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by Holly Park

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Biodiversity: Regulatory Frameworks

by

Holly Park

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SUMMARY

Biological diversity, or biodiversity, is the variety of life on Earth. There are currently almost two million species described on Earth, but it is estimated that the total number of global species is closer to 13 million. Australia is a 'mega diverse' country, possessing a rich and unique biodiversity. The majority of Australia's biodiversity is endemic, existing only in Australia. Biodiversity is in serious decline at a global, national and State level. 2010 has been declared the United Nations Year of Biodiversity to highlight the importance of biodiversity and to generate action to halt the biodiversity decline. [1]

International

In 1992, in response to an alarming rate of species extinctions, the United Nations (UN) Convention on Biological Diversity (CBD) was opened for signature. The Convention received wide global acceptance and was ratified by Australia on 18 June 1993. The CBD has three principle objectives: to conserve biological diversity; to use biological diversity in a sustainable fashion; and to share the benefits of biological diversity fairly and equitably. The Convention is expressed in broad goals and qualified commitments rather than specific binding obligations. It requires member states to develop national strategies and programs for the conservation and sustainable use of biodiversity 'in accordance with its particular conditions and capabilities'. Parties to the Convention commit to establish a national system of protected areas and to consider the conservation and sustainable use of biodiversity in national decision making. [2.1]

In response to an unprecedented increasing rate of biodiversity loss, the parties to the CBD developed a Strategic Plan in 2002, to guide further implementation of the Convention. The Plan's mission, known as the 2010 Target, states:

The parties commit themselves to a more effective and coherent implementation of the three objectives of the Convention, to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth.

In 2004, the Conference of Parties to the CBD established more specific goals and targets to clarify the 2010 Target.

Despite the wide international commitment to the CBD and the 2010 Target, the UN has recently acknowledged that parties to the CBD have failed to meet the 2010 Target and that global biodiversity continues to be lost at an unprecedented rate. The Conference of Parties to the CBD is expected to adopt an updated strategic plan in October 2010, to replace the 2010 Target, which is likely to incorporate national biodiversity targets. [2.2]

National

Historically in Australia, biodiversity conservation at a national level was generally confined to legislation and policies that dealt specifically with protected areas, protected species and environmental assessment. The national approach to biodiversity conservation broadened significantly following the 1992 CBD and the

1992 Intergovernmental Agreement on the Environment, which outlined national and State responsibilities in relation to environmental protection. [3]

In 1996, the ***National Strategy for the Conservation of Australia's Biological Diversity*** was endorsed by Australian Governments as the framework for biodiversity conservation in Australia. [3.1] The National Strategy was recently reviewed and a new draft strategy publicly exhibited. A large number of submissions were received on the draft strategy from a diverse range of stakeholders. [3.2]

In 1999, the ***Environment Protection and Biodiversity Conservation Act*** (EPBC Act) was enacted which significantly broadened the Commonwealth Government's role in relation to biodiversity. The Act was promoted by the Government as landmark environmental reform. The Act gives the Commonwealth Government responsibility for matters of national environmental significance and for actions undertaken by the Commonwealth or actions on Commonwealth land. [3.3] An independent, statutory review of the EPBC Act has recently been released. The review made 71 recommendations to improve and modernise the Act. The Government has yet to formally respond to the Review, however it has indicated that it believes two of the Review's recommendations to be unnecessary. [3.4]

Protected areas have been described as Australia's premier investment in biodiversity conservation. An integrated national approach to protected areas is promoted through the National Reserve System and the National Representative System of Marine Protected Areas programs. They aim to establish a comprehensive, adequate and representative network of protected areas across Australian land and water to conserve biodiversity. The National Reserve System consists of over 9000 terrestrial protected areas, covering 89 million hectares or more than 11% of the country. The National Reserve System Strategy 2009-2030 was recently released by the Commonwealth Government. The Strategy commits to increasing the area of the terrestrial reserve system by 25% by 2013. [3.5] According to the most recently available data, the national marine protected areas system consists of 200 reserves and covers an area of 64 000 hectares. [3.5]

There is a range of other Commonwealth Government legislation, policies and programs that address biodiversity, including: Regional Forest Agreements, Caring for Country and Australia's Native Vegetation Framework. [3.6]

New South Wales

The **NSW Biodiversity Strategy** was introduced in 1999 to provide the framework for biodiversity conservation in NSW. It is currently being revised to guide biodiversity management in the State over the next twenty years. The revised strategy will likely contain statewide natural resource targets for biodiversity and water, which are also included as targets under the State Plan. The draft strategy also proposes the inclusion of short, medium and long term goals for biodiversity conservation. [4.1]

Publicly owned **protected areas**, in the form of national parks and reserves, have been the cornerstone of biodiversity conservation in NSW for many years. NSW

has a long history of national parks, with Sydney's Royal National Park established in 1879 as Australia's first national park and the second national park in the world. The NSW terrestrial reserve system consists of 789 protected areas, covering 6.7 million hectares, or 8.4% of the total land area of NSW. Since 2006, there has been a 3.5% increase in the area of the terrestrial NSW reserve system. The Government recently proposed the creation of a new national park, the River Red Gums National Park in the Riverina region of NSW, which is the subject of a Bill currently before Parliament. **[4.2]**

The coastal fringe of NSW is generally well protected in the terrestrial reserve system compared to the central and western parts of the State. There are various methods of evaluating the effectiveness of the NSW reserve system at conserving biodiversity. Two common methods are: the percentage of each bioregion that is protected in the reserve system; and progress towards the establishment of a comprehensive, adequate and representative reserve system. **[4.2]**

Marine protected areas, particularly sanctuary (no-take) zones, are the key component of marine biodiversity conservation in NSW. There are currently 6 marine parks in NSW, covering an extent of 345 000 hectares or 34% of waters within NSW jurisdiction. Sanctuary zones, in which fishing is completely prohibited, make up 18% of marine parks, or 6.5% of total NSW marine jurisdiction. **[4.3]**

In recent years there has been an increased focus on **voluntary conservation on private land**. Programs such as the Conservation Partners Program encourage community participation in biodiversity conservation. The establishment of private conservation reserves, managed by non government organisations, is also becoming increasingly common in Australia and NSW. **[4.4 and 3.7]**

The ***Threatened Species Conservation Act*** (NSW) (TSC Act) was enacted in 1995 to conserve threatened species, populations and ecological communities. The TSC Act interacts closely with the *Environmental Planning and Assessment Act 1979* (NSW) which integrates threatened species requirements into the planning framework. The TSC Act provides for the listing of threatened species, populations and ecological communities and the declaration of critical habitat. It also requires the preparation of recovery plans and threat abatement plans. In 2004, amendments to the Act introduced the requirement to develop a threatened species priorities action statement. This is indicative of a shift in focus from the recovery of individual threatened species to a more strategic focus on the protection of communities and habitats. **[4.5]**

The ***Environmental Planning and Assessment Act 1979*** (EP&A Act) regulates planning in NSW and provides a framework within which other pieces of legislation and policy operate to address biodiversity. The key pieces of legislation are the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003*. The operation of the planning system at both a strategic and development assessment level has the potential to significantly impact on biodiversity conservation. At a strategic planning level, a range of planning instruments can impact on biodiversity, including local environment plans, development control plans and State environmental planning policies. Biodiversity certification was introduced in the 2004 amendments to the TSC Act. This enables the Minister to

'biodiversity certify' a planning instrument, bringing the biodiversity assessment forward to the strategic planning phase and removing the requirement to undertake threatened species assessment during the development assessment process. [4.6]

The EP&A Act generally requires environmental impact assessment to be undertaken before the proposal for a development is determined. If a development under Part 4 or Part 5 of the EP&A Act is likely to have a significant effect on threatened species, or is on land that is critical habitat, a species impact statement must also be undertaken. [4.6]

In late 2006 the NSW Government introduced the **Biodiversity Banking and Offsets Scheme** (BioBanking). BioBanking is a market based approach to conserving biodiversity through the planning process. Developers can opt to use BioBanking to offset the impacts of their development by purchasing biodiversity credits, generated on a BioBank site, as an alternative to the traditional threatened species regime under the EP&A Act. The BioBanking scheme commenced in 2008 and the first BioBank agreement was recently entered into between the NSW Government and a private landholder. While the subject of much debate, the effectiveness of BioBanking in conserving biodiversity remains to be seen. [4.6]

The ***Native Vegetation Act 2003*** was introduced to implement the Government's commitment to end broadscale clearing. In accordance with the Act, broadscale clearing is not permissible unless it improves or maintains environmental outcomes. The first five yearly statutory review of the *Native Vegetation Act* was completed late last year. The review found that the objectives of the Act remain valid and no fundamental changes to the Act are necessary. However, it noted that there had been calls for broader reform to be considered in the longer term. [4.6]

Despite the wide international commitment to the CBD and the 2010 Target and the legislation, policy and programs addressing biodiversity at both a Commonwealth and NSW level in Australia, biodiversity continues to be in serious decline at a State, national and international level.

List of Abbreviations

CAR	Comprehensive, adequate and representative reserve system
CBD	Convention on Biological Diversity
DECCW	Department of Environment, Climate Change and Water
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
IUCN	International Union for the Conservation of Nature
LEP	Local Environmental Plan
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
SEPP	State Environmental Planning Policy
TSC Act	<i>Threatened Species Conservation Act 1995</i>
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation

1 INTRODUCTION

Biological diversity, or biodiversity, is the variety of life on Earth. There are currently almost two million species described on Earth, but there are estimates that the total number of global species is closer to 13 million. Australia is a 'mega diverse' country, possessing a rich and unique biodiversity. A large portion of Australia's biodiversity is endemic, existing only in Australia.

Biodiversity is in serious decline at a global, national and State level. 2010 has been declared the United Nations Year of Biodiversity to highlight the importance of biodiversity and to generate action to halt the biodiversity decline. Since the Rio Earth Summit in 1992, biodiversity has enjoyed a high profile. There are a myriad of treaties, laws, policies and programs attempting to conserve biodiversity at an international, national and State level. Despite these, unprecedented rates of biodiversity loss are reported and parties to the Convention on Biological Diversity, including Australia, will fail to meet the biodiversity targets under the Convention this year.

Definition

Biodiversity is the variety of life on earth. The *National Strategy for the Conservation of Australia's Biological Diversity 1996* defines biodiversity as:

Biological diversity is the variety of all life forms – the different plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part. Biological diversity is usually considered at three levels:

Genetic diversity – the variety of genetic information contained in all of the individual plants, animals and microorganisms that inhabit the earth. Genetic diversity occurs within and between the populations of organisms that comprise individual species as well as among species;

Species diversity – the variety of species on the earth;

Ecosystem diversity – the variety of habitats, biotic communities and ecological processes.

This definition was also adopted in the *NSW Biodiversity Strategy 1999*.

Value of Biodiversity

In addition to its intrinsic value, biodiversity provides a range of services that are vital to human life on Earth. These include:

- Purification of air and water
- Provision of food
- Detoxification and decomposition of wastes
- Stabilisation and moderation of the Earth's climate
- Maintenance of ecosystems
- Pollination of plants including crops
- Control of pests and diseases

- Generation and renewal of soil fertility, including nutrient cycling
- Maintenance of genetic resources as key inputs to crop varieties and livestock breeds, medicines and other products
- Cultural, aesthetic, spiritual, educational and recreational benefits.¹

It may be impossible to accurately value the benefits of biodiversity in monetary terms. Numerous frameworks for establishing the economic value of biodiversity have been proposed, but no single method has to date received wide acceptance.² The following examples exemplify the differences in the attribution of economic value to biodiversity. The Economics of Ecosystems and Biodiversity, a program operating under the auspices of the UN Environment Program, estimated the value of global biodiversity as US \$2.5 - 4.5 trillion per year.³ The World Resources Institute valued the services provided by biodiversity at over US \$30 trillion per year globally.⁴ At a national level, the CSIRO estimated the value of Australia's air, water, forests, flora and fauna to be more than A\$1,300 billion per year.⁵

Status of Biodiversity

Evaluating the status of biodiversity is complex and relies upon a range of biodiversity indicators. The Convention on Biological Diversity has identified 18 headline biodiversity indicators, including: threatened species; abundance and distribution of species; coverage of protected areas; invasive species; fragmentation of ecosystems and water quality.⁶ The following provides a snapshot

¹ Adapted from: United Nations (UN) Convention on Biological Diversity (CBD), *Sustaining Life on Earth*: <http://www.cbd.int/convention/guide.shtml?id=changing> accessed 4/1/2010 and Commonwealth Department of the Environment, Water, Heritage and the Arts, *Why is Biological Diversity important*: <http://www.environment.gov.au/biodiversity/publications/series/paper1/why.html> accessed 4/1/2010.

² For a discussion of the economic valuation of biodiversity, see Bennett J, *The economic value of biodiversity: a scoping paper* 2003: <http://www.environment.gov.au/biodiversity/publications/scoping-paper/techniques.html> accessed 4/1/2010; European Communities, *The Economics of Ecosystems and Biodiversity* 2008: http://ec.europa.eu/environment/nature/biodiversity/economics/pdf/teeb_report.pdf accessed 4/1/2010.

³ UN News Centre, *UN opens Biodiversity Year with plea to save world's ecosystems*, 1/1/2010: <http://www.un.org/apps/news/story.asp?NewsID=33393&Cr=environment&Cr1> accessed 23/03/2010.

⁴ Cited in: Commonwealth of Australia, *National objectives and targets for biodiversity conservation 2001-2005*: <http://www.environment.gov.au/biodiversity/publications/objectives/pubs/objectives.pdf> accessed 5/1/2010. NB: unable to locate original source.

⁵ Cited in: Commonwealth of Australia, *Australia's protected areas*: <http://www.environment.gov.au/parks/nrs/about/protected-areas/index.html> accessed 8/1/2010. NB: unable to locate original source.

⁶ UN CBD, Conference of Parties 7, Decision VII/30, 2004: <http://www.cbd.int/decision/cop/?id=7767> accessed 30/4/2010.

of biodiversity trends at a global, national and State level, rather than a comprehensive assessment of biodiversity status.

