

# Department of the Environment, Water, Heritage and the Arts

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Outcome 1.2

ANNUAL REPORT 2007–08

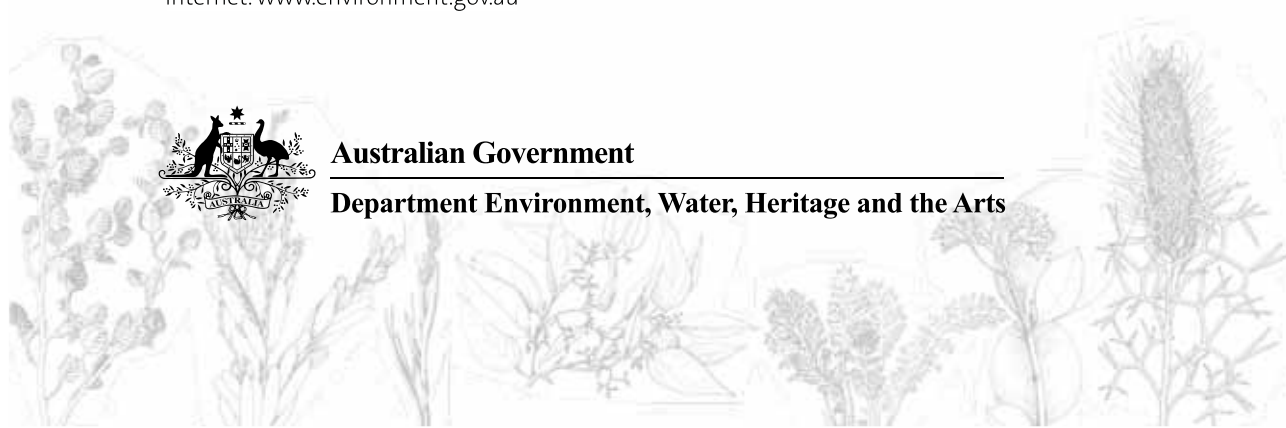
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**Australian Government**

**Department Environment, Water, Heritage and the Arts**



## Output 1.2 Land and inland waters



### Introduction

The department develops and implements Australian Government initiatives to protect and conserve Australia's terrestrial environments, biodiversity and inland waters.

#### Main responsibilities for this output

<ul style="list-style-type: none"> <li>• Terrestrial biodiversity conservation</li> <li>• Invasive species policy and threat abatement planning</li> <li>• Use of market-based approaches for biodiversity conservation on private land</li> <li>• Natural resources and native vegetation policy</li> <li>• Environmental aspects of regional forest agreements</li> </ul>	Marine and Biodiversity Division
<ul style="list-style-type: none"> <li>• Community Water Grants</li> <li>• Administration of the Natural Heritage Trust</li> <li>• Support for the National Action Plan for Salinity and Water Quality</li> </ul>	Natural Resource Management Programs Division
<ul style="list-style-type: none"> <li>• National Reserve System</li> <li>• Indigenous Protected Areas</li> <li>• Genetic resource management</li> <li>• Australian Biological Resources Study</li> </ul>	Parks Australia Division
<ul style="list-style-type: none"> <li>• Tropical wetlands research and ecological inventory</li> <li>• Risk assessment of tropical rivers</li> </ul>	Supervising Scientist

## Highlights

- The Forest Conservation Fund and the Maintaining Australia's Biodiversity Hotspots program used market-based approaches to secure conservation outcomes with private land managers across 174 sites—including covenants and stewardship agreements—to protect over 196,000 hectares of high value habitat on private land.
- The National Reserve System program acquired 6 properties covering 507,762 hectares, bringing the total area to 7.825 million hectares. The Maintaining Australia's Biodiversity Hotspots program acquired 6 properties covering 1,203,553 hectares. The Forest Conservation Fund acquired 12 properties covering approximately 1,187 hectares.
- The Australian Biosecurity System for Primary Production and the Environment was significantly progressed through the Natural Resource Management Ministerial Council.
- Investment and activities to protect and conserve Australia's environments were successfully delivered through the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality.
- In March 2008 the Australian Government announced the Caring for our Country program. The government will invest \$2.25 billion over the first five years on this new initiative to restore the health of Australia's environment and build on improved land management practices. Preparations for its commencement on 1 July 2008 were completed.
- The three year Tropical Rivers Inventory and Assessment Project, administered by Land and Water Australia's Tropical Rivers Program, has been completed and the knowledge base transferred to the Tropical Rivers and Coastal Knowledge research consortium, which is funded by the department.
- Two Indigenous Protected Areas were declared, bringing the total to 25 covering over 20 million hectares.

## Objectives

- Ensure the management of Australia's terrestrial environments, including their biodiversity, is ecologically sustainable and that effects on terrestrial biodiversity and ecosystem services, including habitat loss, invasive species and climate change, are addressed.
- Protect the environmental assets and values of the land, including biodiversity and ecosystem services.
- Increase efficiency in achieving conservation outcomes through targeted use of market incentives.
- Deliver benefits to communities from land conservation and water investments.
- Complete delivery of the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality.
- Protect and conserve biodiversity by establishing a comprehensive, adequate and representative system of protected areas.
- Establish an effective legal framework for managing access to genetic resources to protect biodiversity from over-exploitation.
- Conduct taxonomic, ecological and geographic research to increase understanding of biodiversity.
- Develop tools to map and assess the biodiversity of Australia's terrestrial environments and inland waters.
- Identify the key threats to the ongoing health of wetlands.
- Contribute to the development of strategies to protect the values of wetlands and ensure the wise use of the water resources that sustain these systems.

