australian Bush Heritage Fund Reserves, web site, <http://www1.bushheritage.org/default.aspx?MenuID=69>, accessed January 2007.

partnerships are occurring between private non-profit conservation organisations such as the Gondwana Link. The Gondwana Link is a landscape scale project, linking two major areas of biological importance – the Stirling Ranges and the Fitzgerald River National Parks on the central south coast of Western Australia.¹⁵ The south coast of Western Australia is one of the world's 25 biodiversity hotspots. It is a collaborative project between the US Nature Conservancy, the Australian Bush Heritage Fund, Greening Australia, in addition to other NGOs, the local and Indigenous communities and commercial interests.¹⁶ The success of the project is dependent on that collaboration and:

It also has some very good conservation practitioners involved who show great vision and leadership in what they are doing and work extremely well with all of the groups. Working with the farming groups, the Indigenous groups and with the other NGOs is really the key to making that project work.¹⁷

Private conservation organisations

11.16 Complementing the work of government and non-government programs facilitating private conservation, independent non-profit conservation organisations are taking a 'whole of landscape approach' to protect land of high priority for conservation at the national level.

11.17 The initiatives of both the Bush Heritage Fund and the Australian Wildlife Conservancy, described below, demonstrate that the private sector can protect large blocks of land. However, the committee notes the concerns of some submissions over the long-term risks of private conservation organisations buying and managing large tracks of land for conservation:

Private conservation organisations in Australia and overseas are beginning to buy and manage wildlife habitat themselves. These efforts, however, are still at an experimental stage, tying the future of the properties to the fate of the organisation. A financial crisis of the care-taking organisation often puts the land and the wildlife at risk of being sold on.¹⁸

11.18 Mr Atticus Fleming of the Australian Wildlife Conservancy is also aware of these concerns and told the committee that the structure for accountability of charities needs to be improved:

If you get government funding for a property, you need to be able to demonstrate that the public funds are being used well. If you have the

15 Greening Australia, *Gondwana Link*, <http://www.greeningaustralia.org.au/GA/WA/OngroundAction/Integratedlandmanagement/GL.htm>, accessed 16 November 2006.

16 Dr Michael Looker, The Nature Conservancy, *Committee Hansard*, 20 October 2006, p. 35.

17 Dr Michael Looker, The Nature Conservancy, *Committee Hansard*, 20 October 2006, p. 36.

18 Foundation for National Parks and Wildlife, *Submission 144*, p. 5.

regulatory structure for charities in the right way and if you have the processes in place to ensure covenants can be placed on these properties, then you go a long way to ensuring they are secured into the future.¹⁹

The Bush Heritage Fund

11.19 The Bush Heritage Fund currently protects over 670 000 hectares of land in twenty-four reserves throughout Australia.²⁰ Bush Heritage's 2025 goal is to protect of 1 per cent of Australia's landmass through acquisition or management.²¹ Some \$4.2 million has been raised from the public and spent on acquisition, (matching \$4.6 million funded by the NRS program as at December 2005; \$3.1 million has been raised from the public and spent on management of NRS supported reserves since 1999; on-reserve volunteer support has provided more than 5000 people days work on NRS supported reserves, equating to an additional \$750 000 of in-kind on-ground conservation support in the last five years.²²

11.20 The Bush Heritage Constitution explicitly states that Bush Heritage reserves must be acquired and managed for conservation. In its history, Bush Heritage has never sold any of its reserves and where possible all of its properties are protected under a covenant.²³

11.21 Over half of the properties that the Fund owns are adjacent to national parks, which according to Mr Doug Humann, Chief Executive Officer, Australian Bush Heritage Fund, in many cases is not merely a coincidence.²⁴ The Fund seeks to work in partnership with public land managers and being next door to a national park may mean long-term cost-savings for public land managers and the Fund through joint feral animal and weed control programs and joint management programs.

The Australian Wildlife Conservancy

11.22 The Australian Wildlife Conservancy operates a four-tiered conservation strategy – establishing wildlife sanctuaries, implementing practical, on-ground conservation programs, conducting scientific research and public education.²⁵ The Conservancy currently owns and manages 15 properties covering 1 108 000 hectares. The Conservancy's operational budget is approximately \$5 million. In the last three years, over 90 per cent of total expenditure (including capital) has been incurred on conservation programs. The Conservancy has received 'significant' funding under the

19 *Committee Hansard*, 20 October 2006, p. 43.

20 *Submission 188*, Attachment 1, p. 1.

21 Australian Bush Heritage Fund, *Submission 188*, p. 2.

22 Australian Bush Heritage Fund, *Submission 188*, p. 6.

23 *Submission 188*, Attachment 1, p. 1.

24 *Committee Hansard*, 5 June 2006, p. 13.

25 Australian Wildlife Conservancy, *Submission 220*, p. 1.

NRS – six of the 15 Conservancy's properties have received some funding from the NRS Programme.²⁶ AWC sanctuaries currently protect more than 55 per cent of all Australian mammal species; and more than 60 per cent of all Australian bird species.²⁷ Like the Bush Heritage Fund, the AWC operates at a landscape level and its Mornington Wildlife Sanctuary, at over 300 000 hectares, is the largest non-government nature reserve in Australia.²⁸

11.23 Mr Atticus Fleming told the committee that the on-the ground work that the Conservancy has done in seeing what outcomes can be achieved when a property is de-stocked 'is an example of the private sector filling a gap where the government had not been able to deliver up until this point'.²⁹ He also emphasised the support that the Conservancy has received from government agencies and the importance of continuing partnerships to produce positive biodiversity conservation outcomes.

11.24 Other organisations are also involved in acquiring property for conservation purposes. Under its 'Buying the Bush' program the Trust for Nature also buys properties which it retains and manages or transfers to the National Parks System.³⁰ The Nature Conservancy (TNC), which was founded in the United States, also works in Australia. TNC currently works with four key NGOs – the Australian Wildlife Conservancy, the Bush Heritage Fund, Greening Australia and Trust for Nature in Victoria in assisting in the acquisition of important habitats. Over recent years TNC has provided \$13 million for the work of these organisations, essentially for land purchase.³¹

The benefits of private conservation

11.25 There are a number of benefits that can be secured through the involvement of private organisations and individuals in conservation. Partnerships between private organisations and governments have been successful and mutually beneficial. Private non-profit land conservation organisations have benefited from the 2:1 formula of the National Heritage Trust's National Reserve System Program. Through programs like this, public and private monies both go further in the pursuit of conservation objectives. Government agencies have also benefited from funding for specific projects by private non-profit organisations such as the Foundation for National Parks and Wildlife.³² Partnerships are not only focused on funding but also areas of

26 Australian Wildlife Conservancy, *Submission 220*, pp 2–4; Mr Fleming, AWC, *Committee Hansard*, 20 October 2006, p. 37.

27 Australian Wildlife Conservancy, *Submission 220*, p. 3.

28 Mr Atticus Fleming, Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 38.

29 Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 38.

30 Trust for Nature, *Buying the Bush*, <http://www.tfn.org.au/>, accessed 16 November 2006.

31 Dr Michael Looker, TNC, *Committee Hansard*, 20 October 2006, p. 32.

32 Foundation for National Parks & Wildlife, *Submission 144*, p. 2.

research. For example, the Foundation for National Parks and Wildlife told the committee:

The National Parks and Wildlife Service also provided us with a list of priority properties for acquisition....We have had a lot of use of their expertise. They know the on-ground factors of national parks and acquisitions very well—they walk all over them. And the National Parks and Wildlife Service has some very good sites to identify—bioregions, underrepresented pieces of land and land which would have high conservation and/or management values.³³

11.26 Private organisations can introduce flexibility in acquisition strategies that can be more difficult for public bodies to achieve. The Trust for Nature in Victoria, a semi-independent conservation body, has experience of joint purchases and management of land for conservation with the Victorian Government. As Dr Michael Looker told the committee:

In one case we did a joint purchase. We purchased grassland up in the north of the state, in the Riverina, which the department maintained and retained. We bought half of that. Part of it was not useful for biodiversity; it was a grazed paddock. We were able to sell that as part of the deal because we were independent and able to do that, but it had to be purchased in one whole. There are arrangements and deals to intermesh in the market place that could be very worthwhile and achieved by government and our organisations working together.³⁴

11.27 NGOs can also help ensure conservation takes place on private lands without the lands having to be purchased and managed at taxpayers' expense. Thus, as well as government programs operating throughout Australia in promoting conservation on private land, trusts operating at arms length from government are facilitating covenant programs and revolving funds.

11.28 The Trust for Nature, the Nature Conservation Trust NSW and the National Trust of Australia (Western Australia) facilitate covenant programs which operate in essentially the same way as other government programs – landholders can place covenants on the title of their land to protect the land in perpetuity from activities which may threaten the conservation value of the land.³⁵ The Trust for Nature is the only covenant program operating in Victoria. The Nature Conservation Trust NSW was only recently set up in 2001 to provide a relatively independent biodiversity conservation covenanting option for private landholders.³⁶ The National Trust of Australia's (Western Australia) covenant program complements the Department of

33 Mrs Leonie Gale, *Committee Hansard*, 12 May 2006, p. 37.

34 The Nature Conservancy, *Committee Hansard*, 20 October 2006, p. 35.

35 Trust for Nature, Conservation Covenants <http://www.tfn.org.au/>, accessed 16 November 2006, NSW Government, *Submission 152*, p.43.

36 NSW Government, *Submission 152*, p. 40.

Environment and Conservation (Western Australia) and Department of Agriculture and Food (Western Australia) programs.

11.29 The Trust for Nature, the Nature Conservation Trust NSW, the Nature Foundation SA Inc. and the National Trust of Australia (WA) all operate revolving funds which allow them to purchase properties and on-sell them with a covenant attached - the money raised from the sale is used to purchase further properties for conservation.³⁷ In this way, nature conservation is enhanced without ongoing costs to taxpayers, but also without the private conservation groups having to tie up their limited resources in permanent acquisitions.

11.30 The Gilligan report into the effectiveness of the NRS Programme, while recognising many of the benefits of private conservation, found that non-government proposals have a higher processing cost and successful proponents require more follow-up support than state or territory agencies.

NRS Programme staff estimate that typically it may take an order of magnitude (ten times) more staff resources in 'life cycle' costs to establish conservation areas on non-government land. The costs are particularly high for proponents with little experience in managing conservation areas.³⁸

11.31 However, Mr Atticus Fleming, Chief Executive of the AWC argued that:

In a lot of ways, organisations like AWC and Bush Heritage have the capacity to be a little bit more flexible and efficient in the way that some of that money is directed to on-ground activities. It is not a criticism of government, it is just an observation on the way the private sector and the non-profit sector operate and the accountability mechanisms that need to be built into the way governments operate.³⁹

Management of conservation on private land

11.32 On-going management has become an important focus of government and non-government private conservation initiatives.⁴⁰ For example, the Department of Environment and Conservation NSW's Conservation Partners Program includes

37 Trust for Nature, *Revolving Fund*, <http://www.tfn.org.au/>, accessed 16 November 2006; NSW Government, *Submission 152*, p.43; Dr Tony Fleming, Department of Environment and Conservation NSW, *Committee Hansard*, 12 May 2006 p. 19; Department of Environment and Heritage SA, *Submission 194*, p. 13; Mr Thomas Perrigo, National Trust of Australia Western Australia, *Committee Hansard*, 1 September 2006, p. 60.

38 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, p. 54.

39 *Committee Hansard*, 20 October 2006, pp 39–40.

40 NSW Government, *Submission 155*, pp 27–28; Queensland Department of Premier and Cabinet, *Submission 175*, p. 13; Trust for Nature, *Stewardship Program*, <http://www.tfn.org.au/>, accessed 16 November 2006.

'ongoing landholder support, such as planning, monitoring and review, information and technical services, capacity building and networking opportunities'.⁴¹

11.33 The AWC operates on the basis of operational plans for each property which specify actions to be taken which the Conservancy then reports against quarterly. Mr Atticus Fleming emphasised the need to establish field objectives:

you can put a lot of resources into a management plan or a management planning process that does not necessarily translate into good on-ground outcomes. It is much more important to get straight to what you are going to do on the ground and then do it. That is why most of our staff is in the field and why most of our money goes into the field.⁴²

11.34 The Bush Heritage Fund also focuses on having people on the ground the manage their properties, as Mr Doug Humann stated:

If you do not have staff in remote areas or adequate staff in areas that require a high concentration of natural resource management skills then you are not going to get the job done effectively.⁴³

11.35 The Bush Heritage Fund is currently working on a three-year program to establish effective benchmarks, to assist them to advise anyone undertaking private land conservation management whether their investment is effective for biodiversity conservation.⁴⁴

Government programs for encouraging private conservation

11.36 Governments have used a range of instruments to encourage conservation on private land, helping to establish connectivity between Australia's protected areas.

11.37 The Department of Environment and Conservation NSW offers a range of alternative options for landholders wanting to conserve their land through a Conservation Partners Program coordinated state-wide in the Conservation Partnerships Unit. The options include Conservation Agreements which give perpetual legal protection to the property registered on the land title (thereby offering the highest level of protection for the land). In the case of Wildlife Refuges the status is noted on the land title and remains with a change in ownership. The third option – property registration – is not legally binding, and does not change the property's legal status. Registration ceases when the property is sold. This offers the least protection

41 NSW Government, *Submission 155*, p. 40.

42 Mr Atticus Fleming, Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 42.

43 *Committee Hansard*, 5 June 2006, p. 11.

44 Mr Doug Humann, Australian Bush Heritage Fund, *Committee Hansard*, 5 June 2006, p. 4.

for the land of the available options.⁴⁵ More than 1200 landholders across NSW have formal conservation commitments through the Conservation Partners Program covering in excess of 1.7m hectares of land.⁴⁶

11.38 The Queensland Environmental Protection Agency (EPA) operates a program within its Nature Refuge Unit which allows landholders to enter into a voluntary conservation agreement with the Queensland Government which leads to the establishment of a nature refuge. These agreements are:

tailored to suit the management needs of the particular area and of the landholder. In most cases, the agreement allows for the ecologically sustainable use of natural resources to continue. A nature refuge can cover part or all of a property protecting wildlife and wildlife habitat and emphasising the conservation of biodiversity as an important part of property management.⁴⁷

11.39 In excess of 180 landholders across Queensland manage nature refuges covering more than 412 000 hectares.⁴⁸ The Queensland Department also operates a program called Nature Assist which allows landholders to receive grants for activities which either 'maintains or improves the natural values' found on their property.⁴⁹ Under Nature Assist landholders may also be eligible for 'Green Rewards' – a refund of the transfer duty and/or land tax payable on the area of land protected under a perpetual nature refuge agreement.

11.40 The South Australian Heritage Agreement program was established over twenty-five years ago. There are now in excess of 500,000 hectares of land under Heritage Agreements.⁵⁰ The Heritage Agreement program has operated as a voluntary covenanting scheme but has also been used by the South Australian Government to

45 See NSW National Parks and Wildlife Service web site, *Conservation Partners Program*, http://www.nationalparks.nsw.gov.au/npws.nsf/Content/conservation_partners, accessed 15 November 2006; The DEC NSW's Conservation Agreements operate under s 69 of the *National Parks and Wildlife Act* (NSW) 1974.

46 NSW Government, *Submission 152*, p. 28.

47 Queensland Department of Premier and Cabinet, *Submission 175*, p. 13. The QEPA's program operates under the *Nature Conservation Act* (Qld) 1992.

48 Queensland Department of Premier and Cabinet, *Submission 175*, p. 13.

49 See Queensland Government Environmental Protection Agency web site, *Nature Assist*, http://www.epa.qld.gov.au/nature_conservation/nature_refuges/nature_assist/, accessed 15 November 2006.

50 Department of Environment and Heritage, SA Government, *Submission 194*, p. 13. The current Heritage Agreement Scheme operates under the *Native Vegetation Act* (SA) 1991.

manage vegetation clearance.⁵¹ The Department also operates a number of programs to conserve biodiversity through its regional biodiversity plans.⁵²

11.41 The Department of Environment and Conservation, Western Australia (DEC WA), is supportive of the 'promotion of landscape scale conservation, which integrates both on and off-reserve conservation' and is complementary to, rather than substituting for, formal public reserves.⁵³ Currently, the Department operates a conservation covenant program which allows landholders to enter into covenants that are restrictive in nature via the *Transfer of Land Act* (WA) 1893. The DEC, WA also facilitates the *Land for Wildlife Program* which allows landholders to receive advice on how to conserve their land without altering the legal status of the property.⁵⁴ The Department of Agriculture and Food (WA) also operates a conservation covenant program under the *Soil and Land Conservation Act* (WA) 1945. The Western Australian biodiversity conservation strategy, which is in preparation, is intended to include strategies and mechanisms to promote and strengthen off-reserve conservation measures.⁵⁵

11.42 The Tasmanian Forest Conservation Fund (FCF) is a joint initiative between the Australian and Tasmanian Governments. It was established as part of the Tasmanian Community Forest Agreement 'targeting old growth and under reserved forest communities on private land'.⁵⁶ The Protected Areas on Private Land program operates alongside the FCF and is a joint initiative between the Natural Heritage Trust's National Reserve System Program, the Department of Primary Industries, Water and Environment, Tasmanian Graziers Association and the Tasmanian Land Conservancy.⁵⁷ Its aim is 'to promote and facilitate voluntary conservation agreements

51 For a more detailed description of the SA Heritage Scheme see House Standing Committee on Environment and Heritage, *Inquiry into public good conservation*, pp 146–147, <http://www.aph.gov.au/house/committee/enviro/pubgood/report/chap6.pdf>, accessed 15 November 2006. The current scheme is a modification of an earlier scheme that operated under the *Native Vegetation Management Act* (SA) 1985.

52 South Australian Department for Environment and Heritage, *Biodiversity Conservation – Plans for Biodiversity Conservation*, <http://www.environment.sa.gov.au/biodiversity/bioplans.html>, accessed October 2006.

53 Department of Conservation and Land Management, Western Australia, *Submission 135*, p. 8.

54 Department of Environment and Conservation, *Land for Wildlife*, http://www.naturebase.net/orc/land_for_wildlife.html, accessed October 2006.

55 Department of Conservation and Land Management, Western Australia, *Submission 135*, p. 8.

56 Australian Government, Department of the Environment and Heritage, Tasmanian Forest Conservation Fund <http://www.deh.gov.au/land/forestpolicy/fcf/>, accessed 16 November 2006.

57 Department of Primary Industries and Water, Tasmania, *Protected Areas on Private Land Program*, <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/SSKA-6B56K5?open>, accessed 16 November 2006.

between the Tasmanian Government and private landowners with important natural values on their properties'.⁵⁸

11.43 There are three areas in which the committee believes valuable contributions are being made, and in which there were calls for further improvements. These are the use of conservation covenants; conservation on pastoral lands; and providing tax reform and support for private conservation actions.

Conservation covenants

11.44 Often private land ownership is believed to imply the right to do whatever a landowner wishes with their land. However, land ownership is considerably more complicated – it consists of a 'bundle of rights', not all of which are necessarily held by the landowner.⁵⁹ There are many partial interests in a parcel of land, both public and private. Conservation covenants represent the acquisition of partial interests in private land by a covenanting body. A covenant 'prevents an owner from acting in certain ways' on their own land,⁶⁰ and can be used to ensure conservation management conditions are met.

11.45 Conservation covenants have been entered into in every Australian state, and the committee believes they now number well over 2000. Most covenanting bodies are state authorities; however this does not have to be the case. In several states, there are schemes established under statute but at arms-length from government that administer conservation covenants, including the Nature Conservation Trust in NSW, the Trust for Nature in Victoria, and the National Trust of Australia (WA) in Western Australia.

11.46 The committee notes that the *Directions for the National Reserve System* state that 'covenants and revolving funds can be very cost-effective ways of ensuring a degree of security is given to lands with significant conservation values' and directed that:

Covenanting and the use of revolving fund arrangement to be implemented (in all jurisdictions by 2005) as part of the NRS where appropriate and managers of revolving funds to be encouraged to give priority to implement NRS objectives.⁶¹

58 Department of Primary Industries and Water, Tasmania, *Protected Areas on Private Land Program* <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/SSKA-6B56K5?open>, accessed 16 November 2006.

59 Steven Bick and Harry Haney, *The Landowner's Guide to Conservation Easements*, Kendall Hunt, Dubuque, Iowa, 1996, p. 2.

60 M.D.Young and N. Gunningham et al., 'Reimbursing the Future', *Biodiversity Series Paper No. 9*, CSIRO Division of Wildlife and Ecology, the Australian Centre for Environmental Law, and Community Solutions, January 1996 p. 118.

61 Natural Resource Management Ministerial Council, *Directions for the National Reserve System: A Partnership Approach*, Commonwealth of Australia, 2005, p. 43.

11.47 Conservation covenants are most valuable if they have long term security. Critical to the degree of security is whether a covenant runs on the title of the land, rather than depending on the agreement of just the present owner. If a covenant is registered with the Registrar-General it runs on the title of the land and will be binding on current and successive landholders.⁶² Requiring that covenants be registered also ensures a level of public scrutiny. In NSW, Victoria and Queensland, a conservation agreement only becomes binding on successive purchasers of the land if the agreement is registered with the Registrar-General.⁶³ The Tasmanian and Western Australian legislation provides certainty that a covenant will bind subsequent owners by stating that a covenant comes into force on registration with the Registrar-General.⁶⁴ In South Australia, the Minister or party who enters into the agreement can request that the Registrar-General note the agreement in the registrar,⁶⁵ which is in practice always done.

Recommendation 12

11.48 The committee recommends that every jurisdiction implement, where appropriate, legislative or administrative reforms that ensure that conservation covenants are registered on the title of the land.

11.49 The committee heard ideas for establishing a uniform system of covenants to provide consistency between programs.⁶⁶ This discussion also raised the possibility of allowing private conservation organisations to hold and enforce covenants in addition to their current focus on purchasing properties.⁶⁷

11.50 The Commonwealth should try to facilitate a system to encourage greater communication, co-ordination and co-operation between the States and Commonwealth to identify the strengths and weaknesses of covenanting programs across Australia and explore opportunities to implement initiatives which build on those strengths and address weaknesses.

11.51 In particular the Commonwealth could address the possibility of implementing a uniform standard for the on-going management and monitoring of covenants. Different programs have worked for different reasons in each of the states

62 B. Edgeworth et al, *Sackville and Neave Property Law: Cases and Materials* 7th edition, Butterworths 2004, p. 952.

63 *Nature Conservation Trust Act (NSW) 2001*, s. 37; *National Parks and Wildlife Act (NSW) 1974*, s. 69F; *Victorian Conservation Trust Act (Vic.) 1972*, s. 3(A)(11); *Nature Conservation Act (Qld) 1992*, s. 51.

64 *Nature Conservation Act (Tas.) 2002*; *Transfer of Land Act (WA) 1893*.

65 *Nature Vegetation Act (SA) 1991*, s. 23B.

66 Dr Michael Looker, The Nature Conservancy, *Committee Hansard*, 20 October 2006, p. 34; Mr Atticus Fleming, Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 44.

67 Dr Michael Looker, The Nature Conservancy, *Committee Hansard*, 20 October 2006, p. 34.

and no one program may provide the best model, however a standard could be implemented, building on the strengths of all programs, to help ensure that covenants are perpetually secure.

11.52 Tax reform may also be used to benefit conservation covenants, an idea examined separately below.

Private conservation on pastoral leases

11.53 Private conservation organisations including Birds Australia, the Bush Heritage Fund and the Australian Wildlife Conservancy face a number of constraints in carrying out conservation activities on pastoral leases. Mr Doug Humann, Chief Executive Officer of the Australian Bush Heritage Fund, described the issue of reform of pastoral lease conditions as 'one of the two or three most important issues in the country at the moment'.⁶⁸

11.54 Mr Atticus Fleming also raised the issue of pastoral lease reform with the committee:

In each state there is the same general issue, whether it is through a conservation agreement or another instrument, and that is uncertainty about the extent to which you can effectively commit to de-stocking and put a conservation covenant on the pastoral lease in perpetuity or for the duration of the lease.⁶⁹

11.55 The Productivity Commission has analysed the issue of pastoral lease reform.⁷⁰ The Commission points to two central factors restraining private conservation on leasehold land:

- Pastoral leases are controlled and administered by a land tenure system designed to facilitate pastoralism with limited scope to alter the primary purpose of a lease to other activities such as conservation.
- The uncertainty surrounding property rights held by the Crown through resumption provisions, and by traditional owners through native title.⁷¹

11.56 Mr Doug Humann summarised the arguments for and against pastoral lease reform:

On the argument that there is a loss in rural production: there needs to be a balance of land use across the country. In some places you do have intensive rural production; in other places there is less intensive rural

68 *Committee Hansard*, 5 June 2006, p. 6.

69 Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 44.

70 Productivity Commission, *Constraints on Private Conservation of Biodiversity*, Commission Research Paper, 2001, pp 11–17.

71 Productivity Commission, *Constraints on Private Conservation of Biodiversity*, Commission Research Paper, 2001, p. 11.

production. In other places there is no rural production whatsoever in terms of grazing sheep and cattle, or agriculture. And of course you need a balance of conservation use. Another argument is that you will lose people from local and regional areas and that the local and regional economies will suffer. The way my organisation approaches the acquisition of pastoral leases is that we place permanent residents on the properties and they form part of those regional communities. Indeed, over time one would hope that they could contribute more than that single family unit, and we would encourage more people to visit those places and contribute, if only marginally, to some of the rural economies.⁷²

11.57 The committee recognises the importance of viable economic activity in pastoral lands. However, as Mr Humann notes, well-managed conservation activities need not detract from that economy – they may even contribute to it. The important thing is for governments to undertake pastoral lease reform that will ensure that there are no artificial barriers to private conservation on pastoral lands. Some of Australia's pastoral regions are amongst the most under-represented in the reserve system, and it would be tragic if the administration of these areas prevented conservation initiatives from being progressed by private individuals or organisations.