Global Scale

There are approximately 1.9 million species currently described on earth. This figure is continually increasing, with approximately 18 000 new species being described annually.⁷ There is considerable uncertainty about the total number of species present on earth. Although estimates range from 3 - 100 million, a figure of 11 - 13 million is generally accepted.⁸

The UN third [Global Biodiversity Outlook](#) released in 2010 and the *UN Millennium Ecosystem Assessment 2005* provide the following information on the status of global biodiversity:⁹

- Of the 24 ecosystem services assessed in the Millennium Ecosystem Assessment, 15 are in decline, including the provision of fresh water, marine fishery production and pollination. At least one quarter of important commercial fish stocks are over harvested.
- Species that have been assessed for extinction risk are on average moving closer to extinction, with amphibians facing the greatest risk and coral species deteriorating most rapidly in status.
- The abundance of vertebrate species, based on assessed populations, fell by nearly one-third on average between 1970 and 2006, and continues to fall globally, with especially severe declines in the tropics and among freshwater species.
- Preliminary assessments suggest that twenty three percent of plant species are threatened.
- Natural habitats in most parts of the world continue to decline in extent and

⁷ Chapman A, *Numbers of Living Species in Australia and the World* 2nd Edition, Commonwealth of Australia, 2009: <http://www.environment.gov.au/biodiversity/abrs/publications/other/species-numbers/2009/pubs/nlsaw-2nd-complete.pdf>

⁸ Chapman A, *Numbers of Living Species in Australia and the World* 2nd Edition, Commonwealth of Australia, 2009: <http://www.environment.gov.au/biodiversity/abrs/publications/other/species-numbers/2009/pubs/nlsaw-2nd-complete.pdf>

⁹ The *Global Biodiversity Outlook* is a UN publication that assesses the current status and trends of biodiversity and the key drivers of biodiversity loss. It provides an overview of the implementation of the CBD, progress towards the 2010 Target under the CBD and contribution to the achievement of the Millennium Development Goals. The UN Millennium Ecosystem Assessment involved a four year assessment (2001-2005) of the consequences of ecosystem change for human well-being. It involved the work of 1360 international experts.

integrity, notably freshwater wetlands, sea ice habitats, salt marshes, coral reefs, seagrass beds and shellfish reefs; although there has been significant progress in slowing the rate of loss of tropical forests and mangroves, in some regions.

- Between 2000-2010 the global extent of primary forest (substantially undisturbed forest) declined by more than 400 000 square kilometres.
- Crop and livestock genetic diversity continues to decline in agricultural systems. For example, more than sixty breeds of livestock are reported to have become extinct since 2000.
- The five principal pressures directly driving biodiversity loss: habitat change; overexploitation; pollution; invasive alien species; and climate change are either constant or increasing in intensity.
- There has been significant progress in the increase of protected areas both on land and in coastal waters. However, 44% of terrestrial ecoregions (areas with a large proportion of shared species and habitat types), and 82% of marine ecoregions, fall below the target of 10% protection. The majority of sites judged to be of special importance to biodiversity also fall outside protected areas.

Australia

Australia contains almost ten percent of the world's species and ten percent of the world's threatened species. It is one of 17 megadiverse countries in the world and the most megadiverse developed country.¹⁰ There are approximately 150 000 described species in Australia. However it is estimated that there are 566 000 species in total. A large percentage of these species are endemic, meaning they exist only in Australia. 94% of Australia's frogs, 93% of Australia's reptiles, 92% of Australia's vascular plants, 87% of Australia's mammals and 45% of Australia's birds are endemic.¹¹

The Commonwealth Government's [Assessment of Australia's Terrestrial Biodiversity 2008](#) was followed in 2009 by [Australia's Fourth National Report to the United Nations Convention on Biological Diversity](#). Both reports note that biodiversity in Australia is in serious decline, with threats to biodiversity ongoing and exacerbated, it is argued, by climate change. These reports, together with [Australia State of the Environment 2006](#), provide the following snapshot of the status of biodiversity in Australia:

¹⁰ Commonwealth of Australia, *Australia's Fourth National Report to the United Nations Convention on Biological Diversity*, March 2009: <http://www.cbd.int/doc/world/au/au-nr-04-en.pdf> accessed 6/1/2010.

¹¹ Chapman A, *Numbers of Living Species in Australia and the World* 2nd Edition, Commonwealth of Australia, 2009: <http://www.environment.gov.au/biodiversity/abrs/publications/other/species-numbers/2009/pubs/nlsaw-2nd-complete.pdf>

- 90% of the native vegetation in the eastern temperate zone has been removed and approximately 50% of the rainforest extent in Australia has been cleared. The proportion of Australia covered by forest or woodland has decreased by more than one third.
- 1597 species are listed as threatened and a further 103 are presumed extinct at a national scale. Three new species have been declared extinct since 2000 and there have been no reported sightings of several other species for many years.¹²
- 40 ecological communities are threatened on a national scale.
- There has been a decline in the extent of wetlands, due to altered river flow regimes, and a loss of 90% of floodplain wetlands in the Murray-Darling Basin.
- The rate of broadscale clearing has slowed since 2002, notwithstanding, vegetation is still being cleared and modified faster than it is being replaced.
- Major seagrass losses have been reported in Queensland, Victoria, South Australia and Western Australia.
- There has been considerable local damage to the Great Barrier Reef and Ningaloo Reef and changes in resident species.
- Among the 74 fish species that are managed by the Commonwealth, the number of stocks that are overfished has increased over the last decade to a record high of 17 species. An additional 40 fish species have uncertain conservation status and it is likely at least some of these are overfished.

New South Wales

The [*NSW State of the Environment 2009*](#) provides the following statistics on the status of biodiversity in NSW:

- 320 fauna species are threatened (including 42 that are presumed extinct). This includes 126 birds, 82 mammals, 42 reptiles, 28 amphibians, 20 invertebrates, 15 fish and 7 marine mammals.
- 629 plant species and 9 species of fungi are threatened (including 35 plant species that are presumed extinct).
- 46 populations of flora and fauna species and 91 ecological communities are threatened.¹³

¹² Commonwealth of Australia, Senate Committee Report, *The operation of the Environment Protection and Biodiversity Conservation Act 1999*, March 2009. The three species are: *Galaxias pedderensis* (Pedder Galaxias fish); *Nyctophilus howensis* (Lord Howe Long-eared Bat); and *Vanvoorstia bennettiana* (Bennett's Seaweed).

- Native grasslands and grassy woodlands have been extensively cleared or modified.
- Rainforests have been substantially reduced, particularly littoral rainforests and other rainforests on the coastal lowlands.
- There has been significant decline in the extent of salt marsh, mangroves and wetlands. Waterbird communities are continuing to decline in many wetland areas.
- A number of major threats to biodiversity including land clearing, overgrazing, invasive species and climate change have intensified or remained the same for the vast majority of vegetation classes since 1999.

Whilst the number of terrestrial species listed as threatened has increased only slightly since the previous *State of the Environment 2006*, there have been significant increases in the number of populations and ecological communities listed as threatened. The number of populations listed as threatened has increased by 21% and the number of ecological communities considered to be threatened has increased by 19%. The report notes that this is primarily due to the assessment of populations and ecological communities that had not previously been assessed, rather than a deterioration in the condition of previously assessed populations and ecological communities.¹⁴

¹⁴

This paper uses the term threatened species to refer collectively to critically endangered, endangered and vulnerable species, populations and ecological communities.

2 INTERNATIONAL

Initial attempts to address biodiversity at a global level were generally focussed on the equitable management of 'resource' species. Early international agreements included the North Sea Fisheries (Overfishing Convention) 1882, the Convention to Protect Birds Useful to Agriculture 1902 and the first Convention for the Regulation of Whaling 1931.

The focus later shifted to endangered species and areas of significant natural value. Key treaties included the Ramsar Convention on Wetlands of International Importance 1971, the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage 1972 and the Convention on the International Trade in Endangered Species 1973. Regional agreements have also played an important role in addressing biodiversity.

Over the past two decades a more integrated, comprehensive approach to biodiversity conservation has emerged. In 1987, the Report of the World Commission on Environment and Development (the Brundtland Report) recommended the creation of a convention for the conservation of nature. In 1988, in response to an alarming rate of species extinctions, the UN convened a working group of experts to consider the need for an international convention on biological diversity.¹⁵ This led to the drafting of the Convention on Biological Diversity (CBD).

2.1 United Nations Convention on Biological Diversity

The CBD was opened for signature at the United Nations Conference for Environment and Development (the Rio Earth Summit) in 1992 and entered into force on 29 December 1993. Australia ratified the CBD on 18 June 1993. The CBD received wide global acceptance. There are 193 parties to the Convention, which is higher than the number of member states in the UN.¹⁶

The CBD has three main objectives:

- To conserve biological diversity;
- To use biological diversity in a sustainable fashion;
- To share the benefits of biological diversity fairly and equitably.

The CBD is expressed in broad goals and qualified commitments rather than specific binding obligations.¹⁷ Each participating country is required to develop national strategies and programs for the conservation and sustainable use of biodiversity 'in accordance with its particular conditions and capabilities'. The CBD

¹⁵ UN Environment Program Ad Hoc Working Group of Experts on Biological Diversity.

¹⁶ There are 193 parties to the CBD which consists of 192 countries plus the European union. There are 192 member states in the United Nations. See: http://www.un.org.au/About_the_United_Nations.aspx accessed 15/12/2009.

¹⁷ Birnie P & Boyle A, *International Law & the Environment*, 2nd Ed., Oxford University Press, 2002.

also commits parties to:

- establish a system of protected areas;
- adopt measures for ex situ conservation of biodiversity;
- consider the conservation and sustainable use of biodiversity in national decision making;
- promote and encourage research and training;
- introduce appropriate environmental impact assessment procedures; and
- promote public education on the value of biodiversity.

The Jakarta Mandate on Marine and Coastal Biological Diversity was adopted at the Second Conference of Parties to the CBD in 1995. The Mandate focuses on marine and coastal biodiversity, which is not expressly addressed in the CBD. It identifies priority areas for international action to conserve biodiversity and establishes a panel of experts to provide advice on priorities for implementation.

2.2 2010 Target

In response to an unprecedented increasing rate of biodiversity loss, the parties to the CBD developed a Strategic Plan in 2002, to guide further implementation of the Convention. The Plan's mission, known as the 2010 Target, states:

The parties commit themselves to a more effective and coherent implementation of the three objectives of the Convention, to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth.

The 2010 Target was incorporated as a target under the Millennium Development Goals at the World Summit on Sustainable Development in 2002.

In 2004, the Conference of Parties to the CBD established goals and targets to clarify the 2010 Target and to provide a framework for regional and/or national goals to be developed. Eleven goals are identified and 21 relatively specific sub-targets fit within these goals, including:

- At least 10% of each of the world's ecological regions effectively conserved;
- Areas of particular importance to biodiversity protected;
- Biodiversity-based products derived from sources that are sustainably managed and production areas managed consistent with the conservation of biodiversity;
- No species of wild flora or fauna endangered by international trade;
- New and additional financial resources and technology are transferred to developing country parties to allow for the effective implementation of their commitments under the Convention.¹⁸

Despite the wide global commitment to the CBD and the 2010 Target, the recently published UN *Global Biodiversity Outlook 3* has acknowledged that parties to the

¹⁸ UN CBD, Conference of Parties 7, Decision VII/30, 2004: <http://www.cbd.int/decision/cop/?id=7767> accessed 30/4/2010.

Convention have failed to achieve the 2010 Target to significantly reduce the rate of biodiversity loss. None of the 21 sub-targets have been definitively achieved at a global scale, although some have been partially or locally achieved. *Global Biodiversity Outlook 3* states that global biodiversity continues to decline at an unprecedented rate, largely because the pressures on biodiversity remain constant or are increasing in intensity. It provides a damning report on the achievement of the 2010 Target:

The ecological footprint of humanity exceeds the biological capacity of the earth by a wider margin than at the time the 2010 Target was agreed...

An updated strategic plan will be adopted to replace the 2010 Target at the tenth meeting of the Conference of Parties to the CBD in October 2010. This will include a 2020 Mission, a 2050 Vision and a mechanism for monitoring progress towards these targets. It is likely to incorporate national biodiversity targets.¹⁹

¹⁹ Djoghla A, Executive Secretary of the CBD, *Statement on the Occasion of the Informal Expert Workshop on the Updating of the Strategic Plan of the Convention for the Post-2010 Period*, 18/1/2010: <http://www.cbd.int/doc/speech/2010/sp-2010-01-18-london-en.pdf> accessed 23/4/2010.

3 NATIONAL

Historically in Australia, biodiversity conservation at a national level was generally confined to legislation and policies that dealt specifically with protected areas, protected species and environmental assessment. The national approach to biodiversity conservation broadened significantly following the 1992 CBD and the 1992 Intergovernmental Agreement on the Environment, which outlined national and State responsibilities in relation to environmental protection. In 1996, the *National Strategy for the Conservation of Australia's Biological Diversity* was released by Australian Governments to provide the framework for biodiversity conservation in Australia. In 1999, the *Environment Protection and Biodiversity Conservation Act* (Cth) was enacted which significantly broadened the Commonwealth Government's role in environmental protection. Both the *National Strategy for the Conservation of Australia's Biological Diversity 1996* and the *Environment Protection and Biodiversity Conservation Act 1999* are currently being reviewed.

An integrated national approach to protected areas is promoted through the National Reserve System and the National Representative System of Marine Protected Areas programs. They aim to establish a comprehensive, adequate and representative network of protected areas across Australian land and water to conserve biodiversity. The Commonwealth Government has recently committed to significantly increasing the National Reserve System over the next three years. A range of other government and non government policies and programs are operating at a national level to address biodiversity.

Biodiversity in Australia continues to be in serious decline and Australia has failed to meet the 2010 Target under the CBD.²⁰ This is despite the increased focus on biodiversity conservation at a national level, in line with Australia's obligations under the CBD, and the range of legislation, policy and programs addressing biodiversity.

3.1 National Strategy for Conservation of Australia's Biological Diversity

The [*National Strategy for the Conservation of Australia's Biological Diversity*](#) 1996 was developed by the Commonwealth Government and endorsed by the State and Territory Governments, as the national framework for biodiversity conservation.

The Strategy commits the Commonwealth, State and Territory Governments to:

- Develop complementary State and Territory strategies;
- Expand the protected areas system;
- Develop measures to strengthen off-reserve conservation;
- Develop bioregional biodiversity management plans in cooperation with other State, Territory or local Governments; and

²⁰ Natural Resource Management Ministerial Council, *Australia's Biodiversity Conservation Strategy 2010-2020, Consultation Draft*, 2009: <http://www.environment.gov.au/biodiversity/strategy/pubs/biodiversity-conservation-strategy2010-2020.pdf> accessed 19/3/2010.

- Introduce legislation where necessary.

Review of the Strategy

The first five year review of the National Strategy was conducted in 2001. The review concluded that whilst there had been progress towards the strategy's goals, several of the strategy's objectives had not been completely met, including:

- Management of threatening processes;
- Effective controls on the clearance of native vegetation;
- Adoption of ecologically sustainable practices in fisheries, agricultural and pastoral management; and
- Recognition of the contribution of Indigenous peoples to biodiversity conservation.

The review identified a number of reasons why these objectives were not met, including: competing priorities; long timeframes required to see change; incomplete knowledge of Australia's biodiversity; and the difficulty of objectively measuring performance and assessing progress.