## Results

- The Tasmanian Forest Conservation Fund protected approximately 16,000 hectares of old growth and other high conservation value forest communities on private land.
- Under the Maintaining Australia's Biodiversity Hotspots Program, funding of \$4.45 million was provided for seven stewardship projects covering 181,000 hectares, and \$9 million was provided for the acquisition of six properties covering an area of 1.2 million hectares.
- An investment of \$2.4 million was made available to reduce threats from terrestrial invasive species to native species and ecological communities.
- The department worked with the Vertebrate Pests Committee to lead the implementation of the new Australian Pest Animal Strategy.
- In 2007–08, the Defeating the Weeds Menace Program invested \$2.5 million in communications, with a further allocation of \$4.3 million for grants and research and development projects.
- The Box Gum Grassy Woodland – a critically endangered ecological community – was selected as the first matter of national environmental significance to be targeted under the Environmental Stewardship Program.
- A series of six workshops have been held in the states and territories under the Florabank II program and the department produced a series of reports on natural resource management policy for the rangelands.
- The initial investment of \$3.1 billion Natural Heritage Trust and the 1.4 billion National Action Plan for Salinity and Water Quality were finalised and successfully delivered during 2007–08.
- Planning and preparation of the initial stages of the Caring for our Country program were successfully completed (\$2.25 billion to be invested over the first five years). Administrative arrangements and policies were implemented and are in place to deliver the program in 2008–09 and subsequent years.
- Under the National Heritage Trust, 512 national projects – which contribute significantly to natural ecosystems, sustainable production and biodiversity benefits for Australia – totalling \$118.74 million were funded during 2007–08.
- Under the Natural Heritage Trust, 1,025 regional projects addressing a range of environmental issues were funded in 2007–08 totalling \$228.7 million.
- Under the Envirofund component of the Natural Heritage Trust, 1,206 projects totalling \$26.25 million were funded during 2007–2008.
- Community Water Grants funding was re-phased in 2007–08 to bring forward \$105 million to fund an expanded Round 3 of the program. A total of 4,568 Community Water Grant projects received \$162.25 million in funding in 2007–08.
- In 2007–08, 224 schools under the Green Vouchers for Schools program were funded, totalling \$9 million.
- Warlu Jilajaa Jumu was declared an Indigenous Protected Area on 9 November 2007, adding 1.6 million hectares of arid scrub and desert wetlands in the north-west of Western Australia's Great Sandy Desert to the National Reserve System.
- The Kaanju Ngaachi Wenlock and Pascoe Rivers Indigenous Protected Area (IPA) was declared in June 2008. Stretching across nearly 200,000 hectares of wet forest and sand ridge country between Lockhart River, Coen and Weipa on Cape York, the Kaanju Ngaachi Wenlock and Pascoe Rivers IPA is Australia's twenty-fifth IPA.
- The Australian Biological Resources Study publication *Zoological Catalogue of Australia Volume 35: Fishes* was launched in August 2007. The three part volume

took 20 years of work by national and international ichthyologists. It documents information for over 4,400 species in over 300 families.

- The Tropical Rivers Inventory and Assessment Project, administered by Land and Water Australia's Tropical Rivers Program, was completed. This three year \$1.05 million project examined 51 catchments across northern Australia, covering some 1,192,000 square kilometres.
- Two workshops on fire and weeds were run in collaboration between the department's Environmental Research Institute of the Supervising Scientist and Parks Australia, to identify the current status of these change agents through Kakadu National Park, and to assist with development of management strategies.
- A web-based Geographic Information System knowledge management tool was developed for the Northern Australian Taskforce to assist the members of the Taskforce with their work.

## Strategies

### Land Strategies

The department, as Secretariat to the National Biodiversity Strategy Review Task Group, is coordinating a revised National Strategy for the Conservation of Australia's Biological Diversity. A draft revised strategy will be circulated for public consultation in late 2008. It is anticipated that a final Strategy will be considered by the Natural Resource Management Ministerial Council in 2009.

The Environmental Stewardship Program is a component of the Caring for our Country initiative. It will provide market-based incentives for private land managers to engage in the long-term protection and rehabilitation of matters of national environmental significance, as listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

In the area of weed management, the department managed the Defeating the Weed Menace Program jointly with the Department of Agriculture, Fisheries and Forestry. The program identified Australia's most threatening weeds and implemented measures for their management. It concluded on 30 June 2008. The department is also responsible for implementing the Community and Industry Engagement Plan, the major communications component of the program.

The National Framework for the Management and Monitoring of Australia's Native Vegetation is an agreement made in 2001 between Commonwealth, state and territory governments for a coordinated national approach to native vegetation management. Under the agreement, governments agreed to reverse the long-term decline in the extent and quality of Australia's native vegetation. This agreement has been an important driver for the development of native vegetation management policy and legislation in all jurisdictions.

## Status of terrestrial threat abatement plans at 30 June 2008

Title	Approved	Comment
Competition and land degradation by feral goats	1999	Under revision
Competition and land degradation by feral rabbits	1999	Under revision
Predation by the European red fox	1999	Under revision
Predation by feral cats	1999	Under revision
Dieback caused by the root-rot fungus <i>Phytophthora cinnamomi</i>	2001	Under revision
Beak and feather disease affecting endangered psittacine species	2005	Current
Predation, habitat degradation, competition and disease transmission by feral pigs	2005	Current
Infection of amphibians with chytrid fungus, resulting in chytridiomycosis	2006	Current
Reduction in impacts of tramp ants on biodiversity in Australia and its territories	2006	Current
Predation of Australian native species by exotic rodents on small offshore islands	–	Under development

The Australian Collaborative Rangelands Information System (ACRIS) is a national reporting system that brings together information about natural resources and biodiversity in the rangelands and reports on how rangelands are changing over time. The department chairs the ACRIS Management Committee, through which governments and researchers are working together to improve the reporting system for the benefit of policy and program delivery.

Florabank II is a Greening Australia project funded under the Natural Heritage Trust. Florabank aims to improve the availability and quality of native seed for revegetation and conservation purposes. The project aims to support the development of a more professional and self-reliant native seed industry, which will assist in the delivery of regional natural resource management revegetation plans.

Under the *Environment Protection and Biodiversity Conservation Act 1999*, the department develops and supports the implementation of threat abatement plans.

These plans set out the actions needed to reduce the effects of listed key threats, such as pests and diseases, on affected native species or ecological communities. Threat abatement plans are reviewed every five years.

To date there are nine threat abatement plans operating for key terrestrial threatening processes listed under the Act. Five of these plans were recently reviewed and amended drafts issued for public consultation. A threat abatement plan is also being developed to protect Australian native species from predation by exotic rodents on small offshore islands.

The department collaborates with the Department of Agriculture, Fisheries and Forestry and other stakeholders including the states and territories, and private landholders to develop and implement threat abatement plans and projects.

## Land and Water Investments

### Maintaining Australia's Biodiversity Hotspots Program

Biodiversity hotspots are areas that support largely intact natural ecosystems, where native species and communities are well represented and there is a high diversity of species that may be under threat. The Australian Government committed \$36 million over 2004 to 2008 under the Maintaining Australia's Biodiversity Hotspots Program, to promote active conservation management and protect these and other hotspots. The program supported two activities:

- stewardship payments to private landholders to help them protect existing natural habitats with high biodiversity values on their land
- payments to conservation groups to purchase land to be managed for conservation in areas identified as biodiversity hotspots.

Prior to financial year 2007–08 the program invested some \$12 million in a range of initiatives. In 2007–08 the program invested a further \$4.45 million across seven stewardship projects in Tasmania, New South Wales, Queensland, South Australia and the Northern Territory. These projects have secured conservation agreements with private land managers for over 174 sites to protect 181,000 hectares of existing natural habitat with high conservation values.

In 2007–08 the program also invested \$9 million for the acquisition of six properties across Australia, with a total area of 1.2 million hectares. These include the allocation of:

- \$1.9 million for the acquisition of the 43,500 hectare Yourka Station in Northern Queensland. Yourka captures the significant ecotone between the

wet sclerophyll forests in the Wet Tropics World Heritage Area and woodlands surrounding the Herbert River. The vulnerable red goshawk and endangered northern bettong are among the threatened species likely to be found on Yourka.

