OUTCOME 1—ENVIRONMENT LAND AND INLAND WATERS

Land and inland waters

The Department of the Environment and Heritage develops Australian Government initiatives to protect and conserve Australia's land and inland waters, including biodiversity, and to ensure their management is ecologically sustainable.

Main responsibilities for this output

Wildlife protection • Threatened species recovery • Threatened species protection • Wildlife industries regulation	Approvals and Wildlife Division
Land and water strategies • Invasive species threat abatement plans • Biodiversity conservation • Native vegetation management • Environmental aspects of forest agreements • Water quality management • Urban water reform • Protected wetlands	Land, Water and Coasts Division
Land and water investments • Administration of the Natural Heritage Trust • Support for the National Action Plan for Salinity and Water Quality • Community Water Grants	Natural Resource Management Programmes Division
Terrestrial parks and reserves • National Reserve System • Genetic resource management • Australian Biological Resources Study	Parks Australia Division
Tropical wetlands research • Research and ecological inventory • Risk assessment of tropical rivers	Supervising Scientist Division

Objectives

Wildlife protection

- Protect biodiversity, including wildlife and their habitats, and work to ensure that Australia's use of biological resources is ecologically sustainable

Land and water strategies

- Ensure the management of Australia's terrestrial natural resources is ecologically sustainable
- Ensure the management of inland rivers, groundwater and inland wetlands is ecologically sustainable and that water resources are conserved and the quality is maintained
- Address land and water issues impacting biodiversity, including pests, weeds and disease

Land and water investments

- Deliver land and water conservation investments to communities

Terrestrial parks and reserves

- Protect and conserve biodiversity by establishing a comprehensive and representative system of protected areas
- Conduct taxonomic and geographic research to increase understanding of biodiversity

Tropical wetlands research

- Enhance the protection of tropical rivers and associated wetlands in northern Australia

Results 2005–06

- Under Community Water Grants, part of the $2 billion Australian Government Water Fund, 1 750 projects worth over $55 million were approved to save water across Australia. These projects are expected to save approximately 18.5 billion litres of water each year, enough to fill about 1 800 Olympic swimming pools, as well as rehabilitating about 15 000 hectares of land.
- 31 new recovery plans for threatened species and ecological communities were approved. These plans will maximise the chances of long-term survival in the wild of threatened species including Gilbert's potoroo in Western Australia, the northern hairy-nosed wombat in Queensland, Slater's skink in the Northern Territory, and one endangered ecological community—the natural temperate grasslands of the Southern Tablelands of NSW and the Australian Capital Territory.
- The Australian Government invested $37.2 million towards the $93 million Goulburn–Murray Water Recovery Package, which will recover 145 gigalitres of additional water for the environment.
- Nankeen night herons bred in the Barmah Forest for the first time in 40 years, and the threatened silver perch spawned successfully following allocation of environmental flows to 36 000 hectares of the River Murray system. Vegetation communities, including river red gum, also responded well to the additional water. The department helped fund infrastructure to deliver water for wetlands and floodplains in Victoria and South Australia.
- The Natural Heritage Trust is now delivering on-ground projects in 56 regions across Australia against 54 accredited natural resource management plans. The plans are tailor made for each region and address a range of environmental issues including salinity, soil condition, water quality, native vegetation, rivers and wetlands, and biodiversity.
- Stringent fox control measures in Booderee National Park are producing a recovery in native animal populations, with long-nosed bandicoot and eastern bristlebird numbers increasing strongly. Particularly pleasing is the re-discovery this year of the rare white-footed dunnart, a small marsupial not found in Booderee for over 40 years.

Wildlife protection and biodiversity conservation

The department administers the wildlife protection provisions of the *Environment Protection and Biodiversity Conservation Act 1999*. The Act is the Australian Government's main tool for protecting wildlife[1] and conserving biodiversity. The Act also regulates wildlife trade to protect Australia's native wildlife from overexploitation.

Threatened species protection

Under the *Environment Protection and Biodiversity Conservation Act 1999* actions require approval if they are likely to have a significant impact on matters of national environmental significance, including wildlife and ecological communities that are listed as threatened.

Activities that may affect listed threatened species or communities in Commonwealth areas (land and waters) may require permits. During 2005–06 the government issued 11 species and ecological community permits.

Details of these and other activities relating to the protection and conservation of threatened species are included in the report on the operation of the *Environment Protection and Biodiversity Conservation Act 1999* in the second volume of this annual report.

Project work relating to the protection of listed threatened species and ecological communities is partly funded through the national component of the Natural Heritage Trust. During 2005–06 Natural Heritage Trust project expenditure for these activities was approximately $1.7 million.

Threatened species recovery

Under the *Environment Protection and Biodiversity Conservation Act 1999*, the department is working to prevent threatened species from becoming extinct and to recover their populations. As part of this work the department develops threatened species recovery plans.

These plans set out the actions needed to maximise the chances of long-term survival in the wild of a listed threatened species or ecological community. Recovery plans must come into force within certain time limits set out in the *Environment Protection and Biodiversity Conservation Act 1999*. Recovery plans remain in force until the species is removed from the threatened list.

During the year the Minister for the Environment and Heritage approved 31 recovery plans under the Act, increasing the total number of recovery plans in force to 264, covering 340 species and ecological communities. In addition to

1 The Act also protects matters of national environmental significance from the impacts of proposed development activities. Performance results for environmental assessments are on page 140.

these plans, the Threatened Species Scientific Committee recommended a further 19 draft recovery plans, covering 59 listed species and one ecological community, for forwarding for the minister's consideration. A further 348 plans are in preparation covering 509 species and ecological communities. This brings the total number of species and ecological communities covered by plans in place or in preparation to 840, or 52 per cent of the total requiring recovery plans. A priority is to complete recovery plans for species in Commonwealth areas.

A full report on the operation of the Act including progress in developing recovery and threat abatement plans appears in the second volume of the annual report.

Project work for the department's threatened species activities is funded partly through the national component of the Natural Heritage Trust. During 2005–06 the department invested $2.2 million from the national component of the Natural Heritage Trust in developing and implementing plans to recover terrestrial threatened species.

Threatened Species Network

The department supports the Threatened Species Network, a community based programme of the Natural Heritage Trust and World Wide Fund for Nature (WWF) Australia. The network comprises a team of people who support projects that enable all Australians to be involved in hands-on conservation. The network's projects are funded through the Natural Heritage Trust's Threatened Species Network Community Grants Programme.

The network's activities during the year benefited over 80 species and ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999*. Work included developing 30 new projects that were funded under the grants programme. The network also provided advice on threatened species to over 70 advisory panels, recovery teams, and assessment panels.

Australian Wildlife Hospital

The Australian Government committed funding of $2.5 million as a contribution to the capital works expansion of the Australian Wildlife Hospital.