Encouraging private conservation: the case for tax reform

11.58 A number of submissions raised the need for changes to Australia's current tax provisions to encourage greater community support for conservation.⁷³ The Allen Consulting Group stated that:

Australia's tax provisions for charitable gifts have been largely developed to deal with gifts of money. In 1999, the Howard Government amended these provisions to allow for gifts of property...there is considerable scope for providing recognition and tax support for types of gifts that are excluded, while ensuring that these gifts are genuinely philanthropic (providing no material benefit to the donor).⁷⁴

11.59 The United States of America (US), in particular, provides generous tax support for philanthropy including tax deductions against state and federal income tax, generous capital gains tax exemptions and roll-overs, deductions for conservation covenants, concessional treatment of gifts of various financial instruments (such as annuities) and a variety of tax effective charitable trust structures.⁷⁵ The Nature

72 Australian Bush Heritage Fund, *Committee Hansard*, 5 June 2006, pp 6–7.

73 Foundation for National Parks & Wildlife, *Submission 144A*; Preservation Society of Queensland, *Submission 113*, p.7; The Wilderness Society, *Submission 131*, p. 12; Australian Bush Heritage Fund, *Submission 188*, p. 7; Australian Wildlife Conservancy *Submission 220*, p. 5.

74 Foundation for National Parks & Wildlife, *Submission 144A*, Attachment 2 – Dr Stephen Hatfield Dodds, (2002), 'Building a Stronger Coalition' *The Allen Consulting Group*, Paper Prepared for The Steering Group on Incentives Encouraging Private Conservation.

75 Bush Heritage Fund, *Submission 188A*, p. 6.

Conservancy in the US raised over US\$1 billion in the last financial year from their supporters.⁷⁶

11.60 A number of tax incentives have been introduced by the Commonwealth to encourage private land conservation. Firstly, a tax incentive that provides for a person who places a covenant on their property to receive a tax deduction on the difference, if any, between the value of the property before and after the covenant is placed. Secondly, the government has now introduced a five-year apportionment for gifts to environmental organisations. Where a person makes a very sizeable donation of \$200,000, for example, they can apportion it over five years and thus gain a benefit on their tax. Thirdly, it is now possible for people to make charitable gifts of property to environmental organisations. Previously people could make gifts of property to arts and educational institutions but that was not afforded to environmental institutions.⁷⁷

11.61 In 2002, a report prepared by The Allen Consulting Group made several recommendations directed at encouraging private conservation, including:

- enhanced, targeted additional tax support for donations of property;
- strengthening positive income tax treatment of 'living bequests';
- allowing tax deductibility of partial gifts of property;
- considering switching the tax benefit vehicle from tax deduction to tax rebate; and
- creating mechanisms to improve the tax effectiveness of implementing conservation covenants; and
- allowing tax deductions for specific types of in-kind support for public good research.⁷⁸

11.62 Several of these tax reforms were commented upon during the inquiry. Mr Doug Humann, CEO of the Bush Heritage Fund, suggested that the government should recognise philanthropic support offered through 'bargain sales' or 'part gifts' of property to eligible community organisations by at least recognising the discount provided as a gift for tax purposes.

The bargain sale of land is an activity undertaken by The Nature Conservancy every day of the week in the United States. I will give you an example of how it works. Say you have a property valued at \$200,000. You are keen for that property to go to an organisation such as mine. You do not wish for the entire \$200,000 and you choose to sell the property to us for \$100,000, but because it was valued at \$200,000 you can take the

76 TNC, *Committee Hansard*, 20 October 2006, p. 32.

77 Mr Humann, Bush Heritage Fund, *Committee Hansard*, 5 June 2006, p. 5.

78 Foundation for National Parks & Wildlife, *Submission 144A*, Attachment 2 – Dr Stephen Hatfield Dodds, (2002), 'Building a Stronger Coalition' *The Allen Consulting Group*, Paper Prepared for The Steering Group on Incentives Encouraging Private Conservation, pp 10–21.

difference, of \$100,000, as a tax deduction. We believe that would be a huge incentive for people to give further consideration to the manner in which they dispose of land of high conservation value. I can only report to you the benefit of that in the United States.⁷⁹

11.63 Mr Humann also suggested that the government should encourage 'living bequests' by clarifying that they are deductible (or rebateable) under the income tax gift provisions.

The living bequest mechanism—and we have a number of cases where this could be used immediately—is for where somebody is asset rich but cash poor, sitting on a property that, again, might be for commercial purposes but it has conservation values. They are very concerned, as are most of the people who we buy land from, that the property is maintained in perpetuity. They wish to live on it for the rest of their lives but they need some benefit. They can sell it to an organisation such as ours, retain the benefit of living on it for the rest of their lives and receive a deduction for the proceeds. Of course, under the tax act at the moment you cannot receive a tax deduction where you gain a benefit, so it is not possible presently for that mechanism to be utilised. Although there is some legal opinion that there is the capacity for this to operate under the current tax law, I have not seen a case of it being presented.⁸⁰

11.64 The committee also heard that the imposition of substantial stamp duty is a disincentive to donations of land to conservation organisations. Mr Gillis Broinowski, Director, Foundation for National Parks & Wildlife, told the committee that:

...in the past when people donated land through the foundation to add to a national park they were not subject to stamp duty. Now, after the GST came in and after stamp duty and all those things were rewritten, they do attract stamp duty. It is an anomaly and our state ministers are arguing for the regulations to be changed. But in the meantime recent donations of land, which have been quite substantial— some millions of dollars worth of land donated through the foundation—have attracted stamp duty, and we are lobbying to have that refunded.⁸¹

11.65 The Foundation for National Parks & Wildlife also advised the committee that a 'hand-in-hand approach' needed to be taken between state governments to assess the implications of different types of tax legislation in order to make it a 'user-friendly' process for donors.

11.66 The committee also heard that tax reform is also needed to ensure that:

79 *Committee Hansard*, 5 June 2006, p. 5. See also Bush Heritage Fund, *Submission 188A*, pp iii, 11–14.

80 Bush Heritage Fund, *Committee Hansard*, 5 June 2006, p. 5.

81 *Committee Hansard*, 12 May 2006, pp 33–34.

The holder of a pastoral lease receives a tax deduction for the reduction in value of his or her lease if a covenant is placed on the lease land (or part of it). Currently, a tax deduction is only available only in relation to the placement of a covenant on freehold land.⁸²

Recommendation 13

11.67 The committee recommends that all governments, in consultation with the ATO and private conservation organisations, examine improved tax treatment for private initiatives that provide long-term, secure conservation benefits.

82 Australian Wildlife Conservancy, *Submission 220*, p. 5; Mr Atticus Fleming, Australian Wildlife Conservancy, *Committee Hansard*, 20 October 2006, p. 40.

Chapter 12

Funding

12.1 This chapter discusses the adequacy of resourcing of parks and protected areas in Australia and a range of resourcing issues, including the respective roles of the Commonwealth and state and territory governments. The chapter also discusses the funding of World Heritage Areas, and the debate about 'user pays' funding for the conservation estate.

Funding – terrestrial

Commonwealth

12.2 Responsibility for most terrestrial park management in Australia rests with the states and self-governing territories. However, the Australian Government manages a number of terrestrial parks including several located in Commonwealth territories (both internal and external). The parks managed by the Commonwealth represent 3 per cent of Australia's terrestrial protected area estate counted in the National Reserve System.

12.3 Terrestrial parks and marine protected areas are managed by the Director of National Parks and the Department under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), apart from the Great Barrier Reef Marine Park which is managed by a separate Commonwealth statutory authority – the Great Barrier Reef Marine Park Authority under the *Great Barrier Reef Marine Park Act 1975*.¹

12.4 In 2005-06, Commonwealth expenditure on terrestrial parks was \$56.98 million. Further details are provided in Table 12.1.

Table 12.1: Terrestrial Commonwealth reserves

| Year ending 30 June | 2002 | 2003 | 2004 | 2005 | 2006 |
|----------------------|-----------|-----------|-----------|-----------|--------------|
| Expenditure (\$000s) | 52 774 | 54 650 | 57 545 | 58 691 | 56 980 |
| Revenue (\$000s) (a) | 64 383 | 62 947 | 53 022 | 58 525 | 59 154 |
| Number of staff | 278.9 | 280.5 | 287.8 | 263.8(b) | 274.5(b) |
| Number of reserves | 7 | 7 | 7 | 7 | 7 |
| Area protected (ha) | 2 131 300 | 2 131 300 | 2 131 300 | 2 131,300 | 2 132 282(c) |

1 Department of the Environment and Heritage, *Submission 126*, pp 1–6. See also Mr Peter Cochrane, Director of National Parks, *Committee Hansard*, 16 June 2006, p. 65.

Footnotes

- a. Includes revenue from all sources including appropriations and externally raised revenue
- b. Does not include staff involved in managing marine areas and therefore not directly comparable with previous years
- c. Area protected in 2006 has been amended to reflect latest data available from the Collaborative Australian Protected Areas Database

Source: Director of National Parks, *Annual Report 2005-06*, p. 17.

12.5 Mr Peter Cochrane, Director of National Parks, stated that funding levels had been maintained over recent years, but there had not been real increases in funding:

Mr Cochrane—We have held our own in terms of funding over recent years.

Senator RONALDSON—What do you mean by that?

Mr Cochrane—It has been stable. There have been slight increases. On occasion when our issues have exceeded our capacity, we have been able to call on the NHT for some additional help.

Senator RONALDSON—Have they been real increases?

Mr Cochrane—They have not been real increases, but our funding has been stable.²

Further details of the operating costs of Commonwealth terrestrial reserves are in Appendix 10, Tables 10A and 10B.

Funding – marine

12.6 As outlined in chapter 4, management of Australia's marine jurisdiction is shared between the Australian and state and territory governments. The Australian Government manages a number of marine protected areas located within Commonwealth waters. Of Australia's current marine protected area estate, 98 per cent is managed by the Australian Government.³

12.7 In 2005-06, Commonwealth expenditure on marine protected areas was \$3.58 million. Further details are provided in Table 12.2.

2 *Committee Hansard*, 31 March 2006, p. 86.

3 Department of the Environment and Heritage, *Submission 126*, pp 1, 3.

Table 12.2 Marine Commonwealth reserves

| Year ending 30 June | 2002 | 2003 | 2004 | 2005 | 2006 |
|----------------------------|-------------|-------------|-------------|-------------|---------------|
| Expenditure (\$000s) | 2 235 | 2 126 | 1 981 | 2 531 | 3 582 |
| Revenue (\$000s) (a) | 2 235 | 2 126 | 1 981 | 2 531 | 3 382 |
| Number of staff | 17.5 | 13 | 12 | 12.6 | 15.25 |
| Number of reserves | 12 | 13 | 13 | 13 | 13 |
| Area protected (ha) | 20 758 100 | 27 218 100 | 27 244 080 | 27 244 080 | 27 245 378(b) |

Footnotes

- a. Includes revenue from all sources including appropriations and externally raised revenue
- b. Area protected in 2006 has been amended to reflect latest data available from the Collaborative Australian Protected Areas Database

Source: Director of National Parks, *Annual Report 2005-06*, p. 17.

Further details of the operating costs of Commonwealth marine reserves are at Appendix 10, Tables 10C and 10D.

12.8 In Western Australia, in 2005-06 expenditure by the WA Department of Environment and Conservation on marine protected areas was \$9.115 million (comprising \$6.82 million on day-to-day reserve management and \$2.29 million on planning and policy). Staffing comprises 47.3 Full-Time Equivalents (FTEs) – comprising 31.3 FTEs on reserve management and 16 FTEs on planning and policy.⁴ In South Australia, in 2006-07 the SA Department for Environment and Heritage allocated \$222 000 for management of the Great Australian Bight Marine Park.⁵

Great Barrier Reef Marine Park

12.9 The Great Barrier Reef Marine Park is jointly funded by the Commonwealth and the Queensland Governments.

12.10 The total appropriation for the Great Barrier Reef Marine Park Authority in 2005-06 was \$22.716 million. The Commonwealth's appropriation comprised 40 per cent of the total funding, and the Queensland Government's contribution comprised

4 Advice from WA Department of Environment and Conservation, dated 24 January 2007. Data excludes expenditure by the Department of Fisheries on fisheries management in MPAs and research expenditure in MPAs.

5 Advice from SA DEH, dated 19 December 2006.

13 per cent.⁶ Income from other sources in 2005-06 was \$15.761 million. The Australian and Queensland Governments provided matching funding for day-to-day management of the marine park, which is implemented in partnership with the Queensland Parks and Wildlife Service and other agencies. The operating expense of managing the marine park in 2005-06 was \$38.579 million.⁷

Funding – states and territories

12.11 Evidence to the inquiry provided information on the resources allocated by the states and territories to the management of parks and reserves. While there are gaps in the data, and information on certain states and territories is less comprehensive than others, they do provide a snapshot of the different levels of resourcing available across the states and territories.

12.12 Witnesses commented on the difficulty in obtaining data on funding levels:

A lot of people have tried to track down this figure [state funding levels] in preparation for this Senate inquiry. It is something that we would all like to put a clear-cut figure on. Most people have found it extremely difficult to get really clear-cut figures. Part of that is because many parks agencies have amalgamated in recent times. Some of their research capacity, for example, is not in a parks agency; it is in a centralised agency. So the overall picture is quite hard to come by.⁸

I have had the same result. Independently I have tried to secure the actual allocation by state or territory for protected areas. It is possible for some but is not possible for all.⁹

The first time I was able to put together that national paper [on funding levels], it was because I was able to contact individuals inside agencies at all levels and ask a series of questions that were basically a template data set, and I was able to get that back. When we tried to repeat the exercise ...the difficulty was that the agency had changed or it had added new functions or lost functions along the way, and the accounting system had changed....I am not sure how we can get around that, because to compare data sets of course they have to be consistent over time, and if they are adjusted you have to be able to adjust them. So how the Commonwealth could in any way get the states to report in a uniform fashion—you can just imagine the arguments coming back.¹⁰

6 Other appropriations included special appropriation/Environment Management Charge (EMC) 19 per cent; related entity (eg, Natural Heritage Trust) 18 per cent; reef HQ 6 per cent; and other 4 per cent. See GBRMPA, *Annual Report 2005-2006*, p. 4.

7 Great Barrier Reef Marine Protection Authority, *Annual Report 2005-2006*, pp 4–5.

8 Ms Penelope Figgis, World Commission on Protected Areas, *Committee Hansard*, 31 March 2006, p. 55.

9 Mr Graeme Worboys, World Commission on Protected Areas, *Committee Hansard*, 31 March 2006, p. 56.

10 Professor Geoffrey Wescott, *Committee Hansard*, 5 June 2006, p. 26.

12.13 Similarly, Mr Peter Cochrane, Director of National Parks, highlighted the difficulty in obtaining a clear picture of funding for protected area management nationally and the attempts by the Commonwealth to make its reporting transparent:

...it is challenging—and I can speak from personal experience, having now gone through six budgets, some significant changes in accounting methodology and a few different rules in how the government allocates funds—and it has actually been quite difficult to develop a consistent story for our own operations, let alone the states'. We are fortunate because our protected area management is very clearly identified. We report individual park budgets in the annual report in the interest of transparency, but a number of state agencies are part of wider portfolios and do not provide disaggregated protected area management figures, so they have to go back to try to extract that information from their own budgetary systems. It is not something that is on the public record. So there are two elements to that: yes, it is hard, and everyone's rules have changed; and they are not disaggregated in most cases.¹¹

12.14 In NSW, in 2004-05 the annual recurrent budget was approximately \$210 million. The capital funding was approximately \$35 million.¹² The 2005-06 State Budget allocated \$305 million to manage the state's park system with special targeting for certain projects including \$32 million for capital works to maintain historic heritage and upgrade visitor facilities; \$38.5 million to build new infrastructure; \$18 million for feral animal and weed control; and an additional \$15.6 million over 4 years for park management.¹³ Since 1996, NSW has contributed approximately \$125 million to buy land to build the NSW reserve system.¹⁴

12.15 Regarding staffing, the NSW National Parks and Wildlife Service engaged 185 rangers and 477 field officers/tradespeople in 1997. These numbers had increased to 256 rangers and 570 field officers/ tradespeople in 2005.¹⁵ At the May 2006 Committee hearing the NPWS indicated that it employs 1500 staff – including approximately 150 Indigenous staff (approximately 10 per cent of staff).¹⁶

12.16 In Western Australia, expenditure on management of the state's parks and reserves has increased from \$40.5 million in 1995-96 to \$105.1 million in 2004-05, an increase of 159 per cent. Capital expenditure for the provision of visitor infrastructure and roads in the state's parks and reserves has increased from \$2.5 million in 1995-96 to \$12.13 million in 2004-05, an increase of 385 per cent.¹⁷

11 *Committee Hansard*, 16 June 2006, p. 77.

12 Dr Tony Fleming, *Committee Hansard*, 12 May 2006, p. 5.

13 NSW Government, *Submission 155A*, 'Summary of the State of the Parks 2004 Report', p. 2.

14 NSW Government, *Submission 155*, p. 20.

15 NSW Government, *Submission 155A*, p. 2.

16 Dr Tony Fleming, *Committee Hansard*, 12 May 2006, p. 2.

17 CALM, *Submission 135*, p. 11.

12.17 Mr Keiran McNamara of the WA Department of Environment and Conservation stated that the funding allocation to conservation is generally adequate:

...we are an agency that, prior to the amalgamation with the Department of Environment, was probably heading towards an expenditure of about \$220 million this financial year essentially on our conservation responsibilities. We have got a state government that in recent years has injected significant new money into the 29 new national parks created in the south-west forests. That has given us something like a four-fold increase in our annual capital budget for park facilities, access and roads and so on, it has given us an increase in our annual budget for fire purposes of probably \$7 million or \$8 million per annum, and this year has invested an extra \$8 million directly into biodiversity protection over and above our pre-existing budget with a large emphasis on ferals, weeds and dieback. Do we have as much as we might like? No. Do we get a reasonable share across the government's priorities? Yes, we do.¹⁸

12.18 The Queensland Government, through the Environmental Protection Agency (EPA), 2004-05 spent an estimated \$142.5 million on the operational management, capital improvement and maintenance of Queensland's protected areas and other reserves (including depreciation costs). Some \$70 million in additional investment for enhanced land management will be spent over the next three years.¹⁹

12.19 The Queensland Government has made a substantial investment in infrastructure to provide safe recreational access to estate areas, protecting critical habitat and to ensure fire protection. EPA has a diverse inventory of infrastructure including over 20 000 kilometres of road, 134 camping areas and 129 day-use facilities. At June 2005, these built assets were valued at almost \$1.2 billion.

12.20 In relation to staffing resources, terrestrial and marine managed areas in Queensland are staffed by a resource base of more than 620 permanent ranger staff (both full-and part-time staff) located at 130 locations (in 2002 there were approximately 470 rangers). In some Indigenous communities the EPA employs casual rangers, which is preferred to permanent employment in these communities. There are also approximately 300 additional permanent staff assisting with technical support, administration and management. In addition, temporary and casual staff are employed as needed to support service delivery, usually in project-based work. In 2005-06, an allocation of \$55 million has been made for salary and wages costs. There are a further 100 permanent ranger staff and a number of other support staff who provide conservation services both on and off the estate. A total of 140 extra permanent rangers were recruited over the two years to June 2003.²⁰

18 *Committee Hansard*, 1 September 2006, p. 39.

19 Queensland Government, *Submission 175*, p. 17.

20 Queensland Government, *Submission 175*, p. 17; Mr Feely, EPA, *Committee Hansard*, 21 April 2006, pp 8-9.

12.21 In South Australia, approximately \$70 million was expended on the management of the parks and reserves system in 2005-06. There are approximately 400 staff working on parks and reserves-related matters, of which 96 are rangers. In the 2006-07 State Budget the government announced that the number of ranger positions would be increased by 20 over the next 4 years.²¹

12.22 In the Northern Territory, \$20.6 million was allocated to parks and reserves in 2005-06. The NT Government stated that 'although comprehensive comparisons have not been done, expenditures by the Territory Government on maintaining its parks and reserves... appear broadly comparable with other jurisdictions'.²²

12.23 In the ACT, the Territory Government allocates approximately \$19 million annually to the management of Namadgi National Park, Tidbinbilla Nature Reserve, the Murrumbidgee River Corridor, Canberra Nature Park and Googong Foreshores Reserve.²³

Comparison between jurisdictions

12.24 During the inquiry some information was provided that compared operational budgets between states. Comparisons, however, need to be treated cautiously. Mr Peter Cochrane, Director of National Parks noted that:

Making comparisons between effort amongst all those [state] agencies is extraordinarily difficult.

Different agencies and different governments operate their agencies in different ways. Some park agencies, for example, do no off reserve activities, which is the case with us. A number of state agencies do very significant off reserve activities and they do not account for them separately in their budgets.²⁴

12.25 GHD Pty Ltd compared agency operational budgets and conservation estate areas for the appropriate conservation management agencies in four states – Queensland, New South Wales, Victoria and Western Australia. These states were selected because their data was readily available. The aim of the study was to assess

21 Advice from SA Department for Environment and Heritage, 21 December 2006.

22 NT Government, *Submission 16*, p. 3.

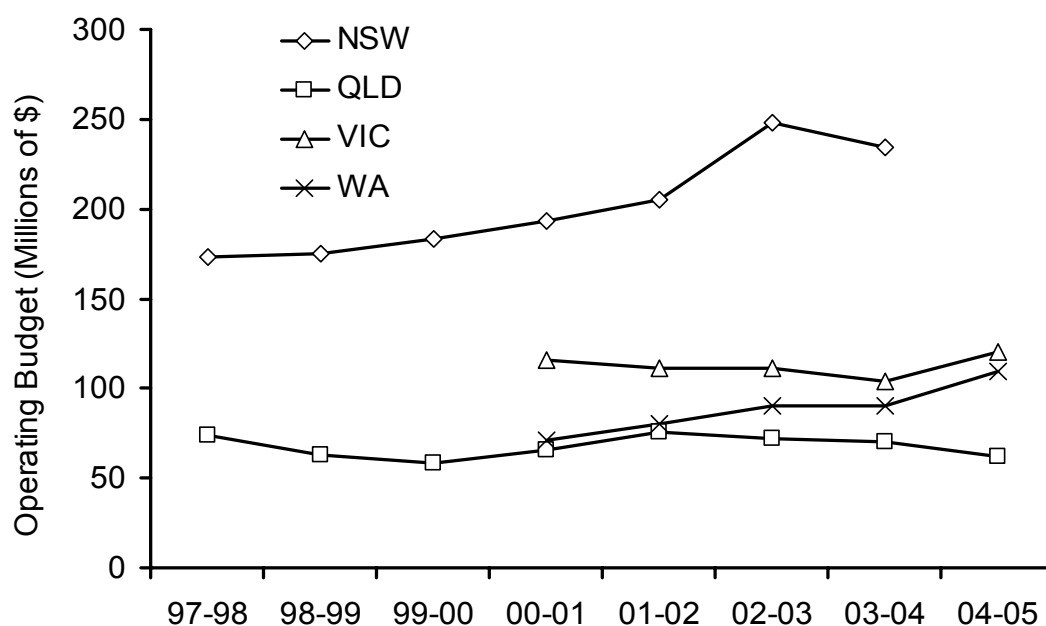
23 ACT Government, *Submission 159*, p. 1.

24 *Committee Hansard*, 31 March 2006, p. 87.

whether expansions in the conservation estate were being matched by funding increases, in real terms, for their ongoing management.²⁵

12.26 The size of the protected area estate increased in each state sampled, across the reporting period. In seven years, the NSW estate expanded to a greater extent than the other states – by 30 per cent. The Queensland estate has increased by 9 per cent, Victoria by 4.8 per cent, Western Australia by 3 per cent.