National Objectives and Targets for Biodiversity Conservation

In response to the first five year review of the National Strategy, the [National Objectives and Targets for Biodiversity Conservation 2001-2005](#) were developed. These identified broad priority actions and a series of more specific biodiversity targets. Whilst Queensland, Tasmania and the Northern Territory did not agree to be bound by the national objectives, in 2004 it was reported that all States, including Queensland, Tasmania and the Northern Territory, had made significant progress towards meeting the national objectives.²¹

3.2 Draft Australia's Biodiversity Conservation Strategy: 2010-2020

Between 2006-2009, the second five year review of the *National Strategy for the Conservation of Australia's Biodiversity* was undertaken. The review found that biodiversity in Australia was still in decline.²² The review led to the drafting of a new biodiversity strategy, which was released for public comment in March 2009, [Australia's Biodiversity Conservation Strategy: 2010-2020](#). It is unclear when the final version of the Strategy will be released. The National Resource Management Ministerial Council endorsed the strategic framework for the strategy in November 2009, and requested the development of measurable targets for the Council's consideration at its meeting on 23 April 2010.²³ The *Communiqué* from this

²¹ Griffin NRM Pty Ltd, *Small Steps for Nature: A Review of Progress Towards the National Objectives and Targets for Biological Diversity Conservation 2001-2005*, commissioned by the National Biodiversity Alliance, 2004.

²² Natural Resource Management Ministerial Council, *Australia's Biodiversity Conservation Strategy 2010-2020, Consultation Draft*, 2009: <http://www.environment.gov.au/biodiversity/strategy/pubs/biodiversity-conservation-strategy2010-2020.pdf> accessed 19/3/2010.

²³ Natural Resource Management Ministerial Council, *Communiqué*, 5/11/2009.

meeting does not record any discussion of the biodiversity conservation strategy.²⁴

The draft strategy highlights the main threats to Australia's biodiversity:

- Climate change;
- Invasive species;
- Habitat loss, fragmentation and degradation;
- Unsustainable use of natural resources;
- Changes to the aquatic environment and water flows; and
- Inappropriate fire regimes.

The implementation of the strategy will be monitored annually and formally reviewed every five years.²⁵

During the public consultation period for the draft strategy, 175 submissions were received from a diverse range of government bodies, non-government organisations, universities, industry associations and individuals. The key issues raised in four of these submissions, representing different expert and interest groups, are outlined below.

A Scientists' Letter of Concern

[*A Scientists' letter of concern*](#) was signed by 93 Australian scientists, including numerous prominent academics in the field. The submission is quite critical of the new draft biodiversity strategy. The key criticisms include:

- The draft strategy does not acknowledge the implementation failures of the previous national strategy or seek to remedy them in an effective way.
- The action statements contained in the draft strategy predominantly avoid actions that can be readily measured and reported. The draft strategy lacks clear responsibilities for funding, quantifiable targets and specific time frames for action and assessment of achievements.
- The draft strategy should acknowledge that a comprehensive, adequate and representative reserve system of ecologically viable protected areas integrated with the sympathetic management of all other areas, is central to the conservation of Australia's biological diversity.
- The draft strategy should propose a change in project approval and planning processes at a State level to take greater account of ecosystems that are identified as containing high conservation values.
- The draft strategy should establish a national target for the protection of marine ecosystems. As a minimum, the target should protect 10% of all major marine ecosystems under the highest level of protection (no-take zones), with greater levels of protection for rare or threatened ecosystems.

²⁴ Natural Resource Management Ministerial Council, *Communiqué*, 23/4/2010.

²⁵ The Strategy requires each jurisdiction to report annually to the Natural Resource Management Ministerial Council on their progress implementing the Strategy. The Natural Resource Management Ministerial Council will formally review the Strategy every five years with the advice of an independent panel.

- The draft strategy ignores the issue of human population growth and acceleration in the use of natural resources. Whilst difficult to deal with, the draft strategy should acknowledge the fact that this is having a serious impact on biodiversity conservation.
- The draft strategy should acknowledge the serious risks to biodiversity from climate change and give it greater urgency.²⁶

National Farmers' Federation

The National Farmers' Federation [submission](#) also raised a series of concerns with the draft strategy. The Federation expressed disappointment at what it perceived to be a lack of engagement with farmers during its development. The main concerns include:

- The draft strategy should take a pragmatic approach to biodiversity conservation. It should aim to avoid worst case losses of biodiversity. It should focus on balancing the protection of natural processes rather than countable objects of diversity (such as the focus on vegetation). It should also accept that Australia might need to shift from an idealist approach to biodiversity conservation to an approach of minimising the loss. The draft strategy has too great a focus on in situ protection.
- The draft strategy's recognition of climate change issues in relation to biodiversity outcomes is poor. There should be recognition that everything may not be able to be saved, that some species will become extinct and conversely others will flourish.
- The draft strategy should be better aligned with federal, State and local funding initiatives, such as the Commonwealth Government's Caring for our Country program.
- The draft strategy is too focussed on the past and not focussed enough on the future.
- The draft strategy does not recognise the value of the changing biodiversity in modified environments, nor does the draft strategy provide recognition of the achievements to date.
- The draft strategy does not include a strategy for dealing with biodiversity on the coast where the highest frequency of threatened species and the highest concentration of population coexist. Nor does it address the consumption of natural resources.
- The draft strategy lacks specific targets or outcomes. It fails to consider previous reviews of the National Biodiversity Strategy or to build on lessons learnt.²⁷

²⁶ Arthington A et al, 'A Scientists' Letter of Concern', Submission to the *Australia's Biodiversity Strategy 2010-2020 Consultation Draft*, 2009.

²⁷ National Farmers' Federation, *Submission to the Australia's Biodiversity Strategy 2010-2020 Consultation Draft*, 2009.

Planning Institute of Australia

The Planning Institute of Australia's [submission](#) highlighted a number of concerns with the draft biodiversity strategy, including that the draft strategy:

- Should integrate and align the States and territories land use and natural resource planning systems.
- Should differentiate between biodiversity planning and biodiversity management. Biodiversity planning processes should also be clarified, particularly the relationships between different processes such as bioregional plans, recovery plans and natural resource management plans.
- Should provide greater acknowledgement of the differences between planning at a local level and at a State level, and a clearer definition of the roles of the different levels of government.
- Somewhat underestimates the role of the planning legislative framework in biodiversity conservation on private land.²⁸

Australian Conservation Foundation

The Australian Conservation Foundation's [submission](#) highlights a number of concerns, many of which have also been raised in the submissions outlined above. It describes the draft strategy as 'wholly inadequate to address the biodiversity crisis that is currently facing Australia'. The submission notes that the draft strategy:

- Lacks targets, timelines and incentives to drive governments to deliver action. It does not provide a framework that can deliver intentions into action of sufficient scale and urgency.
- Is hampered by chronic underinvestment relative to the scale of the crisis.
- Contains inadequate monitoring and evaluation mechanisms.²⁹

3.3 Environment Protection and Biodiversity Conservation Act (Cth)

The Commonwealth Government enacted the *Environmental Protection and Biodiversity Conservation Act* (EPBC Act) in 1999 in line with its obligations under the CBD and the Intergovernmental Agreement on the Environment 1992.³⁰ The Act was promoted by the Government as landmark environmental reform and was

²⁸ Planning Institute of Australia, *Submission to the Australia's Biodiversity Strategy 2010-2020 Consultation Draft*, 2009.

²⁹ Australian Conservation Foundation, *Submission to the Australia's Biodiversity Strategy 2010-2020 Consultation Draft*, 2009.

³⁰ The EPBC Act repealed five other acts: *Environment Protection (Impact of Proposals) Act 1974*; *Endangered Species Protection Act 1992*; *National Parks and Wildlife Conservation Act 1975*; *World Heritage Properties Conservation Act 1983*; and *Whale Protection Act 1980*.

greeted enthusiastically by many environment groups.³¹

Part 3 of the Act gives the Commonwealth Government responsibility for the following matters of national environmental significance:

- World Heritage properties;
- National heritage properties;
- RAMSAR wetlands of international importance;
- Nationally threatened species and communities;
- Migratory species protected under international agreements;
- Nuclear actions;
- Commonwealth marine environment.

The EPBC Act also applies to actions on Commonwealth land or actions undertaken by the Commonwealth.

An action that is likely to have a significant impact on a matter of national environmental significance ('a controlled action') is prohibited unless approved by the Commonwealth Minister for the Environment. The obligation is on the proponent of an action to refer it to the Minister if they think it is or may be a controlled action. The Minister determines whether the action:

- Is deemed a controlled action because it is likely to have a significant impact;
- Is not deemed a controlled action if undertaken in a manner specified;
- Is not deemed a controlled action so does not require approval.

If an action is deemed a controlled action, it is subject to one of six assessment regimes, nominated by the Minister, or to a State or Territory process accredited under a bilateral agreement.³²

3.4 Review of the EPBC Act

Senate Committee Report into the EPBC Act 2009

The Commonwealth Senate Standing Committee on Environment, Communications and the Arts undertook a review into the operation of the EPBC Act. The Committee's reports, published in March and April 2009, highlighted a number of key criticisms of the Act, including:

- A number of important environmental matters or actions are not included as

³¹ Macintosh A & Wilkinson D, *Environmental Protection and Biodiversity Conservation Act: A Five Year Assessment*, The Australia Institute, July 2005.

³² Section 45 of the EPBC Act makes provision for bilateral agreements to be entered into between the Commonwealth and a state government to accredit the environmental assessment process of the state. This enables the Commonwealth Environment Minister to rely on a state environmental assessment process when assessing the action under the EPBC Act. The Commonwealth Environment Minister retains approval responsibility.

- matters of national environmental significance, particularly climate change/greenhouse gas emissions and cumulative environmental impacts;
- A 2006-07 National Audit Office Report questioned the ability of the threatened species listing process to produce accurate, comprehensive lists of threatened species and communities within appropriate timeframes;
 - Progress on completion and monitoring of recovery plans is slow;
 - Public participation provisions could be strengthened, with particular focus on third party enforcement and the influence of costs and undertakings as to damages on public participation;
 - There is evidence that the self referral system relied upon by the legislation may not be capturing all relevant actions;
 - There is insufficient compliance monitoring.

The report made a series of recommendations to improve the operation of the Act:

- Consideration should be given to including land clearing as a matter of national environmental significance;
- The resources of the Department of Environment, Heritage, Water and the Arts should be increased in relation to assessment, monitoring, compliance, auditing and enforcement;
- The Department should undertake regular evaluation of the long-term environmental outcomes of decisions;
- A review of bilateral agreements should be undertaken to ensure that the State or Territory assessment processes have the equivalent transparency, public engagement and appeal rights compared to the assessment processes under the EPBC Act;
- The process of listing threatened species and communities should be amended to improve transparency, rigour and timeliness;
- The Commonwealth Government policy regarding offsets should be revised. Offsets should be used as a last resort, deliver a net environmental gain and not be accepted as a mitigating mechanism where other policies or legislation are already protecting the habitat;
- Consideration should be given to expanding the scope for merits review regarding Ministerial decisions under the Act, particularly in relation to: whether an action is a controlled action; the assessment decision; and the listing of threatened species and communities.

In addition to the main report, the Australian Greens Senators provided additional comments. They noted that the ultimate test of the Act must be a measure of its success in conserving biodiversity and protecting the environment and that the Act had not achieved this outcome. Whilst they supported the general direction of the main committee report, they argued the committee report's analysis and recommendations did not go far enough in considering the manifest failure of the Act to protect and conserve biodiversity.

The Coalition Senators also provided additional comments. Whilst they offered support for some of the practical recommendations made in the main report, they believed that some of the recommendations proposed would increase the cost and complexity of the scheme whilst placing undue impediments on development and

economic investment.³³

Independent Review of the EPBC Act 2010

An independent, statutory review of the EPBC Act, chaired by Dr Allan Hawke, has recently been released. The review made 71 recommendations, which have been summarised in the form of a nine point plan:

1. Redraft the Act to reflect better the Australian Government's role, streamline its arrangements and rename it the Australian Environment Act;
2. Establish an independent Environment Commission to advise the government on project approvals, strategic assessments, bioregional plans and other statutory decisions;
3. Invest in the building blocks of a better regulatory system such as national environmental accounts, skills development, policy guidance, and acquisition of critical spatial information;
4. Streamline approvals through earlier engagement in the planning processes and provide for more effective use and greater reliance on strategic assessments, bioregional planning and bilateral agreements;
5. Set up an Environment Reparation Fund and national 'biobanking' scheme;
6. Provide for environmental performance audits and inquiries;
7. List 'ecosystems of national significance' as a matter of national environmental significance and introduce an interim greenhouse trigger;
8. Improve transparency in decision-making and provide greater access to the courts for public interest litigation; and
9. Mandate the development of foresight reports to help government manage emerging environmental threats.³⁴

The Commonwealth Government has yet to formally respond to the Review. However it has outlined that it will not be implementing two of the Review's recommendations. It has stated that the interim greenhouse trigger will not be necessary if the carbon pollution reduction scheme is implemented.³⁵ It has also stated that the recommendations in relation to regional forest agreements will not be implemented, but that the issues raised will be addressed in the upcoming regional forest agreement renewal processes.³⁶

³³ Commonwealth of Australia, Senate Standing Committee on Environment, Communications and the Arts, *The Operation of the Environment Protection and Biodiversity Conservation Act 1999, First Report*, 18 March 2009.

³⁴ Hawke A, *The Australian Environment Act – Report of the Independent Review of the Environment Protection and Biodiversity Conservation Act 1999*, Commonwealth of Australia, October 2009.

³⁵ The Commonwealth Government has recently postponed the implementation of the Carbon Pollution Reduction Scheme. The scheme will be reassessed at the end of 2012.

³⁶ Garrett P MP (Minister for the Environment), 'Release of the Hawke Report', *Media Release*, 21/12/2009.

3.5 Protected Areas

Australia has adopted the revised International Union for the Conservation of Nature (IUCN) definition of protected areas:

A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.³⁷

Australia has also adopted the internationally recognised IUCN reserve categories to underpin reserve management. The IUCN protected areas categories are set out in Appendix 1.

National Reserve System

The National Reserve System is the network of formally recognised terrestrial protected areas occurring on public, private and Indigenous land. It consists of over 9000 protected areas, covering 89 million hectares or more than 11% of the country. It includes publicly owned Commonwealth, State and Territory reserves, Indigenous protected areas and protected areas on private property. The National Reserve System is considered Australia's premier investment in terrestrial biodiversity conservation.³⁸

Comprehensive, Adequate and Representative Reserve System

The fundamental goal of the national reserve system is to create and effectively manage a comprehensive, adequate and representative system of terrestrial reserves, known as the CAR reserve system.³⁹ The CAR reserve system is underpinned by the [Interim Biogeographic Regionalisation of Australia](#), which identifies 85 terrestrial bioregions for Australia. Bioregions are defined as:

Large regions of similar geology, geography and geomorphology. Each bioregion supports a suite of native plants and animals distinctive from those in adjoining regions. They are a useful way of configuring Australia into its component biological and geographical parts.⁴⁰

A CAR reserve system is defined as:

³⁷ Dudley N (Ed), *Guidelines for Applying Protected Area Management Categories*, IUCN, 2008. The IUCN announced a revised definition of protected areas at the World Conservation Congress in 2008 to replace their previous definition.