The hospital is the largest specialist native wildlife hospital in Australia, and services an area in excess of 100 000 square kilometres stretching from northern New South Wales through to Maryborough and west to Toowoomba. The hospital also provides a valuable information service to veterinarians and wildlife carer groups around Australia and conducts research into wildlife disease and health management. The facility is also used by universities for the training of veterinary students and wildlife trainees in practical work experience and course work.

The hospital works in collaboration with volunteer wildlife rescue organisations and concerned individuals. The demand for the hospital's services is continually increasing with 1 725 animals treated in 2004, 3 150 in 2005 and approximately 2 200 to 30 June 2006.

Threat abatement plans

Under the *Environment Protection and Biodiversity Conservation Act 1999*, the department develops and implements threat abatement plans. These plans set out the actions needed to reduce the impacts of threats such as pests and diseases on affected native species or ecological communities. Threat abatement plans are reviewed every five years (threat abatement and recovery plans for the marine environment are reported on page 95).

The department collaborates with the Department of Agriculture, Fisheries and Forestry and other stakeholders including the states and territories, and primary producers in the development and implementation of threat abatement plans and projects.

To date there are nine threat abatement plans operating for the key threatening terrestrial processes listed under the Act.

New threat abatement plans went into operation in 2005–06 for:

- beak and feather disease affecting endangered parrots
- predation, habitat destruction, and disease transmission by feral pigs
- infection of amphibians with chytrid fungus
- the impact of tramp ants on Australia's biodiversity.

Reviews of five threat abatement plans were completed in 2005–06:

- dieback caused by the root-rot fungus *Phytophthora cinnamomi*
- competition and land degradation by feral goats
- competition and land degradation by feral rabbits
- predation by feral cats
- predation by the European red fox.

The revised threat abatement plans will be finalised in 2006–07.

A threat abatement plan is also being developed for predation of Australian native species by exotic rats on small offshore islands.

Invasive species threat abatement activities

During 2005–06 the department invested $2.8 million from the national component of the Natural Heritage Trust on projects to reduce threats to native species and ecological communities, including over $450 000 for the fox-free Tasmania programme.

The main focus of these projects was research and development of new control measures for invasive species (e.g. poisoned bait for feral cats and new fencing designs to exclude invasive vertebrates from areas with high conservation value).

The department chaired and supported the Invasive Species Task Group, which reported in October 2005. The task group identified opportunities for improving national arrangements to reduce the impacts of invasive species on the environment.

As a result, the Natural Resource Management and Primary Industries ministerial councils are enhancing Australia's biosecurity system for primary production and the environment to prevent the establishment of new species and reduce the impacts of those which are already established. The department is supporting this work with the Department of Agriculture, Fisheries and Forestry.

The department helped draft the Australian Pest Animal Strategy, released in late 2005–06. The strategy will work as a key component of the Australian biosecurity system to reduce the impacts of feral animals by preventing their introduction and controlling established species.

Cane toads

To date the Australian Government has committed almost $13 million for cane toad control, including an additional $3 million in 2005 to accelerate research by the CSIRO into a biological control solution. The CSIRO has made significant progress on identifying susceptible genes in cane toads and viruses that might affect them.

Other funding has gone to state governments and regional and local groups including $600 000 to a joint programme with the Australian, Western Australian and Northern Territory governments aimed at slowing the movement of cane toads into the Kimberley region, and more than $400 000 to the Northern Territory Government for cane toad control. The Natural Heritage Trust is also supporting several new projects to develop methods that target the various stages of the cane toad's development.

Weed management

The department jointly manages the Defeating the Weed Menace Programme with the Department of Agriculture, Fisheries and Forestry. The programme identifies Australia's most threatening weeds and implements measures for their management.

During 2005–06 $1.8 million of Natural Heritage Trust funding was invested through the programme in research into weed biology and biological control agents, development of best practice management guides for several weed species, and targeted on-ground weed control actions.

A significant achievement of the programme is reducing the severity, extent and impact of the Weeds of National Significance, such as willow, athel pine, mimosa, cabomba, salvinia, alligator weed, bridal creeper, bitou bush/boneseed, pond apple, and hymenachne.

In 2005–06 the department coordinated the Australian Weeds Committee's review of the 1997 National Weeds Strategy. The revised Australian Weeds Strategy will identify priorities and provide a consistent national framework for weed management across Australia.

Case studies: Defeating the weed menace

Bega Valley Shire Council weeds officers and landholders in the Towamba River Valley in south-eastern New South Wales have had considerable success in eradicating the only known outbreak of blue hound's tongue (*Cynoglossum creticum*) in Australia thanks to the Defeating the Weed Menace programme.

Blue hound's tongue is on the National Alert List for Environmental Weeds, a list of non-native plants that threaten biodiversity and cause environmental damage. Blue hound's tongue has the potential to invade and suppress native grasslands, as demonstrated in Argentina and Chile.

Blue hound's tongue.
Photo: Anne Herbert

Landholders and council staff undertook the eradication project in 2005–06. With only a few known infestation sites along the Towamba River, eradication through early intervention was chosen as a cost-effective control option. Council weeds officers and landholders along the river worked together to locate, map and eradicate all infestations of the weed, and revegetate the affected areas. Members of Towamba Landcare inspected areas upstream of the outbreak and found no other infestations. A follow-up programme has begun to ensure any re-infestations are fully controlled.

Mimosa (*Mimosa pigra*) is regarded as one of the worst weeds in Australia because of its invasiveness and potential for spread. Mimosa's range extends across the tropical north and where left uncontrolled the impacts on local ecology are dramatic.

Surveying for mimosa on the Oenpelli floodplain.
Photo: Buck Salau

Mimosa control in Kakadu National Park remains one of the park's highest priorities, with five staff dedicated to surveying thousands of square kilometres of floodplains by quad bikes, airboats and helicopter. Over 200 known mimosa locations are visited regularly to destroy seedling plants. In the last year the team removed 7 172 young mimosa plants by hand and 748 older plants by a combination of herbicide and hand removal. Staff at Kakadu are obtaining a disturbing picture of the longevity of the seed, with some seeds still viable after more than 20 years in the soil.

Wildlife industry regulation

The department protects animal and plant species and ecosystems by regulating exports and imports of certain wildlife and wildlife products under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. Exports of specimens of Australian native species are regulated to protect them from overexploitation, and imports of live specimens are regulated in the interests of protecting Australian native ecosystems from the influence of alien invasive species. Part 13A of the Act is used to fulfil Australia's obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), through which parties protect globally endangered species by regulating export and import. The department continues to actively engage with CITES, and represents the Oceania region on the CITES Standing Committee.

The department uses its regulatory powers to encourage management practices that are humane, and not detrimental to the survival of species in the wild. In supporting responsible wildlife-based industries, five new wildlife trade management programmes were approved and 2 520 permits to export or import were issued in 2005–06. Some of these permits are valid for multiple transactions. There was an increased focus in 2005–06 on assisting legitimate operators to comply efficiently with legislative requirements.