Figure 12.1 Operating expenditures on staff and services for agencies charged with managing the reserve estate



12.27 The operating budget, in real terms, for each agency responsible in NSW, Victoria and Western Australia increased during the periods of reserve expansion (Figure 12.1):

- the 30 per cent reserve expansion in NSW was matched by a real increase in operations budget of 35 per cent;

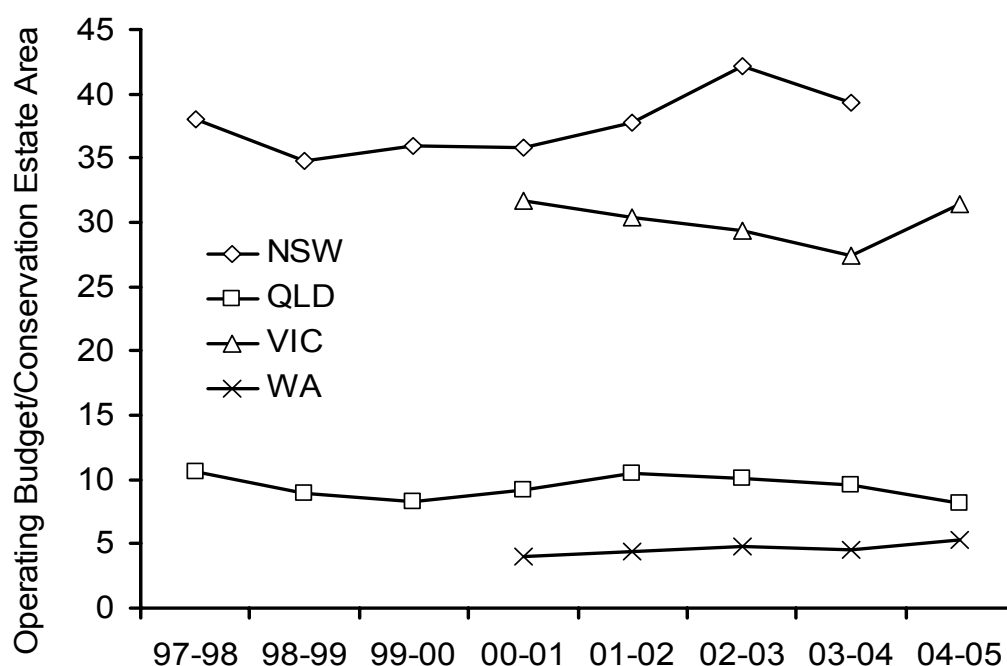
25 Annual expenditure on people and services from the operations section of each department/agency responsible for managing protected areas was sourced from annual reports. The operational budgets include not only land management activities (e.g. weed control, burning, trail management), but also other responsibilities associated with national park management (e.g. research, education, facilitation). For each agency, the budget figures do not include operational expenses commonly associated with environmental protection (e.g. pollution licensing and management), except for the final NSW expenditure figure (which could not be separated). The size of the protected area estate (ha) was also recorded. The data for NSW relate to 1997-98 to 2003-04; Qld from 1997-98 to 2004-05; and Victoria and WA from 2000-01 to 2004-05. See GHD Pty Ltd, *Submission 164*, pp 4-5.

- the smaller reserve expansions in Victoria (of 4.8 per cent) and Western Australia (of 3 per cent) were accommodated by real-term increases of 4 per cent (in the case of Victoria) and 38 per cent (in the case of Western Australia);
- the operational budget in real terms declined by 16 per cent in Queensland, despite a reserve estate expansion of 9 per cent.

12.28 In relation to Queensland, an earlier study by the Local Government Association of Queensland (LGAQ) found that there was a 7 per cent growth in real funding over the period 1993–99 in that state compared with a 28 per cent growth in the protected area estate over the same period.²⁶

12.29 The GHD Pty Ltd study also compared the level of resourcing per unit area reserved for each state in the study. Resourcing levels in NSW and Victoria were found to be at least double those in Western Australia and Queensland (Figure 12.2).

Figure 12.2 Investment in agency operational budgets per unit area (in real terms)



Source: GHD Pty Ltd, *Submission 164*, p. 8.

12.30 Only in Western Australia has the operational expenditure per unit reserve area increased continuously in real terms. In Queensland the expenditure per unit area has declined in real terms, whilst in NSW there has been a steep recent decline. In

26 Local Government Association of Queensland, *National Parks Inquiry: Final Report*, May 2000, p. 6.

Victoria a recent increase in funding per unit area reinstated investment levels to those apparent in the 2000-2001 reporting year. GHD Pty Ltd commented on the above trends stating that:

Vast differences were recorded in the amount of money each State is investing in its protected area estate on a per unit area basis. However, comparisons between States are difficult, given different operating structures, biophysical conditions, reserve sizes and levels of efficiency. In the absence of any other information, the investment levels from NSW could be considered a national indicator for best practice. The relatively low levels invested by WA can partly be explained by its reserve area size being double that of the other States, and the different biophysical conditions requiring different levels of input compared to those on the eastern seaboard. In contrast, the apparently low levels of investment in QLD are not easily explained, given similar reserve areas and biophysical conditions to the two other eastern States.²⁷

12.31 GHD Pty Ltd also added that the recent reduction of financial investment per unit area in NSW 'warrants concern', since the 2003-2004 figure also includes the operating expenditure associated with pollution control, and that state has been responsible for the largest expansion in reserve area over the period considered – 'ongoing monitoring of investment in park estate, once the area captured has stabilised, will allow a better comment regarding the whether the recent additions have been appropriately resourced'.²⁸

12.32 The committee notes that funding levels for national parks and reserves varies considerably between the states and territories. The committee is pleased to note that that several states have matched reserve expansion with real increases in their operational budgets. The committee urges all states and territories to devote resources to national parks and reserves that match the management requirements of these areas.

12.33 The committee also notes that there is a need for more comprehensive and accessible data on the funding levels, including staffing levels, devoted to national parks and reserves, and urges all jurisdictions to provide such information on an annual basis.

Recommendation 14

12.34 The committee recommends that all states and territories publish comprehensive information in a national consistent form on funding levels for ongoing management of national parks and reserves, including staffing resources, and that this information be published annually in the relevant annual reports.

27 *Submission 164*, p. 9.

28 *Submission 164*, p. 9.

Recommendation 15

12.35 The committee recommends that all states and territories, at a minimum, maintain their budgets for national parks and reserves in real terms to meet expansions in the reserve estate and operational requirements.

Adequacy of resourcing levels

12.36 Despite substantial expenditures by the Commonwealth and the states and territories, submissions from a wide variety of groups and organisations raised questions about the adequacy of funding of parks and protected areas in Australia.

12.37 Dr Marc Hockings of the University of Queensland, reflecting much of the evidence, stated that:

There is ample evidence from around the world that funding for effective protected area management is grossly deficient and Australia is no exception to this picture. Both national and international studies...have highlighted this shortfall. Australia has amongst the lowest budgets and staffing levels per hectare in the developed world. Failure to invest now in both the biodiversity conservation aspects of protected area management and the maintenance costs for infrastructure will lead to higher costs in the future.²⁹

12.38 CSIRO stated starkly that:

Currently, there are insufficient resources to establish and maintain a network of protected areas that is CAR compliant at the national level. Although the National Representative system of Marine Protected Areas is designed to achieve this in the marine environment, marine protected areas still encompass a biased selection of habitats.³⁰

12.39 CSIRO further noted that establishing and managing protected areas is expensive and that it is imperative that ongoing knowledge and management needs are recognised and funded to avoid protected areas becoming 'paper parks' that do not meet conservation objectives and therefore waste money, and to avoid creating havens for feral animals, weeds and sources of fire.³¹

12.40 Conservation groups also expressed concerns at current funding levels. The Conservation Council of WA stated that:

We are unable to think of examples of where the WA or the Australian Government has managed to adequately fund either the acquisition of

29 *Submission 110*, p. 1.

30 *Submission 41*, p. 7.

31 *Submission 41*, p. 7.

additions to the conservation estate or the management of the current reserve system.³²

12.41 Similar concerns were expressed by industry associations. The Forest Industries Association of Tasmania (FIAT) noted that in relation to Tasmania:

FIAT are concerned that this substantial increase in land reservation has not been matched by a commitment by Federal and/or State governments to funding appropriate resources to ensure the effective management of the reserved areas.

The absence of the provision of sufficient resources both fiscal and human to enable the provision of effective management regimes that are directed at the protection of the values that gave rise to the original listing will inevitably lead to the diminution and/or destruction of those original values thereby negating the purpose behind the listing.³³

12.42 Submissions also argued that marine protected areas are inadequately funded. The Australian Marine Conservation Society argued that increased resources need to be directed towards the delivery of the National Representative System of Marine Protected Areas (NRSMPA) to accelerate the time-line for the roll-out of the NRSMPA to ensure that the 2012 target is met; to protect at least 30 to 50 per cent of each marine habitat in fully protected areas (no-take); and to achieve finer scale habitat mapping of Australia's inshore and offshore marine habitats.³⁴

12.43 The Tasmanian National Parks Association stated that:

The level of resourcing for Tasmania's marine protected areas is almost non-existent. Despite six reserves there is not one dedicated MPA specialist member in the Tasmanian Parks and Wildlife Service. In addition next to no money has been spent promoting these areas for many years. Hidden beneath the waves these are very much the poor cousins in Tasmania's reserve system.³⁵

12.44 The Marine and Coastal Community Network noted that with some exceptions, marine protected areas are well behind terrestrial protected areas in terms of funding resources and staffing.³⁶

12.45 Submissions emphasised that there is a 'cost' to inadequate funding. The IUCN argued that it will always cost more to eradicate an invasive species once it has become established, than it does when the species first emerges. Similarly, it is more cost effective to carry out pre-emptive maintenance of park infrastructure, but if

32 *Submission 143*, p. 2.

33 *Submission 73*, p. 4.

34 *Submission 184*, p. 4.

35 *Submission 78*, pp 3–4.

36 *Submission 193*, p. 3.

resources are limited then only the most urgent maintenance will be carried out leading to more significant cost in the future.³⁷

12.46 While most submissions emphasised inadequacies in funding levels, a number of submissions commented on the increases in resourcing levels in recent years and the ability of agencies to manage large areas of conservation reserve with limited resources.

12.47 The National Parks Association of NSW argued that in NSW the resources allocated to managing the reserve system have grown significantly over the last ten years keeping pace with increases in the size of the reserve system.³⁸

12.48 Some submissions argued that in terms of management requirements, environmental, social and economic benefits can be achieved with very minimal resourcing. The Conservation Commission of WA, argued, for example, that the process of establishing an area as a national park provides immediate benefit through the provision of statutory protection, that is, formal legal protection against inappropriate use; frequently a social benefit through the community's perception that a 'good' has been done; an economic benefit driven by visitation; and environmental benefits through the ability to apply existing management systems developed through years of experience and knowledge. The Commission argued that notwithstanding the ability of agencies to manage large areas of conservation reserve with limited resources, better results are always achievable with more resources.³⁹

12.49 The Conservation Council of WA noted that even 'under-funded parks' are still 'very worthwhile' – simply protecting an area from exploitation is an important step on the way to ensuring the long-term conservation of that terrestrial or marine ecosystem.⁴⁰

Overseas comparisons

12.50 Comparisons with overseas countries suggest that Australia spends considerably less on the management of its parks than many comparable countries. Professor Geoffrey Wescott of Deakin University estimated that annual expenditure on national parks in 1988 was US\$146 million in Australia, \$297 million in Canada and \$1027 million in the USA. Staffing numbers were 2805 in Australia, 5925 in Canada and 15 147 in the USA. Although the data is somewhat dated, Professor Wescott argued that it is possible to make a rough comparison between the countries as the percentage of land reserved in national parks in each country is similar and visitation rates are not too dissimilar (especially as between Australia and Canada). Professor Wescott concluded that Australia spends less than Canada and far less than

37 *Submission 137*, p. 30.

38 *Submission 130*, p. 6.

39 *Submission 141*, p. 9.

40 *Submission 143*, p. 3.

the USA on its national parks and reserve system, and employs far fewer staff than both those countries.⁴¹

12.51 The National Association of Forest Industries (NAFI) came to similar conclusions with regard to funding for protected areas and staffing levels:

In 1999, the World Conservation Union (through their publication *Parks Volume 2 – June*, all in \$US) provided a summary of protected areas, budgets for managing protected areas and staffing levels. At that time, the average budget for managing protected areas was \$1.57 per hectare in developing countries and \$20.58 per hectare in developed countries. It was determined that the budgeted amount for the protection of national parks and reserves in developing countries was less than one third of the amount required to adequately meet their stated conservation objectives.

When comparing Australia to Canada and the United States, the budgeted amounts were \$3.59, \$10.17 and \$23.58 per hectare, respectively. Australia was providing just over double the average funding for developing countries to manage the protected areas. Although the level of funding in Australia may have increased since this report was released (and it is reasonable to expect that the funding in the other two countries would have also risen), it would be difficult to imagine that Australia's funding for protected areas had increased by between 3 and 6-fold in real terms to be between the funding level of these other two countries.

Similarly, the staffing numbers for protected area management in Australia are much lower than in other countries. The global mean staffing levels for protected areas is 27 people per 100,000 hectares, with an average of 26.9 people per 100,000 hectares in developed countries. At the time the IUCN report was released, only 6 people per 100,000 hectares were employed to manage the protected areas in Australia.⁴²

Funding levels for a CAR reserve system

12.52 A number of submissions and reports suggested levels of funding necessary to provide a comprehensive, adequate and representative (CAR) reserve system.

12.53 The Prime Minister's Science, Engineering and Innovation Council (PMSEIC), *Setting Biodiversity Priorities*, suggested that to consolidate the NRS to achieve 80 per cent comprehensiveness (that is, 80 per cent protection of the full range of regional ecosystems within and across each IBRA region within 10 years) would require funding of between \$300-400 million.⁴³ The IUCN argued that the PMSEIC contention that \$300-400 million would achieve 80 per cent protection of the full range of regional ecosystems is a powerful argument for such a national investment,

41 *Submission 49*, Attachment 1, p. 6. See also Professor Geoffrey Wescott, *Committee Hansard*, 5 June 2006, p. 16.

42 *Submission 186*, p. 7.

43 PMSEIC, *Setting Biodiversity Priorities*, May 2002, p. 9.

and should be considered against the 2004-05 defence budget of \$16.65 billion.⁴⁴ WWF-Australia also noted that the PMSEIC report found that efforts to consolidate Australia's NRS is one of the most cost-effective investments that governments can make to secure the nation's biodiversity.⁴⁵

12.54 WCPA suggested that \$400 million over 5 years should be allocated. This figure is based on \$350 million suggested in the PMSEIC report plus an additional \$50 million to expand the IPA program and to fund the complex task of bringing freshwater systems into the NRS. This would suggest \$80 million per year of Commonwealth funds. The IUCN argued that a 2:1 funding formula with the states and territories should apply.⁴⁶

12.55 The Australian Conservation Foundation argued that governments should commit funding of \$350 million over six years, in line with PMSEIC's recommendation, on a 2:1 cost sharing arrangement between the Commonwealth and the states and territories.⁴⁷

12.56 Since 1996-97 the Commonwealth Government through the National Reserve System (NRS) has provided financial support to buy, establish or maintain land for Australia's National Reserve System. The NRS now includes nearly 8000 protected areas. Among them are national parks, private land, Indigenous Protected Areas and other reserves. In all, the NRS covers 80.8 million hectares, which is approximately 10.5 per cent of the land area of the continent (see chapter 3).

12.57 The NRS is Australia's system of terrestrial protected areas. The objectives of the programme are to:

- establish and manage new ecologically significant areas for addition to Australia's terrestrial NRS;
- provide incentives for Indigenous people to participate in the NRS through voluntary declaration of protected areas on their lands;
- provide incentives for landholders (both private landholders and leaseholders) to strategically enhance the NRS; and
- develop and implement best practice standards for the management of the NRS.

12.58 Funding for the NRS Programme was approved in 1996-97 under the first phase of the Natural Heritage Trust (NHT). NRS Programme funding was extended for a further five years to 2007-08, under the second phase of the NHT.

44 *Submission 137*, p. 30.

45 WWF-Australia, *Submission 161*, p. 3.

46 *Submission 137*, p. 31. See also Dr Marc Hockings, *Submission 110*, p. 1.

47 *Submission 178*, pp 3, 19.

12.59 Key funding areas targeted by the NRS Programme include:

- land acquisition by State and Territory conservation agencies;
- land acquisition for management by community groups;
- voluntary establishment of protected areas on private land;
- voluntary establishment of Indigenous Protected Areas; and
- development and implementation of best practice protected area management.⁴⁸

12.60 The Australian Government, under the NRS Programme, works with a range of partners: governments, conservation and community groups, traditional owners and private landholders. Ownership and management of land rests with the partners who agree to meet international standards for protecting its significant values for current and future generations.

12.61 The NRS Programme is one of five capital programs under the Natural Heritage Trust (NHT). The other programs are:

- Landcare Program – invests in activities that contribute to reversing land degradation;
- Bushcare Program – invests in activities to conserve and restore habitats for native flora and fauna;
- Rivercare Program – invests in activities that improve water quality and environmental condition of river systems; and
- Coastcare Program – invests in activities to protect coastal catchments and the marine environment.

12.62 The five programs do not represent discrete funding sources. NHT investment is made through regional resource management plans and investment strategies, and the Australian Government Envirofund. Under the Envirofund, community groups can access small grants for small-scale projects aimed at conserving biodiversity and promoting sustainable resource use.⁴⁹

12.63 The NHT was established by the Australian Government in 1996-97 with funding of \$1.7 billion over five years to help restore and conserve Australia's environment and natural resources. In 2001, the Government announced a further 5-

48 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, pp 16–17.

49 Australian Government web site, *Natural Heritage Trust*, www.nht.gov.au, accessed December 2006.

year extension of the NHT, with funding of \$1.0 billion. A second extension of the Trust to 2007-08 was announced in 2004 with additional funding of \$0.3 billion.⁵⁰

Funding under the NRS Programme

12.64 Table 12.3 shows the expenditure on the NRS Programme from 1997 to June 2006.⁵¹ NRS Programme properties were acquired with NHT funding of \$71 668 133 (Australian Government funding) and leveraged partner funding of \$88 320 289.

Table 12.3 Expenditure on the NRS Programme from 1997 to June 2006

National Reserve System Programme Funding: 1997- June 2006

State and Territory Governments

| | |
|------------------------------------|--------------|
| • Australian Government Funds | \$51,502,028 |
| • State/Territory Government Funds | \$57,727,663 |
| • Area (hectares) | 5,268,668 |
| • Number of properties | 214 |

Conservation NGOs

| | |
|-------------------------------|--------------|
| • Australian Government Funds | \$13,823,445 |
| • Conservation NGO Funds | \$19,700,895 |
| • Area (hectares) | 1,556,543 |
| • Number of properties | 30 |

Local Government

| | |
|-------------------------------|-------------|
| • Australian Government Funds | \$4,886,471 |
| • Local Government Funds | \$9,743,551 |
| • Area (hectares) | 912 |
| • Number of properties | 13 |

Community Groups

| | |
|-------------------------------|-------------|
| • Australian Government Funds | \$1,211,698 |
| • Community Groups Funds | \$990,980 |
| • Area (hectares) | 10,857 |
| • Number of properties | 7 |

Private (including individuals)

| | |
|-------------------------------|-----------|
| • Australian Government Funds | \$244,491 |
| • Private Funds | \$157,200 |
| • Area (hectares) | 185 |
| • Number of properties | 2 |

50 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, p. 12.

51 Australian Government web site, *Natural Heritage Trust*, www.nht.gov.au, accessed December 2006.

Indigenous Community Management

Indigenous Protected Areas (IPAs) are located on land held by the traditional Aboriginal owners, who have agreed to manage their country as part of the National Reserve System to protect its significant natural and cultural values.

Indigenous Protected Areas

- Australian Government Funds (NRS and IPA) \$13,684,100
- Area (hectares) 14,089,712
- Number of properties 20

Source: www.nht.gov.au

12.65 Table 12.4 and Figure 12.3 provide information on the levels of Australian Government investment for NRS-related land acquisition under the NHT.

Figure 12.3 Australian Government investment in NRS-related land acquisitions, 1997-2005

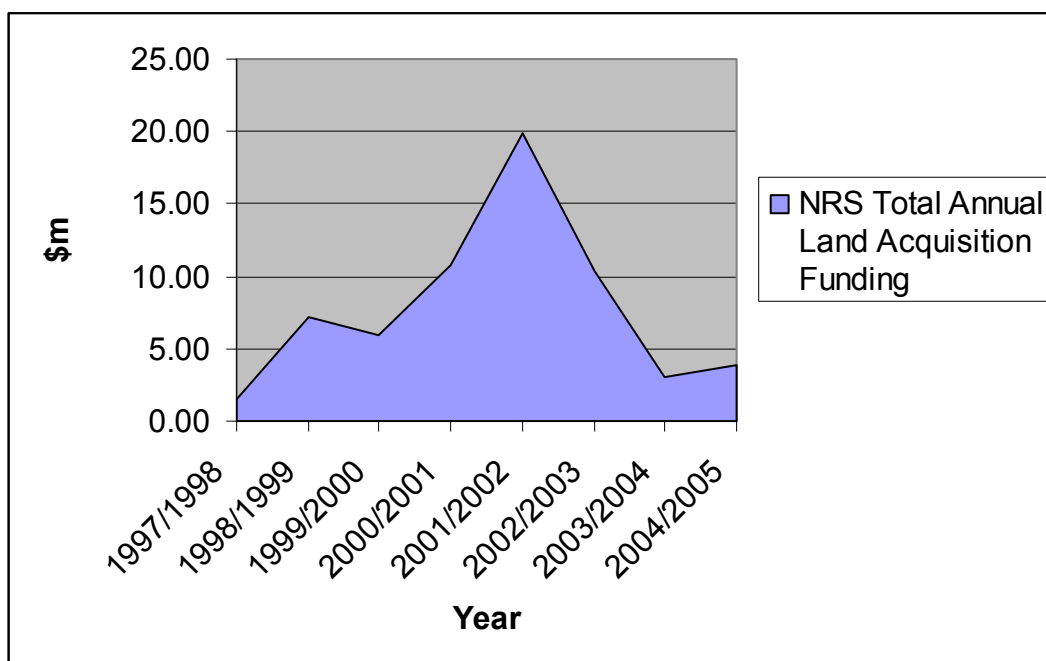


Table 12.4 Australian Government investment in NRS related land acquisitions, 1997-2005

| | NHT 1 | | | NHT2 | | | | | TOTAL |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------|
| | 1997/ 1998 | 1998/ 1999 | 1999/ 2000 | 2000/ 2001 | 2001/ 2002 | 2002/ 2003 | 2003/ 2004 | 2004/ 2005 | |
| | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m |
| Total Land Acquisition | 1.45 | 7.24 | 5.94 | 10.73 | 19.89 | 10.38 | 2.99 | 3.87 | 69.44 |
| Protected Areas on Private Land | | 0.09 | 0.04 | 0.15 | 0.19 | 0.09 | 0.28 | 0.28 | 1.44 |

Notes

1. Expenditure figures only - not approvals, which change as projects are withdrawn
2. Excludes Administration costs
3. Does not include declared IPA expenditure figures - approximately \$10.5m
4. Land acquisition also includes the purchase and establishment of PPAs - \$17.409m in total, including the \$1.44m listed as a separate item.

Source: WWF-Australia, *Submission 161*, p. 21.

12.66 The information shows that after increases in expenditures under NHT 1, the level of investment for NRS-related land acquisitions has declined considerably under NHT2. In 2003-04 only \$2.99 million was expended, while in 2004-05 only \$3.87 million was expended. In 2005-06, \$6 million was expended.

12.67 WWF-Australia also provides expenditure and other data on the NRS Programme in Table 12.5 below.

Table 12.5 NRS Programme – expenditure and other data

| | NT | QLD | WA | NSW | SA | VIC | TAS | TOTAL |
|---|---------|---------|----------|------------|---------|----------|----------|----------|
| NRSP purchases 96-06 (\$m) | \$0.40 | \$17.30 | \$13.90 | \$21.70 | \$8.30 | \$4.80 | \$1.70 | \$68.14 |
| Partner spending 96-06 (est'd \$m) | \$0.46 | \$20.07 | \$16.12 | \$25.17 | \$9.63 | \$5.57 | \$1.97 | \$78.82 |
| NRSP purchases 96-06 ('000s ha) | 262.60 | 729.50 | 4,419.50 | 468.70 | 497.70 | 38.20 | 5.80 | 6 422.00 |
| All prot'd areas added 97-04 ('000s ha) | 1 864 | 1 974 | 11 472 | 1 854 | 4 294 | 340 | 425 | 22 228 |
| NRSP purchased / All added (%) | 14% | 37% | 39% | 25% | 12% | 11% | 1% | 29% |
| Cost to C'wlth (\$/ha added) | \$1.52 | \$23.71 | \$3.15 | \$46.30 | \$16.68 | \$125.65 | \$293.10 | \$10.61 |
| Est'd cost to Partner (\$/ha added) | \$1.77 | \$27.51 | \$3.65 | \$53.71 | \$19.34 | \$145.76 | \$340.00 | \$12.27 |
| Est'd cost to Partner, mgmt (\$/ha/yr) | \$4.40 | \$15.67 | \$3.08 | \$35.17 | \$6.80 | \$26.02 | \$8.90 | \$7.34 |
| 10 yrs of Partner spending leveraged per \$ of NRSP spent | \$30.11 | \$7.77 | \$10.95 | \$8.76 | \$5.24 | \$3.23 | \$1.46 | \$8.07 |
| Priority for expansion of NRS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Cost of NRSP covenants (\$/ha) ¹ | | | | \$9; \$206 | | | \$493 | \$20.00 |
| Est'd cost of Envirofund (\$/ha) | | | | | | | | \$258.00 |

1. Refers to 2 projects in NSW and 1 project in Tasmania

Source: WWF-Australia, *Submission 161B*, p. 4.

12.68 The data shows that the cost to the Commonwealth of all protected areas purchased from 1996 to 2006 was \$68.14 million, an average of \$10.61 per hectare (/ha). The average cost per hectare of purchases varied widely among the states and territories from a low of \$1.52/ha in the Northern Territory to a high of \$293/ha in Tasmania, reflecting large differences in land values and acquisition emphases.

12.69 The data show that the NRSP stimulated significant additional expenditure on acquisitions by partners of \$1.16 for every Commonwealth dollar – \$78.8 million in total. Every NRSP dollar leveraged an average of \$8 of partner spending including matching funds for acquisition and establishment as well as 10 years of on-going management costs. The NRSP also stimulated significant growth of the private land conservancy movement in Australia, leveraging about \$18 million in private philanthropic and community funds.