- \$1.3 million for the acquisition of the 8,074 hectare Edgbaston Station in Northern Queensland. Edgbaston has outstanding biodiversity values, with more than 50 artesian springs supporting a high concentration of locally endemic species, including two nationally threatened and endemic fish. The property also supports large numbers of migratory birds listed under the Japan-Australia Migratory Bird Agreement and the China-Australia Migratory Bird Agreement.
- \$0.9 million for the acquisition of the 667,000 hectare Kalamurina in South Australia. Kalamurina Station links the Lake Eyre National Park and the Simpson Desert Regional Reserve, creating a contiguous protected area in central Australia that is larger than Tasmania. Kalamurina protects a diversity of arid zone ecosystems and vegetation types associated with the Warburton River system, including several threatened and locally endemic species.

### Ecotone

*An ecotone is a transition area between two adjacent ecological communities (ecosystems).*

- \$2.2 million for the acquisition of the 194,805 hectare Pungalina Station in the Gulf Coast region of the Northern Territory. Pungalina supports a rich biodiversity, including significant numbers of nationally threatened and endemic species (such as the Gulf snapping turtle and the Northern quoll), and migratory species.

- \$1.8 million for the acquisition of the 289,700 hectare Marion Downs in the Kimberley, Western Australia. Marion Downs has a very high level of biodiversity, including at least seven nationally threatened ecosystems, four nationally threatened vertebrate species and six listed migratory species. Bordering Mornington Wildlife Sanctuary, the acquisition of Marion Downs will improve the protection of threatened species (such as the Gouldian finch) and management of threatening processes.
- \$0.9 million for the acquisition of the 474 hectare Vale of Belvoir in Tasmania. The Vale is nestled in a rare basalt and karst landscape with the most extensive montane grasslands in Tasmania, as well as highland grassland, moorland, heath and forest habitats. The property supports significant riparian and aquatic vegetation associated with karst springs, including a number of nationally threatened and endemic species.

The Maintaining Australia's Biodiversity Hotspots Program concluded on 30 June 2008, but contract management will be ongoing for the life of these projects.

#### Forest Conservation Fund (FCF)

The Australian and Tasmanian governments are investing \$250 million over six years (2004–2010) through the Tasmanian Community Forest Agreement, to enhance the protection of Tasmania's forest environment and to promote growth in the Tasmanian forest industry. In 2007–08 the department continued the implementation of the environmental aspects of the Tasmanian Community Forest Agreement, including the Forest Conservation Fund, Mole Creek Karst Forest Program, Tasmanian Forest Tourism Initiative, Tasmanian Devil Facial Tumor Program, and River Catchment Water Quality Initiative.

The Forest Conservation Fund program uses a number of market based approaches to target forest conservation outcomes

on private land. The Fund's tender process encourages landowners to seek funding for conservation covenants on their land. Over 2007–08, the first round of the tender was completed, involving three evaluation rounds and 240 landowner expressions of interest. Through this process the Fund will secure, through covenants, over 10,000 hectares of high conservation priority forest, including some 3,500 hectares of old growth forest communities.

Under the Mole Creek component of the Fund, almost 500 hectares of high priority karst and forest landscape has been acquired through covenanting or land purchase.

The Forest Conservation Fund's Revolving Fund was established in 2007–08. To date, some 750 hectares of forested land has been acquired. This land will be placed under conservation covenants and revolved for re-sale on the open market.

#### Delivering the Natural Heritage Trust

The \$3.1 billion Natural Heritage Trust was established in 1997 by the Australian Government, to invest in activities that restore and conserve Australia's environment and natural resources, and contribute to the sustainable use of those natural resources. The Natural Heritage Trust Program ended on 30 June 2008. The department had a cross-portfolio arrangement with the Department of Agriculture, Fisheries and Forestry to deliver the Trust during 2007–08. The department provided funding of \$8.85 million in 2007–08 under a purchaser-provider arrangement with the Department of Agriculture, Fisheries and Forestry, to fund the administration costs of implementing the Natural Heritage Trust program.

The largest component of the Trust has been regional investment. Regional investments were made through 56 natural resource management regions that cover all of Australia. Investments were made jointly with the National Action Plan for

Salinity and Water Quality, in accordance with agreed regional natural resource management plans and strategies. National investments supported activities having a national, statewide or multi-regional scope. They included projects undertaken by state and territory governments, industry and non-government organisations. The third component of the Trust, local level investment, has been delivered through the Australian Government Envirofund through grants of up to \$50,000. Since 2002, the Envirofund has funded 8,288 local projects to the value of \$138.3 million via ten competitive funding rounds.

### **National Action Plan for Salinity and Water Quality**

Since 2000, the Australian Government has provided \$700 million in funding for the National Action Plan for Salinity and Water Quality, which ended on 30 June 2008. The department participated in a cross-portfolio arrangement with the Department of Agriculture, Fisheries and Forestry to administer the National Action Plan.

The National Action Plan was delivered through the 56 regional natural resource management plans, which integrated National Action Plan and Natural Heritage Trust activities. Under the National Action Plan, 36 priority natural resource management regions were identified for investment. The National Action Plan supported projects that provided practical remedies such as: protecting and rehabilitating waterways, floodplains and wetlands; engineered water quality improvements including salt interception schemes, removal of weirs and drainage improvements; and the promotion of sustainable land and water use.

### **Delivering Community Water Grants**

The Community Water Grants program was part of the \$2 billion Australian Government

Water Fund. Over three funding rounds the program provided grants of up to \$50,000 to community groups, schools, local governments, catchment management authorities, environmental groups, non-government organisations, businesses and individuals to undertake practical on-ground projects that save water. Grants between \$100,000 and \$250,000 were also available subject to strict eligibility criteria. Round three was the last funding round for Community Water Grants. The program has funded 7,884 projects to a total value of \$283.0 million.

### **Green Vouchers for Schools**

The \$336 million Green Vouchers for Schools program was announced on 17 July 2007, as part of the Australian Government's investment in climate change action. This program was replaced by the National Solar Schools Program from 1 July 2008. The Green Vouchers program provided schools with grants of up to \$50,000 to install solar hot water systems and rainwater tanks. Under transitional arrangements, schools that completed work or entered into contractual commitments prior to 1 July 2008, were eligible to claim under the Green Vouchers program. The program funded 224 claims to a value of \$8.99 million.

### **Further information**

The annual report of the Department of Agriculture, Fisheries and Forestry provides details on National Action Plan investments at [www.daff.gov.au/about/annualreport/](http://www.daff.gov.au/about/annualreport/).