The department works closely with other agencies to share intelligence and combat wildlife smuggling. In 2005–06 a number of successful prosecutions were made, resulting in a first-ever custodial sentence (3.5 years) for a wildlife smuggling offence, and a record fine ($24 600). Agencies involved include state and territory wildlife authorities, the Australian Customs Service, the Australian Federal Police, overseas CITES management authorities, Interpol, and some non-government organisations such as TRAFFIC—the joint wildlife trade monitoring programme of the World Wide Fund for Nature (WWF) and the World Conservation Union (IUCN).

During 2005–06, 5 165 seizures were made under Part 13A of the Act.

More details of these and other wildlife trade activities are included in the report on the operation of the *Environment Protection and Biodiversity Conservation Act 1999* in the second volume of this set of annual reports.

Project work relating to wildlife trade regulation is partly funded through the national component of the Natural Heritage Trust. During 2005–06, Natural Heritage Trust project expenditure for these types of activities was approximately $85 000.

Protecting Australia's biodiversity hotspots

Biodiversity hotspots are areas that are rich in biodiversity but under threat. Fifteen national biodiversity hotspots were announced in October 2003. In 2004 the Prime Minister announced the Maintaining Australia's Biodiversity Hotspots Programme. The programme complements the department's longer-term work to protect matters of national environmental significance.

The programme provides incentives to private landholders to protect biodiversity on their land, and to conservation groups to purchase land to be managed for conservation. Total funding of $36 million was provided over 2004–2007 for the programme. Major projects funded this year were:

- $1.5 million to establish a long-term stewardship agreement called BushBids with private landholders in the eastern Mount Lofty Ranges in South Australia. BushBids is a partnership between the department and the South Australian Murray–Darling Basin Natural Resource Management Board. It will protect grassy woodland communities on private land, which are among the most threatened ecosystems in Australia. There were 19 successful first round management agreements, securing long-term conservation of around 10 per cent of the mapped extent of grassy woodlands in the Eastern Mount Lofty Ranges.
- The University of Queensland Spatial Prioritisation Project to research continental scale prioritisation of areas for biodiversity conservation investment. The project models biodiversity values, threats and the costs of intervention to determine the most effective areas to invest in. The project is due to report by the end of 2007.

For more information on the programme see www.deh.gov.au/biodiversity/hotspots/.

Land and water strategies

The department works with other Australian Government agencies, state and territory governments, representative and research bodies, and internationally to implement a range of strategies to conserve the land and inland waters. These strategies address environmental issues relating to Australia's native vegetation, agricultural land, and water resources.

Native vegetation management

The National Framework for the Management and Monitoring of Australia's Native Vegetation is an agreement made in 2001 between Australia's federal, state and territory governments. Governments agreed to reverse the long-term decline

in the extent and quality of Australia's native vegetation. Reversing the decline of Australia's native vegetation will help conserve biodiversity and will make a significant contribution to reducing the net emissions of greenhouse gases.

The framework is supported by related government commitments under the Natural Heritage Trust, the National Action Plan for Salinity and Water Quality and regional forest agreements, including the Tasmanian Community Forest Agreement.

Review of the native vegetation framework

In April 2004 the Natural Resource Management Ministerial Council directed its standing committee to review and update the native vegetation framework. The department is contributing to this review.

In 2005–06 the standing committee took stock of the progress made by each jurisdiction and the Australian Government towards achieving the desired outcomes of the native vegetation framework, and worked on framework revisions.

The new framework will reflect desired vegetation management outcomes and current and future best practice policy, legislation and other measures for the management of Australia's native vegetation, to assist in achieving the national goal of reversing the long-term decline in the quality and extent of Australia's native vegetation.

Native vegetation assessment

In 2005–06 the department continued to improve the National Vegetation Information System, comprising maps of Australia's major vegetation types. This work is jointly shared with the Department of Agriculture, Fisheries and Forestry.

This year the department produced a new national map of Australia's major vegetation types and updated other products, with help from a number of Australia's leading vegetation information experts. The map substantially improves the quality of information available on the distribution of native vegetation communities, but currently the National Vegetation Information System cannot be used to assess changes in vegetation over time. To do this will require regular 'snap-shots' of native vegetation across the continent.

A priority for the Australian Government in improving the system's capacity to monitor changes in the amount of vegetation cover over time is to encourage all states and territories to regularly assess changes in vegetation communities. This is only being done in jurisdictions where it is required by legislation or government policy.

An insight into changes in Australia's native vegetation cover can be gained from the department's National Carbon Accounting System. This system uses satellite data to provide a continent-wide interpretation of changes in forest cover. The system is nationally consistent and regularly updated, but does not take into account non-woody native vegetation such as grasslands, and so does not provide a complete picture.

The National Carbon Accounting System shows there has been a general reduction in annual deforestation since the 1980s and early 1990s (see figure below). The most recent snap-shot is for 2004. Deforestation for that year is estimated to be around 400 000 hectares across Australia. This represents about 1/400th of Australia's forests and 1/1600th of Australia's native vegetation (forest and non-forest). However the deforestation has been concentrated in particular regions, and it is within these regions that associated impacts on terrestrial biodiversity are likely to have been the greatest.

National deforestation 1977–2004

Source: AGO, NCAS Deforestation (version 2, May 2006)

Indicators for native vegetation

This year the department has been working with other stakeholders to develop nationally agreed indicators for monitoring and evaluation of native vegetation and apply the indicators. Progress this year includes:

- agreement on three national indicators for native vegetation extent
- development of baseline and change information on vegetation cover in the National Vegetation Information System
- interim national indicators for native vegetation condition, and pilot studies to test the indicators in the Northern Territory and New South Wales.

Work is continuing through the National Land and Water Resources Audit to encourage national uptake of these indicators for reporting purposes.

Environmental aspects of forest agreements

The Department of the Environment and Heritage helps to negotiate conservation objectives and monitor the environmental outcomes of Regional Forest Agreements between the federal and state governments during annual and five-yearly reviews. The Department of Agriculture, Fisheries and Forestry has primary responsibility for overseeing the 20-year agreements.

Tasmanian Community Forest Agreement

In 2005–06 the department began implementing the environmental aspects of the Tasmanian Community Forest Agreement including the Forest Conservation Fund, Tarkine Bushwalk Programme, Tasmanian Forest Tourism Development Programme, Tasmanian Devil Facial Tumour Programme, and River Catchment Water Quality Initiative.

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. The agreement includes a substantial increase in protection of old growth forests in reserves, a new programme of incentives to protect forest on private land, and an end date for clearing native forest. As a result, Tasmania is developing new statutory measures to prevent the clearing of rare and threatened non-forest vegetation communities. Forest clearing and conversion to plantations will cease on public land by 2010 and on private land by 2015.

Forest Conservation Fund

This year the department prepared implementation plans, and formed a joint steering committee and stakeholder advisory group for the Forest Conservation Fund.

The Forest Conservation Fund replaces the Tasmanian Private Forest Reserves Programme, which ceased in June 2006. Private landowners can sign up to conserve forests on their land through the new Forest Conservation Fund.