NRS funding – issues

Adequacy of NRS funding

12.70 The level of funding needed to maximise the effectiveness of the NRS Programme was commented upon in submissions.

12.71 WWF-Australia suggested that in 2005/06-2006/07 the NHT2 invest a minimum of \$20 million for NRS related land acquisitions and that the NHT3 include a national investment stream with block funding of between \$20-40 million a year for NRS land acquisitions. WWF-Australia argued that this would enable the 80 per cent comprehensiveness target under the *Directions for the National Reserve System – A National Partnership Approach* to be achieved by 2010-2015.⁵²

12.72 The ACF suggested that \$300 million over 6 years, or \$50 million per year of Commonwealth funds on a 2:1 funding formula with the states and territories should be expended on the NRS Programme.⁵³

12.73 The IUCN argued that the NRS is seriously under-funded and has already declined from an inadequate funding base and that 'major increases' in funding are required.⁵⁴ The IUCN stated that adequate funding is the most fundamental requirement to meet the objectives of state/territory based initiatives and the NRS:

- Australia therefore needs to seriously invest in the completion of the national system of protected areas and its ongoing management.
- Funding and resources are required for planning protected areas, acquisition costs in some cases, research into basic science and deriving

52 *Submission 161*, pp 23–24.

53 *Submission 178*, pp 3, 19; *Directions for the NRS: A Partnership Approach*, April 2004, p. 3.

54 *Submission 137*, pp 27, 31.

effective management strategies to address threats, on ground management and developing partnerships with non government sectors.

- WCPA repeats and endorses the Commonwealth's own statement in the NRS Directions paper 'it is seven times more cost effective to conserve intact native ecosystems rather than attempting to re-establish them after they have been cleared or significantly degraded'.⁵⁵

12.74 The Gilligan report, on the effectiveness of the NRS Programme, argued that the reduction in NRS Programme funding in recent years has reduced the rate of reservation of strategically significant lands. The report recommended that NRS Programme funding levels should be reviewed. The report argued that additional targeted funding from the Commonwealth will be required if the Directions Statement target of 80 per cent representation of regional ecosystems in the NRS by 2010-2015 is to be met. The report noted that a Commonwealth contribution of between \$20-\$40 million per year will be needed if the target is to be met.

12.75 The report also recommended that NRS Programme acquisitions should be routinely funded by the Commonwealth for at least two-thirds of the total acquisition and establishment costs with flexibility to take advantage of three way projects between a private proponent, a State or Territory Government and the Commonwealth when opportunities arise.⁵⁶

12.76 The committee notes the concerns expressed in evidence that current funding levels are inadequate and also the findings of the Gilligan report that noted that the reduction in NRS Programme funding in recent years has reduced the rate of reservation of strategically significant lands. The committee believes that NRS Programme funding levels should be substantially increased.

Relative Commonwealth and state and territory contributions to the NRS

12.77 Submissions commented on the imbalance in funding between the Commonwealth and the states and territories under the NRS Programme.

12.78 The NSW Government stated that it has contributed approximately \$125 million to buy land to build the NSW reserve system, during which time the Commonwealth contributed about \$16.5 million from the NRS for the purchase and reservation of about 50 properties throughout NSW.⁵⁷

12.79 The WA Department of Conservation and Land Management (CALM) noted that between 1996/97 and 2005/06 the State contribution under the NRS Programme of over \$24.1 million was almost double the Commonwealth investment of about

55 *Submission 137*, pp 27–28.

56 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, pp 67, 81.

57 *Submission 155*, p. 20.

\$12.3 million. In addition, the Western Australian Planning Commission has expended in excess of \$173 million on the purchase of lands within the Perth metropolitan area for conservation from 1994 to February 2006.⁵⁸

12.80 The current funding formula for the NRS Programme was criticised by the states and territories and other groups as being inadequate. Funding is provided by the Commonwealth and the states/territories on a \$1 for \$1 basis. Funding under the initial 1997 NHT Partnership Agreement was on a \$2 for \$1 basis, with the Commonwealth providing two-thirds of the funds. The 2:1 funding formula was negotiated in the first phase of the NHT based on recognition of the fact that the State contribution is ongoing, beyond purchase, in terms of funding for management of the purchased lands. In 2001-02 the formula was changed to 1:1 for government agency partners but remained 2:1 for non-government proponents.⁵⁹

12.81 Mr Cochrane, Director of National Parks explained the rationale for the Government's change in policy:

The decision was made because the level of funding to the program was significantly reduced from its first five years. The revised formula was decided on to make those funds go further.⁶⁰

12.82 Submissions argued that the current funding arrangements do not recognise the initial establishment costs of protected areas and the long-term management costs which are borne by the states and territories. The South Australian Government noted that the establishment costs alone can be significant and can achieve important outcomes through priority actions such as fencing, de-commissioning infrastructure, biological surveys and establishment of monitoring plans.⁶¹ The NSW Government noted that:

...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.⁶²

12.83 The Northern Territory Government stated that:

The requirement that the Territory Government provide matching funds in order to receive funding from the NRS is unrealistic. Especially in northern Australia, costs of infrastructure development and operational costs of parks and reserves far exceed the initial costs of land acquisition.⁶³

58 *Submission 135*, pp 12–13.

59 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, p. 68.

60 DEH, *Committee Hansard*, 16 June 2006, p. 6.

61 *Submission 194*, p. 15.

62 *Submission 155*, p.20.

63 *Submission 16*, p. 4.

12.84 The NT Government suggested that a preferable model would be for the NRS to provide 100 per cent of land acquisition costs within agreed programs and for the states and territories to then take responsibility for infrastructure, maintenance and associated on-going management costs.

12.85 WWF-Australia also noted that there are significant establishment and management costs incurred by the states and territories, and that the funding formula needs to revert to a 2:1 formula, or preferably 3:1 formula to assist these jurisdictions to offset these upfront and ongoing costs.⁶⁴ The IUCN commented on the important leverage factor when the NRS provided for a 2:1 funding formula:

It should not be underestimated the significance of a State or Territory jurisdiction being able to argue for extra funding from Treasuries when 2:1 funding is on offer.⁶⁵

12.86 Submissions noted that the success of the private conservation sector in recent years owes a great deal to the 2:1 funding available under the NRS. Private land trusts have emphasised that their ability to attract philanthropic funding for land purchases was greatly enhanced by the fact that they could argue that a donation could be leveraged into a much greater sum.⁶⁶

12.87 The Gilligan report noted that the 2001 change to the funding formula applied to acquisitions by state and territory conservation agencies has reduced the effectiveness of the NRS Programme and, if unchanged, has the potential to erode the 'shared approach' highlighted in the Directions statement. The report noted that greater recognition needs to be given to the magnitude of the on-going management costs borne by the partner jurisdictions when properties are purchased for the NRS.⁶⁷

12.88 The Committee notes the concerns raised in relation to the current formula applied under the NRS Programme. Evidence indicates that the current funding arrangements may not sufficiently recognise the initial establishment costs of protected areas and the long-term management costs which are borne by the states and territories. The committee believes that the Commonwealth should review the funding formula to take greater account the on-going management costs incurred by the states and territories.

Method of funding

12.89 The NRS Program since its inception has assessed projects on a case-by-case basis, that is, each individual acquisition is assessed for funding support based on

64 *Submission 161*, p. 19.

65 *Submission 137*, p. 28. See also National Parks Australia Council, *Submission 191*, pp 3–4.

66 Australian Wildlife Conservancy, *Submission 220*, p. 5. See also WCPA, *Submission 137*, p. 28.

67 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, pp 68–69.

meeting relevant criteria, for example, location in a high priority IBRA region. CALM argued that this approach hinders jurisdictions from acting on opportunities that are presented in the marketplace and suggested that a more strategic approach to the NRS Programme should be applied where jurisdictions can apply for funds on a broadscale basis for conservation land acquisition based on the level of their own investment. This would ensure opportunities in the marketplace are not lost.⁶⁸

12.90 Submissions also commented on the short term nature of funding arrangements. The Australian Ranger Federation argued that most funding is provided with a short-term window (2-3 years) but most conservation management activities, such as habitat management or threatened species recovery management, occur over a longer term (10-20 year) window – 'it is sometimes easy enough to attract initial funding to start a project but after several years this funding dries up before long term conservation outcomes are achieved'.⁶⁹

NRM funding vs NRS funding and program linkages

12.91 Submissions commented on the funding 'imbalance' between NHT programmes and the need for improved linkages between the NRS Programme and other NHT programs.

12.92 Since 1996 approximately 95 per cent of NHT funding has been directed into natural resource management, comprising Landcare, Bushcare, Coastcare and regional NRM programmes, leaving approximately 5 per cent for building the National Reserve System.

12.93 The IUCN argued that there should be more analysis of the cost effectiveness of the respective programs to justify the high allocation of funds to NRM and diminishing funds to NRS.⁷⁰

12.94 The Wildlife Preservation Society of Queensland stated that:

It has been noted on many occasions that it is far more cost effective to conserve intact native ecosystems than to attempt to rehabilitate significantly degraded vegetation. Yet significant funding is allocated to Landcare, Bushcare and other rehabilitation programmes at the expense of NRS. Under the NHT about only 5% of available funds have been directed to the NRS in the last 7 to 8 years.⁷¹

12.95 The Society argued that a significant percentage of NHT funds should be redirected to the NRS programme so that at least \$40 million per annum over the next

68 *Submission 135*, pp 13–14.

69 *Submission 57*, p. 2.

70 *Submission 137*, p. 26.

71 *Submission 113*, p. 5. See also Tamborine Mountain Natural History Association, *Submission 52*, p. 2.

6 years is available to be matched in part by the states and territories. Allocation of these funds should be on a triennial basis to allow for greater planning certainty.⁷²

12.96 Submissions also suggested that improved linkages should be put in place between the NRS Programme and other NHT programs. The Wildlife Preservation Society of Queensland stated that the partnership arrangements with other NHT programmes are often lacking:

WPSQ appreciates that it was the intention of the Government that the National Reserve System programme would work in partnership with other funding programmes under the NHT to assist in delivering the aims of NRS. This is simply not occurring.⁷³

12.97 The Wilderness Society also noted the inability to integrate biodiversity needs into NRM planning:

While the level of public investment in Natural Resource Management (NRM) dwarfs the public investment in Protected Areas, NRM bodies seem to have little expertise in and capacity to integrate biodiversity needs into NRM planning. Unless NRM frameworks make a far more serious attempt to integrate biodiversity conservation objectives into their planning frameworks and their level of expertise and capacity is very significantly increased, NRM bodies will continue to seriously under-perform on, or undermine, biodiversity needs.⁷⁴

12.98 Humane Society International (HSI) also noted that biodiversity conservation is poorly integrated into NRM planning:

The [National Land and Water Resources Audit] NLWRA *Terrestrial Biodiversity Assessment* found that effective integration had occurred in only 1.5% of 384 biodiversity sub-regions. Such low levels of effective integration into natural resource management planning cannot sustain Australia's immense biodiversity nor underpin the protection of essential ecosystem services.⁷⁵

12.99 The World Commission on Protected Areas (WCPA) also noted that:

...there is a need for better integration [of] bioregional issues across adjoining NRM region strategies. Most NRM bodies cover at least several bioregional boundaries. This is being done to some extent in WA through cross-regional projects, or from strategic reserve projects at state wide or theme level eg the 'Marine Futures' NHT project which involves State waters in 5 of the 6 WA NRM regions.⁷⁶

72 *Submission 113*, p. 6.

73 *Submission 113*, p. 5.

74 *Submission 131*, pp 10–11.

75 *Submission 172*, p. 4.

76 *Submission 137*, p. 26.

12.100 The Gilligan report also found that there is scope for further strengthening and enhancement of the level of integration and linkage between the NRS Programme and other NHT programmes. The report also argued that there is room for further integration of NRS Programmes with NHT regional activities.⁷⁷

12.101 Australia has an outstanding terrestrial reserve system and is a world leader in developing marine protected areas. All jurisdictions can be proud of their efforts in progressing the conservation estate, and the committee is pleased to see a significant degree of cooperation in the development of a Comprehensive Adequate Representative reserve system. It notes that a partnership between the Commonwealth and the States has developed in regards to funding new acquisitions for the conservation estate. The committee believes it may be time, in light of developments so far, and the Gilligan report on the NRS programme, to boost the Commonwealth's contributions to the NRS program in the context of its overall expenditure through the NHT.

Recommendation 16

12.102 The committee recommends that the Commonwealth review the funding formula under the NRS Programme to take greater account of the on-going management costs borne by the states and territories.

Recommendation 17

12.103 The committee recommends that in the upcoming NHT3 funding round the Commonwealth significantly increase the funding allocation directed to the NRS Programme.

Funding of World Heritage Areas

12.104 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). Parties to the World Heritage Convention contribute the necessary financial and intellectual resources to protect World Heritage sites with the Commonwealth and the states sharing the financial commitment to care for these areas appropriately.

12.105 Commonwealth funds allocated to state-managed WHAs in 2004-05 and 2005-06 are provided in Table 12.6 below.

77 Gilligan, B, *The National Reserve System Programme 2006 Evaluation*, Syneca Consulting Pty Ltd, November 2006, p 71.

Table 12.6 Commonwealth funds allocated to state-managed WHAs in 2004-05 and 2005-06.

| State | Property | Contract Amount 2004-05 \$ | Contract Amount 2005-06 \$ |
|-------|---------------------------|-------------------------------|-------------------------------|
| QLD | Fraser Island | 253 757 | 137 000 |
| QLD | Riversleigh | 195 600 | 193 805 |
| QLD | Wet Tropics of Queensland | 2 913 500 | 2 700 000 |
| QLD | CERRA - Qld | 130 500 | 140 250 |
| NSW | Greater Blue Mountains | 131 872 | 168 100 |
| NSW | Lord Howe Island | 160 997 | 168 000 |
| NSW | CERRA - NSW | 130 500 | 144 250 |
| NSW | Willandra Lakes | 271 000 | 306 520 |
| SA | AFMS - Naracoorte | 100 000 | 105 000 |
| WA | Shark Bay | 208 200 | 256 380 |
| WA | Purnululu | 228 200 | 303 350 |
| TAS | Tasmanian Wilderness | 3 513 000 | 3 453 905 |
| TAS | Macquarie Island | - | 60 000 |
| | TOTAL | 8 237 126 | 8 136 560 |
| | TOTAL- Queensland | 3 493 357 | 3 171 055 |
| | TOTAL - NSW | 694 369 | 786 870 |
| | TOTAL - SA | 100 000 | 105 000 |
| | TOTAL - WA | 436 400 | 559 730 |
| | TOTAL - Tasmania | 3 513 000 | 3 513 905 |
| | TOTAL | 8 237 126 | 8 136 560 |

Source: DEH, *Submission 126A*, p. 4.

12.106 Submissions noted the decline in Commonwealth funding for WHAs in recent years. The Queensland Government noted the 'significant decrease' in Commonwealth contributions to Queensland's WHA, especially with Round Two of the NHT2 agreement in 2002-03.

12.107 Table 12.7 below illustrates the levels of Commonwealth and State funding contributed to the management of Queensland World Heritage Areas over the past five years:

Table 12.7 Queensland World Heritage Areas Expenditure, 2001-02 to 2005-06

| WHA | Year | State Contribution \$ M | C'wealth Funds Received \$ M | Total State & C'wealth \$ M | % Contribution - State | % Contribution - C'wealth |
|-----------------------|---------|----------------------------|------------------------------------|-----------------------------------|---------------------------|------------------------------|
| Fraser Island | 2001-02 | 6.8 | 0.7 | 7.5 | 91% | 9% |
| | 2002-03 | 6.2 | 0.0 | 6.2 | 100% | 0% |
| | 2003-04 | 6.6 | 0.0 | 6.7 | 99% | 1% |
| | 2004-05 | 8.6 | 0.1 | 8.7 | 99% | 1% |
| | 2005-06 | 9.1 | 0.1 | 9.2 | 99% | 1% |
| CERRA | 2001-02 | 2.7 | 0.2 | 2.9 | 93% | 7% |
| | 2002-03 | 3.0 | 0.0 | 3.0 | 100% | 0% |
| | 2003-04 | 3.5 | 0.0 | 3.5 | 100% | 0% |
| | 2004-05 | 3.7 | 0.1 | 3.8 | 97% | 3% |
| | 2005-06 | 4.8 | 0.1 | 4.9 | 98% | 2% |
| Wet Tropics | 2001-02 | 9.2 | 3.4 | 12.7 | 73% | 27% |
| | 2002-03 | 10.0 | 2.7 | 12.7 | 79% | 21% |
| | 2003-04 | 9.9 | 2.8 | 12.6 | 78% | 22% |
| | 2004-05 | 10.5 | 2.9 | 13.4 | 78% | 22% |
| | 2005-06 | 12.6 | 2.7 | 15.3 | 82% | 18% |
| AFMS - Riversleigh | 2001-02 | 0.1 | 0.2 | 0.3 | 30% | 70% |
| | 2002-03 | 0.1 | 0.0 | 0.1 | 100% | 0% |
| | 2003-04 | 0.1 | 0.1 | 0.2 | 54% | 46% |
| | 2004-05 | 0.1 | 0.2 | 0.3 | 39% | 61% |
| | 2005-06 | 0.1 | 0.2 | 0.3 | 38% | 62% |
| Total | 2001-02 | 18.8 | 4.6 | 23.4 | 81% | 19% |
| | 2002-03 | 19.3 | 2.7 | 22.0 | 88% | 12% |
| | 2003-04 | 20.1 | 2.9 | 23.0 | 87% | 13% |
| | 2004-05 | 23.0 | 3.4 | 26.3 | 87% | 13% |
| | 2005-06 | 26.6 | 3.1 | 29.7 | 90% | 10% |

All State expenditure is estimated actual, except 2005-06 listed as budget allocation
Commonwealth Funds are actual received in that financial year

Source: Queensland Government, *Submission 175*, p. 30.

12.108 WCPA noted that the Commonwealth component of funding for the four WHAs, wholly or partly in Queensland, has fallen from \$7 066 000 in 1997-98 to \$3 366 600 in 2004-05.⁷⁸

12.109 The Queensland Government also noted that the Commonwealth has made substantial capital investments to infrastructure over the past ten years within Queensland WHAs but with no provision for long-term funding for maintenance or replacement of this infrastructure.

12.110 The Queensland Tourism Industry Council argued that reductions in funding for WHAs are placing 'severe constraints' on high profile Queensland sites,

78 *Submission 137*, p. 27.

particularly the Wet Tropics, Fraser Island and CERRA areas. The Wet Tropics and Fraser Island are facing serious infrastructure and management issues which the Council argued are 'potentially threatening' the obligations under the Commonwealth's World Heritage agreements. Commonwealth funding for Fraser Island has been severely reduced and does 'no longer provide for sound management' in an environment that is experiencing very high visitor demand.⁷⁹

12.111 The NSW Government stated that it receives 'very little' Commonwealth funding for NSW WHAs.

The commencement of the Natural Heritage Trust (NHT) in 1997-98 initially saw some improvement in the level of Commonwealth funding for WHAs...However, current world heritage management funding levels provided by the Commonwealth now remain disappointingly low.⁸⁰

12.112 The NSW Government added that:

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.⁸¹

12.113 The NSW Government cited a number of reasons for the reduction in funding since the commencement of NHT2:

- 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 (NRM) Boards. However the NRM Boards generally place priority for these funds on repairing the natural resources that are most under threat and 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.⁸²

12.114 The Wet Tropics Management Authority argued that the responsibilities of the Australian, state and territory governments in the management and resourcing of WHAs areas need to be more clearly defined. The Authority argued that the EPHC review of WHA management should aim to achieve a greater level of certainty and consistency in management and funding regimes for WHAs throughout Australia.

79 *Submission 106*, pp 2–3.

80 *Submission 155*, p. 25.

81 *Submission 155*, p. 25.

82 *Submission 155*, pp 25–26.

Such arrangements must recognise that not all WHAs are similar in terms of management needs and resourcing must be commensurate with the level of management effort required to meet Australia's obligations under the World Heritage convention.

12.115 The Authority argued that the resourcing arrangements for World Heritage Areas should comprise two components:

- base level funding commensurate with the lands' tenure and/or protected area category, noting for some properties this may be a combination of tenures and base line funding may be the responsibility of state agencies, local government authorities or private landholders; and
- a World Heritage funding allocation, recognising the international significance of these assets and the need for the highest standard of protection and management. Such an allocation should be shared between the Australian and state (or territory) governments. It should be based on agreed levels of responsibility for meeting obligations under the World Heritage convention and consider benefits accrued from such properties.⁸³

12.116 Dr Marc Hockings of the University of Queensland also argued that the shift to a regional focus for delivery of NHT programs has led to a dominant focus on local and parochial issues in the formulation of programs at the regional level. Dr Hockings noted that in his experience it has proved difficult to get the regional NRM bodies to give attention and priority to national conservation objectives, especially in relation to protected areas.⁸⁴

Conclusion

12.117 The committee notes the decline in Commonwealth funding for WHAs in recent years. The committee considers that, given the importance of these areas to Australians and in an international context, the Commonwealth should aim to increase funding to these important iconic areas.

Recommendation 18

12.118 The committee recommends that the Commonwealth consider substantially increased funding for World Heritage Areas.

Delineation of funding roles between governments

12.119 Some submissions argued that there should be a re-defining of the funding roles of the Commonwealth vis-a-vis the states and territories.

83 Wet Tropics Management Authority, *Submission 156*, pp 1–2. See also Professor Peter Valentine, *Committee Hansard*, 30 June 2006, pp 6–7.

84 *Submission 110*, p. 2.

12.120 Professor Geoffrey Wescott suggested a new funding model to address the inadequate resourcing of parks and protected areas. He argued that the Commonwealth should enter an agreement with the state and territory governments to fund the parks that form part of a 'National Park' system (that is, a new national ecological reserve system or 'super' national parks system) at a level to adequately meet their primary objective of nature conservation. This level of funding should be benchmarked at the Canadian or similar level.

12.121 Under the proposal state and territory governments would continue to directly manage these parks. The state and territory governments would in turn agree to transfer the funding currently provided for these 'national parks' to other protected areas in their jurisdictions (to avoid cost shifting).

12.122 Professor Wescott elaborated on his proposal in evidence to the committee, arguing that the overall resourcing of the parks system would be improved:

In essence, my proposal is to take the largest, most significant contributors to a CAR system of national parks and fund them at a Commonwealth level but maintain state management. The reason I argue for maintaining state management is that that is where the expertise lies. The temptation in having such a system would be for the states simply to pass the cost across to the Commonwealth and reduce their budgets, so I think there is a second-tier approach there, and that is, if the Commonwealth is funding, not unlike the national road system, a super national parks system then the states as part of the agreement would transfer the money they had spent on, say, the Grampians National Park in Victoria to the state system in Victoria. You would consequently get an overall improvement in resourcing of the parks system.⁸⁵

12.123 On the issue of funding under the proposed arrangements, Professor Wescott argued that all governments would need to agree to increase the operational funding annually across all parks by at least CPI plus one per cent (to increase real funding over time).⁸⁶

12.124 Some witnesses commented generally on the relative responsibilities of the Commonwealth and the states. Ms Penelope Figgis, Vice Chair for Australia of the WCPA argued that national governments should play a central role in the management of protected areas – 'I do not believe that the Commonwealth...should walk away from national responsibilities but I do believe that, whatever your management structure is, it needs to have local input'.⁸⁷

12.125 Mr Graeme Worboys, Vice Chair of the WCPA, argued that one of the great strengths of the current system is that is that each of the states and territories and the

85 *Committee Hansard*, 5 June 2006, pp 16–17.

86 *Submission 49*, p. 3.

87 *Committee Hansard*, 31 March 2006, p. 60.

Commonwealth 'can look at each other in a comparative sense, work and develop and, in a competitive type of way, improve'. However, a weakness of that system is the lack of a strategic vision at a national level.⁸⁸

User pays

12.126 There was considerable discussion during the inquiry of the extent to which park users should contribute to the funding of the conservation estate. There are two main approaches to charging park users – visitor fees for users in general; and charges targeted at commercial operators for whom national parks are effectively an asset underpinning their businesses.

12.127 Protected area management agencies are funded predominantly from government appropriations. They also raise funds from visitor fees, tour operator licences and photographic licences – but these sources make up a relatively small proportion of their total budgets, commonly less than 5 per cent.⁸⁹

12.128 A number of submissions supported the concept of user-pays to address the issue of underfunding of national parks and reserves:

...a significant proportion of the resources required for the protection of our resources needs to come through User Pays Systems (UPS). Although there are already established UPS throughout Australia, I believe that these should be expanded to become a National Policy. This will not only provide significant revenue for restoration and protection projects, but also provide the National Parks, Reserves and Marine Areas with a uniform level of expectation for users.⁹⁰

12.129 Other submissions argued that such charges go against the principle of equal access for all park users and may impose a significant financial burden on many park users.

I am concerned that there appears to be a trend of increasing the access charges for these facilities, so that they are not really national resources available equally to all Australians. Specifically the entry fees to the Kosciuszko National Park are increasing faster than the CPI. Annual passes are increasing from \$145 at present to \$190 next year, and day passes will increase (during the June-October period) from \$22 per day to \$27 per day in 2007. Not only are the entry fees very large, but they are discriminatory.⁹¹

Newly introduced entry fees [for Kosciuszko National Park] discriminate against those whose vehicles are not registered in New South Wales. This is a new form of discrimination based on residence. In the past, everyone

88 *Committee Hansard*, 31 March 2006, pp 60–61.