Projects funded by the Natural Heritage Trust and the National Action Plan are listed at [www.nrm.gov.au/](http://www.nrm.gov.au/).

Trust investments are also detailed in the annual reports of the Natural Heritage Trust and regional investments are detailed in regional program reports available at [www.nrm.gov.au/publications](http://www.nrm.gov.au/publications).

## Terrestrial parks and reserves

The Director of National Parks is a statutory corporation established under the *Environment Protection and Biodiversity Conservation Act 1999* to administer and manage Commonwealth reserves (national parks, botanic gardens, marine and terrestrial reserves) established under the Act, including Kakadu, Uluru–Kata Tjuta and Booderee national parks, which are jointly managed with their Indigenous traditional owners. The Director is supported by staff of the Department of the Environment, Water, Heritage and the Arts.

Detailed information about the 2007–08 management outcomes for Commonwealth reserves appears in the annual report of the Director of National Parks (see [www.environment.gov.au/parks/publications](http://www.environment.gov.au/parks/publications)).

The Director has also been delegated functions and powers by the minister and the Secretary of the department, to manage programs in addition to the Director's statutory functions. Under these delegations, the Director administers the National Reserve System Program, the Indigenous Protected Areas Program, the Australian Biological Resources Study and the development of Australian Government policy on management of Australia's genetic resources.

### Indigenous Protected Areas Program

The Indigenous Protected Areas Program helps Indigenous landowners to establish and manage Indigenous Protected Areas (IPAs) on their lands through contractual arrangements with the Australian Government. Indigenous protected areas are non-statutory protected areas that form part of the National Reserve System. The program also promotes the integration of Indigenous ecological and cultural knowledge into the management of these areas.

Two IPAs covering 1.8 million hectares were declared in 2007–08. These were:

- Warlu Jilajaa Jumu Indigenous Protected Area, which was declared in November 2007 and covers 1.6 million hectares of arid scrub and desert wetlands in the north-west of Western Australia's Great Sandy Desert. The event was a joint celebration with the handing down of the Ngurrara exclusive possession Native Title Determination.
- Kaanju Ngaachi Wenlock and Pascoe Rivers IPA, which was declared in June 2008. It covers 200,000 hectares of wet forest and sand ridge country between Lockhart River, Coen and Weipa on Cape York (see case study).

In 2007–08 the Indigenous Protected Areas program supported 25 declared IPAs and 19 consultation projects for potential IPAs.

### Genetic Resources Management

The department administers regulations for access to native genetic resources in Commonwealth areas and benefit-sharing associated with their utilisation. Consultations with university-based researchers conducted throughout the year and more integrated departmental permit issuing processes have led to an improved awareness and greater compliance with the regulations. A total of 60 access permits were provided by the department and accredited agencies, and three benefit-sharing agreements were finalised for commercial research.

The department, under an agreement with Biotechnology Australia, administered \$2 million over the period 2004–2008 to assist states and territories to develop nationally consistent legal frameworks for accessing and utilising genetic resources. A Biodiscovery Industry Panel was also convened in cooperation with the biotechnology industry peak body, AusBiotech, to provide industry input into policy development. The Australian, Queensland and Northern Territory

Governments have now introduced nationally consistent access and benefit-sharing legislation, with most other jurisdictions advancing in related policy development.

The department participates in the 'Ad Hoc Open-ended Working Group' on Access and Benefit-sharing under the Convention on Biological Diversity, which met twice during 2007–08 to discuss the development of an international regime on access and benefit-sharing. The Convention of Parties meeting in Bonn, Germany in May 2008, was presented with a case study outlining the successful Griffith University/Astra Zeneca bio-discovery collaboration, which resulted in the establishment of a collection of 45,000 samples from Australia and overseas as a biodiscovery research resource.

## Australian Biological Resources Study

The Australian Biological Resources Study funds research and training in the fields of taxonomy and biogeography. The program aims to describe and document Australia's plants, animals and other organisms, and where they occur, to increase the knowledge needed for the conservation and sustainable use of Australia's biodiversity.

Under the National Taxonomy Research Grant Program in 2007–08, \$1.956 million was used to support a wide range of taxonomic research and publications. This work contributes to the Flora of Australia Online, Species Bank and the Australian Faunal Directory, which hold data on 75,000 species and a range of specialist publications.

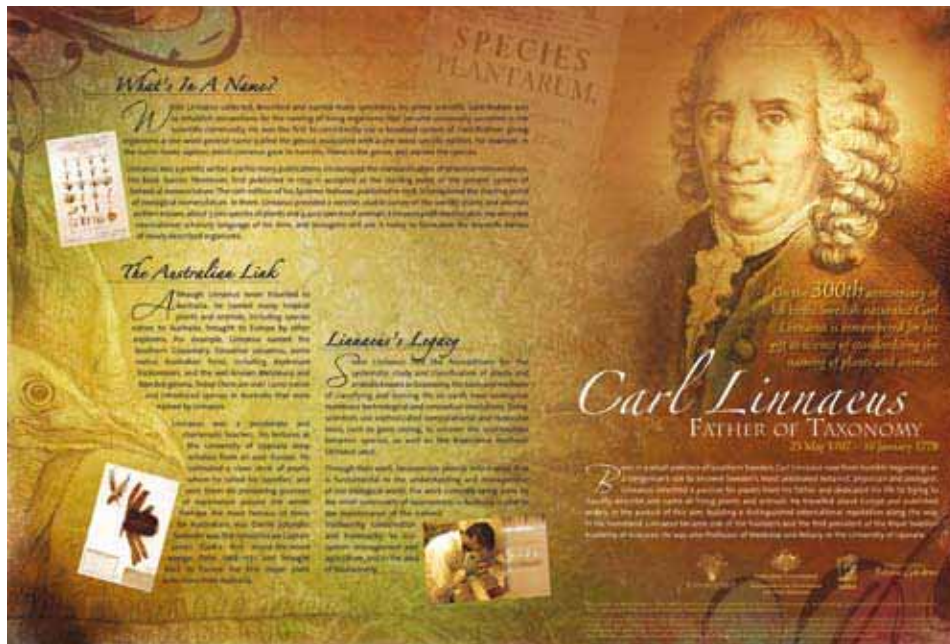
In October 2007 the Australian Biological Resources Study, in conjunction with the Federation of Australian Science and Technological Societies, held a National Taxonomy Forum, hosted by the Australian Museum. Forum participants, representing research institutions, state government and user groups including industry, developed a national action plan for

taxonomy in Australia. Together with the 2003–2006 Taxonomic Workforce Survey, this will be used to inform the future development of the National Taxonomy Research Grant Program.