The Forest Conservation Fund will protect up to 45 600 hectares of forested private land. The fund will target up to 25 000 hectares of old growth forest and forest communities that are under-reserved. The fund includes $3.6 million to reserve up to 2 400 hectares of forest in the Mole Creek area, an area of spectacular 'karst' or limestone cave country.

Tasmanian Forest Tourism Development Programme

The Australian Government is providing funds over two years to support the development of tourism and recreation in Tasmania's forests, including $1 million for the Tarkine Bushwalk Programme and $2 million to improve visitor facilities in the new reserves created under the Tasmanian Community Forest Agreement.

In 2005–06 the department prepared implementation plans and formed a joint steering committee and stakeholder advisory group to provide infrastructure for bushwalking in the Tarkine area.

Tasmanian devil facial tumour

The Australian Government is providing $2 million over two years (2005–2007) to accelerate research into finding a cure for the Tasmanian devil facial tumour disease. First detected in Tasmania in the mid-1990s, the disease is a fatal cancer that has killed some 30–50 per cent of the wild population of Tasmanian devils. Research commissioned in 2004–05 suggests that the tumour disease is caused by abnormal cells transferred between the devils during fights. Research to be undertaken for the programme includes genetic and toxicological investigations to assess the level of chemicals within the devils' tissue, transmission trials, captive management, and mapping and monitoring of populations.

The impact of the facial tumour disease prompted the listing in July 2006 of the Tasmanian devil as a vulnerable species under the *Environment Protection and Biodiversity Conservation Act 1999*.

Case studies: addressing threats posed by pests and diseases

Pests and diseases have a major impact on Australia's environment, threatening individual species and reducing overall species abundance and diversity. The department is working with the states and territories to reduce the impact of pests and diseases on Australia's native plants, animals, and agriculture.

The first cane toads were discovered in Kakadu National Park in April 2001. Cane toads are now evident throughout Kakadu. Photo: Kakadu National Park collection

One of Australia's highest priority pest species is the cane toad. It now has a range across Queensland, the Northern Territory and northern New South Wales. The Australian Government is working with the Western Australian and Northern Territory governments and community groups to stop cane toads from crossing the border into Western Australia and from entering certain areas such as Tiwi Islands in the Northern Territory. Control measures include trapping and monitoring and public awareness campaigns to reduce the number of toads 'hitching' a ride in motor vehicles.

Tasmania devil. Photo: Dave Watts

Tasmanian devil facial tumour disease is a contagious cancer that has led to severe declines in local populations of the Tasmanian devil and a substantial decline in the species' numbers overall. Scientists began investigating the possible causes and means of transmission, with results to date indicating the disease spreads by the transmission of cancerous cells, possibly when devils bite each other. Uninfected devils are being bred to start an 'insurance' population of devils on the mainland. The Tasmanian Government began trials to create disease-free sanctuaries, including testing to develop a barrier across the neck of the Tasman Peninsula.

River Catchment Water Quality Initiative

The River Catchment Water Quality Initiative will provide $1 million over two years to assess the impact of chemical use on water quality in Tasmania's river catchments. A contract between the Australian and Tasmanian governments was signed in May 2006. The first stage of the contract will identify the nature and extent of agricultural and forestry chemical usage in Tasmanian river catchments.

Rangelands conservation

The department continued to promote conservation and sustainable management of Australia's rangelands, which cover around 75 per cent of the Australian continent and include such widely varied ecosystems as tropical savannas, woodlands, shrublands and grasslands.

The department invested $565 000 from the national component of the Natural Heritage Trust in the Australian Collaborative Rangelands Information System, the Rangelands Best Practice Summary Series, incentives to encourage biodiversity conservation, and other activities.

The Australian Collaborative Rangelands Information System is a national reporting system that brings together information about natural resources and biodiversity in rangelands, which is held by government agencies and other organisations. The information helps property and natural resource managers and regional decision-makers to make management decisions based on the best understanding of changes in environmental condition, and is used for national reporting.

The system has been tested in five pilot regions (Gascoyne–Murchison, WA; Gawler bioregion, SA; Darling–Riverine Plains bioregion, NSW; Desert Uplands bioregion, Queensland; and the Victoria River District, NT) for the quality of the information and its capacity to bring it together into a national picture. These regions have a combined area of 1 030 960 square kilometres, approximately 16.2 per cent of the rangelands and 13.4 per cent of Australia. The results have given researchers some insight into methods which help address one of the major challenges facing rangelands managers—how to distinguish short-term seasonal influences from permanent and adverse environmental change resulting from poor management practice.

The department is producing a series of summary reports on managing biodiversity in the rangelands. Titles released to date are *Management of total grazing pressure; Fire management; Assessing financial and environmental impacts of management options;* and *Industry guidelines for sustainability*. Further titles in the series will address biodiversity monitoring, weeds, feral animals, and water management. These are expected to be available by September 2006 in time for the national conference of the Australian Rangelands Society.

Copies of the summary reports can be obtained from the Department of the Environment and Heritage Community Information Unit. All reports can be downloaded from the departmental website at www.deh.gov.au/land/management/rangelands/.

Conservation incentives

With 63 per cent[2] of Australian land in private ownership, efforts are being made to extend protection of biodiversity to private land. The department offers incentives for landholders to conserve biodiversity on private land. Eligible landholders can access Natural Heritage Trust funding or Australian Government tax incentives in return for entering into formal conservation agreements such as covenants.

There are currently 10 covenanting programmes approved by the Minister for the Environment and Heritage for the purposes of the *Income Tax Assessment Act 1997*. The role of these programmes is to enter into conservation covenants with individual landholders. During 2005–06 these programmes entered into 227 perpetual covenants with landholders protecting 67 854 hectares of private land.

The department is leading a project to investigate the potential for a market-based approach to improve conservation on both pastoral properties and Indigenous managed rangelands. The project is field-testing a rating scale for natural resource condition in the rangelands to use in incentives programmes. The effectiveness of the rating scale and market options in achieving biodiversity conservation is being tested in several regions. The project is due for completion in late 2006.

The department commenced a review of the revolving fund model developed under the national component of the Natural Heritage Trust. The performance of both the individual contracts and the model as a whole is being reviewed. Revolving funds buy properties containing high conservation values, protect the high conservation values through a conservation covenant, and resell the property. The funds are managed by specialist non-government organisations.

Environmental aspects of water reform

The department leads on environmental water matters and the urban water reform outcomes of the National Water Initiative, in particular those being progressed by the Environment Protection and Heritage Council (a council of government ministers responsible for environment and heritage protection matters). The department is also responsible for national policy and regulatory activities regarding Ramsar wetlands and for the Australian Government Water Fund's Community Water Grants which are administered in conjunction with the Department of Agriculture, Fisheries and Forestry.

2 http://www.ga.gov.au/education/facts/tenure.htm

National Water Initiative

At the June 2004 meeting of the Council of Australian Governments the Prime Minister and premiers agreed to establish the National Water Initiative, a blueprint for Australia's water reform. The initiative sets out actions to be implemented over the next 10 years.