89 International Centre for Ecotourism Research, *Submission 11A*, p. 16.

90 Mr Shane Murrihy, *Submission 10*, p. 1.

91 Dr David Denham, *Submission 61*, p. 1.

paid the same...National parks should be open to all. Entry charges should be modest and above all there should not be discrimination based on residence.⁹²

Visitor fees

12.130 After government budget appropriations, the main secondary source of revenues for protected area agencies is from entrance, camping and activity fees. Maximum vehicle entrance fees for most national fees are around \$10–15 per day, with a range from zero to over \$30. Annual fees are proportionately much lower, mostly around \$50–80 with a range from zero to around \$200. Annual permits have financial advantages for parks agencies as well as visitors, since they greatly reduce administrative costs.

12.131 Most Australian parks charge entrance and camping fees for all visitors, whether travelling individually or on commercial tours. Fees are calculated per person, per vehicle, per campsite, or some combination of these. Camping fees are structured differently in each jurisdiction. Some parks charge per site, some per vehicle, some per person and most by a combination of these approaches. A single visitor could pay anything from zero to \$18 for an overnight campsite in different states. A family of two adults and two children would typically pay from \$15 to \$25, through up to \$40 in some cases. From the parks agency perspective, collecting camping fees will only generate net revenue where visitor numbers are high enough to cover the costs of staff to collect fees, or the costs of installing, maintaining and policing self-registration systems.⁹³

12.132 The states and territories have adopted varying approaches to charging entry fees to parks. Broadly, the Northern Territory and Queensland do not charge individual members of the public for entry to national parks, except for federally managed or co-managed parks in the NT and parks under the *Recreation Areas Management Act 1988* in Queensland. Agencies in other states and territories commonly charge daily vehicle entrance fees at specific parks. They also offer season passes for all or most parks. Fees are generally higher in heavily used parks, such as those in alpine areas or near cities. A variety of weekly, bi-weekly, monthly and 2-monthly passes are offered for particular parks. Most park agencies also charge entrance fees for individuals on buses or bicycles.⁹⁴

12.133 In NSW, some of the larger national parks charge park use fees, while others do not.⁹⁵ Victoria has a system of annual park passes, multi-day park passes and daily

92 Mr Ernst Willheim, *Submission 17*, p. 1.

93 International Centre for Ecotourism Research, *Submission 11A*, pp 16–17.

94 R Buckley *et. al.*, eds., *Nature-Based Tourism, Environment and Land Management*, CABI Publishing, 2003, pp 54–55.

95 Dr Tony Fleming, *Committee Hansard*, 12 May 2006, p. 6.

entry charges for a number of national parks.⁹⁶ South Australia also charges park entry fees. In Tasmania park passes must be purchased for entry to national parks, but fees do not apply to other reserves.⁹⁷

12.134 The Queensland Government has a policy position of generally not charging entry fees to estate areas, 'as it is believed that these public areas should be freely accessible to the general public'.⁹⁸ Admission fees are charged in some areas where a service is provided to day visitors, however these fees contribute less than 4 per cent of the total user revenue received each year. Charges are also levied for overnight camping and vehicle service permits for access to areas managed under the Recreation Areas Management Act such as Fraser, Moreton and Bribie Islands.⁹⁹

12.135 The Hon Desley Boyle, Queensland Minister for the Environment, indicated that user pays, particularly in relation interstate and overseas tourists could be considered:

This [user pays] is of some interest to the community and to the tourism industry. Particularly in areas with high visitation, where there is, therefore, a need for more resources in terms of numbers of rangers and more work to ensure that the infrastructure there can support the visitor load without harm to the environment, more money is needed. Maybe the tourists, certainly from other parts of Australia but even more certainly from overseas, should contribute to that cost so that we can do a better job.¹⁰⁰

Table 12.8 Queensland Government – User Pays Revenue Received

| Revenue Category | 2001-02 \$M | 2002-03 \$M | 2003-04 \$M | 2004-05 \$M | 2005-06 \$M |
|--------------------------|----------------|----------------|----------------|----------------|----------------|
| Camping and visitor fees | 2.4 | 5.8 | 6.1 | 6.3 | 5.6 |
| Commercial Activities | 1.2 | 3.0 | 3.0 | 3.4 | 2.9 |
| Other | 2.5 | 2.0 | 2.2 | 2.0 | 1.9 |
| Total | 6.2 | 10.8 | 11.3 | 11.6 | 10.4 |

- All estimates are actual revenue received to 2004-05 and budget estimates for 2005-06

Source: Queensland Government, *Submission 175*, p. 18.

96 Parks Victoria web site, Welcome to Parkweb, www.parkweb.vic.gov.au, accessed December 2006.

97 Parks and Wildlife Station Tasmania web site, Welcome, www.parks.tas.gov.au, accessed December 2006.

98 Queensland Government, *Submission 175*, p.17.

99 *Submission 175*, p. 17; Mr Alan Feely, EPA, *Committee Hansard*, 21 April 2006, p. 21.

100 *Committee Hansard*, 21 April 2006, p. 3.

12.136 Table 12.8 shows that the user-pays revenue base in Queensland was almost \$12 million in 2004-05 from camping, commercial activities and other charges.¹⁰¹

12.137 The Wet Tropics Management Authority argued that a user pays system for the WTQWHA should be investigated in order to supplement funding for research and on-ground management to fulfil community needs, visitor expectations and address the growing impact of threatening processes.¹⁰² Professor Peter Valentine, Director of the Authority, indicated that while there may be difficulties in implementing such a system there is strong consumer willingness to pay:

...there are a number of issues that would need to be addressed. The short answer is that I do not have a solution. One of the reasons for that is that there are a whole lot of jurisdictional challenges in overcoming how it might apply. For example, many of the destinations in which visitors to the World Heritage area end up are in national parks, which are properly managed by the Queensland Parks and Wildlife Service. There is a small component of getting visitor fees through the commercial activity permit scheme that Queensland Parks and Wildlife Service run, but that is very small and it only applies to commercial use; it does not apply to normal visitors.

In Queensland, we have had this long tradition of not charging people to enter national parks. Personally, I think that is against the spirit of ecologically sustainable development. One of the principles of that is that we need to make sure that people pay for environmental resources in order to get best and most effective use of them. But that is a political issue. In Queensland it has been very difficult for the government to contemplate introducing visitor entry charges in national parks because of that long history...When surveys are being done, we mostly find that visitors' preparedness and willingness to pay is very high. There is a huge consumer surplus between what people have to pay to enjoy our natural areas and what they are willing to pay, because they have this commitment to protect the environment. Sometimes I think our governments struggle to catch up with what the community's real views are about this.¹⁰³

12.138 The NSW Government indicated that while some parks in the state charge fees it is not standard across the state:

The government has made it pretty clear that, while some parks charge park use fees, there is no expectation that that will be extended to cover all national parks in New South Wales. There are some parks—particularly parks which have high visitor use and therefore high demands on

101 See also Mr Alan Feely, QPWS, *Committee Hansard*, 21 April 2006, p. 21.

102 *Submission 156*, p. 5.

103 *Committee Hansard*, 30 June 2006, p. 7. See also Professor Peter Valentine, WTMA, *Committee Hansard*, 30 June 2006, pp 12–14.

infrastructure—where park use fees are charged, but there are no plans to extend that to all parks in New South Wales.¹⁰⁴

12.139 South Australia raises approximately \$8 million annually from park users, although the South Australian Government indicated that there is limited scope for relying on park fees to substantially fund park outlays. Mr Allan Holmes, Chief Executive, SA Department for Environment and Heritage stated that:

Again, South Australia, with 1.5 or 1.6 million people, has a small population base and there is not a lot of opportunity to derive income from visitors. We pull somewhere around \$8 million per year out of park users. We charge park entry; we recover costs for vehicle use. I do not think there is a great deal of opportunity there.¹⁰⁵

The Commonwealth raises 80 per cent of all operating costs for Uluru-Kata Tjuta National Park out of entry fees.¹⁰⁶

12.140 Some submissions argued that park management should expand the use of user pays systems. The International Centre for Ecotourism Research argued that it was 'eminently feasible' for most park services to increase entrance, camping and activity fees 'quite substantially', so as to gain a greater proportion of total tourism expenditure associated with visiting national parks. The Centre argued however that such an approach has a range of implications. It may affect the ability of certain socio-economic groups to visit national parks. It may reduce the number of visitors to national parks, and hence their associated regional tourism expenditure. It may lead to competition between national parks and tourism destinations in other areas such as state forests or private land. It may also increase administrative costs for parks agencies. Additionally, there is no particular reason why funds raised from visitors would necessarily be allocated to improving visitor infrastructure. Currently, such revenues may not be even be retained by the parks service itself, let alone at the specific park where the revenues are raised.¹⁰⁷

12.141 Some witnesses suggested the adoption of a state-based or national user pays approach based on a sticker system:

....there are probably a number of ways of doing it. But it brings to mind the Canadian system where you purchase a sticker once a year, and it would be better to get 80 per cent of the people going into the parks than none at all. The sticker is on the windshield and the ranger sees whether it is a current or valid sticker. That seems to work quite well in Canada.¹⁰⁸

104 Dr Tony Fleming, *Committee Hansard*, 12 May 2006, p. 6.

105 *Committee Hansard*, 6 June 2006, p. 56.

106 Director of National Parks, *Annual Report 2005-06*, p. 18.

107 Professor Ralf Buckley, *Submission 11A*, p. 35.

108 Mr John Courtney, Alliance for Sustainable Tourism, *Committee Hansard*, 30 June 2006, p. 38.

12.142 Problems associated with user pays were discussed in evidence. There may be difficulties in implementing fees for park entry in some situations especially where there are multiple entry points to a park. Some of the difficulties were commented upon in evidence:

There are various elements within a user-pays fee, and there are various models you can use to apply that fee.

When you talk about the Daintree and the levy on the ferry over the Daintree, the road from the other side of the Daintree ferry goes all the way up to Cooktown, up to the top of the cape. What areas are they using? Are they using specific parts of the Daintree or are they continuing to go through? That is a fairly open-ended charge. People still use the ferry, but you do not know what they are going to do, whereas when people are going to a specific area like Mossman Gorge, you know they are only going into Mossman Gorge. That would be a fairly simple one of perhaps a per-head charge. We have to be careful if we apply it per head. Is it on consumption? In other words, there are a lot of variables that would go into user-pays. I guess that is one of the reasons it has not been applied widely.¹⁰⁹

12.143 Some witnesses questioned whether imposing fees would be viable in all instances, especially with the administrative costs involved, particularly in smaller parks:

...the debate typically has focused on a destinational user-pays base in the sense that people often go for a holiday to one area for a relatively short piece of time and so that can be one fee—certainly, that is in most states in Australia. The debate about Queensland has been that it is only the really prime sites that user-pays would be feasible and viable in, in a financial sense.¹¹⁰

12.144 Some witnesses noted that there is the potential for the state contribution to national parks to decline if a user charge contribution is introduced.¹¹¹

12.145 The committee believes that the capacity of user pays initiatives to generate significant overall revenues in the resourcing of parks is probably limited. However, avenues for greater use of user pays should be further explored by state and territory governments and parks management, particularly to help address the management needs created by high visitor numbers.

Tourism, commercial activities and park funding

12.146 Tour operators contribute to protected area management in terms of funding (permit and per head fees) and in-kind (conducting or paying for research, monitoring

109 Mr Steve Olle, Alliance for Sustainable Tourism, *Committee Hansard*, 30 June 2006, p. 47.

110 Mr Russell Boswell, Alliance for Sustainable Tourism, *Committee Hansard*, 30 June 2006, p. 38.

111 Mr Steve Olle, Alliance for Sustainable Tourism, *Committee Hansard*, 30 June 2006, p. 48.

sites, building and maintaining visitor infrastructure and in some cases undertaking hands-on conservation activities). These contributions are not only important additions to government funding, in many instances tourism-generated funding for protected areas forms a large part of their budget.¹¹²

12.147 Except in the ACT, commercial tour operators have to be licensed, and licence fees include an application fee, an annual fee, and per capita fees for clients. Application fees are typically up to \$300 and annual fees are generally around \$150 to \$250 but significantly larger fees (over \$2000) apply in some cases. Per capita fees are generally as for independent visitors, but up to \$2.50 higher in some case and discounted in others.¹¹³

12.148 The Association of Marine Park Tourism Operators (AMPTO) noted, for instance, that the marine tourism industry provides more than 25 per cent of the Great Barrier Reef Marine Park Authority (GBRMPA's) funding:

A...study by Tourism Queensland shows the marine tourism industry pays \$187.5 million in income tax, \$8 million in EMC and \$19.9 million in company tax. A total of \$215.4 million to the Commonwealth and it pays out \$30 million for the GBRMPA. A net gain of \$185.4 million for the Commonwealth!¹¹⁴

12.149 Mr Gareth Boyte of Voyages Hotels and Resorts, Uluru, indicated that the company provides substantial infrastructure spending on the resort:

We own the airport...It is costing us \$22 million. We reinvest a lot of money into infrastructure...We are replacing things that are 20 years old. We are talking millions. We spend millions each year. It is a balancing act between repairs and maintenance on existing infrastructure and introducing new and more efficient and more environmentally friendly infrastructure, or, as is the case at the airport, making sure that we can handle the expected volume of people that are coming here over the coming years.¹¹⁵

12.150 Representatives from the commercial tourism sector generally recognised the need to make a financial contribution to the funding of parks and reserves. Mr Col McKenzie of AMPTO argued that the tourist sector and other users should contribute to the upkeep of reserve areas:

We believe that everybody who uses the reef should pay for the privilege and contribute something towards it, not just simply the tourism operators. Virginia Chadwick's figures on free independent travel into the reef estimate about two million free independent travellers. There are about two million people paying EMC. We are currently contributing about \$8 million

112 Ecotourism Australia, *Submission 81*, p. 3.

113 International Centre for Ecotourism Research, *Submission 11A*, p. 17; See also R. Buckley, *Nature-Based Tourism*, pp 54–55.

114 *Submission 197*, p. 2.

115 *Committee Hansard*, 28 June 2006, p. 15.

a year via the EMC. If the free independent travellers were paying the same kind of thing, it would double that amount. It would go a long way to solving the problems that GBRMPA has with not being able to pay for its programs.¹¹⁶

12.151 The Far North Queensland Tour Operators Association argued that the tourism industry is willing to make an appropriate financial contribution to address the issue of under-funding in protected areas. The Association expressed concern however that the financial contribution should not be borne solely by the operator but by all users of the service.¹¹⁷

12.152 Mr John Courtney, of the Alliance for Sustainable Tourism in indicating the Alliance's support for user pays, argued that:

We as an industry very much support the concept of user-pays. Currently, the industry does pay, but we believe that all users of national parks across the state should pay.

In actual fact, at the end of the day it all comes down to the lack of money. ...But, increasingly, I am stunned at the deterioration of the general infrastructure within national parks. It all comes down to the fact that Parks does not have the money to maintain what they have, and yet we are acquiring more land.¹¹⁸

12.153 Evidence indicated the need for an 'equitable' system where all users contribute and funds are used in managing reserves:

I do not think the industry would really mind where the money comes from as long as the money is used for the specific purpose of Mossman Gorge, for example—if it is used to upgrade that facility, to make it manageable and to keep it in its current state, where the money comes from is really not that much of an issue.¹¹⁹

12.154 AMPTO describes as unsatisfactory the situation in Queensland where the GBRMPA's budget was not increased despite the introduction of an Environment Management Charge (EMC):

EMC started as a vehicle by which industry could provide funding to the CRC Reef as industry's contribution. The EMC was voluntarily accepted by industry at a cost of \$1.00 per tourist with \$0.75 going to the CRC Reef and \$0.25 going to the GBRMPA. When it was introduced, it was promised by the commonwealth government that it would never ever be increased.

The EMC has now been increased to \$4.50 and increases again next April to \$5.00. When it was increased from \$1.00 to \$4.00 the government

116 *Committee Hansard*, 30 June 2006, p. 58.

117 *Submission* 115, p. 2.

118 *Committee Hansard*, 30 June 2006, pp 35–36.

119 Mr Steve Olle, Alliance for Sustainable Tourism, *Committee Hansard*, 30 June 2006, p. 47.

promised that the extra money collected would be added to the GBRMPA's budget so that it could deliver more services and programs. Despite the promise, the increased charge did not result in a net increase to the GBRMPA's budget.¹²⁰

12.155 Some witnesses noted that there needs to be greater opportunities for commercial activities within parks.

12.156 Professor Peter Valentine, Director of the Wet Tropics Management Authority, informed the committee of the successful operation of commercial ventures in US parks. The US park service operates a concession system. Although much of the infrastructure is owned by the government it is nonetheless franchised out to commercial operators in many cases to operate according to strict guidelines.

It is argued by some that this is quite a nice way to achieve an outcome that is directed by the park service but operated by non-park employees. I think in addition to the 400 permanent plus 400 seasonal staff, you have got a whole raft of other people who are providing services within the national park, particularly for accommodation, meals—those sorts of facilities—and some guiding as well.¹²¹

12.157 Professor Valentine noted that the income available to the US park service is substantial. He noted however that:

It is important to acknowledge that in the US system, those incomes come into the park and are properly allocated to managing the costs of all that. I think that one of the challenges in Queensland is that income earned by the Queensland Parks and Wildlife Service goes straight to Treasury. There is not the same opportunity to reinvest that directly in the parks that earn it. It is just a different system, so you have to rely on Treasury agreeing to extra grants down the track.¹²²

12.158 Mr Gareth Boyte also argued that there is a place for commercial ventures in reserves:

Commercial operations within the park, if they can be done without too big an impact. There is a place for them everywhere. User pays is always a good one! But how much how much the user is willing to pay is also a commercial decision by itself. When you look at the overview, government—Territory and Commonwealth—is an obvious source of funds, but industry has to contribute its share to managing the park. Again, it comes back to everyone having a clear, strategic plan to work together. If you have that and everyone is still getting the benefit from it, I do not see a problem with industry or even the community or parks not wanting to

120 *Submission 197*, p. 2. Visitors to the region are required to pay an EMC which is collected by AMPTO members on behalf of the Commonwealth. In 2004-05 this amounted to \$8 million.

121 *Committee Hansard*, 30 June 2006, p. 10.

122 *Committee Hansard*, 30 June 2006, p. 10.

ensure that the attraction is in any way diminished because we do not have enough money to do it, as long as it is achieved with a planned approach.¹²³

12.159 However, some evidence expressed a contrary view. Professor Ralf Buckley, Director of the International Centre for Ecotourism Research, argued that there are significant problems associated with major private tourism development in public protected areas. He pointed out that private businesses are profit-driven and if profits are to be made from park visitors, they should be directed to parks agencies.

12.160 Professor Buckley also noted that once commercial property development interests have a foothold in a public park they can place considerable pressure on park management agencies essentially demanding the 'right' to monopolise visitor services, charge fees and add further developments in order to continue making a profit. This can lead to either public subsidy of private interests or to the imposition of expensive and/or inequitable requirements or restrictions on individual visitors to the park concerned. Once a development is established it is often difficult for the parks agency to remove it, and politically difficult even to insist on original leases or contract conditions, if the private investor later finds them unpalatable.¹²⁴ Professor Buckley added that:

...when large-scale property developers are talking about partnership with parks, what they mean is, 'Give us some free land of high value with publicly funded infrastructure, a guaranteed publicly funded marketing scheme, a guaranteed stream of clients, and let us build a hotel there where we can charge what we like and keep the money.' When the conservation sector is talking about a partnership, what they mean is: 'There is lots of land outside parks that is of high conservation value and could easily be used for tourism, so why don't we have schemes to encourage conservation on private land and why don't we encourage tourism in other areas outside national parks, such as forests, private land et cetera?'¹²⁵

12.161 Commercial activity in national parks and reserves is limited at present. For example, in Queensland, Mr Alan Feely, Executive Director of the EPA noted that:

There is no mining in national parks, very clearly, except from an extractive industry point of view. Commercial opportunities are really defined by infrastructure at the moment. We have a policy of no private infrastructure on parkland. So, for example, Eurong resort is adjacent to national park but it is not on national park. Obviously we have commercial tour operators. Fraser is probably one of the iconic examples of a commercial tour operator operating on the estate all the time. That is part of having a good, well-used, well-managed, still-protected park estate; they are not just solely there for

123 *Committee Hansard*, 28 June 2006, p. 14.

124 *Submission 11A*, pp 1–2.

125 *Committee Hansard*, 21 April 2006, p. 71.

biodiversity. They are the tourism backbone of Queensland and the country, and so they should be.¹²⁶

12.162 Some witnesses pointed to the attitude of some park management as inhibiting the development of commercial opportunities. Mr Russell Boswell, Director of the Alliance for Sustainable Tourism, noted that:

I guess the traditional approach of protected area managers has been that they feel that they need to manage tourism rather than work in partnership with it. That has in some ways limited the outcomes of us being able to get private, commercial and partnership funding to do things within national parks to benefit land management strategies. It seems, certainly in Queensland, that over time the actions of the industry with those kinds of conservation and accreditation initiatives that we have fostered has earned us a degree of respect and, while there will always be the odd cowboy, the industry is probably even more concerned about getting rid of those people than even the protected area managers.¹²⁷

12.163 Some witnesses raised doubts as to the capacity of commercial enterprises in parks to generate sufficient revenue to form a significant revenue base. Mr Allan Holmes, Chief Executive, SA Department for Environment and Heritage stated that in the case of South Australia:

I believe that commercial enterprise and sponsorship is problematic. I am not sure there is great opportunity there, so that is not where we are looking.¹²⁸

12.164 Other submissions raised concerns about the risk of commercial activities in parks compromising the objectives of national parks:

A serious threat to the objectives and management of national parks etc. is the trend to make these areas pay for themselves. Thus there is pressure to allow commercial activities in parks to make them more self-sufficient. This has the potential to compromise the objectives of national parks etc.¹²⁹

126 *Committee Hansard*, 21 April 2006, p. 21.

127 *Committee Hansard*, 30 June 2006, p. 43.

128 *Committee Hansard*, 6 June 2006, p. 56.

129 Ms Julie Sheppard, *Submission 62*, p. 1.

12.165 The committee believes that further opportunities for commercial developments within parks and reserves should not be encouraged by state and territory governments and parks management. The committee considers that such developments may compromise the primary objectives of national parks and reserves.

A handwritten signature in black ink, consisting of a stylized initial 'A' followed by the name 'Eggleston' written in a cursive script.

Senator Alan Eggleston
Chair

Minority report of Labor senators

Labor Senators support the recommendations of the majority report; however we do not believe that they go far enough in ensuring the continued survival of Australia's national parks, conservation reserves and marine protected areas and the globally important biodiversity they contain.

Values and objectives of the conservation estate

Many of those who provided evidence to the Inquiry argued that conservation of biodiversity should be considered as a prime value of parks and protected areas. The majority report acknowledges the central value of conservation with a significant proportion of its content dedicated to the issue of conservation. As the effects of global warming continue to cause stress to the natural environment, legally protected parks and reserves will fulfil an even more important role in protecting Australia's unique biodiversity.

Furthermore, it is a widely-held view that parks and reserves are one of the most cost-effective ways of conserving biodiversity.

In this context, it is our belief that there should be a new national consensus that biodiversity conservation should be the number one priority both in the creation of new parks and in the management of existing ones – both terrestrial and marine.

The Terrestrial Reserve System

The evidence suggests that regional delivery of NRM has reduced the priority of biodiversity conservation in NRM plans and investment strategies. The Australian Conservation Foundation reported¹ that from a “national NGO perspective, it has proved extremely difficult to input into regional NRM planning”, concluding that “it seems clear that the integration of biodiversity conservation into regional planning is largely inadequate at present”.

The Department of Natural Resources, Environment and the Arts, Northern Territory Government, in their submission to the Inquiry, wrote:

“Biodiversity conservation in the Northern Territory is primarily a Territory responsibility, but obligation and benefits extend beyond Territory borders.”

Regional NRM planning creates a situation where individual management plans can be disproportionately influenced by local pressure and interest groups, leading to a diminished emphasis on biodiversity conservation and other national priorities.

¹ Watts, Corey, Australian Conservation Foundation, *Getting on Track: Australia's Progress Towards Ecologically Sustainable Management of our Rural Landscapes*, October 2004.

There were also concerns raised about the need to refocus on the benefits of a national reserve system that extends beyond merely those who visit the areas. The importance of biodiversity conservation extends beyond the borders of an individual reserve: conservation is a national and international responsibility with many economic, scientific, cultural and aesthetic benefits for all of humankind.

The National Parks Association of Queensland Inc. in their submission to the Inquiry noted that:

There is growing pressure for “user-pays” approaches to fund parks and greater commercialisation of parks including placement of commercial, privately owned infrastructure on National Parks in Queensland. The "user pays" philosophy distorts management agency mission away from protection to one of fostering high visitor numbers.

Visitors are not the principal users of parks. The entire community benefits from the biodiversity protection and ecosystem services provided by parks whether they visit or not.

In moving to a focus on conservation as the major concern, it is important that we examine the way reserves are funded and managed. While tourism is an important and valuable concern, it should not override the main purpose of the national reserve system.

Throughout the country we were very impressed with the hard work and dedication displayed by those responsible for managing individual parks and reserves and we do not want to diminish the very important role performed by these individuals. However, we believe that the Commonwealth must take on a leadership role in the development and funding of NRM plans in order to ensure that there is a greater focus on biodiversity conservation as well as supporting the national reserve system for biodiversity conservation purposes.

Protecting the Marine Environment

The majority report’s recommendations regarding the establishment of marine protected areas for Australia are inadequate given the significance of marine conservation in the context of the impact of global warming.

Consideration should be given as to whether the National Representative System of Marine Protected Areas (NRSMPA) is adequate in the face of the increasing threats of climate change and land-based run-off.