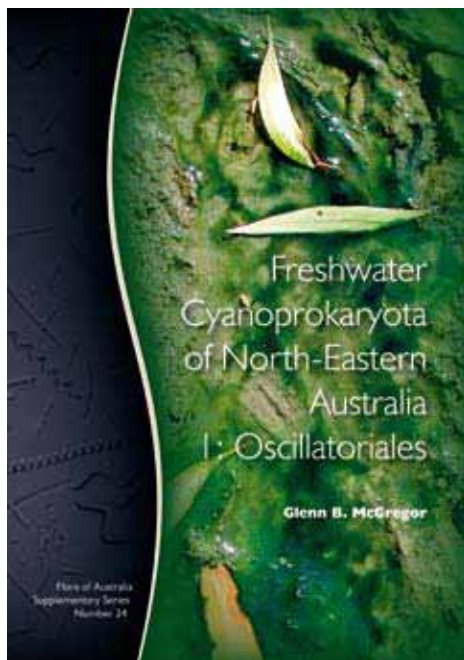
The decline over the last decade in the number of taxonomists in the Australian workforce is a cause for concern. The provision of additional funding by the department in 2007–08 resulted in the employment of eight additional taxonomic researchers. The first significant improvement in the employment of taxonomic researchers since 1991.

Over the past twelve months, Australian Biological Resources Study has achieved:

- online publication of two key reports: the Numbers of Living Species in Australia and the World, which gives an overview of species numbers, and shows the number of species in Australia; and the 2003–2006 Taxonomic Workforce Survey, which showed a critical national skills shortage
- publication or release of seven books: an atlas of biting midges, enabling identification of species that transmit viruses harmful to human and animal health; and six volumes of the *Algae of Australia*, *Fungi of Australia* and *Flora of Australia Supplementary Series*, covering fungi and algae that are important for biosecurity, ecological function and as key indicators of climate change
- the addition of 54 families of vascular plant names to *Flora of Australia Online*, which is used by conservation agencies and the general public as a source of information on the names, distributions and identification of species.



Above: Poster – Carl Linnaeus: Father of Taxonomy. Photo: L.L.Lee. © Royal Botanic Gardens & Domain Trust, Sydney, Australia 2007. Poster design: Graphic Ark



Left: Book cover – Freshwater Cyanoprokaryota of North-Eastern Australia 1: Oscillatoriales from the Flora of Australia Supplementary Series Number 24. Cover photos: Glenn B. McGregor. Cover designer: B.Kuchlmayr (ABRS)

## National Reserve System Program

The National Reserve System Program supports the acquisition and covenanting of properties to the National Reserve System, through collaboration with philanthropic organisations, government, the private sector and community groups. Australia's National Reserve System protects over 89 million hectares in more than 9,000 protected areas. This is over 11 per cent of Australia's land area.

In 2007–08 the program contributed over \$9 million towards the purchase of six properties covering 507,762 hectares. It also contributed just over \$1.2 million to strategic projects for the establishment of protected areas on private lands (through perpetual covenants). Some land acquisition projects supported in 2007–08 include:

- Ben Winch Swamp, Victoria, 178 hectares, helping to expand the Holey Plains State Park and ensure that wetlands in this bioregion are well represented in the National Reserve System. The property is also home to the endangered dwarf kerrawang, which is known in only 10 sites in Victoria.
- Bertiehaugh Holding, 135,000 hectares on Cape York Peninsula, Queensland. This property was used to establish the Steve Irwin Wildlife Reserve, which protects an array of wildlife from the magnificent palm cockatoo to the endangered northern quoll. The Wenlock River, bordering the property, has Australia's greatest diversity of freshwater fish and is home to the endangered spear-toothed shark. The Natural Heritage Trust contributed \$6.25 million to the project.
- Bon Bon Station, South Australia, 216,700 hectares (see case study).

Commencing on 1 July 2008 the Australian Government will be increasing the level of support available to expand Australia's National Reserve System through its new Caring for our Country Initiative.

## Tropical Wetlands research

The department's Environmental Research Institute of the Supervising Scientist (ERISS), a branch of the Supervising Scientist Division, carries out research on the management of tropical rivers and their extensive associated wetlands in northern Australia, with a focus on sustainability of these natural resources. This work complements the Supervising Scientist Division's role of protecting the environment of the Alligator Rivers Region from the effects of uranium mining. ERISS is a member of the Tropical Rivers and Coastal Knowledge research consortium, established and co-funded by the Commonwealth Environmental Research Facilities program.

During 2007–08 the Tropical Rivers Inventory and Assessment Project, administered by Land and Water Australia's Tropical Rivers Program and managed by ERISS, was completed. This three year, \$1.05 million project examined 51 catchments across northern Australia, from Broome in the west of the continent to the top of the western tip of Cape York, covering some 1,192,000 square kilometres. The study assessed three catchments in more detail – the Fitzroy River in Western Australia, the Daly River in the Northern Territory, and the Flinders River in Queensland – representing each state or territory within the study region.

ERISS is also undertaking a landscape-scale environmental risk assessment, to compare and quantify the relative effects of point (mining) and diffuse non-mining (fire, weeds, feral animals) sources on the World Heritage values of the Magela Creek floodplain wetland. Research is also being conducted into assessing:

- the prevalence and rate of spread of aquatic weeds in floodplain environments of the Alligator Rivers Region
- the likely extent of climate change induced, sea-level rise on landward intrusion of salt water in floodplain environments
- changes through time in wetland environments.

A web-based Geographic Information System knowledge management tool was developed for the Northern Australian Taskforce to assist the members of the Taskforce with their work.

## Evaluation

In 2007 the Australian National Audit Office undertook a performance audit on the regional delivery model of the Natural Heritage Trust and National Action Plan for Salinity and Water Quality. The report noted that there had been considerable improvement in administration since the previous audit in 2004–05 and recognised that administration is now well-focused on significant risk areas.

The report, however, did identify areas where the Australian National Audit Office considered more work was required to strengthen overall administration. The department and the Department of Agriculture, Fisheries and Forestry agreed to the four recommendations in the report. The department has taken the findings of the audit into account as part of its consideration of future arrangements for the delivery of natural resource management programs and investment.

Research undertaken as part of the Tropical Rivers Inventory and Assessment Project will assist the development of an information base for assessing the ecological status of tropical rivers, and in developing and applying an assessment framework to predict the ecological risks of major pressures on the rivers. The outcomes from this project will also inform and support holistic approaches for management of tropical rivers and wetlands by the various stakeholder groups in the region. All reports and relevant project information are available online at [www.environment.gov.au/ssd/tropical-river/](http://www.environment.gov.au/ssd/tropical-river/).

A review was undertaken in 2008 of the *Bush for Wildlife* Revolving Fund, which provided funding in 2000 to four non-government organisations to purchase land of high conservation value, place an *in perpetuity* covenant on the land and then on-sell to a new owner interested in managing the land for conservation. The fund managers have revolved 38 properties, protecting 7,500 hectares of private land.