The initiative includes a commitment to return over-allocated water to river and groundwater systems identified as having important conservation value to ensure the systems are protected and water levels are maintained. It also includes a commitment to ensure water allocated to meet environmental and other public benefit outcomes will be given at least the same degree of security as water allocated to other users.

The National Water Initiative includes actions on urban water reform. Urban water reform aims to ensure safe and reliable water supplies, while increasing efficiency and encouraging recycling and innovation in water supply sourcing, treatment, storage and discharge.

The Living Murray Initiative

The department manages the Australian Government's responsibilities for environmental aspects of The Living Murray Initiative. The Department of Agriculture, Fisheries and Forestry administers the funding for The Living Murray Initiative and the Murray–Darling Basin Commission.

The Murray–Darling Basin covers one-seventh of the Australian continent and generates about 40 per cent of the national income derived from agriculture and grazing. Water storage and regulation have affected the natural flow cycles of rivers and groundwater in the Murray–Darling Basin.

The Australian Government has committed $200 million over five years (2004–2009) to recover water for the environment. The Living Murray Initiative 'first step' agreement aims to recover up to 500 gigalitres of water per year for six icon sites in the Murray–Darling Basin: Barmah–Millewa Forest, Gunbower–Koondrook Pericoota Forests, Hattah Lakes, Chowilla Floodplain (including Lindsay–Wallpolla), the Murray Mouth Coorong and Lower Lakes, and the Murray River Channel. Five of these sites include Ramsar-listed wetlands. The first step agreement also includes a $150 million programme of capital works and complementary actions to effectively manage the water and maximise environmental outcomes.

In 2005–06 the Australian Government committed an additional $500 million over five years to the Murray–Darling Basin Commission to accelerate implementation of The Living Murray and other important actions across the Murray–Darling Basin such as salinity mitigation.

Nankeen night heron nestlings.
Photo: R. Jaensch, Wetlands International

In 2005–06 over 36 000 hectares of the River Murray system including Living Murray icon sites were watered using water from state environmental allocations, surplus flows and flows from the Snowy environmental account. Effective watering was achieved by flow enhancement, weir manipulation, regulation of creeks and channels, pumping and managed barrage release. This year nankeen night heron bred in Barmah Forest for the first time in 40 years, and silver perch successfully spawned. Vegetation communities, including river red gum, also responded well to the additional water.

The Australian Government also provided $687 000 to recover water for emergency watering of river red gums and associated activities in Victoria, and $650 000 for watering river red gums, wetlands and floodplains in South Australia, and to support initiatives to encourage water donations. This funding was matched by state jurisdictions.

More information is available at www.thelivingmurray.mdbc.gov.au.

High conservation value aquatic ecosystems

As part of the National Water Initiative governments have agreed to identify and provide for the effective management of Australia's high conservation value aquatic ecosystems. In November 2005 the Natural Resource Management Ministerial Council agreed to establish a high level strategic task group to oversee the development of a national framework. The department chairs this group.

Interaction between surface- and ground-water

In 2005–06 the department invested $25 000 from departmental funds and the national component of the Natural Heritage Trust to research the response of groundwater-dependent ecosystems to changes in water availability. Groundwater sustains a range of natural habitats and is extensively used for urban water supplies, agriculture, irrigation, industry and mining.

Urban water reform

The department is progressing urban water reforms under the National Water Initiative including the continued implementation of the National Water Quality Management Strategy. The Environment Protection and Heritage Standing Committee and the Natural Resource Management Steering Committee formed the Joint Steering Committee on Water Sensitive Cities to progress key elements of the National Water Initiative focusing on innovative urban design and planning. The department chairs this committee.

National guidelines on water quality

To date the department has produced 21 national guidelines for managing key elements of the water cycle such as the *Australian drinking water guidelines, 2004* and *Australian and New Zealand guidelines for fresh and marine water quality, 2000.*

The department is working with the Department of Agriculture, Fisheries and Forestry, and state and territory agencies, to develop new guidelines for water recycling.

Guidelines on the use of recycled sewage and grey water are being revised in light of comments received during the public consultation process. They are due for release in late 2006. Guidelines for recycling storm water and managing aquifer recharge and recycled water for drinking are in the early stages of development.

The department is leading the development of national guidelines for customer water accounts that compare their water use to that of equivalent households. These guidelines will assist water utilities to provide water accounts that better enable customers to assess their water consumption. The draft guidelines are to be released for comment in the second half of 2006.

Water resource accounting

In 2005–06 the department contributed to work undertaken by the National Water Initiative Committee to develop guidelines for a national water accounting system.

Water accounting is a key area of investment under the Australian Government's Raising National Water Standards Programme. This programme aims to ensure that adequate measurement, monitoring and reporting systems are in place in all jurisdictions to support public and investor confidence in the amount of water being traded, extracted for consumptive use, and recovered and managed for environmental and other public benefit outcomes.

Community Water Grants

Community Water Grants are part of the Australian Government's $2 billion Australian Government Water Fund. Community Water Grants fund practical, on-ground projects to save water. The department jointly administers the programme with the Department of Agriculture, Fisheries and Forestry.

Community groups, schools, local government, catchment management authorities, environmental groups and non-government organisations as well as individuals and businesses are eligible for grants of up to $50 000 each. To be successful applicants must be able to demonstrate very high public benefit.

Following a demonstration round in early 2005, the first open round of Community Water Grants was launched on 30 June 2005. Close to 5 000 applications were received making the assessment process highly competitive.

In March 2006 the Australian Government approved 1 750 water saving projects, which will share over $55 million. Projects worth $46 million were funded in 2005–06. The projects are expected to save approximately 18 500 megalitres of water each year as well as rehabilitating about 15 000 hectares of land. Communities will contribute more than $61 million, including 345 000 hours of volunteer time, to ensure the success of their projects.

The department is at the forefront of electronic programme management with Community Water Grants. Applications are assessed and ranked in a database against the programme's merit criteria, which include value for money and amount of water saved. Any projects with a potential risk to human health or the environment are independently reviewed by experts.

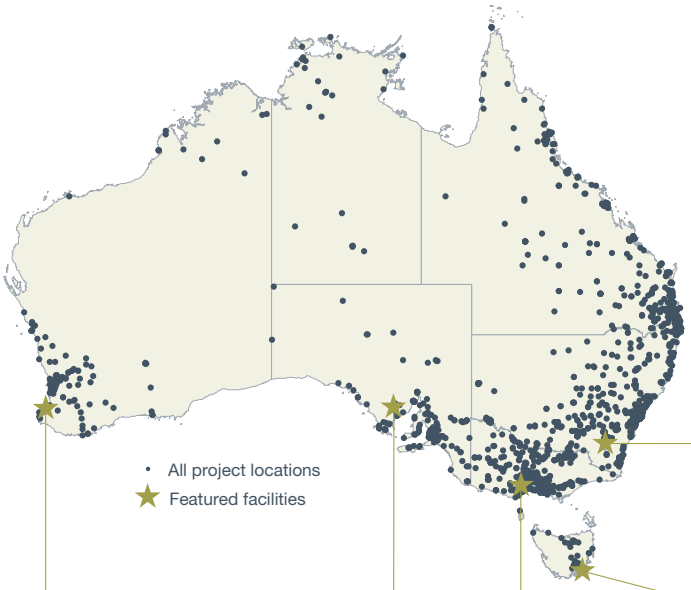
Further developments in the online form, database merit assessment, electronic contract management, and project tracking and reporting are expected to halve the time for processing applications and projects next year.