³⁸ National Reserve System Task Group, *Australia's Strategy for the National Reserve System 2009-2030*, Commonwealth of Australia, 2009.

³⁹ National Reserve System Task Group, *Australia's Strategy for the National Reserve System 2009-2030*, Commonwealth of Australia, 2009.

⁴⁰ NSW Department of Environment, Climate Change and Water, *New South Wales National Parks Establishment Plan*, 2008.

- Comprehensiveness – the inclusion of examples of regional scale ecosystems from each bioregion in the reserve system. The target is to include 80% of the number of extant regional ecosystems in each bioregion in the reserve system by 2015.
- Representativeness – measured at a finer scale to ensure the full variability of habitat within ecosystems is protected. The target is to include 80% of extant regional ecosystems in each sub-bioregion in the reserve system by 2020.
- Adequacy - the inclusion of sufficient levels of each ecosystem within the reserve system to provide ecological viability and to maintain the integrity of populations, species and communities. No specific targets have been set.⁴¹

National Reserve System Strategy 2009-2030

The [National Reserve System Strategy 2009-2030](#) was recently released by the Commonwealth Government. The Strategy commits to increasing the area of the reserve system by 25% by 2013. The Strategy outlines a number of specific targets for inclusion in the National Reserve System. These replicate the CAR reserve targets (but increase the timeframe for the representativeness target) and provide additional targets in relation to threatened species and climate change resilience. These targets are as follows:

- Examples of at least 80 per cent of all regional ecosystems in each bioregion by 2015.
- Examples of at least 80 per cent of all regional ecosystems in each subregion by 2025.
- Core areas for the long-term survival of threatened ecosystems and threatened species habitats by 2030.
- Critical areas for climate change resilience, such as refugia, to act as core lands of broader whole of landscape scale approaches to biodiversity conservation by 2030.

The Strategy requires biennial State reporting on the achievement of these targets.⁴²

Australian Governments are also working towards a more general target to protect 10% of each of the 85 Australian bioregions in the national reserve system. While fifty of the 85 bioregions have at least 10% of their extent protected in reserves, to date the remaining 35 bioregions have not met this target.⁴³ The National Land and

⁴¹ Commonwealth Department of Environment, Water, Heritage and the Arts, *National Reserve System – Scientific Framework*: <http://www.environment.gov.au/parks/nrs/science/scientific-framework.html> accessed 23/03/2010.

⁴² National Reserve System Task Group, *Australia's Strategy for the National Reserve System 2009-2030*, Commonwealth of Australia, 2009.

⁴³ Commonwealth Department of Environment, Water, Heritage and the Arts, *Management, Targets and Monitoring for National Reserve System protected areas*: <http://www.environment.gov.au/parks/nrs/about/management.html#pro> accessed 2/03/2010.

Water Resources Audit 2002 recommended a target of 15% of each bioregion protected in the national reserve system.⁴⁴

Commonwealth Terrestrial Protected Areas

Commonwealth terrestrial protected areas are designated under Part 15 of the *Environment Protection and Biodiversity Conservation Act 1999*.

There are six **Commonwealth national parks**: Kakadu, Uluru Kata Tjuta, Booderee, Norfolk Island, Christmas Island and Pulu Keeling National Park. The Booderee National Park is located in Jervis Bay on the NSW south coast, within a Commonwealth Territory.⁴⁵

Indigenous Protected Areas are areas of land or sea managed, under a voluntary agreement with the Australian Government, by their Indigenous owners to promote biodiversity and cultural resource conservation. There are 36 declared Indigenous protected areas in Australia covering an area of over 23 million hectares and making up over 23% of the National Reserve System. Three of these are located in NSW. The Commonwealth Government plans to increase Indigenous protected areas by at least 40% (8 million hectares) over the next five years.⁴⁶

World Heritage Areas are designated as areas of outstanding universal value by the World Heritage Committee (following nomination by the Australian Government) under the World Heritage Convention. There are 17 Australian places currently included on the World Heritage list,⁴⁷ with four of these located in NSW: Gondwana Rainforests of Australia; Greater Blue Mountains; Lord Howe Island Group; and the Willandra Lakes Region, each of which include parks and/or reserves managed by the NSW National Parks and Wildlife Service.⁴⁸

National Heritage List includes areas with outstanding natural, Indigenous or historic heritage value. There are 107 places on the list, 31 of which are in NSW,

⁴⁴ Morgan G, *Landscape Health in Australia*, National Land and Water Resources Audit, Commonwealth of Australia, 2002.

⁴⁵ Commonwealth Department of Environment, Heritage, Water and the Arts, *Commonwealth National Parks*: <http://www.environment.gov.au/parks/parks/index.html> accessed 19/3/2010.

⁴⁶ Commonwealth Government, *About Indigenous Protected Areas*: <http://www.environment.gov.au/indigenous/ipa/index.html> accessed 22/02/2010.

⁴⁷ Commonwealth Department of Environment, Water, Heritage and the Arts, *Australia's World Heritage*: <http://www.environment.gov.au/heritage/about/world/index.html> accessed 3/1/2010.

⁴⁸ There is a fifth world heritage area in NSW that is not relevant for biodiversity conservation: the Sydney Opera House. NSW Department of Environment Climate Change and Water, *World Heritage-listed Areas*: <http://www.environment.nsw.gov.au/parktypes/WorldHeritageListedAreas.htm> accessed 1/3/2010.

with a large proportion of these being national parks and reserves.⁴⁹

Ramsar Wetlands are declared as wetlands of international significance by the Commonwealth Government in accordance with the Ramsar Convention on Wetlands of International Importance. There are 65 Ramsar wetlands in Australia covering 7.5 million hectares, 12 of which are in NSW.⁵⁰

Biosphere Reserves are designated as part of the World Network of Biosphere Reserves.⁵¹ There are currently 14 biosphere reserves in Australia, three of which are in NSW: Barkindji (south eastern NSW); Kosciuszko National Park and Yathong Nature Reserve (far western NSW). The Commonwealth and State Governments cooperatively manage biosphere reserves.⁵²

National Representative System of Marine Protected Areas

The National Representative System of Marine Protected Areas is the network of marine protected areas in Australian waters. It aims to protect representative examples of the full range of marine ecosystems and habitats, thereby contributing to the long term ecological viability of marine and estuarine systems, maintaining ecological processes and protecting marine biodiversity.⁵³ The national marine protected areas system consisted of 200 reserves and covered an area of 64 000 hectares in 2004, the most recently available data.⁵⁴ Since 2004, there have been two significant additions to the marine park estate in NSW with the creation of the Port Stephens – Great Lakes Marine Park in 2005 and the Batemans Marine Park in 2006. There have also been significant additions to the marine protected areas

⁴⁹ Commonwealth Department of Environment, Water, Heritage and the Arts, *Australia's Heritage*: <http://www.environment.gov.au/heritage/index.html> accessed 22/03/2010.

⁵⁰ Commonwealth Department of Environment, Water, Heritage and the Arts, *The Ramsar Convention on Wetlands*: <http://www.environment.gov.au/water/topics/wetlands/ramsar-convention/index.html> accessed 24/03/2010; NSW Department of Environment, Climate Change and Water, *Ramsar Wetlands in NSW*: <http://www.environment.nsw.gov.au/wetlands/NswRamsarSites.htm> accessed 19/3/2010.

⁵¹ The World Network of Biosphere Reserves, of the International Co-ordinating Council of the Man and the Biosphere Program of the United Nations Educational, Scientific and Cultural Organisation, are designated to provide a global network of sites for cooperative research and to demonstrate the goals of the World Conservation Strategy.

⁵² Commonwealth Department of Environment, Water, Heritage and the Arts, *Australia's Biosphere Reserves*: <http://www.environment.gov.au/parks/biosphere/index.html#reserves> accessed 1/3/2010.

⁵³ Australian and New Zealand Environment and Conservation Council, *Strategic Plan of Action for the National Representative System of Marine Protected Areas* 1999: <http://www.environment.gov.au/coasts/mpa/publications/pubs/nrsmpa-strategy.pdf> accessed 2/3/2010.

⁵⁴ 2004 data is the most current available data on the status of marine protected areas in Australia. See Collaborative Australian Protected Areas Database (CAPAD) 2004 data. CAPAD 2006 and CAPAD 2008 data only cover terrestrial reserves: <http://www.environment.gov.au/parks/nrs/science/capad/index.html> accessed 2/3/2010.

system in South Australia and Western Australia over this period.⁵⁵

3.6 Other Government Measures

There are a range of other Commonwealth Government legislation, policies and programs which address biodiversity, including:

Regional Forest Agreements

Regional forest agreements are twenty year plans governing the use and management of native forests. They aim to provide long term resource security for the timber industry, as well as protect biodiversity, wilderness areas and old growth forests. There are three regional forest agreements in NSW covering the North East, Southern and Eden regions of the State.⁵⁶ The Natural Resources Commission is also undertaking assessments of the River Red Gum forests in the Riverina region of NSW and the South Western Cypress forests to inform future forest agreements.⁵⁷

Caring for our Country

Caring for our Country is the Commonwealth Government's funding program for environmental management of Australia's natural resources. It integrates previous Commonwealth programs including the Natural Heritage Trust, National Landcare Program, Environmental Stewardship Program and the Working on Country Indigenous Ranger program.⁵⁸

Australia's Native Vegetation Framework

A consultation draft, *Australia's Native Vegetation Framework* has recently been released for public consultation. The draft builds on the existing *National Framework for the Management and Monitoring of Native Vegetation 1999* to guide the development of legislation, policies and other programs to conserve native vegetation in Australia.⁵⁹

⁵⁵ For a full discussion of marine protected areas, see Edwards T, *Marine Protected Areas*, NSW Parliamentary Library Briefing Paper No 08/2008.

⁵⁶ Commonwealth Department of Agriculture, Fisheries and Forestry, *Regional Forest Agreements*: <http://www.daffa.gov.au/rfa> accessed 22/03/2010.

⁵⁷ Natural Resources Commission, *Forest Assessment*: <http://www.nrc.nsw.gov.au/Workwedo/Forestassessment.aspx> accessed 25/03/2010.

⁵⁸ Commonwealth of Australia, *What is Caring for our Country?*: <http://www.nrm.gov.au/about/caring/index.html> accessed 22/3/2010.

⁵⁹ Commonwealth Department of Environment, Heritage, Water and the Arts, *Australia's Native Vegetation Framework Consultation Draft*, February 2010: <http://www.environment.gov.au/land/vegetation/review/pubs/nvf-consultation-draft.pdf> accessed 22/3/2010.

3.7 Non Government Measures

Private Conservation Reserves

In recent years there has been a significant increase in private conservation reserves; land purchased and managed for conservation by non government organisations. Two prominent organisations operating in Australia are the Australian Wildlife Conservancy and Bush Heritage Australia. The Australian Wildlife Conservancy currently owns and manages 20 reserves in Australia, with a total land area of 2.5 million hectares. These reserves contain over 100 threatened ecosystems and 170 threatened animal species.⁶⁰ In September 2009, the Australian Wildlife Conservancy was very close to becoming one of the top ten landholders in Australia.⁶¹ Bush Heritage Australia currently owns and manages 31 reserves with a land area of 950 000 hectares. They also assist with the management of an additional 2.5 million hectares of land under conservation partnerships with landowners. Bush Heritage currently protects 83 vegetation communities and 310 plant species of high conservation significance and 197 threatened bird and animal species.⁶²

Threatened Species Network

The Threatened Species Network is a community based program administered by WWF in cooperation with the Commonwealth Government. The Threatened Species Network aims to engage the public in practical conservation action to protect threatened species and ecological communities. The Threatened Species Network provides education and advice and manages a community grants program that has funded over 330 projects to help conserve threatened species.⁶³

⁶⁰ Australian Wildlife Conservancy website: <http://www.australianwildlife.org/About-AWC.aspx> accessed 22/03/2010.

⁶¹ Watson L, 'Who Owns the Farm – Conservation charities spearhead new farm land ownership agenda', *Australian Farm Journal*, October 2009.

⁶² Bush Heritage Australia website: <http://www.bushheritage.org.au/about> accessed 22/03/2010.

⁶³ WWF Australia, Threatened Species Network website: <http://wwf.org.au/ourwork/species/tsn/> accessed 22/03/2010.

4 NEW SOUTH WALES

The NSW Biodiversity Strategy was introduced in 1999 to provide the framework for biodiversity conservation in NSW. It is currently being revised to guide biodiversity management in the State over the next twenty years. The revised strategy will contain statewide natural resource targets for biodiversity and water, which are also included as targets under the State Plan.

Publicly owned protected areas, in the form of national parks and reserves, have been the cornerstone of biodiversity conservation in NSW for many years. NSW has a long history of national parks, with Sydney's Royal National Park established in 1879 as Australia's first national park and the second national park in the world. The coastal fringe of NSW is generally well protected in the terrestrial reserve system compared with the central and western parts of the State. A new national park, the River Red Gums National Park, has recently been proposed for the Riverina region of NSW.

Over the last two decades, there has been an increased focus on conservation of private land, through regulatory and voluntary measures, both as part of the planning process and independent of it. The recent introduction of BioBanking in NSW marks a significant shift towards valuing biodiversity in economic terms and managing it through market based instruments.

4.1 A New Biodiversity Strategy for NSW: 2008 Discussion Paper

The preparation of a NSW Biodiversity Strategy is a statutory requirement under the *Threatened Species Conservation Act 1995*⁶⁴ and an agreed action under the *National Strategy for the Conservation of Australia's Biological Diversity*. In 1999, the Directors General of the National Parks and Wildlife Service and NSW Fisheries produced the first *NSW Biodiversity Strategy*.

The NSW Government has highlighted the strengths of the Biodiversity Strategy as:

- A commitment to the establishment of a comprehensive, adequate and representative reserve system;
- The first bioregional biodiversity assessments;
- Support for the contribution of local government to protecting biodiversity;
- Progress on vegetation classification and mapping;
- Expansion of cooperative approaches to weed and pest management;
- Greater understanding of fire ecology as a basis for managing reserves and other natural areas;
- Expansion of the reserve system;
- A coordinated catchment management approach.⁶⁵

⁶⁴ Section 140, *Threatened Species Conservation Act 1995*.