The report also notes evidence from Ms Petrachenko of the Department of Environment and Water Resources that additional Commonwealth funding of \$37.7million in 2006/07 “will enable us to reach our objective, which is to complete

the identification of marine protected areas in all Commonwealth waters, so around the EEZ, by 2012. That is in line with the international objective of having a complete network of MPAs.”

We call on the Commonwealth to consider providing funding and leadership so that the NRSMPA is established by 2012.

The majority report makes no recommendations with regards to problems with the process of establishing marine protected areas (MPAs). The committee heard evidence about the controversy surrounding the completion of the south-east MPA. WWF, in a recent policy paper entitled ‘Priorities for a living Australia’², suggests that the south east MPA failed to deliver a “first class scientific outcomes and demonstrates that current processes are inadequate to ensure MPA declarations are based on the best science available”.

Consideration should be given to the WWF’s recommendation that an independent National Marine Parks Scientific Commission be established to guide future MPA planning process, so that the scientific evidence provides the basis of the establishment of all future MPAs.

There is an urgent need for a more consistent approach to consultation so that all parties can feel confident in the process. It is also important that this consultation and planning work quickly and fairly to resolve the issues. As Mr Paul Gamblin, the spokesperson for the Save Ningaloo Campaign said during the Perth hearings:

...One of the very interesting elements of that is that industry is often very keen for that to happen as well, because it provides them with more certainty. They may not have access to all of the areas that they may have wanted, but they will often trade that for certainty—that is what they tell us, for example. That goes for the community too: the feeling of certainty, knowing what the future might hold. Sitting around a table and trying to work that out is very, very important, and we do not do it enough.

There is a need to ensure that the process is fair, and that it balances all interests and views appropriately.

It is disappointing that the majority report makes very little mention of the potential large scale damage from climate change to the Great Barrier Reef Marine Park. The April 2007 Intergovernmental Panel on Climate Change (IPCC) Report starkly demonstrates the threat that climate change poses to the Reef. The Commonwealth Government should increase its efforts to build resilience and protect the Reef from the damage caused by climate change.

² Worldwide fund for Nature – Australia, *Priorities for a Living Australia: Federal Policy proposals to Tackle Dangerous Climate Change and Build Environmental Resilience*, February 2007.

The role of indigenous Aboriginal and Torres Strait Islanders in marine protected areas has also been completely overlooked by the majority report, despite the significant expertise and responsibility indigenous Australians have in regard to our marine areas.

Consideration should be given to the continued development of the Indigenous Sea Ranger programme.

Threats to the Reserve System

Climate Change

The major issue for park establishment and management is the impact of climate change on species and ecosystems located in the reserve system.

The majority report fails to adequately address the issue of climate change and its impact. Climate change poses the greatest risk to species and ecosystem survival as well as increasing the risk of other threats such as fires. For example the UN's Intergovernmental Panel on Climate Change Report of 6 April 2007 indicates "that up to 30 per cent of plant and animal species so far assessed are likely to be at increased risk of extinction if increases of global temperature exceeds 1.5 – 2.5 deg. C"³. Increases of global temperature of at least 2 deg. C are more than likely by the end of the century. The Commonwealth Government must therefore make addressing the problems of climate change its number one priority.

The main strategy for tackling global warming must be a focus on the reduction of carbon emissions. In this light, the Howard Government's response is entirely inadequate and will do little to prevent great damage to the reserve system. The Commonwealth Government must do more to address the problem including: ratifying Kyoto, setting targets and establishing a carbon trading scheme.

The majority report identifies resilience and connectivity as adaptation measures for parks and their resident species and ecosystems. However the recommendation of "focusing on their connectivity" says nothing about how to achieve this goal.

We would add the following recommendations in response to this issue:

- That the Commonwealth, in consultation with the State and Territories, review 'National Biodiversity and Climate Change Action Plan 2004 – 2007' with a view to developing a revised and more action-orientated program with clear performance measures and provide funding for completion of priority strategic actions;

³ McCarthy, Michael, 'How the worst effect of climate change will be felt by the poorest'. *The Independent*, London, 7 April 2007.

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- That the Commonwealth work with State and Territory Governments to initiate a research and development program on the impact of projected climate change on Australia's indigenous species and ecosystems and parks and reserves and identify appropriate adaptation measures;
 - That the Commonwealth and State and Territory Governments support appropriate off- reserve conservation measures;
 - That the Commonwealth and States and Territory Governments provide sufficient funding to complete the national reserve system (NRS), with a particular focus of reserve system needs in the 15 National Biodiversity Hotspots announced by the Commonwealth Government in October 2003;
 - That the Commonwealth take the lead in establishing wildlife corridors through both reserve and off-reserve measures to assist migrating species, including funding for detailed studies into the most appropriate strategies for the proposed Eastern Australian Great Escarpment Corridor; and
 - That the Commonwealth Government takes on a leadership role in this issue to ensure a strong, national approach to national parks and reserve establishment and management that makes biodiversity conservation the main priority.

Fire

The majority report states that “fire is a natural part of the Australian landscape” with no mention of the well-established relationship between fires and global warming. It is clear that climate change poses one of the greatest threats to national parks and reserves, to the extent that it even increases the impact of other threats such as bushfires, making it even more urgent that we respond to the problem quickly and effectively.

The evidence presented to the Inquiry showed that there is still very vigorous debate concerning both the risks of bushfires and its use in protecting both the natural environment and areas inhabited by humans. This is a debate in which the Commonwealth Government must take on a leadership role in developing a national approach based on the best research and that properly balances all the risks and benefits.

Feral Animals and Weeds

Given the threat to national parks and reserves posed by feral animals and weeds, we were surprised that the majority report simply noted the Government's failure to respond to the recommendations of a previous Committee report: “Turning back the tide – the invasive species challenge”. The Howard Government's failure to respond to the recommendations contained in that report demonstrate its lack of concern for this problem.

We are also concerned that the Commonwealth's decision in 2006 not to continue funding the CRC for Australian Weeds Management has increased the threat to our national parks and reserves.

In light of the evidence presented to this Inquiry which demonstrates the threat posed to national parks and reserves, we call on the Commonwealth Government to address the recommendations as a matter of urgency.

Furthermore, we must develop an agreed national framework that can support a coordinated response to the control of feral animals without delay.

Threats to the marine reserve system

The majority report has very little to say about the impact of agricultural run-off on the Great Barrier Reef Marine Park. It is very important that the Commonwealth take on a leadership role in finding the best way of reducing this impact.

Private conservation

Australia's pastoral regions are among the most under-represented in the reserve system, but there is little discussion in the majority report about ways in which this problem may be addressed.

The concept of environmental stewardship, where government payments help to provide environmental services above a base level of duty of care, is an important idea that is currently being debated. This should be given serious examination as a way of increasing the role of private individuals and organisations in off-reserve conservation.

National Reserve System

There is a great need for the Commonwealth to take on a much stronger leadership role in completing the national reserve system and undertaking off-reserve conservation.

The funding required by Recommendation 17 should work towards meeting the Gilligan Report's recommendations, in particular, the target of 80 per cent representation of regional ecosystems in the NRS by 2010-2015. A particular focus should be on reserve establishment and management requirements in the 15 National Biodiversity Hotspot areas.

While supporting the direction of the majority report, we cannot endorse its recommendations as being sufficient to address the problems raised throughout this inquiry. We call on the Commonwealth Government to show national leadership on

this issue, and ensure that better management systems are put in place to protect and expand Australia's national parks, conservation reserves and marine protected areas.

Particularly in the light of the new challenges we face due to climate change, it is essential that we ensure that our main priority is the conservation of Australia's biodiversity, and that we act quickly and effectively to reduce the impact of global warming on Australia's diverse and unique ecosystem.

Senator Kate Lundy
ALP, Australian Capital Territory

Senator Claire Moore
ALP, Queensland

Senator Ruth Webber
ALP, Western Australia

Senator Dana Wortley
ALP, South Australia

Minority Report from the Australian Greens

While the Australian Greens support many of the recommendations of the majority report, there are some key recommendations that we cannot support, and there are also some issues of importance that we believe have not been given adequate consideration. For instance, we believe that the primary role and the *raison d'être* of protected areas is the protection of biodiversity, a point which the majority report does not give adequate consideration and is in danger of being lost in the consideration of other secondary uses of protected areas. We are also extremely concerned that the report fails to come to grips with the threat to our biodiversity and to our protected areas posed by climate change. Consideration of biodiversity conservation in the face of the impacts of climate change has significant implications for the management of our reserves and protected areas, and we believe managing the *resilience* of these systems will emerge as the major conservation issue of coming decades.

Australia is one of the most biodiverse nations on Earth. It has up to 10% of the world's biodiversity, 80% of which is native to Australia. It is one of only 17 megadiverse nations in the world, and the only so-called 'developed' nation which is megadiverse. As such we have a special responsibility to protect this biodiversity.

Protected areas such as national parks and nature reserves are key elements in our efforts to conserve and protect biodiversity. The Commonwealth National Reserve System (NRS) is vital in delivering these protected areas.

The National Strategy for the Conservation of Australia's Biological Diversity recognises that: "*...central to the conservation of Australia's biological diversity is the establishment of a comprehensive, representative and adequate system of ecologically viable protected areas integrated with the sympathetic management of all other areas, including agricultural and other resource production areas*".

Protected areas are the most cost-effective tool for protecting and enhancing biodiversity values and protecting ecosystem benefits. It is far cheaper to protect existing ecosystems than to restore degraded systems.

Australia has a number of domestic and international obligations to protect our biodiversity which we are not meeting. The report of the Australian National Audit Office on *The Conservation and Protection of National Threatened Species and Ecological Communities (2007)*, which was recently tabled in Parliament, is extremely critical of the Commonwealth's approach and its failure to protect our biodiversity.

The report was highly critical of the performance of the Department of Environment and Water Resources (DEW) in administering the Environment Protection Biodiversity Conservation (EPBC) Act and protecting threatened species. It highlighted the fact that, although the Commonwealth government committed in 2000 that it would have recovery plans for 583 threatened species in place by 2004, seven years later in 2007 only 22% of the plans have been completed.

Funding

Australia is significantly under funding its national reserve system.

Commonwealth, State and Territory governments have committed to ensuring that 80% of the number of extant regional ecosystems in each of the Interim Biogeographic Regionalisation for Australia (IBRA) regions¹ will be represented in the NRS by 2010-2015. At current rates of progress this commitment seems unlikely to be realised.

WWF reported in its submission to the inquiry² that to achieve this target another 22 million hectares needed to be added to the NRS, with a budget of between \$300m to \$400m. This would require spending of \$40m/yr for 5 years. Unfortunately investment by the Commonwealth is less than one tenth of this per year.

Given the current lack of adequate investment and Australia's poor performance in protecting its biodiversity, funding for biodiversity protection needs to significantly and urgently increased to ensure the completion of the national reserve system.

Ensuring the adequacy of the extent and funding of a comprehensive, adequate and representative (CAR) system of protected areas becomes even more pressing in the face of the additional threats to protected areas posed by climate change.

Other uses of protected areas

The key role of protected areas is the conservation and protection of Australia's biodiversity. It is absolutely essential that other uses of these protected areas must be compatible with biodiversity protection and must not compromise management of that biodiversity.

The Australian Greens are concerned that the majority report places too much emphasis on other uses of protected areas, and too little emphasis on their main purpose in biodiversity conservation. We are deeply concerned to ensure that other uses of protected areas do not comprise their biodiversity values. In far too many cases, these protected areas are the few remaining remnants of important biodiversity that faces a range of threats, including fire, weeds, feral pests, hydrological changes and climate change. Incompatible uses of protected areas can add to these threats and undermine their role in the conservation of biodiversity.

The Australian Greens do not support recommendation 11, which essentially encourages State and Territory governments to increase the allowable use of protected areas for activities such as horse riding and 4WDs which we believe are incompatible

¹ The Interim Biogeographic Regionalisation for Australia (Thackway & Cresswell 1995, Environment Australia 2000) categorizes the Australian continent into regions of like geology, landform, vegetation, fauna and climate. There are 80 such regions throughout Australia.

² Submission 161, WWF Australia

with protected areas. The long-term viability of protected areas as places of biodiversity conservation needs to be paramount in giving consideration to the short-term benefits to the community of incompatible recreational and other uses.

Where other uses of protected areas are determined not to compromise their primary role, community uses of protected areas must be matched by sufficient resources for the additional demands this places on their management, and ongoing evaluation of the impacts of these other uses is absolutely crucial.

There is need for better integration of natural resource management and protected areas under the National Heritage Trust (NHT). The Gascoyne Murchison region provided a particularly good example of this during the committee hearings. Representatives of the regional NRM group did not demonstrate an understanding of the proper role and functions of protected areas, and their evidence to the committee focused more on discrediting protected areas as a means of advocating for reducing further areas of rangelands being included in conservation estate.

Regional Forest Agreements

The Australian Greens are particularly concerned by the comments made in the majority report concerning Regional Forest Agreements (RFAs), and consider that these comments represent a one-sided view of RFAs that is not informed by the evidence.

A recent landmark case concerning the Wielangta forest in Tasmania clearly demonstrated the inadequacy of the RFA system in protecting biodiversity. The case challenged the RFA itself, the exemption for logging under the EPBC Act, and the capacity of the EPBC Act to protect endangered species.

Forestry operations that are taken ‘in accordance with’ an RFA are exempt from the need for federal approval by Section 38 of the EPBC Act. In considering the reasoning behind this exemption, Justice Marshall found that:

*"...the exemption provided by s 38 provides an alternative method by which the objects of the EPBC Act may be achieved in a forestry context. Accordingly, it is not sufficient (for the s 38 exemption to apply) that there is mere lip service paid to an RFA....Forestry operations will be conducted in accordance with the RFA if they are conducted in accordance with the requirements set out in the RFA."*³

This implies that there is a clear intention that conservation objectives of the EPBC Act are achieved through the management provisions of the RFA. However, in considering the extent to which the Tasmanian RFA was able to meet its obligations to conserve iconic threatened species, Justice Marshall found that:

"It is unlikely the State can, by management prescriptions, protect the eagle. As to the beetle and the parrot, the State must urge Forestry Tasmania to take a far more protective stance in respect of these species by relevant management

³ Justice Marshall, *Brown vs. Forestry Tasmania*, 2006, Para 238

*prescriptions before it can be said it will protect them. On the evidence before the Court, given Forestry Tasmania's satisfaction with current arrangements, I consider that protection by management prescriptions in the future is unlikely."*⁴

The Judge then went on to say that:

"An agreement to 'protect' means exactly what it says. It is not an agreement to attempt to protect, or to consider the possibility of protecting, a threatened species. It is a word found in a document which provides an alternative method of delivering the objects of the EPBC Act in a forestry context.

*Clause 68 of the Tasmanian RFA says that the protection will be achieved through the CAR (comprehensive, adequate and representative) reserve system or by applying relevant management prescriptions. If the CAR reserve system does not deliver protection for a species, the State should ensure that the relevant management prescriptions do ... otherwise it is not complying with its obligation to protect the species. To construe clause 68 otherwise would be to turn it into an empty promise."*⁵

This is a very clear finding both that this particular RFA was not delivering on its promise to conserve biodiversity, and also that, to the extent that they allow logging practices that are incompatible with biodiversity conservation, there are serious problems with the extent to which the RFA system as a whole can protect biodiversity.

The outcome of the case also made it clear that the Commonwealth had failed to uphold the Tasmanian RFA or the EPBC Act through the five-year RFA review process when management prescriptions and other processes to protect threatened species were examined. In light of this finding both the use of RFAs and their review by DEW need to be re-examined, and the comments of the majority report on the performance of RFAs seem highly inappropriate.

The forest industry opposes forest ecosystems being added to the conservation estate, claiming that once forest ecosystems are added to the conservation estate they are not properly managed and effectively ignored. These claims were not able to be substantiated in the hearing process during cross-examination. The Australian Greens are concerned that statements by the National Association of Forest Industries that they were not able to substantiate, are used in the majority report to make dubious and highly contested points about degradation of biodiversity of forests protected in the national parks system

Marine protected areas

Although Australia is an acknowledged leader in marine conservation, significant progress still needs to be made for Australia to meet its commitment to the 2012 target for marine protection under the Convention on Biological Diversity. There are still

⁴ Ibid., Para 282.

⁵ Ibid., Para 240-241.

large areas of Australia's waters that are either not represented or are under-represented in protected areas, and many of these do not have adequate sanctuary zones. There are still a number of states in Australia that either do not have a system of marine protected areas, or where the existing system is inadequate.

Evidence to the inquiry indicated that the incorporation of marine planning into NRM regional group responsibilities under NHT(2) has not been successful. Regional groups have neither adequate resources nor the expertise to adequately address regional marine planning. While increased resources to Regional NRM Groups, as recommended in the majority report could help them address marine issues, the Australian Greens believe a better approach would be to establish regional marine planning groups which have sole responsibility for the marine environment, including ensuring planning for the provision of marine protected areas.

The Australia Government has a key role to play both in leadership and the resourcing of the development of the marine conservation estate.

Climate change

Climate change will have significant impacts on Australia's, aquatic, terrestrial and marine biodiversity. The Australian Greens are concerned that the very significant and growing threat posed to our system of protected areas by climate change is not adequately considered in the majority report. This is of great concern for a number of reasons.

Australia's protected area system faces many serious threats, most of which are canvassed in the majority report. However, climate change has the potential to overwhelm these threats, to make some of these threats more severe particularly fire, but also weeds and pests, and to decrease the ability of ecological communities conserved by protected areas to be able to cope with some of these threats.

The likely impacts of decreased rainfall and increased average temperatures along with increased climactic variability and extreme climactic events has significant implications for biodiversity conservation, particularly given the highly fragmented nature of our current reserve system. The ability of different ecological communities to either adapt to these changes or to translocate as climactic zones shift is unknown, as is the likely extent and rapidity of change. While slow and gradual change may allow some species and communities time to adapt and translocate, many may not be able to, and it is clear that the possibility of sudden changes and climactic 'tipping points' pose a substantial threat, particularly to isolated communities.

These knowledge gaps have important implications for both the adequacy and the management of our reserves and protected areas for biodiversity conservation in the face of climate change. We urgently need to improve our understanding of both the likely future impacts of climate change and of the resilience of ecological communities to these types of change. This has recently been highlighted by research by CSIRO into coral bleaching of the Great Barrier Reef world heritage area, which indicated that much more stringent management of adverse impacts (such as nutrient

outflows from coastal rivers) along with more extensive sanctuary zones was necessary to ensure the reef was resilient enough to be able to recover from more frequent and severe bleaching events.

It is crucial that we consider the manner in which the range of threats faced by protected areas interact. A case in point is given by the recent research by the Bushfire CRC⁶ into the increase in both the frequency and intensity of 'megafires', which has also become a major area of research in the US. It is clear from this research that these fires can exceed the resilience of our ecosystems and make it easier for weeds and pests to invade.

Given all these considerations, it seems highly unlikely that in our heavily-fragmented landscape that our current reserve system will be resilient enough to cope with these impacts. This is why the Australian Greens believe that it is essential that the NRS be modified and extended to build-in resilience and adaptation.

We believe managing the *resilience* of these systems will emerge as the major issue of coming decades, and argue that a new 'R' has to be added to the CAR system to ensure that it is comprehensive, adequate representative and resilient in the face of climate change (CARR).

Northern Australia

Ecosystems in northern Australia are particularly under-represented in the conservation estate. There has recently been an increased push to develop the north, including the possibility of extensive irrigated agriculture being considered by a taskforce as part of the Prime Minister's \$10 billion water plan. Given the growing pressures to develop its abundant natural resources, there is now a growing urgency to complete the protected area system of the north. The relatively undeveloped status of the north together with the unique and often pristine nature of its ecosystems provides the nation with an opportunity to bring the wealth of experience gained from the mistakes of the past in the south together to plan for the long-term sustainable development of the region.

The biggest threat both to biodiversity conservation in the north and to sustainable development is the continuation of an *ad hoc* project-by-project approach. It is imperative that we identify the biodiversity values of the north, put in place a CAR reserve system and develop sustainable regional plans, which then enable informed decisions about individual developments. Such an approach should also be attractive to industry in that it provides greater certainty. It would also provide a basis for industry engagement in private-public conservation partnerships in the context of the surety of their long-term commitment to sustainable development in the region. This kind of approach requires significant leadership and resources from the Commonwealth for it to succeed.

⁶ http://www.bushfirecrc.com/events/events/forum_feb07.html

Recommendations

The Australian Government must demonstrate leadership and renewed national commitment to protected areas through:

- Substantially and urgently increase funding of the National Reserve System in order to meet existing targets
- Ensure that the next round of the National Heritage Trust (NHT 3) better integrates natural resource management (NRM) and the National Reserve System (NRS)
- Increase funding for research into and management of threats to protected areas (including fire, pests and weeds)
- Give greater priority to consideration of the impacts of climate change on protected areas and significantly increase research funding for predicting and assessing the likely impacts of climate change on the resilience of our ecosystems
- Ensures protected area planning incorporates the concept of resilience
- Increase funding for marine protected areas
- Complete the protected area system in northern Australia as a matter of urgency, and commit resources to long-term planning for sustainable regional development.

Senator Rachel Siewert
Australian Greens

Appendix 1

Submissions

1. Mr Bruce Thomson
2. Bushland Conservation Pty Ltd
3. Mr Jon Nevill
4. The Association of Australian Ports and Marine Authorities
5. Mr Philip Maguire
6. Mr Joe A Friend
7. Coast & Wetland Society Inc
8. Dr Adam Butler
9. Mr Andrew Eckhold
10. Mr Shane Murrhiy
11. Professor Ralf Buckley, International Centre for Ecotourism Research
- 11A. Professor Ralf Buckley, International Centre for Ecotourism Research
(Supplementary Submission)
12. Ms Helen Hannah
13. Ms Pat A Styles
14. Caboolture 4WD Club Inc
15. Ms Helen M Brennan
16. Department of Natural Resources, Environment and the Arts, Northern
Territory Government
17. Mr Ernst Willheim
18. Bakers Vertebrate Pest Control
19. Mr John Brandis
20. The Bushfire Front Inc
21. Ms Claire deLacey and Mr Steven Chamberlain
22. Mr Chris Mitchell
23. Phoenix Four Wheel Drive Club

24. FWD Qld
25. Ms Catharine Errey
26. Tableland Trail Horse Riders Club Inc
27. Botany Bay & Catchment Alliance
28. North Coast Environment Council Inc
29. Blue Mountains Conservation Society Inc
30. Foundation for Rabbit-Free Australia
31. Shearwater Associates Pty Ltd
32. SA Association of Four Wheel Drive Clubs
33. Mr Roger Graham
34. Dr Paul Williams
35. International Federation of Rock Art Organisations (IFRAO)
36. Mr R J Hiscox
37. Mr Jim Inglis
38. Moreton Bay Environmental Alliance
39. Mr E M (Ted) Taylor
40. Four Wheel Drive Victoria
41. CSIRO
42. Ms Maureen Baker OAM
43. Ms Sandra Nichols
44. Bailey's Creek Community League
45. Mr C S Leatham
46. Dr Jim Hone
47. Dr Robyn Bartel
48. Bayside Offroaders Club Inc
49. Dr Geoffrey Wescott
50. Ms Lynda Newnam
51. Ms Victoria Janse-Riley
52. Tamborine Mountain Natural History Association
53. Four Wheel Drive NSW and ACT
54. Toyota Land Cruiser Club of Australia

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55. NSW Endurance Riders Association Inc
 56. Tasmanian Recreational Vehicles Association Inc
 57. Australian Ranger Federation
 58. Mr and Mrs R G J Smith
 59. Snowy Mountains Bush Users Group Inc
 60. Tarkin National Coalition Inc
 61. Dr David Denham AM
 62. Ms Julie A Sheppard
 63. South Australian Fishing Industry Council
 64. Daintree Coast Community Action Group
 65. Construction Material processors Association Inc
 66. Mr Dave Green
 67. Fraser Island Defenders Organization
 - 67A. Fraser Island Defenders Organization (Supplementary Submission)
 68. Far North Queensland Tour Operators Association
 69. Australian Deer Association
 70. Mr Neil Mattocks and Mr Ian Bell
 71. Outdoor Recreation Industry Council of NSW
 72. Indo-Pacific Sea Turtle Conservation Group
 73. Forest Industries Association of Tasmania
 74. Inland Rivers Network
 75. Tourism Leisure Corporation Pty Ltd
 76. Gecko – Gold Coast & Hinterland Environment Council
 77. Mr Marcus Bulstrode
 78. Tasmanian National Parks Association Inc
 79. Australian Speleological Federation Inc
 80. Four Wheel Drive South Australia
 81. Ecotourism Australia
 82. Cairns 4WD Club
 83. Oatley Flora and Fauna Conservation Society

84. Tamborine Mountain Progress Association Inc
85. Western Australian Speleological Group (Inc)
86. Mr John Anderson
87. Alliance for Sustainable Tourism
88. Forest Fire Victoria
89. Australian National Four Wheel Drive Council Inc
90. Cooper Creek Wilderness
91. Mr Peter C Sims OAM
92. Campervan & Motorhome Club of Australia
93. Waterbird Conservation Group
94. Friends of Waite Conservation Reserve Inc
95. Dr F C Bell
96. Johnstone Ecological Society Inc
97. Fraser Island World Heritage Area Community Advisory Committee
98. Australian Forest Growers
99. Timber Communities Australia
100. Australian Cave & Karst Management Association
101. Mr James and Mrs Jennifer Peat
102. Ms Petra Dunn
103. Christian Camping International Australia and Australian Camps Association
104. Recfish Australia
- 104A. Recfish Australia (Supplementary Submission)
105. Birds Australia
106. Queensland Tourism Industry Council
107. Hobart Walking Club Inc
108. National Parks Association of NSW/Southern Sydney Branch
109. Mr Norman Whitney
110. Dr Marc Hockings
111. Australian Horse Alliance