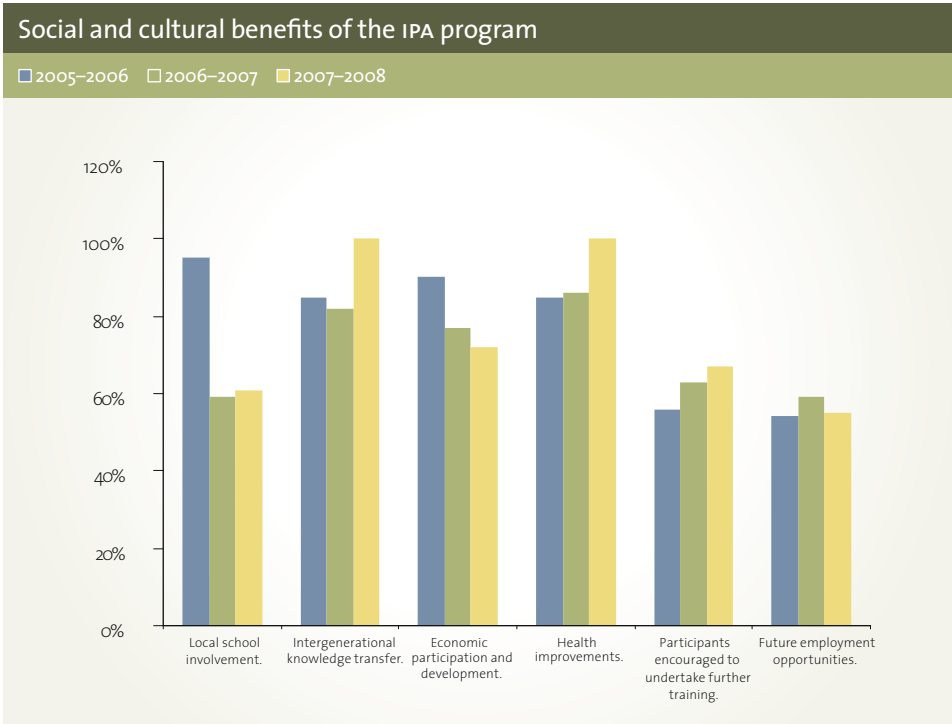
The review noted that the total area protected (purchased and either on-sold or still held by the fund managers) by 2008 was almost 24,000 hectares. The review found the revolving fund to be a successful mechanism for conservation on private land, with the following attributes:

- unique role of operation in a niche market – those who are willing to purchase property for nature conservation
- fund managers are able to respond quickly to properties coming onto the market
- potentially self-sustaining – if the manager can make small margins on resale to cover administrative and management costs
- cost-effective compared to some other approaches as the funds are continually re-available
- part of a suite of tools which can be drawn on to maximise quantity and quality of conservation land.

The review recommended the streamlining of reporting requirements, the synergistic use of revolving funds with other mechanisms and outlined a range of financial strategies that could be taken up by managers.

As part of the Indigenous Protected Areas (IPA) program, self assessment data are collected twice a year through project progress and final reports. This data reveals that as a direct result of their involvement with the program:

- 100 per cent of communities reported a marked improvement in the health and well-being of their communities as a result of IPA management activities
- 100 per cent reported positive benefits from the intergenerational transfer of traditional knowledge
- 72 per cent noted economic participation and development benefits
- 67 per cent stated that training and land management has encouraged participants to seek out and undertake more training
- 61 per cent reported positive outcomes from involving local schools in land management activities.



Source: Indigenous Protected Area Project Management Data Base

Quotes from Indigenous Protected Area project reports include:

*“The ability to employ four full-time workers has been one of the most positive aspects of the IPA program, because in the past there were few, if any, opportunities for full-time work in the community.”*

Paruku IPA

*“Involvement in caring for country activities benefits the health and well being of participants in a number of ways. Firstly it involves physical exercise. It also enables people the opportunity to spend time doing productive work away from the often draining pressures of community life. In young people land management serves to provide a constructive way to participate in the community, boosting self esteem and providing alternatives to destructive lifestyle choices. In senior people, land management work enables the transfer of traditional knowledge to younger generations, the absence of which causes a great deal of anxiety in senior members of the community.”*

Northern Tanami IPA

## Case Studies

### Case study 1: Sustainable firewood use

The unsustainable collection of firewood from native woodlands has been identified as a threat to the ongoing viability of woodland species because fallen and dead wood provides habitat and food for a wide range of species.

A revised Voluntary Code of Practice for Firewood Merchants was endorsed by the Natural Resource Management Ministerial Council in 2005. The firewood industry has formed the Firewood Association of Australia (FAA) which aims to reduce native habitat and biodiversity effects of uncontrolled and unsustainable firewood collection, through the establishment of a mechanism for compliance with the Code of Practice within the firewood industry. The department provided Natural Heritage Trust funding to the Association to assist it to build its membership and encourage the use of sustainably sourced firewood. Since the commencement of funding in January 2007, the Association has successfully engaged the industry and informed the Australian public. The Association has 66 fully certified firewood suppliers and 20 applications in progress.

Funding the Association has resulted in a number of positive environmental outcomes including increased compliance with the Code of Practice, increasing consumer awareness of the environmental issues associated with firewood collection and use, and reducing the biodiversity and habitat effects of uncontrolled firewood harvesting.

### Case study 2: Conservation incentives

With 77 per cent of Australian land in private ownership, the department is continuing efforts to extend the protection of biodiversity on private land and to enhance the mechanisms for providing this protection.

#### *Conservation covenants*

Eligible landholders can access Australian Government taxation incentives in return

for entering into perpetual conservation covenants with accredited programs.

Landowners entering into conservation covenants, either individually or with eligible organisations under a conservation covenanting program, can claim income tax concessions subject to their incurring a loss of more than \$5,000 in the market value of their properties as a result of entering into the covenant.

There are currently 11 conservation covenanting programs approved by the Australian Government for the purposes of the *Income Tax Assessment Act 1997*. To date, these covenanting programs have signed 4215 covenants protecting over 3,200,000 hectares of private land.

#### *Revolving funds*

Revolving funds are another conservation mechanism to establish conservation covenants. The funds are used to purchase land with high conservation value and to attach a conservation covenant to the title of the land to provide for conservation management in perpetuity. The properties are then resold to buyers with interests in maintaining biodiversity values. The proceeds from the sale of properties are then revolved back into the fund and used to buy more properties and to sell them with a conservation covenant in place.

The Australian Government continues to maintain an ongoing partnership with four not-for-profit organisations to operate revolving funds initially funded through the Bush for Wildlife package in 2000. These are the Trust for Nature in Victoria, the National Trust of Australia in Western Australia, the Nature Foundation South Australia and the Nature Conservation Trust of New South Wales. The revolving funds have revolved 38 properties, protecting 7,500 hectares of private land. A national review of the 'Bush for Wildlife' Revolving Fund was also conducted in 2007–08 to evaluate achievements and to inform best practice and future directions for this type of market

based model. The review found the revolving fund to be a successful mechanism for conservation on private land – see further information in the Evaluation section.