⁶⁵ NSW Department of Environment, Climate Change and Water and NSW Department of Primary Industries, *A New Biodiversity Strategy for New South Wales: Discussion Paper*, 2008.

In 2008, the NSW Government commenced development of a new Biodiversity Strategy that will replace the existing strategy. In November 2008, the Department of Environment, Climate Change and Water (DECCW) and the Department of Industry and Investment⁶⁶ released [*A New Biodiversity Strategy for New South Wales: A Discussion Paper*](#).

The discussion paper proposes that the new biodiversity strategy will operate over a twenty year timeframe. It identifies two key aims for the strategy:

- Significantly slow the rate of biodiversity decline;
- Support progress towards achieving key statewide natural resource condition targets.

The second aim reiterates a commitment under the State Plan.⁶⁷ The key statewide natural resource condition targets for biodiversity and water are:

Biodiversity

Macro-environmental:

- By 2015 there is an increase in native vegetation extent and an improvement in native vegetation condition;
- By 2015 there is an increase in the number of sustainable populations of a range of native fauna species.

Specific priorities:

- By 2015 there is an increase in the recovery of threatened species, populations and ecological communities;
- By 2015 there is a reduction in the impact of invasive species.

Water

Macro-environmental:

- By 2015 there is an improvement in the condition of riverine ecosystems;
- By 2015 there is an improvement in the ability of groundwater systems to support groundwater-dependent ecosystems and designated beneficial uses;
- By 2015 there is no decline in the condition of marine waters and ecosystems.

Specific priorities:

- By 2015 there is an improvement in the condition of important wetlands, and the extent of those wetlands is maintained;
- By 2015 there is an improvement in the condition of estuaries and coastal lake ecosystems.

⁶⁶ NSW Fisheries is now part of Department of Industry and Investment NSW.

⁶⁷ Priority E4: Better outcomes for native vegetation, biodiversity, land, rivers and coastal waterways, NSW State Plan 2006.

The discussion paper also proposes three central goals for the new strategy: a 2015 target; a 20 year goal; and a 100 year vision.

2015 target

The 2015 target articulates that by 2015, the key statewide natural resource condition targets for biodiversity and water will be achieved and critical measures to reverse long term biodiversity decline will have been instigated.

20 year goal

The aim of the 20 year goal is that by 2025, sustained and successful efforts by the whole community to control the threats to biodiversity will have led to more widespread recovery and increasing connectivity across NSW landscapes, with viable and diverse ecosystems and species' assemblages that also contribute to sustainable regional communities and economies.

100 year vision

The 100 year vision aims, within the next century, to minimise the effects of climate change on biodiversity through measures to maintain and restore diversity and resilience to natural ecosystems and agricultural landscapes, so that ecological change does not equate to loss of biodiversity.

Regional Conservation Initiatives

The discussion paper also highlights the need for a greater focus on management actions at a landscape scale. It proposes the development of regional conservation initiatives, to achieve on the ground biodiversity outcomes by integrating and aligning programs run by the State Government, local government and the non government sector. Regional conservation initiatives would be used to conserve biodiversity and control significant threats, at a catchment or broader scale, regardless of the land tenure. They would identify priorities within a region and provide the framework for finer scale conservation planning.

Improved Priority Setting

The discussion paper details the need for State Government agencies and other partners to identify clear priorities for regional biodiversity conservation. It specifically notes that the loss of some components of biodiversity appears inevitable given the costs and technical impossibility of protecting all biodiversity.

Comments on the discussion paper

Submissions from the Nature Conservation Council and the Urban Development Institute of Australia on the discussion paper are outlined below:

Nature Conservation Council

Whilst supportive of many of the elements of the new Biodiversity Strategy contained in the discussion paper, the Nature Conservation Council's [submission](#) argued that a significant overhaul of the NSW approach to biodiversity conservation is warranted and this is not provided for in the discussion paper. Their key comments included:

- Significant increases in funding are necessary to address biodiversity decline in NSW. The strategy should commit this additional funding.
- Measurable targets and reporting requirements need to be built into the strategy, as although the goals proposed are positive, they are too broad.
- The discussion paper refers to an increasing role for market based instruments. Concern has previously been raised about BioBanking and biodiversity certification. Both of these approaches are dependent on adequate information about biodiversity across different landscape types.
- The approach endorsed in the Wentworth Group paper 'Accounting for Nature' May 2008, whereby the Catchment Management Authorities provide landscape condition accounts to be used as the basis for measuring change, does not appear to have been considered.
- The strategy does not outline how its objectives will be incorporated into planning legislation. If the current state continues, whereby pressure for development is given precedence over conservation, the approaches outlined in the strategy will not be effective.
- The 'improve or maintain' environmental outcomes approach under the *Native Vegetation Act 2003* should be expanded to all urban development requiring clearing. Improve or maintain should be clearly defined under legislation and should include red flags (prohibiting development) for threatened species and communities, as well as over cleared landscapes.
- Adequate resources should be allocated to fund the incorporation of high conservation value land in the reserve system. This should not be limited to 'cost effective contributions' as potentially indicated in the discussion paper. Climate change heightens the need for an adequate and well-connected system of protected areas.
- An action plan should be released with timelines on the identification and implementation of marine protected areas in NSW. No-take aquatic reserves should also be declared at all grey nurse shark critical habitat sites.
- The strategy should include a framework for restructuring the commercial fishing industry, including setting minimum and maximum sizes for all seafood species, facilitating research into and a move towards less harmful commercial fishing methods and a reduction in 'uncertain' stock assessments. Additional

work to assess the impacts of the recreational fishing sector is also required.

- An independent committee should be created to design and recommend how to implement the regional conservation initiative model. Regional conservation initiatives should be publicly exhibited and comments considered by the independent committee.
- Mandatory biannual reports and public forums on the strategy's implementation should be a requirement of the strategy.⁶⁸

Urban Development Institute of Australia, NSW

The Urban Development Institute's [submission](#) argued that the Biodiversity Strategy should incorporate the triple bottom line approach where social, economic and environmental outcomes are balanced. Their key comments included:

- The strategy should be developed within a business plan framework. It should clearly identify priority biodiversity outcomes, how they are intended to be delivered and how they will be funded.
- The designation of land for biodiversity must be incorporated into the broader planning process providing for discussion amongst a wider range of stakeholders. This would hold government accountable for economic and social impacts of such decisions and provide increased certainty to the development industry.
- A cost effective approach to targeted investment in biodiversity would provide for more effective biodiversity outcomes. This approach is necessary to ensure clearly measured and transparent benchmarks are used to assess and achieve the objectives of the strategy.
- The strategy should be linked and integrated with the NSW planning system and captured in Regional Strategies and LEPs. The strategy should not significantly impact on the feasibility of current or new developments.
- The strategy should outline and detail the role of DECCW and other government agencies. It should also outline the role of non government organisations and other conservation focussed stakeholders.
- The strategy must also consider and clarify management responsibilities on private land. Clear processes should be put in place to allow landholders to discuss, clarify or object to material put forward.
- The strategy should clarify the relationship between the Biodiversity Banking Scheme and other biodiversity management strategies to ensure conflict does

⁶⁸ Nature Conservation Council, *Submission to A New Biodiversity Strategy for NSW: A Discussion Paper*, 2009.

not arise. Certainty should also be provided on the biodiversity offset ratios.⁶⁹

4.2 Terrestrial Protected Areas

The traditional means of conserving biodiversity in NSW has been through in situ conservation in a publicly owned reserve system. The NSW terrestrial reserve system consists of 789 protected areas, covering an area of 6.7 million hectares, or 8.4% of the total land area of NSW. Since 2006, there has been a 3.5% increase in the area of the terrestrial NSW reserve system.⁷⁰

There are numerous different types of terrestrial protected areas in NSW. The most significant piece of legislation governing protected areas is the *National Parks and Wildlife Act 1974*. Protected areas are also designated under the *Wilderness Act 1987* and the *Forestry Act 1916*.

National Parks and Wildlife Act 1974

The vast majority of protected areas in NSW are designated under the *National Parks and Wildlife Act 1974* and managed by the National Parks and Wildlife Service (NPWS), which is part of DECCW.⁷¹

There are a range of reserve types that can be designated under the Act as follows:

National Parks are designated

...to identify, protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor use and enjoyment...⁷²

There are currently 185 national parks in NSW covering an area of just over 5 million hectares. Since 2006, 12 new national parks have been created, adding approximately 100 000 hectares to the national park estate.⁷³ The NSW

⁶⁹ Urban Development Institute of Australia, *Submission to A New Biodiversity Strategy for NSW: A Discussion Paper*, 2009.

⁷⁰ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁷¹ The National Parks and Wildlife Service was merged with the Environment Protection Authority, Resource NSW and the Botanic Gardens Trust in September 2003 to become the Department of Environment and Conservation. This Department then became the Department of Environment and Climate Change in April 2007 and most recently became the Department of Environment, Climate Change and Water in July 2009.

⁷² Section 30E, *National Parks and Wildlife Act 1974*.

⁷³ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

Government has recently proposed the creation of a new national park to protect river red gum forests in the Riverina area of NSW, as outlined in the case study below.

Nature Reserves are areas of high conservation value that are designated to protect their outstanding, unique or representative ecosystems, native plant and animal species or natural phenomena. A key objective of nature reserves is to facilitate scientific research and only limited visitation opportunities are provided.⁷⁴ Nature reserves are generally smaller than national parks. There are currently 386 nature reserves in NSW, covering an area of almost 900 000 hectares.⁷⁵

Case Study: River Red Gums National Park

There are 400 000 hectares of river red gum forests in the Riverina area of south west NSW, with half being located on private land, 40% in State forests and 7% in national parks.⁷⁶ In mid 2009, the NSW Government charged the NSW Natural Resources Commission (NRC) with undertaking an inquiry into river red gum forests in the Riverina, in response to concerns they were in serious decline. The NRC inquiry recommendations were to form the basis of a forest agreement for the area.

The NRC released a preliminary report in September 2009. In early December 2009, in response to this preliminary report, then Premier Rees announced the creation of a new 42 000 hectare national park (from the Millewa group of State forests) to protect river red gum forests. He also announced a structural adjustment package to assist local forestry businesses to better manage forestry practices or to exit the industry.

On 21 December the NRC [Final Assessment Report](#) and [Recommendations Report](#) were released. They recommended:

- Creation of national parks and reserves covering the Barooga and Millewa groups of State forests and the riparian forests on the Lachlan and Murrumbidgee Rivers (72 000 hectares of national park; 13 000 hectares of regional park; and 21 000 hectares of Indigenous protected areas). They highlighted the need for transborder parks and cooperation between the NSW Government and the Victorian, South Australian and Commonwealth Governments.
- Creation of Indigenous Protected Areas or jointly managed national parks in the Werai Forests and the Taroo group of forests on the lower Murray River.
- Creation of regional parks in forests with significant ecological values and recreational values near towns across the river systems of the region.
- Exit assistance to be provided to support the forestry industry to adapt.

Following the release of the final NRC Report, the Keneally Government made a series of

⁷⁴ NSW DECCW, *Reserve types in NSW – Nature Reserve*: <http://www.environment.nsw.gov.au/nationalparks/parktypes.aspx?type=naturereserve> accessed 8/1/2010.

⁷⁵ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁷⁶ Sartor F MP, Minister for Climate Change and the Environment, 'Minister for Climate Change and Environment visits river red gum communities', *Media Release*, 13/01/2010.

new commitments in relation to the river red gum forests. These were criticised as a significant watering down of the original announcement.⁷⁷ The Government committed to the staged creation of 70 000 hectares of national park, 16 000 hectares of regional park and 21 000 hectares of Indigenous protected areas.⁷⁸ The major difference was the staged approach to including the forests in the reserve system. Logging was to be permitted in half of the Millewa State Forest for five years before it was to be included in the reserve system in July 2015. The Millewa State Forest is the most valuable of the forests for timber harvesting.⁷⁹ It has also been described by the NRC as a highly significant wetland complex, jointly forming the largest river red gum forest in the world.⁸⁰

The Government recently introduced legislation into Parliament that would formalise these proposals.⁸¹ However, following negotiations on the River Red Gums Reservation Bill, the Government has reversed its decision on the staged approach to the creation of the national park in the Millewa State Forest. Instead, the entire reservation of national parks and reserves in the river red gums forest will commence on 1 July 2010 and logging will cease as of that date.⁸²

The proposed creation of new reserves to protect river red gums has proved controversial, with timber communities in the area fearing a loss of jobs and a negative impact on the economy. There has been speculation that there will be over 1000 job losses as a result of the creation of new reserves.⁸³ The NRC reports that there are 304 full time equivalent staff directly employed in the forestry industry relating to river red gum forests on public land (274 employed by commercial operations and 30 employed by Forests NSW). They also state that the forestry industry related to river red gums on public land makes a small contribution (< 1%) to the regional economy as a whole. However this industry does make a significant contribution to the economies of seven small towns in the region.

State Conservation Areas are areas of land designated for conservation and recreational use. The major difference between State conservation areas and other protected areas is that State conservation areas may permit mineral and petroleum exploration and mining. There are 110 designated State conservation areas in

⁷⁷ See for example: Robins B, 'Rees's plan to save redgums faces the axe', *Sydney Morning Herald*, 3/3/2010; and 'Red gum park decision miserable', *ABC Online*, 3/3/2010: <http://www.abc.net.au/news/stories/2010/03/03/2835113.htm> accessed 24/03/2010.

⁷⁸ Sartor F MP, Minister for Climate Change and the Environment, 'Minister for Climate Change and Environment visits river red gum communities', *Media Release*, 13/01/2010.

⁷⁹ Natural Resources Commission, *Riverina Bioregion Regional Forest Assessment, River Red Gums and Woodland Forests, Recommendations Report*, December 2009.

⁸⁰ Natural Resources Commission, *Riverina Bioregion Regional Forest Assessment, River Red Gums and Woodland Forests Preliminary Assessment Report*, September 2009.

⁸¹ National Park Estate (Riverina Red Gum Reservations) Bill 2010, introduced 22/4/2010.

⁸² Keneally K MP (Premier), 'Riverina Red Gums Forests Protected', *Media Release*, 19/5/2010.

⁸³ See for example: Hodgkinson K MP, 'Hodgkinson: What's worse than a two-bob watch in a red gum forest?' *Media Release*, 21/5/2009; Williams J MP, 'Rees puts the wrecking ball through 1200 jobs' *Media Release*, 3/12/2009; and 'New parks "endanger" Murray timber towns' *The Land*, 18/2/2010.

NSW covering approximately 450 000 hectares⁸⁴.

Community Conservation Areas are multiple use protected areas. They designate land into different zones that determine the permitted land use. The development of the first community conservation area, the Brigalow and Nandewar Community Conservation Area, is outlined in the case study below.