More information on Community Water Grants is available at www.communitywatergrants.gov.au/.

Helping communities to conserve water

Australia is the driest inhabited continent in the world and yet Australians are amongst the highest water users in the world. The government is working with communities to reduce water consumption and protect water quality.

The Australian Government's $200 million Community Water Grants programme offers grants of up to $50 000 to help local community organisations save, recycle or improve the health of their local water resources. To date the government has funded 1 777 projects (1 750 in 2005–06) with projected water savings totalling 18 500 megalitres per year.



Dapto Community Farm, Dapto
Repairing the irrigation system at Dapto Community Farm will save 5 megalitres of water per year.
Grant: $39 734

City of Bunbury, Bunbury
Installing a weather station to control irrigation for the City of Bunbury will save 50 megalitres of water per year.
Grant: $45 287

Yates Piggery, Kimba
Filtering and reusing the water used to flush the sheds at Yates Piggery will reduce effluent discharged into the environment and save 4 megalitres of water per year.
Grant: $10 443

Ballarat Christian School, Ballarat
Ballarat Christian School and the local church community will build a retention basin, pollutant trap and wetlands that will help stop the build-up of silt and improve the quality of water entering the Yarrowee River.
Grant: $41 214

Friends of Judd Park, Nubeena
The Friends of Judd Park are working with their local community to develop a scheme for treating stormwater before it enters the environment of Parson's Bay.
Grant: $12 207

Wetlands of national and international importance

Australia's wetlands protect our shores from wave action, reduce the impacts of floods, absorb pollutants, and provide habitat for birds, animals, and plants. They are historically important and often have significant cultural values.

Some of Australia's wetlands have been adversely impacted by urbanisation, irrigation development and other development activities. Altered flooding and drying regimes have adversely affected many wetlands.

The department is responsible for implementing the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention). The department also administers the *Environment Protection and Biodiversity Conservation Act 1999* provisions for Ramsar wetlands.

To date, 7.3 million hectares of wetland are listed under the Ramsar Convention. Of these wetlands, 82 per cent have management plans in operation.

New national implementation framework

The department is working with the states and territories on a new strategic framework to support improved implementation of the Ramsar provisions of the *Environment Protection and Biodiversity Conservation Act 1999.*

The framework will include guidelines for nominating a site for listing under the convention and for reviewing the status and condition of listed Ramsar sites.

This year the department made significant progress towards standardising methods for describing the ecological character of wetlands. Following a successful national workshop attended by key wetland scientists and managers a guideline will be developed for use nationally. This work is leading the field internationally and will provide a valuable tool to document and manage internationally and nationally important wetlands.

The department is compiling a wetlands inventory with the National Land and Water Resources Audit and state and territory agencies. The inventory will document the location and extent of Australia's wetlands and include information on their attributes and values. These data will be publicly accessible and will help guide wetlands conservation, wise use and management, and wetlands restoration.

More information is available at www.deh.gov.au/water/wetlands/index.html.

Lake Eyre Basin Intergovernmental Agreement

The Lake Eyre Basin is an area of more than one million square kilometres covering almost 17 per cent of Australia. Although cattle grazing, tourism and natural gas production have had some impact on the landscape of the basin, all in all the catchments supplying water to Lake Eyre are relatively pristine.

This year the department continued to work with South Australia, Queensland and the Northern Territory to protect the Lake Eyre Basin through the Lake Eyre Basin Intergovernmental Agreement. The agreement will be reviewed in late 2006.

In 2005–06 an atlas of the hydrology of the Lake Eyre Basin was completed. The atlas provides a stronger scientific base for management and will inform the new Lake Eyre Basin Rivers Assessment Project. The key findings of the hydrological atlas have been summarised in a 12-page brochure, which is available from the department's Community Information Unit on 1800 803 772.

The rivers assessment project will examine the condition of the Lake Eyre catchment, monitor potential impacts from future water development activities and protect the rivers of the basin from long-term decline. In 2005–06 three gauging stations were installed in the Georgina, Burke and Diamantina rivers. The gauging stations are monitoring surface water and communicating data to resource managers via satellite.

International activities

The department is responsible for Australia's whole-of-government response to the United Nations Convention on Biological Diversity. The convention provides the framework for Australia's biodiversity policies, particularly the National Biodiversity Strategy and Action Plan (1993).

An internal review of Australia's strategic interests and priorities under the Convention on Biological Diversity was completed in 2005. The outcomes of the review enabled the government to refine strategies to manage the convention's expanding agenda of complex cross-cutting issues, such as trade and the environment, and agricultural biodiversity. Australia worked closely with like-minded countries to secure practical outcomes and decisions at the major convention meetings, including the 8th meeting of the convention's decision-making body, the conference of the parties, which was held in Brazil in March 2006.

The department is also responsible for Australia's whole-of-government response to the United Nations Convention to Combat Desertification, which provides a framework for Australia's technical assistance to developing countries combating the environmental, social and economic consequences of land degradation and desertification. Australia reinforced its emphasis on designing practical programmes of work under this convention during major meetings in 2005–06, especially the 7th conference of parties, which was held in Kenya in October 2005. The convention is the international focal point for the 2006 International Year of Deserts and Desertification, which in Australia is being marked by the 2006 Australian Rangelands Conference.

Land and water investments

The department invests through the Natural Heritage Trust in conserving Australia's land and inland water resources.

The Department of the Environment and Heritage receives the annual appropriation for the Natural Heritage Trust. The department and the Department of Agriculture, Fisheries and Forestry have a cross-portfolio arrangement for the administration of the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. The arrangement enables both departments to deliver the Natural Heritage Trust through a joint Australian Government Natural Resource Management Team. A board made up of the Minister for the Environment and Heritage and the Minister for Agriculture, Fisheries and Forestry administers the Natural Heritage Trust.