#### *Environmental Stewardship Program*

The Environmental Stewardship Program, a component of the Caring for our Country initiative, provides market-based incentives for private land managers to engage in the long-term protection and rehabilitation of matters of national environmental significance, as listed under the *Environment Protection and Biodiversity Conservation Act 1999*. These matters include nationally endangered or vulnerable species and ecological communities, natural values associated with world heritage and national heritage listed places, and migratory species and wetlands for which Australia has international responsibilities. Land managers will be selected by market-based mechanisms for participation in the program, and will be invited to enter into contracts of up to 15 years duration.

The first matter of national environmental significance to be targeted is the Box Gum Grassy Woodland a critically endangered ecological community that exists in scattered remnants from southern Queensland through the wheat-sheep belt of New South Wales to northern Victoria. The community has been reduced to less than five percent of its original extent and occurs over about 405,000 hectares and may have up to about 16,000 land managers within its distribution. It is important habitat for a wide range of plants and animals, including at least 19 rare and threatened species such as the tiger quoll, superb parrot and swift parrot.

Box Gum Grassy Woodland will be initially targeted in the Lachlan and Murrumbidgee catchments in New South Wales. The Lachlan Catchment Management Authority, was selected by public tender to deliver the first round of the program. Communications and monitoring and evaluation strategies are in place and the first tender round will be completed during the 2008–09 financial year.

#### **Case Study 3: Bringing back Kangaroo Island's Glossy Black-Cockatoos**

The glossy black-cockatoo is a nationally listed endangered species. Loss of habitat since European settlement has seen a steady decline of glossy black-cockatoo numbers across Australia, but one small population on Kangaroo Island is bucking the trend. Just a decade ago there were only 200 of these cockatoos on the island but today there are between 300 and 320. Kangaroo Island residents noticed a decline in the species in the 1990s and raised the alarm. They began to research threats to the population and develop strategies to ameliorate the threats.

A dedicated band of volunteers, community and environmental groups, businesses and government agencies began working on reversing this decline. In 2003 the Kangaroo Island Natural Resources Management Board joined the battle.

The Australian Government has provided the Board with more than \$363,000 over the years 2002–2008 to help save Kangaroo Island's glossy black cockatoos. The state government has also provided in-kind support. Together



Glossy Black-Cockatoo Photo: Graeme Chapman

with community assistance, the Board is now helping the population grow, with assistance also from the Natural Heritage Trust and the South Australian Department for Environment and Heritage.

The Board has worked to protect and maintain nest sites, and has installed artificial nest hollows where none were available. The program protects nests from possums by putting corrugated iron around the bottom of nest trees and pruning any overlapping canopy from nearby trees. The Board and its team of volunteers also monitor the population, identify new nests to protect them, observe and band the birds, replant feeding habitat and control birds that threaten the chicks and eggs.

Glossy black cockatoos feed on drooping she-oak almost exclusively and prefer to nest in hollows in large old trees. The Board therefore introduced an education and incentive program with private landholders to conserve and increase drooping she-oak populations and protect and re-plant potential nesting trees.

One of the program's great strengths is the community involvement it has attracted. The extensive education campaign has resulted in significant contributions and interest from community members, and greater appreciation of biodiversity protection. Incentives have seen 425 hectares of glossy black cockatoo habitat fenced off, 110 hectares of habitat restored, 80 artificial nest hollows have been provided and 200 nest sites protected.

#### **Case Study 4: Tasmanian dairy farms lead the way on managing effluent**

The DairyTas Effluent Management project has helped dairy farms across the state's northern and north-west natural resource management regions upgrade dairy sheds to avoid runoff and maximise reuse of nutrients. One hundred and fifty six megalitres of dairy farm effluent annually is now being managed in a way that avoids nutrient runoff into Tasmania's waterways and protects natural river systems.

Work has been supported by \$134,000 from the Australian Government and contributions from the Tasmanian Government through the Northern Natural Resource Management Regional Group. The project led to \$650,000 worth of farm upgrades in its first year. For every \$5,500 received, a farmer spent on average \$16,000. The funds flowed largely towards expanding storage ponds and systems where there was insufficient capacity. Herds had expanded but the effluent infrastructure had not followed suit. Other funds helped purchase equipment for separating solids from liquids, trenches and dams for solids, irrigation equipment, pipework, excavation work and pumps.

The scheme has covered upgrades across close to 20 per cent of the Tasmanian dairy industry. Dairy effluent from about 25,000 cows will be better managed through on-ground work valued at \$1.5 million.

Farmers have found that the project has provided several benefits for their farms. It has reduced overflow and runoff incidents, and consequent watercourse pollution. It has reduced labor requirements and provided on-farm irrigation water and nutrient recycling. It has also provided best practice outcomes for their farms, through the expertise provided by the project. Dairy farmers have also become more aware of their water use and how they can manage it better.

#### **Case Study 5: Bon Bon Station**

In May 2008 Bush Heritage Australia and the South Australian Government purchased Bon Bon Station with the help of the National Reserve System Program.

The station is a 216,000 hectare former sheep-grazing property situated in South Australia, between the Great Victoria Desert and the large salt lakes of Eyre, Torrens and Gairdner. Bon Bon's desert landscape is dotted with shimmering salt lakes, freshwater wetlands, mulga shrublands, bluebush plains, and arid-zone woodlands. These provide a rich diversity of habitats for the region's wildlife, including species that are rare or threatened. The purchase fills a significant gap in South Australia's protected area system.



Threatened mulga *Acacia aneura* woodland at Bon Bon Reserve, SA  
Photo: Steve Heggie courtesy of Bush Heritage Australia

The property is diverse, with ten land systems found on the station and it contains a series of vegetation communities, including two state-listed threatened ecosystems: mulga low woodlands with a grassy understorey on sand plains; and bullock bush tall shrubland on alluvial soils of plains.

Lake Puckeridge is located at the centre of Bon Bon Station and is an important wetland. The lake, which is home to large numbers of waders and water birds, covers approximately 1,400 hectares when full.

The National Reserve System Program provided over \$2.3 million for the purchase. Bush Heritage Australia and the South Australian Government contributed over \$1.5 million.

#### Case Study 6: Kaanju Ngaachi Wenlock and Pascoe Rivers Indigenous Protected Area

The Kaanju Ngaachi Wenlock and Pascoe Rivers Indigenous Protected Area (IPA) was declared in June 2008. Stretching across nearly 2,000 square kilometres of wet forest and sand ridge country between Lockhart River, Coen and Weipa on Cape York, the Kaanju Ngaachi Wenlock and Pascoe Rivers IPA is Australia's twenty-fifth. Like all of Australia's IPAs, it protects some of the country's rare and fragile environments for the benefit of all Australians.