Regional Parks are designated to protect and conserve natural or modified landscapes and provide for recreational use. Recreational and cultural activities that are not permitted in other types of protected areas, such as dog walking, may be permitted in regional parks. There are 14 regional parks in NSW covering an area of just over 7 000 hectares.⁸⁵

Wild Rivers are rivers or creeks in near pristine condition that are designated for high level protection. There are seven wild rivers in NSW.⁸⁶

Karst Conservation Reserves are designated to protect outstanding cave systems and provide for recreational activities. There are four karst conservation reserves in NSW protecting approximately 4 500 hectares.⁸⁷

Aboriginal Areas protect areas or objects that have been identified as being of special significance to Aboriginal people. Aboriginal areas are primarily used by Aboriginal people for cultural purposes. They also promote appreciation and understanding of Aboriginal culture and provide opportunities for appropriate research. There are 14 Aboriginal areas in NSW covering almost 12 000 hectares.⁸⁸

⁸⁴ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁸⁵ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁸⁶ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁸⁷ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁸⁸ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

Case Study: Brigalow & Nandewar Community Conservation Area⁸⁹

Community conservation areas are a common feature of international reserve systems, particularly in Europe. They are multiple use reserves, divided into zones. The zones designate the permissible land use, which may include national park, aboriginal area or State forest. The key benefit cited for the creation of a community conservation area is the integration of management across adjacent public lands, despite differing land uses and separate land managers. The aim is to provide more effective and efficient management of common issues such as pests, weeds and fire.

Biodiversity in the Brigalow and Nandewar regions of western NSW is in serious decline. Seventy percent of the original vegetation has been cleared, species decline is amongst the worst in Australia and almost half of the ecosystems in the region are threatened.

The Brigalow and Nandewar community conservation area was the first community conservation area in Australia, established as a new land tenure under the *Brigalow and Nandewar Community Conservation Area Act 2005*.

The community conservation area aims to provide for:

- (a) the permanent conservation of land, natural systems and biodiversity;
- (b) the protection of areas of natural and cultural heritage significance to Aboriginal people;
- (c) the continuation of forestry, exploration, mining, petroleum production and other uses in an ecologically sustainable manner within nominated zones; and
- (d) strong involvement of local communities in the management of land.

The Brigalow and Nandewar community conservation area agreement establishes four zones:

Zone 1 – reserved as a national park and managed by NPWS. Comprises 27 reserves covering 120 000 hectares

Zone 2 – reserved as an Aboriginal area and managed by the NPWS. Consists of 5 reserves covering 21 000 hectares.

Zone 3 – reserved as a State conservation area and managed by the NPWS. Comprises 19 reserves covering 185 000 hectares.

Zone 4 – dedicated as State forest and managed by Industry and Investment NSW.

A community conservation council has been established to coordinate the management of the entire conservation area. The council consists of the Director General of the Department of Premier and Cabinet; DECCW; and Industry and Investment NSW. Community Conservation Advisory Committees have been established to provide advice to the Council.

⁸⁹ The case study is based on information from: *Draft Brigalow and Nandewar Community Conservation Agreement*, July 2008: <http://www.environment.nsw.gov.au/resources/parks/DraftCCAExhibition.pdf> accessed 11/1/2010 and Department of Environment and Conservation, *Annual Report 2005-2006*.

Wilderness Act 1987

Wilderness areas are large areas of land that are in an essentially natural State. They are the most intact and undisturbed remaining expanses of the natural landscape.⁹⁰ The vast majority of wilderness areas are declared within existing national parks or nature reserves. There are 49 declared wilderness areas in NSW covering just over 2 million hectares.⁹¹

Forestry Act 1916

There are three reserve types in NSW State forests that offer a level of protection for biodiversity.

Dedicated reserves (special protection) are managed to maximise conservation of natural and cultural values. Timber harvesting is excluded. There is currently over 25 000 hectares of dedicated reserves (special protection) comprising 1.3% of the forest estate.

Informal reserves (special management) protect natural and cultural values where it is not possible or practical to include them as a dedicated reserve (special protection). Timber harvesting is also excluded from these reserves. There are approximately 170 000 hectares of informal reserves (special management) which accounts for 8.5% of the forest estate.

Informal reserves (harvest exclusion) protect identified natural or cultural values. Timber harvesting is excluded but other activities such as grazing or mineral exploration, which are not permitted in either of the other two reserve types, may be permitted.⁹²

There are a range of other types of land in public management that can have significant biodiversity values, including: community land managed by councils; State parks; special catchment areas and travelling stock routes.

Evaluating the Effectiveness of the Reserve System

There are various methods of evaluating the effectiveness of the NSW reserve system at conserving biodiversity. Two common methods are: the percentage of each bioregion that is protected in the reserve system; and progress towards the establishment of a comprehensive, adequate and representative reserve system.

⁹⁰ NSW DECCW, 'Wilderness': <http://www.environment.nsw.gov.au/parktypes/Wilderness.htm> accessed 22/4/2010.

⁹¹ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁹² NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

Bioregions

Of the 85 terrestrial bioregions in Australia, 18 are wholly or partially in NSW. These 18 bioregions are further divided into 129 subregions. The bioregions in eastern NSW are generally well reserved compared to the bioregions in central and far west NSW, where several bioregions have less than two percent of their extent protected in the reserve system. Figure 1 below shows the percentage of each bioregion that is included in the reserve system.

There are a range of factors which impact upon the percentage of each bioregion that is protected in the reserve system. The most determinant factor is the extent of historical land clearing and the resulting level of vegetation fragmentation. As a result of vegetation fragmentation, it may not be viable for every bioregion to have a pre-determined minimum percentage of its extent protected in the public reserve system. Accordingly, regional reservation targets are set based on the level of intact native vegetation remaining in the bioregion. In bioregions where less than 30% of native vegetation remains intact, there is an increased focus on conservation on private land.⁹³

Comprehensive, Adequate and Representative Reserve System

As outlined in section 3.5 above, specific targets have been set for the comprehensiveness and representativeness elements of the CAR reserve system. Progress towards these targets in NSW is outlined below in Figure 1.

⁹³

NSW DECCW, *New South Wales National Parks Establishment Plan*, 2008.

Figure 1 – Progress towards long-term reservation objectives

NSW section of the bioregion	Area (ha)	Area in managed reserves* (ha)	Reserves (% of bioregion)	Remaining native vegetation cover (% of bioregion)	Progress towards comprehensiveness** (%)	Progress towards representativeness*** (%)
Regions where over 70% of native vegetation remains relatively intact						
Mulga Lands	6,583,051	233,778	3.6	100	63	41
Channel Country	2,337,430	218,662	9.4	100	46	31
Simpson-Strzelecki Dunefields	1,069,056	118,921	11	100	44	44
Broken Hill Complex	3,791,288	75,441	2.0	100	33	25
Australian Alps	460,146	376,367	82	96	100	100
Murray-Darling Depression	7,922,590	441,901	5.6	93	51	44
South-east Corner	1,160,786	495,967	43	82	100	98
Riverina	7,018,240	123,154	1.8	72	55	27
Regions where 30–70% of native vegetation remains relatively intact						
Cobar Peneplain	7,369,824	177,238	2.4	69	40	37
NSW North Coast	3,990,185	974,171	24	66	99	85
Sydney Basin	3,800,249	1,446,049	38	66	947	77
Darling Riverine Plains	9,397,488	158,110	1.7	65	36	30
South-east Queensland	1,658,869	225,047	14	53	100	71
South-eastern Highlands	4,715,273	696,716	15	42	94	63
New England Tableland	2,856,696	260,254	9.1	42	80	53
Brigalow Belt South	5,629,736	465,747	8.3	42	55	36
Nandewar	2,070,751	76,042	3.7	34	53	55
Regions where less than 30% of native vegetation remains relatively intact						
South-western Slopes	8,192,519	157,197	1.9	16	33	24

Source: Adapted from DECC 2008b

Notes: * Area in formal reserves managed by DECCW

** Comprehensiveness target, measured against NRS target: examples of at least 80% of the number of extant regional ecosystems in each bioregion will be represented by 2015

*** Representativeness target, measured against NRS target: examples of at least 80% of the number of extant regional ecosystems in each subbioregion will be represented by 2020

Source: [NSW State of the Environment 2009](#), p253.

NB: the figure of 947% progress towards the comprehensiveness target for the Sydney Basin Bioregion appears to be a typographic error and should read 94%. The figure of 94% is included in the original document from which this table has been adapted: NSW DECCW, 2008, *New South Wales National Parks Establishment Plan*, 2008.

4.3 Marine Protected Areas

Marine protected areas, particularly sanctuary (no-take) zones, are widely regarded as the cornerstone of marine biodiversity conservation. In 1999, all Australian jurisdictions including NSW committed to the creation of a network of marine protected areas that would provide comprehensive, adequate and representative protection for Australia's marine ecosystems. This is known as the National Representative System of Marine Protected Areas. Marine protected areas in NSW are established under the *Marine Parks Act 1997* and the *Fisheries Management Act 1994*. Coastal areas are also protected in national parks and nature reserves, many of which contain significant and extensive areas of marine ecosystems and habitats.⁹⁴

Marine areas are divided into bioregions, defined in the [Integrated Marine and Coastal Regionalisation of Australia](#) 2006. There are six marine bioregions in NSW waters. Four of these six bioregions contain marine parks, one of the bioregions contains aquatic reserves and the final bioregion has no marine protected areas (only 10% of this bioregion is within NSW waters). The global target under the CBD is for 10% of every marine ecoregion to be effectively conserved. However this target has been described as being considered 'grossly inadequate' by most marine conservation biologists.⁹⁵ There are no specific national or State targets for percentages of bioregions in marine protected area.⁹⁶

Marine Parks Act 1997

The *Marine Parks Act* enables the establishment of **marine parks** to conserve biodiversity, habitats and ecological processes. There are currently 6 marine parks in NSW: Solitary Islands (established in 1998); Jervis Bay (established in 1998); Lord Howe Island (established in 1999); Cape Byron (established in 2002); Port Stephens-Great Lakes (established in 2005); and Batemans (established in 2006). Marine parks in NSW are multiple use marine parks that allow for different activities within different zones.⁹⁷

Marine parks cover an extent of 345 000 hectares or 34% of waters within NSW jurisdiction.⁹⁸ Sanctuary zones, in which fishing is completely prohibited, make up

⁹⁴ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

⁹⁵ Nevill J & Ward T, 'The National Representative System of Marine Protected Areas: Comment on Recent Progress' (December 2009) 10(3) *Ecological Management and Restoration* 228-231.

⁹⁶ Commonwealth of Australia, *Commonwealth Marine Protected Areas Program*, 2003: <http://www.nynrm.sa.gov.au/Portals/5/pdf/coasts/mpa-program.pdf> accessed 22/03/2010.

⁹⁷ NSW Marine Parks Authority website: <http://www.mpa.nsw.gov.au/index.html> accessed 20/8/2009.

⁹⁸ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

18% of marine parks, or 6.5% of total NSW marine jurisdiction (65 000 hectares).⁹⁹ The remaining 82% of marine parks allow for recreational fishing and varying levels of commercial fishing.¹⁰⁰

Fisheries Management Act 1994

There are two types of marine protected areas established under the *Fisheries Management Act*: aquatic reserves and intertidal protected areas.

Aquatic reserves can be established for a variety of purposes: to protect vulnerable or threatened species; to protect habitat; to provide for educational opportunities; or for scientific research. There are currently 12 aquatic reserves in NSW, covering an area of 2000 hectares.¹⁰¹ Aquatic reserves are generally smaller than marine parks and the activities that are permissible vary between the reserves. Aquatic reserves are managed by DECCW.

Intertidal protected areas are established to protect biodiversity and breeding stock. The collection of seashore animals is prohibited in these areas. There are currently 8 intertidal protected areas in NSW. Intertidal protected areas are managed by the Department of Industry and Investment.

National Parks and Wildlife Act 1974

There are 62 national parks and nature reserves that have a seaward extension, which includes areas such as estuaries, beaches and rocky shores. Ten percent of NSW estuary waters are protected in seaward extensions of national parks and reserves.¹⁰²

4.4 Conservation on Private Land

In recent years there has been an increased focus on voluntary conservation on private land. There are a range of factors which are relevant to this increased focus including: a large area of high conservation value land and ecosystems held in private ownership; a lack of high conservation value land and ecosystems on public land in some areas; a higher profile of organisations focussed on private land conservation; greater awareness of and willingness to participate in voluntary conservation initiatives; and a broader range of incentives and programs for private

⁹⁹ National Parks Association of NSW, *The Torn Blue Fringe: Marine Conservation in NSW* December 2008: http://www.marine.org.au/NPAMarine_TBF.pdf accessed 21/8/2009.

¹⁰⁰ The Solitary Islands Marine Park and the Jervis Bay Marine Park zoning plans are currently under review. This review has recommended an increase in the size of the sanctuary zone in the Solitary Islands Marine Park from 12% to 20% of the marine park.

¹⁰¹ NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

¹⁰² NSW DECCW, 'Biodiversity', *State of the Environment 2009*: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

land conservation.

This section focuses on voluntary private land conservation. Conservation on private land as a requirement of the planning process, such as BioBanking or property vegetation plans, is discussed in section 4.6.

Conservation Partners Program

The conservation partners program is managed by DECCW to assist landholders to voluntarily conserve biodiversity on their property. The program offers several different options for landholders.

Conservation agreements are voluntary, legally binding agreements entered into between a landholder and the Minister for Climate Change and the Environment, to conserve biodiversity on the property. They offer the highest form of protection for private land. The conservation agreement is registered on the property title and remains on the title if the property changes ownership. Landholders with conservation agreements are offered a high level of support, with rate exemptions, funding for management actions, signage, management advice and property visits provided. There are 245 conservation agreements in NSW, covering an area of 23 000 hectares.¹⁰³

A voluntary **wildlife refuge** can also be declared over private land under the NP&W Act. Wildlife refuges are created to protect and conserve native wildlife. Unlike conservation agreements, wildlife refuge declaration can be revoked at the request of the landholder. There are 647 wildlife refuges in NSW covering an area of almost 2 million hectares.

Property registration involves registering all or part of a property for biodiversity conservation, without signing a formal agreement. Information and support is provided to participating landholders to assist them in managing wildlife and habitats on their property. There are 250 properties registered under this program.

Private Conservation Reserves

As detailed in section 3.7 above, the establishment of private conservation reserves is becoming increasingly common in Australia. Two of the most prominent land conservation organisations, the Australian Wildlife Conservancy and the Bush Heritage Fund, both manage reserves in NSW. The Australian Wildlife Conservancy manages one reserve in the far south western plains of NSW covering an area of 65 000 hectares. Bush Heritage Fund manages five smaller reserves in south eastern NSW with a total land area of 2500 hectares.