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- 111A. Australian Horse Alliance (Supplementary Submission)
 - 111B. Australian Horse Alliance (Supplementary Submission)
 - 112. Australian Trail Horse Riders Association
 - 113. Wildlife Preservation Society of Queensland
 - 114. Mr Andrew Chapman
 - 115. Capertee Valley Environmental Group Inc
 - 116. Lithgow Environment Group
 - 117. Cape York Land Council
 - 118. Professor Richard Kingsford
 - 119. Ms Robyn Grant
 - 120. Parks and Leisure Australia
 - 121. Professor Robyn Bushell
 - 122. Ms Christine Lane
 - 123. Mr John Cribbes
 - 124. Adelaide Mountain Bike Club
 - 125. Australian Marine Sciences Association
 - 126. Department of the Environment and Heritage
 - 126A. Department of the Environment and Heritage (Supplementary Submission)
 - 127. Narooma Port Committee
 - 128. Institute of Foresters of Australia
 - 129. The Environment Association Inc
 - 130. National Parks Association of New South Wales
 - 131. The Wilderness Society
 - 131A. The Wilderness Society (Supplementary Submission)
 - 132. Mr Mervyn Vessey
 - 133. Australian Animals Care and Education, Inc
 - 134. National Parks Association of Queensland
 - 134A. National Parks Association of Queensland (Supplementary Submission)

- 134B. National Parks Association of Queensland (Supplementary Submission)
- 135. Department of Conservation and Land Management, Western Australia
- 135A. Department of Environment and Conservation, (previously Department of Conservation and Land Management) Western Australia (Supplementary Submission)
- 136. Latrobe City Council
- 137. World Commission on Protected Areas
- 138. The Australian Association of Maritime Affairs Inc
- 138A. The Australian Association of Maritime Affairs Inc (Supplementary Submission)
- 139. The Australian Workers Union
- 140. Clarence Valley Conservation Coalition Inc
- 141. Conservation Commission of Western Australia
- 142. National Parks Association of NSW, Clarence Valley Branch
- 143. Conservation Council of WA
- 144. Foundation for National Parks & Wildlife
- 145. Environmental Defender's Office (NSW)
- 146. Victorian National Parks Association
- 147. The Federal Council of Australian Apiarists' Associations
- 148. Tourism and Transport Forum
- 149. Mr Brett Dawson
- 150. Western Australian Fishing Industry Council (Inc)
- 151. Australian Seafood Industry Council
- 152. Mr Graeme Worboys
- 153. Prospectors and Miners Association of Victoria Inc
- 154. Licola Fire Brigade
- 155. Department of Environment and Conservation, NSW Government
- 156. Wet Tropics Management Authority
- 157. Mr Graham Gordon Thomas
- 158. Commonwealth Fisheries Association

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159. Arts, Heritage and Environment, ACT Chief Minister's Department
 160. Agforce Qld
 161. WWF – Australia
 - 161A. WWF – Australia (Supplementary Submission)
 162. Ipswich City Council
 163. Local Government Association of Queensland Inc
 164. GHD Pty Ltd
 165. Minerals Council of Australia
 166. Mr Stephen Larsson
 167. Professor Jon Altman and Ms Libby Larsen
 - 167A. Professor Jon Altman and Ms Libby Larsen (Supplementary Submission)
 168. Australian Petroleum Production and Exploration Association (APPEA)
 169. ACT Equestrian Association Inc
 170. Dual Sport Motor Cycle Riders Association (Townsville)
 171. Remote Area Planning and Development Board
 172. Humane Society International
 173. Tourism Australia
 174. Ms Margaret Thorsborne
 175. Queensland Department of Premier and Cabinet – Queensland Government
 - 175A. Queensland Department of Parks and Wildlife – Queensland Government
 - 175B. Queensland Department of Parks and Wildlife – Queensland Government (Supplementary Submission)
 176. Leave No Trace Australia
 177. Reefcheck Australia
 178. Australian Conservation Foundation

179. Dr Sue Moore
180. Dr Cris Brack
181. National Parks and Wildlife Advisory Council, Tasmania
182. Alice Springs Town Council
183. The Colong Foundation for Wilderness
184. Australian Marine Conservation Society
185. Horse SA
186. National Association of Forest Industries (NAFI)
187. Ms Jodeen Carney, MLA, Leader of the Opposition, NT Government
188. Australian Bush Heritage Fund
- 188A. Australian Bush Heritage Fund (Supplementary Submission)
189. Burnett Mary Regional Group for Natural Resource Management Inc
190. Victorian Association of Forest Industries
191. National Parks Australia Council
192. Mr Matt Foley
193. Marine and Coastal Network
194. Department of the Environment and Heritage, SA Government
- 194A. Department of the Environment and Heritage, SA Government
(Supplementary Submission)
195. Cook Shire Council
196. Mirani Shire Council
197. Association of Marine Park Tourism Operators
198. Aboriginal Rainforest Council Inc
199. Department of Tourism, Arts and the Environment, Tasmania
200. Mrs Terry Murphy Fleming, Mr Phillip Fleming and Mr Howard
Blackburn
201. Mr Bill Phillips
202. Mr Jim Quadrio
- 202A. Mr Jim Quadrio (Supplementary Submission)

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203. Mrs B Lefroy
 - 203A. Mrs B Lefroy (Supplementary Submission)
 204. Mr Eric Fisher
 205. Snowy Mountains Horse Riders Association Inc
 206. Wildlife Conservancy of Tropical Queensland
 207. Ms Glenys Jones
 208. Shire of Murchison
 209. Mr Keros Keynes
 210. Mrs Diana Morrison
 211. Mrs Jano Foulkes-Taylor
 212. Mr Ian Coombes
 213. Deerstalkers Club
 214. Mr Dudley Nicol
 215. Dr Charles Lawson
 216. Esperance Pleasure Riders Club Inc
 217. Gnaraloo Station
 218. Mr Phil Creaser
 219. Australasian Fire Authority Council
 220. Australian Wildlife Conservancy
 221. Adnyamathanha Lands Council

Appendix 2

Public hearings

Friday, 31 March 2006 – Canberra

CSIRO

Professor Chris Margules, Leader, Tropical Landscapes Program, Tropical Forest Research Centre

WWF Australia

Mr Andreas Glanznig, Senior Policy Adviser

Institute of Foresters of Australia

Dr Peter Volker, National President

Minerals Council of Australia

Ms Melanie Stutsel, Director, Environmental and Social Policy
Mr Cormac Farrell, Policy Officer, Environment

International Union for Conservation of Nature and Natural Resources World Commission on Protected Areas

Ms Penny Figgis AO, Vice Chair for Australia and New Zealand
Mr Graeme Worboys, Vice Chair, Mountains Biome

Australian Ranger Federation Inc

Ms Kristen Appel, Treasurer and NT Representative on the Executive Council
Mr Adrian Johnstone, Ranger Hosting Program Coordinator

Tourism Australia

Ms Wendy Hills, Manager, Australian Experiences

Department of the Environment and Heritage

Mr David Borthwick, Secretary
Mr Peter Burnett, First Assistant Secretary, Heritage Division
Mr Peter Cochrane, Director of National Parks
The Hon. Virginia Chadwick, Chair, Great Barrier Reef Marine Park Authority
Ms Donna Petrachenko, First Assistant Secretary, Marine Division
Mr Stephen Oxley, Assistant Secretary, Marine Conservation Branch, Marine Division

Friday, 21 April 2006 – Brisbane

Queensland Government

The Hon. Desley Boyle, Minister for Environment, Local Government,
Planning and Women

Mr Alan Feely, Executive Director, Parks division, Environmental Protection
Agency, Queensland Parks and Wildlife Service

Ms Ann-Maree Moody, Business Manager, Parks Division, Environmental
Protection Agency, Queensland Parks and Wildlife Service

Mr Tim Ellis, Manager, Tenure Actions Group, Environmental Protection
Agency, Queensland Parks and Wildlife Service

National Parks Association of Queensland

Mr John Bristow, President

WWF Australia

Mr Richard Leck, National Marine and Coastal Policy Officer

**Australian Recreational and Sport Fishing Industry Confederation t/a Recfish
Australia**

Mr John Harrison, Chief Executive Officer

Ecotourism Australia

Mr Stephen Pahl, Chief Executive Officer

Queensland Tourism Industry Council

Mr Daniel Gschwind

Buckley, Professor Ralf (Private capacity)

Local Government Association of Queensland

Mr Malcolm Petrie, Natural Resource Management Project Coordinator

AgForce Queensland

Mr Brett de Hayr, Chief Executive Officer

Mr Tony Allingham, Chair, Environment Portfolio

Fraser Island Defenders Organisation

Mr John Sinclair, Honorary Project Officer

Australian Workers Union

Mr Chris Simpson, Industrial Advocate
Mr Damien Head, Member

Friday, 12 May 2006 – Sydney

New South Wales Department of Environment and Conservation

Dr Tony Fleming, Head, National Parks and Wildlife Service; and Deputy
Director General, Parks and Wildlife Division

Tourism and Transport Forum Australia

Ms Joyce DiMascio, National Manager, Tourism and Major Events

Foundation for National Parks and Wildlife

Mrs Leonie Gale, Executive Officer
Mr Gillis Broinowski, Director

National Parks Association of New South Wales

Mr Andrew Cox, Executive Officer

Australian Horse Alliance

Mr Richard Smallwood, Convenor

Australian Trail Horse Riders Association

Mr Graham Crossley, National Ride Access Coordinator

Australian National Four Wheel Drive Council

Mr Paul Warner, President

Australian Network of Environmental Defender's Offices

Mr Jeff Smith, Chief Executive Officer
Ms Rachel Walmsley, Policy Director

Monday, 5 June 2006 – Melbourne

Australian Bush Heritage Fund

Mr Doug Humann, Chief Executive Officer

Associate Professor Geoffrey Westcott (Private capacity)

Mr Brian Martin, Shearwater Associates (Private capacity)**Australian Conservation Foundation**

Mr Chris Smyth, Marine Campaign Coordinator
Mr Michael Watts, Acting Manager, Land and Water Programs

Mr Philip Maguire (Private capacity)**Australasian Cave and Karst Management Association**

Professor Elery Hamilton-Smith, Public Officer

Australian Speleological Federation Inc

Mr Nicholas White, Senior Vice-President; and Chair, Conservation
Commission

Mountain Cattlemen's Association of Victoria

Mr Douglas Treasure, President
Mr Timothy Barker, Secretary

Tuesday, 6 June 2006 – Adelaide

Marine and Coastal Community Network, South Australia

Mr Tony Flaherty, South Australian Regional Coordinator

South Australian Fishing Industry Council Inc

Mr Neil MacDonald, General Manager
Ms Claire van der Geest, Project Officer

Australian Marine Conservation Society

Mr Craig Bohm, National Fisheries Campaigner

Department for Environment and Heritage, South Australia

Mr Greg Leaman, Director of National Parks and Wildlife
Mr Allan Holmes, Chief Executive
Mr Grahame Byron, Manager, Coast and Marine Conservation
Dr Bob Inns, Manager, Land Management

Friday, 16 June 2006 – Canberra

Mr Brian Gilligan (Private capacity)

Commonwealth Fisheries Association

Mr Peter Franklin, Chief Executive Officer

Australian Association for Maritime Affairs

Mr Harold Adams, Board Chairman
Dr Richard Kenchington, Board Member

Australian Marine Sciences Association

Dr Gina Newton, National President
Professor Frank Talbot, Honorary Life Member

Department of the Environment and Heritage

Ms Donna Petrachenko, First Assistant Secretary, Marine Division
Mr Stephen Oxley, Assistant Secretary, Marine Conservation Branch, Marine Division

Department of the Environment and Heritage

Mr Peter Cochrane, Director of National Parks

Professor Jon Altman (Private capacity)**Ms Elizabeth Larsen (Private capacity)****The Wilderness Society**

Ms Virginia Young, National Strategic Campaigns Coordinator

Wednesday, 28 June 2006 – Uluru

Voyages Hotels and Resorts

Mr Gareth Boyte, General Manager

Central Land Council

Mr Sean Moran, Joint Management Officer, Uluru-Kata Tjuta National Park

Uluru-Kata Tjuta Board of Management

Mr Donald Fraser, Chairman, Board of Management
Mrs Barbara Tjikatu, Member, Board of Management

Department of the Environment and Heritage

Mr Peter Cochrane, Director of National Parks
Mr Steve Ewings, Manager, Visitor and Tourism Services, Uluru-Kata Tjuta National Park
Mr Rowan Foley, Park Manager, Uluru-Kata Tjuta National Park
Ms Tracey Guest, Senior Ranger, Natural and Cultural Resources, Uluru-Kata Tjuta National Park
Ms Mirjana Jambrecina, Acting Manager, Natural and Cultural Resources, Uluru-Kata Tjuta National Park

Friday, 30 June 2006 – Cairns

Wet Tropics Management Authority

Ms Josh Gibson, Executive Director
Professor Peter Valentine, Director

Mr David Green (Private capacity)
Dr Paul Williams (Private capacity)

Alliance for Sustainable Tourism

Mr Stephen Olle, Chair, Tourism Tropical North Queensland; and Chair, Alliance for Sustainable Tourism
Mr Gordon Dixon, Chair, Far North Queensland Tour Operators Association; and Member, Alliance for Sustainable Tourism
Mr Russell Boswell, Member, Savannah Guides; and Director, Alliance for Sustainable Tourism
Mr Kenneth Norman, Secretary
Mr Max Shepherd, Member
Mr John Courtney, Member

Association of Marine Park Tourism Operators Pty Ltd

Mr Colin McKenzie, Director

Aboriginal Rainforest Council Inc

Ms Allison Halliday, Acting Executive Officer, Aboriginal Rainforest Council Inc; and Acting Director, Wet Tropics Management Authority
Ms Rhonda, Brim, Djabugay Native Title Holder (Barron Gorge National Park Native Title Determination)
Ms Margaret Freeman, Jiddabal Delegate, Management Committee
Mr Bruce White, Assistant to Allison Halliday

Cape York Land Council

Mr Michael Ross, Chairperson
Mr Matthew Patterson, Senior Legal Officer

Thursday, 31 August 2006 – Carnarvon

Shire of Exmouth

Councillor Reg Cooper, Shire President

Shire of Carnarvon

Mr Dudley Maslen, Shire President
Mr Graham Wilks, Chief Executive Officer
Mr Anthony Dowling, Director, Planning and Development

Shire of Shark Bay

Mr Robert Eddington, Deputy Shire President
Mr Kelvin Matthew, Chief Executive Officer

Gnaraloo Station

Ms Karen Hattingh, Environmental Manager

Ningaloo Reef Outback Coast Association

Mrs Leonie Horak, Chairperson

Ningaloo Station

Mr Phillip Kendrick, Advocate for Billie and Jane Lefroy, Ningaloo Pastoral Leaseholders

Pastoralists and Graziers Association of Western Australia

Mr Tim Meecham, Past Chairman, Gascoyne Division
Mrs Diana Morrison, Gascoyne Representative
Mrs Ruth Webb-Smith, Vice President

Ningaloo Sustainable Development Office, Department for Planning and Infrastructure

Mr David Nunn, Director
Professor David Wood, Chairman, Ningaloo Sustainable Development Committee

Rangelands Natural Resource Management Coordinating Group Inc

Mr Rod Williams, General Manager

Friday, 1 September 2006 – Perth

Conservation Council of Western Australia

Mr Chris Tallentire, Director

Dr Beth Schultz, Vice-President

Mr Graeme Rundle, Executive Committee Member

Western Australian Local Government Association

Mr William Mitchell, President, Western Australian Local Government Association; and President, Rangelands Natural Resource Management Coordinating Group

Mr Jim Quadrio (Private capacity)**Department of Environment and Conservation, Western Australia**

Mr Keiran McNamara, Director General

Mr James Sharp, Acting Deputy Director General

Ms Jeanette Gilmour, Senior Policy Officer

Woodside Energy Ltd

Mr Meath Hammond, General Manager, Indigenous Affairs

Dr Vanessa Guthrie, General Manager, Environment

National Trust of Australia (Western Australia)

Mr Thomas Perrigo, Chief Executive Officer

Mr Robin Chapple, Special Projects Officer

Dr Susan Moore (Private capacity)**Conservation Commission of Western Australia**

Dr John Bailey, Chairman

Mr William Carr, Director

Save Ningaloo Campaign

Mr Dennis Beros, Campaign Coordinator

Mr Paul Gamblin, Spokesperson

Friday, 20 October 2006 – Canberra

Department of Conservation, New Zealand

Mr John Cumberpatch, General Manager, Operations (Southern)
Mr John Ombler, General Manager, Research, Development and Improvement
Division

National Association of Forest Industries

Mrs Catherine Murphy, Chief Executive Officer
Mr Phillip Townsend, Deputy Chief Executive Officer
Mr Allan Hansard, Deputy Chief Executive Officer
Mr David de Jongh, Senior Forest Policy Officer

**International Union for the Conservation of Nature and Natural Resources
World Commission on Protected Areas**

Dr Marc Hockings, Vice Chair, Science, Knowledge and Management of
Protected Areas

The Nature Conservancy

Dr Michael Looker, Director, Australia Program

Australian Wildlife Conservancy

Mr Atticus Fleming, Chief Executive

Department of the Environment and Heritage – Marine Division

Ms Donna Petrachenko, First Assistant Secretary, Marine Division
Mr Stephen Oxley, Assistant Secretary, Marine Conservation Branch, Marine
Division

Department of the Environment and Heritage – Parks Australia Division

Mr Peter Cochrane, Director of National Parks

Appendix 3

Tabled documents, additional information and answers to questions taken on notice

Tabled Documents

Invasive Weeds, Pests and Diseases, Solutions to Secure Australia, tabled by Mr Andreas Glanzig, WWF, 31 March 2006

Enduring Value: The Australian Minerals Industry Framework for Sustainable Development, tabled by the Minerals Council, 31 March 2006

Enduring Value: The Australian Minerals Industry Framework for Sustainable Development, Guidance for Implementation, tabled by the Minerals Council, 31 March 2006

IRF Congress Stirling June 2006, tabled by the Australian Ranger Federation, 31 March 2006

The next 10 years: dinner speech presented by Mr Graeme Worboys, IUCN WCPA Vice Chair Mountains to The Nature Conservancy forum, 'Global Protected Areas Strategy', 6 February 2006, Brisbane, tabled by Mr Graeme Worboys, 31 March 2006

Are we on track? tabled by Mr Richard Leck, WWF, 21 April 2006

Australia's World Heritage Areas, tabled by Mr Daniel Gschwind, Queensland Tourism Industry Council, 21 April 2006

The Economic Contribution of Tourism to the Management of the Great Barrier Reef Marine Park, tabled by Mr Daniel Gschwind, Queensland Tourism Industry Council, 21 April 2006

Eco certification – A certification program for the Australian nature and ecotourism industry, tabled by Mr Stephen Pahl, Ecotourism Australia, 21 April 2006

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Appendix 4

Australian terrestrial protected areas by IUCN management category

| IUCN Category | Number | Area (ha) |
|-------------------|--------------|-------------------|
| IA | 2,090 | 18,212,695 |
| IB | 38 | 4,099,515 |
| II | 644 | 29,678,100 |
| III | 2,019 | 970,517 |
| IV | 2,060 | 2,818,936 |
| I-IV Total | 6,851 | 55,779,762 |
| V | 139 | 919,746 |
| VI | 730 | 24,195,591 |
| V-VI Total | 869 | 25,115,337 |
| | | |
| Total | 7,720 | 80,895,099 |

Source: www.deh.gov.au/parks/nrs/capad/2004/national/nat-iucn04.html

Appendix 5

Marine and external terrestrial protected areas by IUCN management category

National Marine Protected Areas by IUCN Management Category

| IUCN Category | No. of Reserves | Management Zones | Area (ha) |
|-------------------|-----------------|------------------|-------------------|
| IA | 18 | 19 | 14,674,788 |
| IB | 2 | 2 | 202 |
| II | 43 | 49 | 15,062,242 |
| III | 9 | 9 | 345 |
| IV | 99 | 109 | 17,347,773 |
| I-IV Total | 171 | 188 | 47,085,350 |
| V | 0 | 0 | |
| VI | 29 | 35 | 24,715,160 |
| V-VI Total | 29 | 35 | 24,715,160 |
| Total | 171 | 223 | 71,800,510 |

Note: An individual marine protected area may have multiple management zones. Each protected area is assigned an IUCN management category based on category of dominant management zone. Area calculations are based on areas calculated for the management zones.

National Oceanic Island and External Territory Protected Areas by IUCN Management Category

| IUCN Category | Number | Area (ha) |
|----------------------|---------------|------------------|
| IA | 8 | 14,706 |
| IB | 0 | 0 |
| II | 4 | 10,666 |
| III | 0 | 0 |
| IV | 0 | 0 |
| I-IV Total | 12 | 25,371 |
| V | 0 | 0 |
| VI | 0 | 0 |
| V-VI Total | 0 | 0 |
| Total | 12 | 25,371 |

Source: www.deh.gov.au/parks/nrs/capad/2004/national/index.html

Appendix 6

Summary of terrestrial protected areas in Australia by type

| Designation - Protected Area Type | Number | Area (ha) | Jurisdiction | % Australia |
|---|--------|------------|--------------|-------------|
| Botanic Gardens (Commonwealth) | 2 | 152 | ACT, NSW | 0.00 |
| Coastal Reserve | 2 | 13,660 | NT | 0.00 |
| Conservation Area | 178 | 551,445 | TAS | 0.07 |
| Conservation Covenant | 174 | 21,603 | TAS | 0.00 |
| Conservation Park | 419 | 6,753,473 | QLD, SA, WA | 0.88 |
| Conservation Reserve | 65 | 302,627 | NT, SA | 0.04 |
| Forest Reserve | 404 | 1,335,946 | QLD, SA, TAS | 0.17 |
| Game Reserve | 22 | 45,312 | SA, TAS | 0.01 |
| Heritage Agreement | 1203 | 567,173 | SA | 0.07 |
| Heritage River | 15 | 138,732 | VIC | 0.02 |
| Historic Site | 1 | 15,300 | TAS | 0.00 |
| Historical Reserve | 3 | 7,841 | NT | 0.00 |
| Hunting Reserve | 1 | 1,605 | NT | 0.00 |
| Karst Conservation Reserve | 4 | 4,408 | NSW | 0.00 |
| Management Agreement Area | 5 | 26,249 | NT | 0.00 |
| Miscellaneous Conservation Reserve | 76 | 300,131 | WA | 0.04 |
| National Park | 544 | 28,718,187 | All | 3.74 |
| National Park (Aboriginal) | 4 | 575,814 | NT | 0.07 |
| National Park (Commonwealth) | 3 | 2,119,278 | NSW, NT | 0.28 |
| National Park (Scientific) | 7 | 52,181 | QLD | 0.01 |
| Natural Catchment Area | 5 | 8,170 | VIC | 0.00 |
| Natural Features And Scenic Reserve | 26 | 24,868 | VIC | 0.00 |
| Natural Features Reserve | 33 | 448 | VIC | 0.00 |
| Natural Features Reserve - Bushland Reserve | 1471 | 45,762 | VIC | 0.01 |
| Natural Features Reserve - Cave Reserve | 7 | 378 | VIC | 0.00 |
| Natural Features Reserve - Geological Reserve | 15 | 464 | VIC | 0.00 |
| Natural Features Reserve - Gippsland Lakes Reserve | 34 | 6,714 | VIC | 0.00 |
| Natural Features Reserve - River Murray Reserve | 1 | 20,883 | VIC | 0.00 |
| Natural Features Reserve - Scenic Reserve | 58 | 9,646 | VIC | 0.00 |
| Natural Features Reserve - Streamside Reserve | 258 | 6,489 | VIC | 0.00 |
| Natural Features Reserve - Wildlife Reserve (Hunting) | 208 | 75,252 | VIC | 0.01 |
| Nature Conservation Reserve | 160 | 71,221 | VIC | 0.01 |
| Nature Conservation Reserve - Flora And Fauna Reserve | 89 | 126,993 | VIC | 0.02 |
| Nature Conservation Reserve - Flora Reserve | 133 | 22,876 | VIC | 0.00 |
| Nature Conservation Reserve - Wildlife Reserve (No Hunting) | 77 | 14,179 | VIC | 0.00 |
| Nature Park | 12 | 25,585 | NT, VIC | 0.00 |