PA is managed by the Chuulangun Aboriginal Corporation and is a place of significant social, cultural, spiritual, historical and economic value for its traditional owners. Kaanju refers to 'upland' and Ngaachi to 'homelands' or traditional country.

Kaanju Ngaachi's forests are among the most diverse and unspoiled in the world and they contain plant species that date back to the time of Gondwanaland. Through the vegetation along its rivers, the area provides an important habitat link between the closed forests on either side of Cape York.

The rivers that border the IPA contain the largest number of freshwater fish of any river in Australia. This IPA protects an amazing range of animal species, including nationally-endangered southern cassowaries, fish eagles, yellow-faced whip snakes and quolls. Saltwater crocodiles can be found in the lower Pascoe River where the salt meets the fresh water and the elusive freshwater crocodile lives in the lagoons and tributaries of the upper Pascoe and Wenlock rivers.

A team of Indigenous rangers will control weeds, maintain traditional fire regimes and fence feral animals out of sensitive areas.

Government investment through the Working on Country element of the Caring for our Country Initiative commencing in 2008–2009, will provide additional Indigenous ranger jobs, and the capacity to survey and map cultural sites and to train up the younger generation to look after Indigenous Protected Areas. Commencing 1 July 2008, the Australian Government will be increasing the level of funding and support provided to both Working on Country and expansion of Indigenous Protected Areas as part of its new Caring for our Country Initiative.

*"The deterioration of the land is felt by Pianamu (Rainbow Serpent), and if proper land management is not carried out Pianamu will not allow the land to be sustainable."*

David Claudie, Kaanju Traditional Owner and Chairman, Chuulangun Aboriginal Corporation.

## Results for performance indicators

Focus of work	Performance indicator
<b>Key threats to terrestrial biodiversity</b>	
Number of threat abatement plans (i) being prepared or revised and (ii) in operation	(i) 5 plans have been revised and 2 are being developed (ii) 9 plans in operation
Of those listed key threats to the land that require a threat abatement plan, the percentage that have threat abatement plans in operation	90%
<b>Native vegetation (including forests)</b>	
Percentage change in native vegetation cover, using the National Carbon Accounting System	Estimated to be less than 1%. The National Carbon Accounting System shows there has been a general reduction in annual deforestation since the 1980s and early 1990s. The most recent snap-shot is for 2005. Deforestation for that year is estimated to be around 400,000 hectares across Australia
<b>Parks and other terrestrial protected areas</b>	
Area of land protected and managed through the National Reserve System Program, including area of declared Indigenous protected areas	507,762 hectares were added to the National Reserve System, bringing the total to 7,825,049 million hectares  1.8 million hectares of new Indigenous Protected Areas brought the total Indigenous Protected Area Estate to 20.3 million hectares
Percentage of protected areas (other than Indigenous protected areas) that have been gazetted	63%. This percentage is for properties acquired up to the end of 2005–06. The figure does not include information for the last 2 financial years, because under the National Reserve System Program funding agreements, a proponent may take up to 2 years to finalise gazettal of a protected area.
<b>Australian Biological Resources Study Participatory Grants Program</b>	
Number of taxa revised or newly described under the program	Number of newly described species: 389 Number of revised species: 1,708
Number of peer reviewed taxonomic information products produced or funded by the program	Number of research articles: 213 Number published online: 13 Number of CDs to be produced: 6 Number of other books/articles: 210
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of projects funded	26 new projects were funded in 2007–08
Price	See resources table (\$1.956 million)

Maintaining Australia's Biodiversity Hotspots Program	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of interventions to protect identified hotspots	(See below)
Number of projects funded	\$4.45 million across seven stewardship projects. 97 individual sites funded. \$9 million for the acquisition of six properties
Blackburn Lake Sanctuary, Melbourne	
Funding provided on budget once arrangements are finalised between governments, supported by a sound management plan to protect the identified conservation value	Funding of \$1.8 million has been provided. A tripartite agreement between the Australian and Victorian Governments and the City of Whitehorse has been signed as part of the agreement to purchase the land.
Natural Heritage Trust (Landcare, Bushcare and Rivercare Programs)	
Percentage of natural resource management regions that have an accredited natural resource management plan.	98%
Percentage of natural resource management regions that have an approved investment strategy	100%
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of projects funded	1,811
Price	See resources table
Australian Government's Community Water Grants Program	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of projects funded	4,568
Price	See resources table

Strengthening Tasmania—Tamar River Pylon Project	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
A sustainable future for Tasmania	
Proportion of Forest Conservation Fund reservation target met	35 per cent of the 45,600 hectare target has been met
Improved access to forest areas for tourists	Nine projects across Tasmania have been approved.
Level of landholder involvement in voluntary forest reservation program	Over 240 site assessments were undertaken and 150 applications for funding were received. 32 expressions of interest were received from landholders for the Mole Creek Karst Forest Program. Nine properties have either been purchased or covenanted.
Area of private land reserved under the Forest Conservation Fund	16,000 hectares approved for gazettal.
A Better Future for Indigenous Australians – building an Indigenous workforce in government service delivery	
Total hectares or kilometres under environmental contracts	58.44 million hectares and 6,180 kilometres of coastline
Number of projects	23
At least 70% of environment activities are completed in accordance with the contract schedule	Met on average for projects operational by January 2008
Price	See Resources table
Output 1.2 Land and inland water	
Policy Adviser Role: 95% of briefs and correspondence meet department quality control standards	–
Regulator Role: Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Percentage of statutory timeframes triggered that are met (Target: >90%)	>90%
Price	See Resources table

Output 1.2: Conservation of the Land and inland waters		
Departmental outputs	Budget prices \$000's	Actual expenses \$000's
Sub-output: 1.2.1 Land and water strategies	10 041	9 612
Sub-output: 1.2.2 Land and water investments	35 092	34 691
Sub-output: 1.2.3 Terrestrial parks and reserves	60 301	58 979
Sub-output: 1.2.4 Tropical Wetlands Research	458	410
<b>Total</b> (Output 1.2: Conservation of the land and inland waters)	<b>105 892</b>	<b>103 692</b>
Administered items		
Protecting Australia's Biodiversity Hotspots	14 960	13 535
Environmental Stewardship Program	2 531	2 301
A Sustainable Future Tasmania – Mole Creek	3 093	2 886
A Sustainable Future Tasmania – Tourism Program	1 619	1 619
Australian Biological Resources Study (ABRS)	1 956	1 955
Community Water Grants	168 814	168 793
Working on Country	5 656	5 625
National Heritage Trust	342 500	342 475
Blackburn Lake Sanctuary (SPP)	1 800	1 600
Strengthening Tasmania – Tamar River Pylons (SPP)	750	750
<b>Total (Administered)</b>	<b>543 679</b>	<b>541 539</b>