Administration of the Natural Heritage Trust

The $3 billion Natural Heritage Trust was established by the Australian Government in 1997 to invest in activities that help to restore and conserve Australia's environment and natural resources. Activities are undertaken at regional, national, and local scales:

- Actions at the regional scale attract the largest component of Natural Heritage Trust investment (54 per cent in 2005–06). At this scale communities in 56 regions across Australia develop regional plans and investment strategies that identify priorities for funding under both the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. Federal, state and territory governments are working together to fund these plans. As at 30 June 2006, Australian Government ministers had accredited 54 integrated natural resource management regional plans, approved a regional strategic directions plan, and had agreed to 55 investment strategies as the basis for government investment.
- Actions at the national scale attract the second largest component of Natural Heritage Trust investment (39 per cent in 2005–06). At this scale the Natural Heritage Trust supports government projects that will have a national outcome, as opposed to a regional or local outcome, including projects carried out by state and territory governments. These projects are the principal source of funds for some departmental activities. Project funding covers some administrative costs including salaries.
- Actions at the local scale attract the third component of Natural Heritage Trust investment (7 per cent in 2005–06). At this scale community groups can address local environmental problems through grants of up to $50 000 (GST inclusive) under the Australian Government Envirofund.

During 2005–06, the Department of the Environment and Heritage provided $7.57 million to the Department of Agriculture, Fisheries and Forestry under a purchaser-provider arrangement to fund the administration costs incurred in implementing the Natural Heritage Trust.

Detailed results of Natural Heritage Trust investment are provided in the annual reports of the Natural Heritage Trust and the annual regional programme reports available at www.nrm.gov.au/publications/#annreps.

Reviews of the Natural Heritage Trust

Eight independent evaluations of the Natural Heritage Trust were completed this year. Four concerned the outcomes of regional investment covering biodiversity, significant invasive plant species (weeds), land salinity and sustainable agriculture. Two looked at the administrative arrangements for regional delivery including governance arrangements and the effectiveness of bilateral agreements between the Australian and state and territory governments for the Natural Heritage Trust extension. The other reports were on the effectiveness of the local and national investments in the Australian Government Envirofund and the National Investment Stream.

The evaluations supported the continuation of the national, regional and local level delivery of the Natural Heritage Trust. In particular, the regional component jointly delivered with the National Action Plan for Salinity and Water Quality was found to have promoted a more strategic and integrated approach to natural resource management across Australia.

Long timeframes are required to achieve changes in the condition of natural resources. The reports acknowledged this and supported long-term funding to continue on-ground activities applying established and emerging science to implement best practice and ensure adaptive management of natural resources. The challenge remains to complete baseline data and monitor changes in resource condition. The reports recommended simplifying the programme design and streamlining accountability requirements.

Two more evaluations are expected to be completed in 2006 on the outcomes of regional investment to protect coastal and marine environments and the impact of the national facilitator network on regional outcomes.

Bushcare, Landcare and Rivercare

Investments are also categorised according to environmental outcome as part of the themes of the Natural Heritage Trust: Bushcare (37 per cent in 2005–06), Coastcare (18 per cent in 2005–06), Landcare (30 per cent in 2005–06) and Rivercare (16 per cent in 2005–06).

Bushcare, Landcare and Rivercare aim to conserve and restore habitat for native flora and fauna, reverse land degradation and promote sustainable agriculture, and improve water quality and the environmental condition of river systems and wetlands.

Total expenditure in 2005–06 under Bushcare was $114 million, under Coastcare was $55 million, under Rivercare was $50 million and under Landcare was $93 million.

Strengthening Tasmania—Tamar River pylons

During 2005–06 the department managed a $1 million programme to install pylons at the edge of the North Esk River, a tributary of the Tamar near Launceston, Tasmania. The project will replace 100-year-old rotting timber pylons with new ones and rebuild and stabilise an unsafe levy. The work will help improve river health, boost flood protection and increase recreational opportunities on the North Esk River. The work is expected to be completed by 30 June 2008.

Support for the National Action Plan for Salinity and Water Quality

The Australian Government has committed $700 million over eight years (2000–2008) to implement the National Action Plan for Salinity and Water Quality, building on related work under the Natural Heritage Trust.

The Department of Agriculture, Fisheries and Forestry is responsible for administering the National Action Plan for Salinity and Water Quality. The Department of the Environment and Heritage provides administrative support to the Department of Agriculture, Fisheries and Forestry under a purchaser-provider arrangement associated with a joint Australian Government Natural Resource Management Team, which also manages the Natural Heritage Trust.

In 2005–06, the Department of the Environment and Heritage received $1.048 million under the purchaser-provider arrangement for implementation activities.

Through the joint team the two departments are helping people in 56 regions across Australia to develop integrated natural resource management plans for both the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust. The plans set priorities for controlling salinity and protecting water quality. Once these plans are accredited by the Australian Government, each region develops an investment strategy, which is the basis for further funding. All of the 21 priority National Action Plan regions have accredited regional plans and investment strategies which were developed for the 32 natural resource management regions that cover these areas.

Detailed results of National Action Plan for Salinity and Water Quality investment are reported in the annual reports of the Department of Agriculture, Fisheries and Forestry at www.nrm.gov.au/publications/#books.

Terrestrial parks and reserves

The Director of National Parks is a statutory office established by the *Environment Protection and Biodiversity Conservation Act 1999.* The Director is responsible, amongst other things, for the administration, management and control of Commonwealth reserves and for protection, conservation and management of biodiversity and heritage in those reserves. The Director is supported by staff of the Department of the Environment and Heritage.

Protected area management

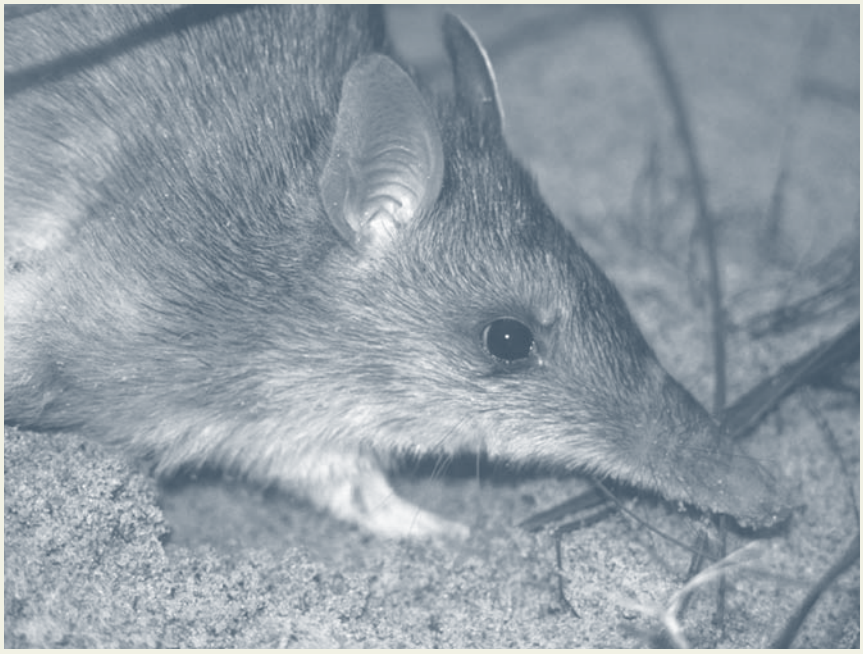
Commonwealth reserves for which the Director of National Parks is responsible include remote national parks, marine parks and botanical gardens. Kakadu, Uluru–Kata Tjuta and Booderee national parks are jointly managed with their Indigenous traditional owners.