Nature Conservation Trust

The NSW Nature Conservation Trust is an independent organisation that was

¹⁰³ NSW DECCW, 'Biodiversity', *State of the Environment* 2009: <http://www.environment.nsw.gov.au/soe/soe2009/chapter7/> accessed 8/1/2010.

established under the *Nature Conservation Trust Act 2001* (NSW). It operates what is known as a revolving fund program, whereby it purchases land with high biodiversity value, registers an in-perpetuity conservation agreement on the land title and then resells or leases the property. The Trust also enters into conservation agreements with existing landholders. The Trust provides advice and funding to landholders to assist with the management of their properties. The Nature Conservation Trust currently owns and manages 20 000 hectares of land in NSW.¹⁰⁴

4.5 Threatened Species¹⁰⁵

The *Threatened Species Conservation Act* (TSC Act) was enacted in 1995 to conserve threatened species, populations and ecological communities. The *Fisheries Management Act 1994* sets up a similar regime to the TSC Act to specifically provide for the protection of fish and marine vegetation.¹⁰⁶ There are strong linkages between the TSC Act and the NP&W Act, which contains the offences for harming threatened species. The TSC Act also interacts closely with the *Environmental Planning and Assessment Act 1979* which integrates threatened species requirements into the planning framework (discussed in section 4.6).

The TSC Act provides for:

Establishment of a Scientific Committee

Section 128 of the TSC Act provides for the establishment of a Scientific Committee that consists of 11 scientists with expertise in various biological fields. The Scientific Committee's role is to determine the species, populations and ecological communities that should be listed as threatened and the threatening processes that should be listed as key threatening processes in the schedules to the TSC Act. The Scientific Committee is an independent committee and its determinations are not required to take into account political considerations.¹⁰⁷

¹⁰⁴ Nature Conservation Trust website: <http://nct.org.au/about-us/about-the-nct.html> accessed 7/5/2010.

¹⁰⁵ As noted previously, this paper uses the term threatened species to refer collectively to critically endangered, endangered and vulnerable species, populations and ecological communities.

¹⁰⁶ As amended with the introduction of Part 7A in 1998. Part 7A establishes a Fisheries Scientific Committee, a threatened species listing procedure and a range of offences. It provides for the declaration of critical habitat and the preparation of recovery plans, threat abatement plans and a priorities action statement. For more detail on the threatened species regime under the *Fisheries Management Act 1994*, refer to part 7A of the Act or NSW Department of Industry and Investment 'Fishing and Aquaculture: Species Protection': <http://www.dpi.nsw.gov.au/fisheries/species-protection>.

¹⁰⁷ Although appointed by the Minister, the Scientific Committee is not subject to Ministerial control or direction.

Listing Process

A species, population or ecological community can be nominated for listing under the TSC Act by the Scientific Committee, the Minister for Climate Change and the Environment, the Natural Resources Commission or any other person. Upon nomination, the Committee makes a preliminary determination as to whether the species, population or ecological community should be listed under the TSC Act and seeks public submissions on this determination. The Scientific Committee considers the submissions and then makes a final determination.

There are four categories of threatened species under the TSC Act:

- Species presumed extinct;
- Critically endangered species and ecological communities, which are facing an extremely high risk of extinction in NSW in the immediate future;
- Endangered species, populations and ecological communities, which are facing a very high risk of extinction in NSW in the near future; and
- Vulnerable species and ecological communities, which are facing a high risk of extinction in NSW in the medium term future.

Part 8A of the NP&W Act sets out a range of offences for harming, picking or damaging threatened species, critical habitats or habitat of a threatened species. The maximum penalty for a threatened species offence is \$220 000 plus \$11 000 for each individual plant or animal harmed or two years imprisonment or both. In 2006, the Land and Environment Court fined a person \$180 000 for the deliberate clearing of Southern Highlands Shale Woodland.¹⁰⁸ In 2009 a person was fined \$135 000 and ordered to undertake 200 hours of community service for destroying more than one thousand threatened plants.¹⁰⁹

The TSC Act also provides for the listing of key threatening processes, which are processes that adversely affect threatened species, or that would cause species, populations or ecological communities that are not threatened to become threatened.

Threatened species can be listed at both a State and national level.

Recovery Plans

Recovery plans may be prepared by DECCW for a threatened species or group of species to promote recovery of the species. To date, 125 recovery plans (in draft or final form) have been prepared.¹¹⁰ There are approximately 950 listed threatened species in NSW.

¹⁰⁸ *Garrett v Williams* (2006) 160 LGERA 115.

¹⁰⁹ *Plath v Rawson* [2009] NSWLEC 178.

¹¹⁰ DECCW, *Recovery Plans*: <http://www.environment.nsw.gov.au/threatenedspecies/RecoveryPlans.htm> accessed 22/1/2010.

The recovery plan outlines actions to ensure the recovery of the threatened species and to protect critical habitat of the species. It identifies the public authorities or persons who are responsible for the implementation of these measures. Ministers and public authorities are required to take any appropriate action available to them to implement the measures in a recovery plan for which they are responsible and must not make decisions that are inconsistent with a recovery plan.

Threat Abatement Plans

Threat abatement plans may also be prepared by DECCW for key threatening processes to abate, ameliorate or eliminate the adverse effects of the process on threatened species or to prevent the process from causing species, populations or ecological communities from becoming threatened. To date, three threat abatement plans have been finalised addressing bitou bush and boneseed, the plague minnow and the red fox.¹¹¹

Similar to recovery plans, threat abatement plans must identify actions needed to abate or eliminate the effects of the key threatening processes and identify the public authorities or persons who are responsible for the implementation of these measures. Ministers and public authorities are required to take any appropriate action available to them to implement the measures included in a threat abatement plan for which they are responsible and must not make decisions that are inconsistent with a threat abatement plan.

Priorities Action Statement

The 2009 *State of the Environment* report states that over the last six years there has been a:

fundamental shift in focus from the recovery of individual threatened species, an approach which is largely reactive, to a more strategic focus on conservation at a landscape level and the protection of communities and habitats... The objective is to maximise the benefits for all species and not just those that have been listed as threatened.

This fundamental shift is characterised by the introduction of the priorities action statement in the 2004 amendments to the TSC Act. The priorities action statement initiates a move away from the traditional approach of preparing individual recovery plans for each threatened species and threat abatement plans for each key threatening process. Instead, the priorities action statement details broad recovery and threat abatement strategies to be adopted for each threatened species, lists more detailed 'priority actions' to implement each of the strategies and identifies the relative priorities of the actions and strategies. The priorities action statement

¹¹¹ DECCW, *Threat Abatement Plans*: <http://www.environment.nsw.gov.au/threatenedspecies/ThreatAbatementPlansByDoctype.htm> accessed 22/1/2010.

also outlines performance indicators and timetables to facilitate reporting on the implementation and effectiveness of the various strategies.¹¹²

In mid 2007, DECCW released the priorities action statement. It details 36 recovery and threat abatement strategies covering 93% of threatened species and key threatening processes. It commits to continue preparing formal recovery plans for threatened species that have complex conservation issues, threatened species that require the input and agreement of multiple stakeholders or iconic threatened species. It notes that DECCW intends to review, initiate or complete 31 recovery plans (some of which are multi-species, multi-community or regional recovery plans) within the first three years and five threat abatement plans. The priorities action statement is due to be reviewed every three years, meaning it is due for review this year.¹¹³

Declaration of Critical Habitat

On the advice of the Director General of DECCW and the Scientific Committee, and following public consultation, the Minister may declare an area to be critical habitat. Critical habitat is land that is critical to the survival of a threatened species. The Threatened Species Regulation 2002 may prohibit or regulate actions in areas of critical habitat. For example, companion animals are restricted from entering the Little Penguin critical habitat at North Sydney Harbour. There are specific requirements for developments in or near critical habitat under the planning process, as outlined in section 4.6.

Effectiveness of the TSC Act

The TSC Act has been praised for the rigorous, transparent process it provides for listing threatened species and processes, involving wide community input and unimpeded, independent scientific input.¹¹⁴ However, a significant number of weaknesses with the Act have also been highlighted. It has been argued that the TSC Act is largely a failure in implementation, rather than design, due to a lack of ongoing resources to support on the ground actions.¹¹⁵ It has also been suggested that the current regime, consisting of recovery plans for specific species and ad hoc assessments of the impact of proposals on threatened species, is

¹¹² NSW DECCW, *Introducing the NSW Threatened Species Priorities Action Statement, 2007*: <http://www.environment.nsw.gov.au/resources/threatenedspecies/threatspepcpas07168.pdf> accessed 22/1/2010.

¹¹³ NSW DECCW Threatened species website: http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_recovery_new.aspx accessed 25/1/2010.

¹¹⁴ Baker J, Priddel D, Auld T and Keith D, 'Science supporting threatened species conservation', (May 2009) 10(1) *Ecological Management and Restoration* 145.

¹¹⁵ Baker J, Priddel D, Auld T and Keith D, 'Science supporting threatened species conservation' (May 2009) 10(1) *Ecological Management and Restoration* 145.

fundamentally flawed.¹¹⁶ The Act has been described as offering procedural rather than substantive protection; failing to implement the precautionary principle by not taking the cumulative impact of development into account; and providing a single species focus where an ecosystem approach is more effective. It has also been criticised for providing an incentive to landowners to destroy threatened species before they are discovered.¹¹⁷

4.6 Planning Process

The *Environmental Planning and Assessment Act 1979* (EP&A Act) regulates planning in NSW and provides a framework within which other pieces of legislation and policy operate to address biodiversity. The key pieces of legislation are the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003*. The operation of the planning system at both a strategic and development assessment level has the potential to significantly impact on biodiversity conservation.

Strategic Planning

At a strategic level, Local Environmental Plans (LEPs), Development Control Plans and State Environmental Planning Policies (SEPPs)¹¹⁸ have the potential to address biodiversity. LEPs determine the appropriate zoning for different areas within a particular local government area. The Standard LEP Instrument includes a number of zones that have 'the protection of ecological values' as an objective. LEPs also denote areas of critical habitat for threatened species. There are a number of SEPPs that address specific elements of biodiversity, for example SEPP 14 Coastal Wetlands, SEPP 19 Bushland in Urban Areas and SEPP 44 Koala Habitat Protection. The State Plan and the Metropolitan Strategy also contribute to strategic planning for biodiversity conservation.

Biodiversity Certification

Biodiversity certification was introduced in 2004 amendments to the TSC Act. Under Division 5 of the TSC Act, a SEPP or LEP can be granted biodiversity certification by the Minister for Climate Change and the Environment if the Minister is satisfied that the SEPP or LEP will maintain or improve biodiversity values. For a SEPP or LEP to maintain or improve biodiversity values, it should provide for areas

¹¹⁶ Farrier D, Whelan R, Mooney C, 'Threatened species listing as a trigger for conservation action' (2007) 10 *Environmental Science and Policy* 219-229.

¹¹⁷ Riddell G, 'A crumbling wall: the Threatened Species Conservation Act 10 years on' (2005) 22 *Environmental and Planning Law Journal* 446 - 458. In addition, it has been highlighted that there is a lack of adequate knowledge of many species, particularly invertebrates and that the focus on threatened species can lead to other aspects of biodiversity being neglected: Dickman C, Hutchings P & Lunney D, 'Threatened species legislation: just one act in the play' in Hutchings P, Lunney D & Dickman C (Ed.) *Threatened species legislation: is it just an Act?* (2004) Royal Zoological Society of New South Wales, Mosman.

¹¹⁸ As of 1 July 2009, all Regional Environmental Plans are deemed SEPPs.

of high biodiversity value to be retained as well as counterbalance any loss in biodiversity values with positive actions to improve biodiversity values.¹¹⁹

If a planning instrument is granted biodiversity certification, development in accordance with that planning instrument will generally not require threatened species assessment. The rationale for biodiversity certification is that it brings biodiversity assessment forward to the strategic planning phase and provides greater certainty for development applicants, local governments and other stakeholders. It replaces the traditional system of site-by-site threatened species assessment under the EP&A Act, although a certified SEPP or LEP may stipulate that certain developments or areas still require individual threatened species assessment.¹²⁰ Biodiversity certification does not remove the need to undertake assessment in accordance with the Commonwealth EPBC Act.¹²¹

Biodiversity certification was conferred on the Growth Centres SEPP for the North West and South West Sydney growth centres. The conferral of biodiversity certification on the Growth Centres SEPP was legally challenged by the True Conservation Association, represented by the Environmental Defender's Office. They alleged that the Minister had no rational basis for concluding the SEPP would maintain or improve biodiversity values. Prior to the court hearing, the Government passed the *Threatened Species Conservation (Special Provisions) Act 2008*, which directly conferred biodiversity certification on the Growth Centres SEPP. This meant the SEPP would have biodiversity certification, even if the court ruled the original biodiversity certification order invalid, thereby avoiding the need to prove to the court that the test of maintaining or improving biodiversity values had been met.¹²²

The Minister for Climate Change and the Environment is currently considering proposals for biodiversity certification of the Albury LEP and the Wagga Wagga LEP. Biodiversity certification has also been conferred on the native vegetation reform package, as outlined below.

Parliament is currently considering a bill which amends the process for biodiversity certification and provides for the establishment of a biodiversity certification

¹¹⁹ DECCW, *Questions and Answers: Biodiversity Certification*: <http://www.environment.nsw.gov.au/resources/threatenedspecies/07220biodivcertqa.pdf> accessed 28/1/2010.

¹²⁰ DECCW, *Biodiversity Certification*: <http://www.environment.nsw.gov.au/biocertification/index.htm> accessed 28/1/2010.

¹²¹ DECCW, *Questions and Answers: Biodiversity Certification*: <http://www.environment.nsw.gov.au/resources/threatenedspecies/07220biodivcertqa.pdf> accessed 28/1/2010.

¹²² Environmental Defender's Office, *Past Cases - True Conservation Association v The Minister Administering the Threatened Species Conservation Act 1995*: http://www.edo.org.au/edonsw/site/casework_key_past.php#tca accessed 25/03/2010.

assessment methodology.¹²³

Development Assessment

Development assessment has the potential to significantly impact on biodiversity conservation. There are three relevant categories of development, determined by the EP&A Act:

- Part 3A – Major infrastructure and other major projects;
- Part 4 – Development requiring consent under a planning instrument (excluding Part 3A development);
- Part 5 – Activities requiring approval by a determining authority (a public authority or the Minister).