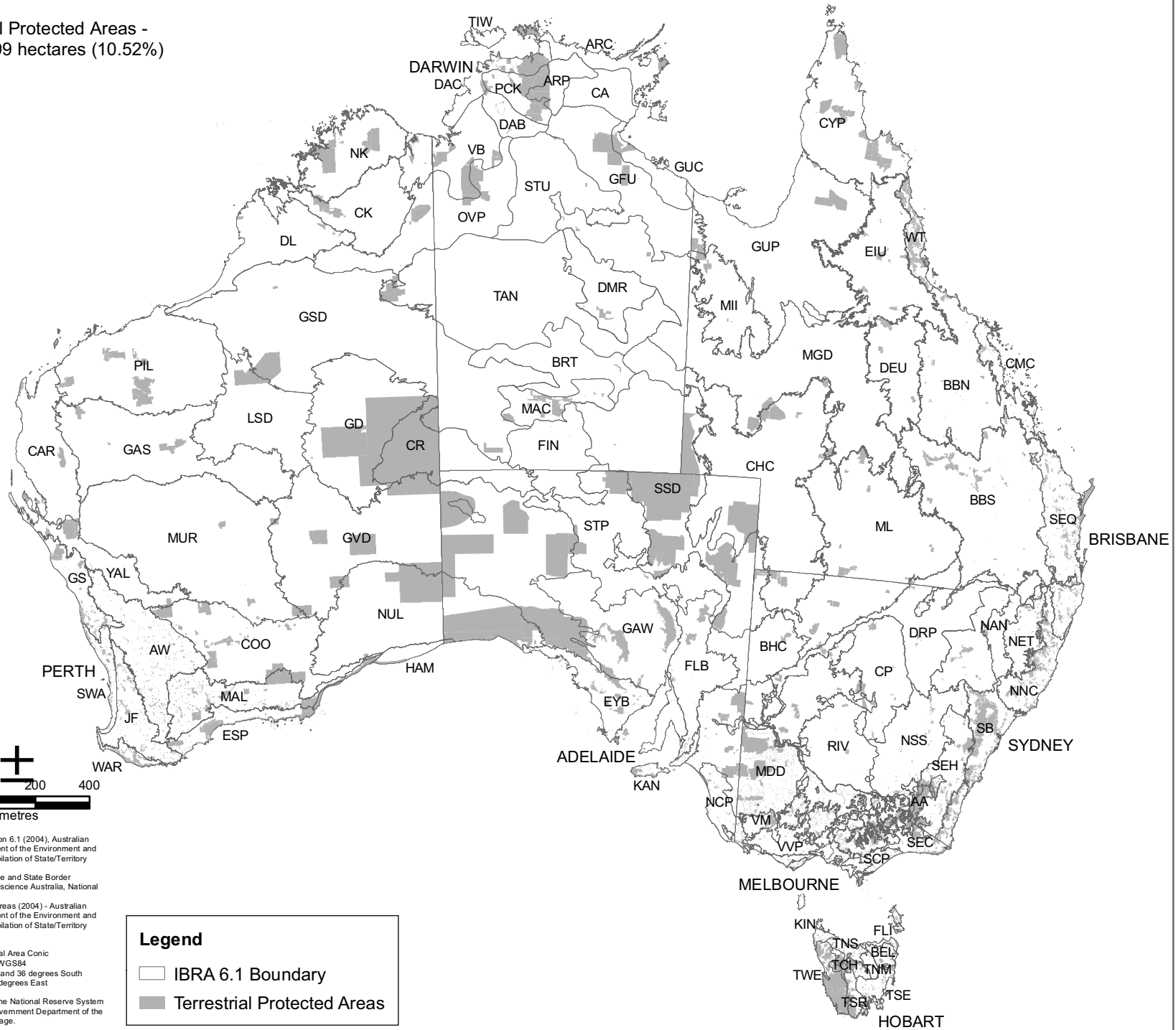
| | | | | |
|---|--------------|--------------------|-----------------------------------|--------------|
| Nature Park (Aboriginal) | 1 | 3,108 | NT | 0.00 |
| Nature Recreation Area | 22 | 64,682 | TAS | 0.01 |
| Nature Reserve | 1603 | 11,718,288 | ACT, NSW, TAS, WA | 1.52 |
| Other Conservation Area | 19 | 245,200 | NSW, NT, TAS | 0.03 |
| Other Conservation Area (Commonwealth) | 1 | 92,600 | SA | 0.01 |
| Other Park | 9 | 57,128 | VIC | 0.01 |
| Other Private Protected Area | 31 | 898,183 | NSW, NT, QLD, TAS, VIC, WA | 0.12 |
| Private Nature Reserve | 5 | 1,091 | TAS | 0.00 |
| Protected Area | 3 | 12,125 | NT | 0.00 |
| Recreation Park | 13 | 3,152 | SA | 0.00 |
| Reference Area | 31 | 18,948 | VIC | 0.00 |
| Regional Reserve | 28 | 10,830,357 | SA, TAS | 1.41 |
| Remote And Natural Area | 2 | 22,410 | VIC | 0.00 |
| Resources Reserve | 36 | 347,858 | QLD | 0.05 |
| State Conservation Area | 78 | 268,037 | NSW | 0.03 |
| State Park | 30 | 185,160 | VIC | 0.02 |
| State Reserve | 62 | 44,495 | TAS | 0.01 |
| Wilderness Park | 3 | 202,050 | VIC | 0.03 |
| Wilderness Protection Area | 5 | 70,069 | SA | 0.01 |
| | | | | |
| Total | 7,701 | 67,095,985 | | 8.73 |
| | | | | |
| Indigenous Protected Area | 19 | 13,799,114 | NSW, NT, QLD, SA, TAS, VIC, WA | 1.79 |
| | | | | |
| Total Terrestrial Protected Areas | 7,720 | 80,895,099 | | 10.52 |
| | | | | |
| Additional Types (recorded within protected areas above) | | | | |
| Heritage River | 16 | 133,086 | VIC | 0.02 |
| Natural Catchment Area | 19 | 104,950 | VIC | 0.01 |
| Reference Area | 111 | 92,520 | VIC | 0.01 |
| Remote and Natural Area | 23 | 279,186 | VIC | 0.04 |
| Wilderness Zone | 19 | 640,000 | VIC | 0.08 |
| | | | | 0.00 |
| Total | 188 | 1,249,742 | | 0.16 |
| | | | | |
| Total land area of Australia | | 768,826,956 | | |
| | | | | |
| % Land Protected on the Australian mainland (including Tasmania) | | | | 10.52 |

Source: www.deh.gov.au/parks/nrs/capad/2004/national/nat-type04.html

Appendix 7

Terrestrial protected areas - IBRA boundaries

**Terrestrial Protected Areas -
80,895,099 hectares (10.52%)**



| | |
|-----|-------------------------------|
| AA | Australian Alps |
| ARC | Arnhem Coast |
| ARP | Arnhem Plateau |
| AW | Avon Wheatbelt |
| BBN | Brigalow Belt North |
| BBS | Brigalow Belt South |
| BEL | Ben Lomond |
| BHC | Broken Hill Complex |
| BRT | Burt Plain |
| CA | Central Arnhem |
| CAR | Carnarvon |
| CHC | Channel Country |
| CK | Central Kimberley |
| CMC | Central Mackay Coast |
| COO | Coolgardie |
| CP | Cobar Penepplain |
| CR | Central Ranges |
| CYP | Cape York Peninsula |
| DAB | Daly Basin |
| DAC | Darwin Coastal |
| DEU | Desert Uplands |
| DL | Dampierland |
| DMR | Davenport Murchison Ranges |
| DRP | Darling Riverine Plains |
| EIU | Einasleigh Uplands |
| ESP | Esperance Plains |
| EYB | Eyre Yorke Block |
| FIN | Finke |
| FLB | Flinders Lofty Block |
| FLI | Flinders |
| GAS | Gascoyne |
| GAW | Gawler |
| GD | Gibson Desert |
| GFU | Gulf Fall and Uplands |
| GS | Geraldton Sandplains |
| GSD | Great Sandy Desert |
| GUC | Gulf Coastal |
| GUP | Gulf Plains |
| GVD | Great Victoria Desert |
| HAM | Hampton |
| JF | Jarra Forest |
| KAN | Kanmantoo |
| KIN | King |
| LSD | Little Sandy Desert |
| MAC | MacDonnell Ranges |
| MAL | Mallee |
| MDD | Murray Darling Depression |
| MGD | Mitchell Grass Downs |
| MII | Mount Isa Inlier |
| ML | Mulga Lands |
| MUR | Murchison |
| NAN | Nandewar |
| NCP | Naracoorte Coastal Plain |
| NET | New England Tablelands |
| NK | Northern Kimberley |
| NNC | NSW North Coast |
| NSS | NSW South Western Slopes |
| NUL | Nullarbor |
| OVP | Ord Victoria Plain |
| PCK | Pine Creek |
| PIL | Pilbara |
| RIV | Riverina |
| SB | Sydney Basin |
| SCP | South East Coastal Plain |
| SEC | South East Corner |
| SEH | South Eastern Highlands |
| SEQ | South Eastern Queensland |
| SSD | Simpson Strzelecki Dunefields |
| STP | Stony Plains |
| STU | Sturt Plateau |
| SWA | Swan Coastal Plain |
| TAN | Tanami |
| TCH | Tasmanian Central Highlands |
| TIW | Tiwi Cobourg |
| TNM | Tasmanian Northern Midlands |
| TNS | Tasmanian Northern Slopes |
| TSE | Tasmanian South East |
| TSR | Tasmanian Southern Ranges |
| TWE | Tasmanian West |
| VB | Victoria Bonaparte |
| VM | Victorian Midlands |
| VVP | Victorian Volcanic Plain |
| WAR | Warren |
| WT | Wet Tropics |
| YAL | Yalgoo |

Sources:
 IBRA 6.1 - IBRA Version 6.1 (2004), Australian Government Department of the Environment and Heritage through compilation of State/Territory datasets.
 State Border - Coastline and State Border 1:100,000 (1990), Geoscience Australia, National Mapping Division.
 Terrestrial Protected Areas (2004) - Australian Government Department of the Environment and Heritage through compilation of State/Territory datasets.

Projection: Albers Equal Area Conic Spheroid and Datum: WGS84
 Standard Parallels: 18 and 36 degrees South
 Central Meridian: 132 degrees East

Mapping by ERIN for the National Reserve System Section, Australian Government Department of the Environment and Heritage.

Legend

- IBRA 6.1 Boundary
- Terrestrial Protected Areas

Appendix 8

Securing our fishing future package

| Element | Cost* |
|--|----------------------|
| <p>Fishing Concession Buyback (Business Exit Assistance)</p> <p>The Australian Government will be running a one-off, voluntary tender process to encourage individual fishing businesses to exit the industry. It will be a competitive process with a capped budget to reduce excess fishing capacity in those fisheries that are either subject to overfishing, or are assessed as being at significant risk of future overfishing due to excess capacity.</p> <p>While licence holders in all Commonwealth-only fisheries (except the southern blue fin tuna fishery which is internationally managed) will be able to tender, the main target fisheries are:</p> <ul style="list-style-type: none"> • the Southern and Eastern Scalefish and Shark Fishery (excluding the Great Australian Bight Fishery, which is not subject to overfishing); • the Eastern Tuna and Billfish Fishery; and • the Bass Strait Central Zone Scallop Fishery. <p>Funding has also been set aside to assist the Northern Prawn Fishery with a transition to a management system based on output controls should the industry choose to do so. Commonwealth and State fishers affected by the declaration of Marine Protected Areas in the South East marine region will also be eligible for business exit assistance.</p> | <p>\$149m</p> |
| <p>Onshore and Related Assistance Programme</p> <p>Up to \$30m will be available for a number of assistance measures under this programme including:</p> <ul style="list-style-type: none"> • grants to help restructure businesses directly related to the fishing industry (e.g. marine suppliers, fish processors and ship chandlers) who are severely impacted by the reduction in fishing activity. | <p>\$30m</p> |

| | |
|--|---------------|
| <ul style="list-style-type: none"> • grants of \$5,000 and \$3,000 each will be paid to skippers and crew respectively who lose employment due to the fishing reductions to help offset the costs of job seeking, retraining and/or relocation. • up to \$1,500 each will be available to fishing businesses and directly affected onshore businesses to offset the costs of obtaining professional business advice on their best options under the package. | |
| <p>Fishing Communities Programme</p> <p>Up to \$20m will be available for a grants programme to work with local business partners to fund projects capable of generating local economic activity and opportunities in communities that have been affected by the reduction in fishing activity.</p> | \$20m |
| <p>AFMA Levy Subsidy</p> <p>For those remaining in the industry, a \$15 million subsidy for AFMA fisheries management fees will be brought in for 3 years on a reducing scale, commencing 2006-07. A further \$6 million will be will be directed towards improved science, compliance and data collection to ensure improved management outcomes.</p> | \$21m |
| <p>GRAND TOTAL</p> | \$220m |

*includes administration costs

Source: Minister for the Environment and Heritage, Senator the Hon I Campbell & Minister for Fisheries, Forestry and Conservation, Senator I Macdonald, 'Government acts for a sustainable fishing future', *Joint Media Release*, 23 November 2005.

Appendix 9

The list of weeds of national significance

| Common Name | Scientific Name | Extent in Australia |
|---|--|-----------------------|
| Alligator Weed | <i>Alternanthera philoxeroides</i> | All states |
| Athel Pine | <i>Tamarix aphylla</i> | All mainland states |
| Bitou bush / Boneseed | <i>Chrysanthemoides monilifera</i> | All states |
| Blackberry | <i>Rubus fruticosus</i> agg. | All states |
| Bridal Creeper | <i>Asparagus asparagoides</i> | WA, NSW, VIC, SA, TAS |
| Cabomba | <i>Cabomba caroliniana</i> | NT, QLD, NSW, VIC |
| Chilean Needle Grass | <i>Nassella neesiana</i> | NSW, VIC, SA, ACT |
| Gorse | <i>Ulex europaeus</i> | All states |
| Hymenachne | <i>Hymenachne amplexicaulis</i> | NT, QLD, SA |
| Lantana | <i>Lantana camara</i> | WA, NT, QLD, NSW |
| Mesquite | <i>Prosopis</i> spp. | All mainland states |
| Mimosa | <i>Mimosa pigra</i> | NT |
| Parkinsonia | <i>Parkinsonia aculeate</i> | WA, NT, QLD |
| Parthenium weed | <i>Parthenium hysterophorus</i> | QLD, NSW, VIC |
| Pond Apple | <i>Annona glabra</i> | NT, QLD, NSW |
| Prickly Acacia | <i>Acacia nilotica</i> ssp. <i>indica</i> | QLD, NSW |
| Rubber Vine | <i>Cryptostegia grandiflora</i> | WA, QLD |
| Salvinia | <i>Salvinia molesta</i> | WA, NT, QLD, NSW, SA |
| Serrated Tussock | <i>Nassella trichotoma</i> | NSW, VIC, TAS, ACT |
| Willows except Weeping Willows, Pussy Willow and Sterile Pussy Willow | <i>Salix</i> spp. except <i>S. babylonica</i> , <i>S.x calodendron</i> and <i>S.x reichardtiji</i> | NSW, VIC, ACT |

The National Environmental Alert List

| Common Name | Scientific Name | Extent in Australia |
|------------------------------|--|---------------------|
| Barleria or porcupine flower | <i>Barleria prionitis</i> | QLD, NT |
| Blue hound's tongue | <i>Cynoglossum creticum</i> | NSW |
| Cane needle grass | <i>Nassella hyalina</i> | NSW, VIC |
| Chinese rain tree | <i>Koelreuteria elegans ssp. formosana</i> | QLD |
| Chinese violet | <i>Asystasia gangetica ssp. micrantha</i> | NSW |
| Cutch tree | <i>Acacia catechu</i> | NT |
| Cyperus | <i>Cyperus teneristolon</i> | NSW |
| False yellowhead | <i>Dittrichia viscosa</i> | WA |
| Garden geranium | <i>Pelargonium alchemilloides</i> | WA |
| Heather | <i>Calluna vulgaris</i> | TAS |
| Holly leaved senecio | <i>Senecio glastifolius</i> | NSW, WA |
| Horsetails | <i>Equisetum species</i> | NSW, TAS, VIC |
| Karoo thorn | <i>Acacia karroo</i> | QLD, NSW, SA, WA |
| Kochia | <i>Bassia scoparia</i> | TAS, WA |
| Lagarosiphon | <i>Lagarosiphon major</i> | TAS, NSW |
| Laurel clock vine | <i>Thunbergia laurifolia</i> | QLD |
| Leaf cactus | <i>Pereskia aculeata</i> | QLD, NSW |
| Lobed needle grass | <i>Nassella charruana</i> | VIC |
| Orange hawkweed | <i>Hieracium aurantiacum</i> | TAS, VIC |
| Praxelis | <i>Praxelis clematidea</i> | QLD |
| Rosewood / tipuana | <i>Tipuana tipu</i> | QLD |
| Senegal tea plant | <i>Gymnocoronis spilanthoides</i> | QLD, NSW |

| | | |
|-------------------------|-----------------------------------|--------|
| Siam weed | <i>Chromolaena odorata</i> | QLD |
| Subterranean Cape sedge | <i>Trianoptiles solitaria</i> | VIC |
| Uruguayan rice grass | <i>Piptochaetium montevidense</i> | VIC |
| White Spanish broom | <i>Cytisus multiflorus</i> | VIC |
| White weeping broom | <i>Retama raetam</i> | SA, WA |
| Yellow soldier | <i>Lachenalia reflexa</i> | WA |

Source: www.weeds.org.au/docs/WONS/3

Appendix 10

Funding for terrestrial and marine reserves

Table 10.A: Funding and related data: overview of individual terrestrial reserves

| Area name | Area (ha) | Year declared | 2005–06 net operating cost (\$000s) | 2005–06 capital expenditure (\$000s) | 2005–06 externally raised revenue (\$000s) | 2005–06 payment to traditional owners (\$000s) |
|---|-----------|---------------|-------------------------------------|--------------------------------------|--|--|
| Terrestrial reserves | | | | | | |
| Australian National Botanic Gardens | 85 | 1991 | 8 629 | 945 | 499 | not applicable |
| Booderee National Park | 7 254 | 1992 | 6 513 | 1 410 | 1 039 | 206 |
| Christmas Island National Park | 8 719 | 1980 | 2 908 | 135 | 1 449 | not applicable |
| Kakadu National Park | 1 980 400 | 1979 | 17 244 | 2 997 | 1 162 | 1 111 |
| Norfolk Island National Park and Botanic Garden | 656 | 1986 | 948 | 108 | 21 | not applicable |
| Pulu Keeling National Park | 2 602 | 1995 | 813 | 78 | 72 | not applicable |
| Uluru–Kata Tjuta National Park | 132 566 | 1977 | 9 921 | 5 285 | 8 045 | 1 896 |
| TOTALS | 2 132 282 | – | 46 976 | 10 958 | 12 287 | 3 213 |

Source: Director of National Parks, *Annual Report 2005-06*, p. 18.

Table 10.B: Commonwealth terrestrial national parks – operational costs, 2002-03 to 2004-05

| National Park | Area (ha) | 2002-2003 (\$ million) | 2003-2004 (\$ million) | 2004-2005 (\$ million) |
|----------------------|------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Uluru-Kata Tjuta | 132 566 | 11.65 | 13.83 | 12.95 |
| Kakadu | 1 989 400 | 17.45 | 17.13 | 16.98 |
| Booderee | 6 312 | 6.36 | 6.98 | 6.76 |
| Norfolk | 656 | 0.97 | 1.07 | 1.02 |
| Pulu Keeling | 2 602 | 0.71 | 0.72 | 0.73 |
| Christmas Island | 8 719 | 2.13 | 1.73 | 2.61 |
| TOTALS | | 39.27 | 41.46 | 41.05 |

Note: these figures do not include capital expenditure (infrastructure items).

Source: DEH, *Submission 126A*, p. 2.

Table 10.C: Funding and related data: overview of individual marine reserves

| Area name | Area (ha) | Year declared | 2005–06 net operating cost (\$000s) |
|--|------------|---------------|-------------------------------------|
| Ashmore Reef National Nature Reserve | 58 337 | 1983 | 553 |
| Cartier Island Marine Reserve | 17 237 | 2000 | 13 |
| Coringa–Herald National Nature Reserve | 885 250 | 1982 | 99 |
| Elizabeth and Middleton Reefs Marine National Nature Reserve | 187 726 | 1987 | 62 |
| Great Australian Bight Marine Park (Commonwealth Waters) | 1 937 162 | 1998 | 98 |
| Heard Island and McDonald Islands Marine Reserve and Conservation Zone | 6 457 815 | 2002 | 200 |
| Lihou Reef National Nature Reserve | 843 670 | 1982 | 13 |
| Lord Howe Island Marine Park (Commonwealth Waters) | 300 063 | 2000 | 28 |
| Macquarie Island Marine Park | 16 205 928 | 1999 | 89 |
| Mermaid Reef Marine National Nature Reserve | 53 987 | 1991 | 79 |
| Ningaloo Marine Park (Commonwealth Waters) | 243 559 | 1987 | 178 |
| Solitary Islands Marine Reserve (Commonwealth Waters) | 15 747 | 1993 | 90 |
| Tasmanian Seamounts Marine Reserve | 38 897 | 1999 | 14 |

Footnote: In addition, \$725 407 was spent across the 12 marine reserves managed by the Marine Division on training wardens, travel (on management-related expenses for the whole estate), workshops and conference attendance. Another \$1 452 890 was spent on activities for the identification of new marine protected areas.

Source: Director of National Parks, *Annual Report 2005-06*, p. 18.

Table 10.D: Commonwealth marine protected areas – expenditures, 2002-03 to 2004-05

| Marine Protected Area | Area (ha) | Date declared | 2002-2003 \$ million (NHT) | 2003-2004 \$ million (NHT) | 2004-2005 \$ million (NHT) |
|--|------------|---------------|----------------------------------|----------------------------------|----------------------------------|
| Ashmore Reef National Nature Reserve | 58 300 | 1983 | 0.49 | 0.55 | 0.497 |
| Cartier Island Marine Reserve | 17 200 | 2000 | 0.05 | 0.05 | 0.031 |
| Coringa-Herald National Nature Reserve | 885 000 | 1982 | 0.07 | 0.02 | 0.026 |
| Elizabeth and Middleton Reefs Marine National Nature Reserve | 188 000 | 1987 | 0.04 | 0.003 | 0.076 |
| Great Australian Bight Marine Park (Commonwealth Waters) | 1 940 000 | 1998 | 0.2 | 0.19 | 0.173 |
| Lihou Reef National Nature Reserve | 843 000 | 1982 | 0.007 | 0.11 | 0.014 |
| Lord Howe Island Marine Park (Commonwealth Waters) | 300 000 | 2000 | 0.14 | 0.03 | 0.012 |
| Macquarie Island Marine Park | 16 200 000 | 1999 | 0.007 | 0.05 | 0.137 |
| Mermaid Reef Marine National Nature Reserve | 54 000 | 1991 | 0.036 | 0.047 | 0.006 |
| Ningaloo Marine Park (Commonwealth Waters) | 218 000 | 1987 | 0.019 | 0.15 | 0.2 |
| Solitary Islands Marine Reserve (Commonwealth Waters) | 15 680 | 1993 | 0.065 | 0.08 | 0.133 |
| Tasmanian Seamounts Marine Reserve | 38 900 | 1999 | 0.015 | 0 | 0 |
| Additional funding across marine estate* | | | 0.17 | 0.274 | 0.250 |
| Heard Island and McDonald Islands Marine Reserve ^ | 6 460 000 | 2002 | 0.055 | 0.23 | 0.06 |
| Totals # | | | 1.364 | 1.784 | 1.615 |

* In addition to the expenditure shown for each marine reserve, these amounts, which cannot be separately identified, were spent across the 12 marine reserves managed by the Marine Division of the Department of the Environment and Heritage on training wardens, travel expenses (on matters pertaining to management of the whole estate), workshops and conference attendance.

^ Note that these funds are from Government appropriations to the Australian Antarctic Division of the Department of the Environment and Heritage.

In addition to NHT funds, funds from Departmental appropriations were used to cover the costs of staff employment, travel and training to carry out management activities which cannot be separately identified.

Source: DEH, *Submission 126A*, p. 3.

Appendix 11

Site inspections

| Date | Site Inspection |
|-------------------------|---|
| Thursday, 20 April 2006 | Fraser Island, Queensland <ul style="list-style-type: none">• visit to Lake Mackenzie• visit to Eli Creek Boardwalk• visit to Lake Wabby Lookout• inspection of ranger base at Eurong• inspection of fire break at Dillingham Road |
| Wednesday, 7 June 2006 | Flinders Ranges, South Australia <ul style="list-style-type: none">• inspection of Old Wilpena Homestead• inspection of project Bounceback• tour of park including Razorback Lookout, Bunyeroo Gorge; Acraman Campground and Brachina Gorge;• inspection of Rawnsley Park tourist development,• aerial inspection of Wilpena Pound and Flinders Ranges |
| Tuesday, 27 June 2006 | Uluru, Northern Territory <ul style="list-style-type: none">• inspection of signage and visitor management strategies at Uluru Kata Tjuta National Park• inspection of cultural centre with traditional owners• inspection of Uluru sunset and sunrise viewing areas and car parking facilities |
| Thursday, 29 June 2006 | Daintree/Mossman, North Queensland <ul style="list-style-type: none">• inspection of cultural tourist facility with Indigenous tour operators• site inspection of Mossman Gorge and car parking facilities Mission Beach, North Queensland <ul style="list-style-type: none">• inspection of the community for coastal and cassowary conservation (C4) community centre• inspection of cassowary hospital at Garner's Beach |

| | |
|---------------------------|---|
| Monday, 28 August 2006 | Burrup Peninsula, Western Australia <ul style="list-style-type: none">• tour of Woodside plant and proposed Pluto Development Site• site inspection of rock art sites |
| Tuesday, 29 August 2006 | Denham, Western Australia <ul style="list-style-type: none">• site visit to Françoise Peron National Park, inspection of Project Eden• inspection of the Shark Bay World Heritage Centre |
| Wednesday, 30 August 2006 | Monkey Mia, Western Australia <ul style="list-style-type: none">• inspection of dolphin feeding area• inspection of tourist facilities• Muggon Station, Western Australia <ul style="list-style-type: none">• visit to Muggon Station• aerial inspection Kennedy Ranges National Park, Coral Bay and Ningaloo Reef |