The EP&A Act generally requires environmental impact assessment to be undertaken before development consent is granted or a development is approved under Part 3A, Part 4 or Part 5 of the Act. The form and level of detail of the environmental impact assessment varies according to the type of development. The Act details the considerations that the consent authority or determining authority must take into account when determining the application. This includes environmental considerations.¹²⁴

Species Impact Statement

In addition to the environmental impact assessment, if a development under Part 4 or Part 5 of the EP&A Act is likely to have a significant effect on threatened species, or is on land that is critical habitat, a species impact statement must be undertaken. The Assessment of Significance (commonly known as the 7-part test) is applied to determine whether the development triggers the need for a species impact statement.¹²⁵

BioBanking

In late 2006 the NSW Government introduced the legislative framework for the Biodiversity Banking and Offsets Scheme (BioBanking). BioBanking is a market based approach to conserving biodiversity through the planning process.¹²⁶ Developers can opt to use BioBanking to offset the impacts of their development by purchasing biodiversity credits, as an alternative to the traditional threatened

¹²³ Threatened Species Conservation Amendment (Biodiversity Certification) Bill 2010, introduced 20/5/2010.

¹²⁴ In accordance with the bilateral agreement between the Commonwealth and NSW Governments, controlled actions under the EPBC Act that occur in NSW, can be assessed under the NSW environmental assessment process. The proposed controlled action still requires approval from the Commonwealth Environment Minister.

¹²⁵ The Assessment of Significance requirements are contained in section 5A of the EP&A Act.

¹²⁶ *Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006* introduced Part 7A into the TSC Act which established BioBanking.

species regime under the EP&A Act.¹²⁷ The key elements of the scheme are outlined below.¹²⁸

BioBanking Agreements – BioBank Sites

BioBank sites are established by landowners through a voluntary agreement with the Minister for the Environment, known as a BioBanking agreement. This agreement sets out management actions that the landowner agrees to undertake which are expected to improve the biodiversity values of the BioBank site. Management actions may include managing weeds, human disturbance or grazing and regenerating vegetation. These management actions generate biodiversity credits that can be traded on the biodiversity credit market. The amount of biodiversity credits generated is determined according to the BioBanking Assessment Methodology and the BioBanking Credit Calculator and included in the BioBanking agreement.

BioBanking agreements are registered on the land title. It is not a requirement that BioBank sites are established over the entirety of a property. They can be established over a designated section only, enabling a property to be used for both a BioBank site and other activities such as primary production. Land that is already managed, or expected to be managed, for conservation cannot be used as a BioBank site.

BioBanking Statements – Development Sites

A developer can opt to use BioBanking to offset the impacts of a development, as an alternative to traditional biodiversity assessment through the planning process. A BioBanking statement from DECCW is required to permit the developer to participate in BioBanking.

To obtain a BioBanking statement, the developer must demonstrate that biodiversity values will be improved or maintained, known as the improve or maintain test. The test aims to ensure there is no net loss to biodiversity values, by balancing a negative impact on the development site with a positive impact on the BioBank site. In accordance with the scheme, biodiversity credits generated on BioBank sites represent an improvement in the condition of biodiversity values (eg an improvement in habitat or an increase in the population of a threatened species). Biodiversity credits can be purchased from BioBank sites to offset the negative biodiversity impacts of a development.

The BioBanking statement specifies the amount and type of biodiversity credits that the developer needs to obtain and ‘retire’ to offset the impact of the development. Generally, the credits must be retired before the development commences. There are areas of high conservation value that are denoted as ‘red

¹²⁷ Can be used for development under Part 3A and Part 4 and activities under Part 5 of the EP&A Act.

¹²⁸ NSW DECCW, 2007, *BioBanking Scheme Overview*.

flag areas' under the scheme. These areas generally cannot be developed and the biodiversity losses offset unless, that is, the Director General of DECCW is satisfied biodiversity values will be improved or maintained and makes a specific determination allowing development in a red flag area.

The Biodiversity Credit Market

The biodiversity credit market consists of BioBank site owners who offer their biodiversity credits for sale and developers who purchase these credits. It is possible that other groups or individuals may also purchase biodiversity credits to secure conservation outcomes.

There are two types of biodiversity credits: ecosystem credits and species credits. Generally BioBank sites and development sites generate or require both types of biodiversity credits. Ecosystem credits are generated in relation to ecological communities, as well as threatened species that can be reliably predicted as occurring on site, based on the presence of vegetation that provides habitat for a specific ecological community or threatened species. Species credits are generated in relation to threatened species that cannot be reliably predicted using habitat surrogates.

There are a number of rules governing the use of the credits. Ecosystem credits can only be used to offset biodiversity impacts in the same ecological community, or in another community of the same formation that has an equal or greater percentage of land cleared and the same predicted threatened species. Species credits can only be used to offset biodiversity impacts on the same threatened species. There are also requirements related to location, vegetation type, vegetation formation and landscape context.

BioBanking Trust Fund

A portion of the money from the sale of biodiversity credits is invested in the BioBanking Trust Fund and paid to BioBank site owners in periodic payments. This ensures that there is funding available to manage the site for conservation in perpetuity, including if the site is sold.

Effectiveness of BioBanking to Conserve Biodiversity

The BioBanking scheme commenced in 2008 and thirty seven landholders have registered expressions of interest to create BioBank sites. The first biobank agreement was recently entered into between the NSW Government and a private landholder, with the Government purchasing ecosystem credits to offset biodiversity losses in the Growth Centres.¹²⁹

BioBanking aims to create a market that values biodiversity. It set out to provide a transparent, robust and consistent approach for determining biodiversity offsets,

¹²⁹ Sartor F MP (Minister for Climate Change and the Environment), 'Australia's First BioBanking Agreement: \$1.7 Million Protects Historic Bushland', *Media Release* 17/5/2010.

which are already a common feature of the existing planning system. It also provides for landowners to generate income by managing their land for conservation.¹³⁰ BioBanking has been commended for aiming to enhance and raise the profile of threatened species conservation. It provides an additional tool to manage the impact of development on biodiversity and essentially formalises the current practice of negotiating biodiversity offsets for large projects. It removes the management of the offset from the developer and the BioBanking Trust fund provides an ongoing incentive to the BioBank site manager to manage the site for conservation.¹³¹

BioBanking has also faced criticism. It has been argued that the process will likely fail to directly consider many important ecological functions, including species dispersal, the effects of fragmentation, ecosystem function, population and ecosystem viability and genetic diversity. The scientific basis of BioBanking is complex and imprecise. Because these are simpler to assess, the focus of BioBanking is likely to be on ecological communities rather than threatened species or ecosystem services. It is also difficult to achieve the aim of 'no net loss' of biodiversity values, which is central to the 'improve or maintain' test that underpins BioBanking. Whilst it is possible for vegetation to be regenerated and management actions to be taken which enhance biodiversity values at a site, the difficulties associated with this are widely recognised. There are also likely to be issues with monitoring and compliance.¹³²

Additionally, it has been argued that because the biodiversity credits purchased are not required to be in the same catchment as the development site, the offset could be geographically distant from the development site.¹³³ Ecologically equivalent offsets are also difficult to ensure.¹³⁴ Whilst biodiversity credits can be traded as soon as a BioBanking agreement is entered into, the positive biodiversity outcomes may take a significant period of time to eventuate. The costs of setting up a BioBank site are also likely to be substantial.¹³⁵ It has been suggested that further scrutiny of the Assessment Methodology, which is relied upon to decide whether

¹³⁰ NSW *Parliamentary Debates*, 8/6/2006 (B Debus MP, Minister for the Environment) 3191; NSW DECCW, *BioBanking Scheme Overview*, 2007.

¹³¹ Burgin S, 'BioBanking: an environmental scientist's view of the role of biodiversity banking offsets in conservation' (2008) 17 *Biodiversity Conservation* 807-816; Suvantola L, 'Regulatory Concerns Regarding the NSW BioBanking Scheme' (2009) 13(1) *The Australasian Journal of Natural Resources Law and Policy* 113-136.

¹³² Burgin S, 'BioBanking: an environmental scientist's view of the role of biodiversity banking offsets in conservation' (2008) 17 *Biodiversity Conservation* 807-816.

¹³³ Suvantola L, 'Regulatory Concerns Regarding the NSW BioBanking Scheme' (2009) 13(1) *The Australasian Journal of Natural Resources Law and Policy* 113-136.

¹³⁴ Scanlon J, 'An Appraisal of the NSW BioBanking Scheme to promote the goal of sustainable development in NSW', (2007) 4(1) *Macquarie Journal of International and Comparative Environmental Law* 71-133.

¹³⁵ Suvantola L, 'Regulatory Concerns Regarding the NSW BioBanking Scheme' (2009) 13(1) *The Australasian Journal of Natural Resources Law and Policy* 113-136.

biodiversity values are improved or maintained, is necessary to determine whether it is based on sound science.¹³⁶

Native Vegetation Act 2003

The *Native Vegetation Act 2003* also has a significant role to play in addressing biodiversity. The Act was introduced to implement the Government's commitment to end broadscale clearing, which is defined as 'the clearing of any remnant native vegetation or protected regrowth'.¹³⁷ In accordance with the *Native Vegetation Act*, broadscale clearing is not permissible unless it improves or maintains environmental outcomes. The Act applies to land clearing on privately owned rural land and does not apply to land zoned for urban or industrial uses.¹³⁸

The *Native Vegetation Act* makes it an offence to clear native vegetation unless it is approved under a property vegetation plan or development consent granted in accordance with the Act.¹³⁹ Under either approach, broadscale clearing is not permitted unless environmental outcomes are improved or maintained. The Environmental Outcomes Assessment Methodology is used to determine whether proposed clearing will meet the improve or maintain test. The Methodology considers the impacts of the clearing on biodiversity, water quality, land degradation and salinity. A property vegetation plan enables the landowner to use offsets to achieve the improve or maintain environmental outcomes requirement, similar to the operation of the improve or maintain test in BioBanking, as discussed above.

Property vegetation plans are voluntary agreements entered into between a landowner and their local Catchment Management Authority. Property vegetation plans establish the management of native vegetation on the property (or group of properties) for up to 15 years. They cover things such as: areas that are permitted to be cleared; areas that are required to be protected; management actions that are required to be undertaken and incentive funding arrangements. If the landowner wishes, property vegetation plans may be registered on the land title to run with the land in perpetuity.

As of mid 2007, undertaking private native forestry also requires approval through a property vegetation plan. Private native forestry is considered to meet the

¹³⁶ Farrier D, 'Editorial: Special Issue on Biodiversity Conservation' (2009) 13(1) *The Australasian Journal of Natural Resources Law and Policy* 1-6.

¹³⁷ Section 8, *Native Vegetation Act 2003*. Routine agricultural management activities and the clearing of non-protected regrowth may be carried out without consent or a property vegetation plan.

¹³⁸ Schedule 1, *Native Vegetation Act 2003*. In addition, the Act does not apply to any land within specified local government areas in Sydney and Newcastle. Areas excluded from the operation of the Act are subject to the normal planning process under the *Environmental Planning and Assessment Act 1979*.

¹³⁹ Section 12, *Native Vegetation Act 2003*. There are a number of exceptions to this, including for routine agricultural management activities.

improve or maintain biodiversity values test if it is conducted in accordance with the Private Native Forestry Code of Practice. The Code of Practice sets out provisions for the protection of old growth forests, rainforests, wetlands, heathlands, threatened ecological communities, populations and some specific species.

The native vegetation reform package, which consists of the *Native Vegetation Act 2003*, catchment action plans and associated guidelines, has been granted biodiversity certification.¹⁴⁰ This means that activities conducted in accordance with the *Native Vegetation Act* do not require threatened species assessment.

Review of the Native Vegetation Act

The first five yearly statutory review of the *Native Vegetation Act 2003* was undertaken by the Minister for Climate Change and the Environment last year. The review found that the objectives of the Act remain valid and no fundamental changes to the Act are necessary. However, it noted that there had been calls for broader reform to be considered in the longer term.¹⁴¹

The Environmental Defender's Office [submission](#) to the review described the *Native Vegetation Act* as an improvement on previous regimes as it is based on scientific methodology, although they expressed some concern regarding the environmental outcomes assessment methodology. According to the submission, the major weaknesses of the Act were the many exceptions and exemptions to the Act's provisions. In its view, the Act should be broadened to capture the majority of clearing activities. The Environmental Defender's Office also raised the need to strengthen and extend the enforcement provisions of the Act.¹⁴²

The NSW Farmers Association provided a lengthy [submission](#) to the review, which outlined numerous concerns with the *Native Vegetation Act*. These included that the cost of conservation on private land should not be transferred to landowners and that permitted activities must be retained and restrictions loosened. They argued that the definition of broadscale clearing should be amended to mean indiscriminate clearing of large areas. They suggested that the Native Vegetation Regulation and the assessment methodology should take economic and social factors into account.¹⁴³

¹⁴⁰ The reform package includes standards and targets for natural resource management issues under the *Natural Resources Commission Act 2003* and protocols and guidelines adopted by regulation under the *Native Vegetation Act 2003*, the *Catchment Management Authorities Act 2003* and the *Natural Resources Commission Act 2003*.

¹⁴¹ NSW DECCW, *Review of the Native Vegetation Act 2003*, December 2009: <http://www.environment.nsw.gov.au/resources/nativeveg/09751NVActReview.pdf> accessed 25/03/2010.

¹⁴² Environmental Defenders Office, *Submission to the Review of the Native Vegetation Act 2003*, 2009.

¹⁴³ NSW Farmers Association, *Submission to the Review of the Native Vegetation Act 2003*, 2009. For a full review of Native Vegetation legislation, see Smith S, *Native Vegetation: An Update* Parliamentary Library Research Paper 06/2006.

5 CONCLUSION

The 1992 CBD focussed international attention on the conservation of biological diversity. There was wide international commitment to the CBD and biodiversity has since enjoyed a high profile at an international, national and State level. There are numerous laws, policies and programs addressing biodiversity at both a national and State level in Australia. Many of these have been criticised as lacking in implementation and funding and failing to provide measurable, meaningful targets to halt biodiversity loss. The EPBC Act, the *National Strategy for the Conservation of Australia's Biodiversity* and the *NSW Biodiversity Strategy* are all currently being reviewed, providing the potential for important reform. In recent years, two significant new approaches to biodiversity conservation in Australia have emerged: market based instruments and private conservation reserves. Despite the range of legislation, policies and programs targeting biodiversity, biodiversity continues to be in serious decline at a State, national and international level.

Appendix 1 - IUCN Protected Area Management Categories¹⁴⁴

CATEGORY	DEFINITION
I	Ia Strict Nature Reserve: strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.
	Ib Wilderness Area: to protect large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
II	National Park: to protect a large natural or near natural areas set aside to protect large scale ecological processes, along with the complement of species and ecosystem characteristics of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.
III	Natural Monument: to protect a specific natural monument, which can be a landform, seamount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.
IV	Habitat/Species Management Area: to protect particular species or habitats and management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
V	Protected Landscape/Seascape: where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
VI	Managed Resource Protected Area: conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

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Commonwealth Department of Environment, Heritage, Water and the Arts, *Australia's Strategy for the National Reserve System 2009-2030*, 2009. Adapted from Dudley N (Ed) 2008, *Guidelines for Applying Protected Area Management Categories*, IUCN