In 2005–06 re-branding of Kakadu National Park as one of Australia's prime visitor experiences got under way, based on the Shared Tourism Vision for Kakadu released by the park's board of management in early 2005. This work is being developed in close collaboration with Tourism Northern Territory.

The Australian Government provided $1.77 million to fund capital works, accelerate the development of crucial tourism policies and help deliver new visitor experiences, to make sure Kakadu regains its place as a prime international tourism destination. A further $5.45 million was provided for infrastructure and equipment in Uluru and Kakadu national parks, including a new sunrise viewing area at Uluru–Kata Tjuta National Park.

Detailed information about management outcomes for 2005–06 appears in the annual reports of the Director of National Parks (see www.deh.gov.au/parks/publications).

Case study: Fox control in Booderee National Park



Long-nosed bandicoot. *Photo: Booderee National Park image collection*

Eastern bristlebird. *Photo: Booderee National Park image collection*

Stringent fox control measures in Booderee National Park are producing a recovery in native animal populations, with long-nosed bandicoot and eastern bristlebird numbers increasing strongly. Particularly pleasing is the re-discovery this year of the rare white-footed dunnart, a small marsupial not found in Booderee for over 40 years. The integrity and security of the park's natural environment have prompted studies into the reintroduction of other species previously lost from the park.

National Reserve System Programme

The Natural Heritage Trust's National Reserve System Programme supports the purchasing and covenanting of properties to add to the National Reserve System.

During 2005–06 the programme helped to buy or covenant 478 227 hectares of land. The 15 properties approved this year include six wetlands, which were poorly represented in the National Reserve System. The properties contain 42 threatened or near-threatened communities and habitat for at least 32 nationally threatened flora and fauna species.

Three properties with significant conservation value acquired for the National Reserve System in 2005–06 were:

- 56 261 hectares of Tamala Pastoral Lease, Western Australia, located within the Shark Bay World Heritage Area. The region is one of 34 international biodiversity hotspots, containing at least 314 species of flowering plant, including 29 new flora records. This acquisition improves the comprehensiveness and adequacy of these plant communities in the reserve system and helps to rationalise the boundaries and improve connections between reserves in the Shark Bay region
- 455 hectare property at Chauncy Vale, Tasmania. The property adjoins Chauncy Vale Wildlife Sanctuary and Alpha Pinnacle Conservation Area. It contains 1.9 hectares of endangered lowland grassland, 41 hectares of vulnerable grassy blue gum forest and 38.4 hectares of vulnerable silver peppermint forest on sediments. The swift parrot, Tasmanian wedge-tailed eagle, masked owl and clasping leaf heath are known to occur on the property
- 31 hectares at Porter Hill, Tasmania. The property links four existing protected areas, and contains five forest and woodland communities of high conservation significance and habitat for the threatened swift parrot and eastern barred bandicoot.

The National Reserve System now protects 80.89 million hectares across 7 720 protected areas. This represents 10.52 per cent of Australia's land area. The National Reserve System Programme has assisted the acquisition of 266 properties comprising over 6.8 million hectares to 30 June 2006.

An external review in 2006 of the National Reserve System Programme concluded that the programme is a successful and cost-effective component of the Australian Government's efforts to conserve biodiversity.

For more information refer to the annual reports of the Director of National Parks at www.deh.gov.au/parks/publications.

Case study: Boolcoomatta—conservation in the pastoral zone

Oonartra Creek. *Photo: P. Taylor*

Location of Boolcoomatta, Bimbowrie and Plumbago

In March 2006 the Australian Bush Heritage Fund[3] purchased Boolcoomatta Station with the assistance of the Nature Foundation SA[4] and the National Reserve System Programme to create a nature reserve. Boolcoomatta Station is an arid outback sheep station in the Olary Ranges of South Australia with vast saltbush and native grassland plains, wetlands and rugged rocky outcrops. The station contains important arid ecosystems and threatened species including plants such as purple wood and birds such as the plains wanderer and the thick-billed grasswren.

The Australian Bush Heritage Fund is managing the property including the recovery of plant and animal populations by removing threats and encouraging regeneration.

The addition of the station to Australia's National Reserve System will conserve an additional 63 000 hectares of threatened arid ecosystems in the north-eastern pastoral area of South Australia for future generations.

Since 1997 the National Reserve System Programme has supported the restoration of neighbouring Plumbago Station through the Bounceback programme and the purchase of Bimbowrie Station by the South Australian Department for Environment and Heritage. This has contributed to conservation in the region by increasing the protection of the habitats of many rare or threatened ecosystems and species.

These programmes and purchases provide a good model for the National Reserve System operating in the pastoral zone.

3 The Australian Bush Heritage Fund is a national, independent, not-for-profit organisation that acquires and manages land of outstanding conservation significance.

4 The Nature Foundation SA is a state, independent, not-for-profit organisation that seeks to better protect biodiversity in South Australia.

Indigenous protected areas

Indigenous protected areas are non-statutory protected areas that form part of the National Reserve System. The Indigenous Protected Areas Programme helps Indigenous landowners establish and manage Indigenous protected areas on their lands through contractual arrangements between Indigenous communities and the Australian Government. The programme also promotes the integration of Indigenous ecological and cultural knowledge into the management of these areas.

This year the Natural Heritage Trust provided $2.5 million for the programme.

An independent evaluation of the Indigenous Protected Areas Programme was conducted during the year and will be released in late 2006. Public submissions strongly supported the programme.

In June 2006 an additional Indigenous protected area was declared on the Groote Eylandt archipelago in the Gulf of Carpentaria. The Anindilyakwa (Groote Eylandt) Indigenous Protected Area covers 300 000 hectares of high biodiversity land and takes the level of reservation in the Arnhem Coast bioregion from three per cent to 12.5 per cent.

The declaration of Anindilyakwa takes the total number of declared Indigenous protected areas to 20 covering a total of 14 million hectares.

Genetic resources management

In October 2002 the Natural Resource Management Ministerial Council signed an intergovernmental agreement to maximise benefits from the ecologically sustainable use of Australia's genetic and biochemical resources while at the same time protecting Australia's biodiversity and natural capital.

As part of this agreement, each Australian jurisdiction is establishing a legal framework for accessing and using genetic resources.

On 1 December 2005, amendments to Regulations under the *Environment Protection and Biodiversity Conservation Act 1999* about access to biological resources entered into force. The Regulations control the taking of genetic resources or biochemical compounds from native species in Commonwealth areas for research and development.

The department is working with state and territory jurisdictions to ensure their approaches are nationally consistent. Under an agreement with Biotechnology Australia, the department is administering $2 million over the period 2004–2008 to fund this national coordination.

Australian Biological Resources Study

The Australian Biological Resources Study funds research and training in the fields of taxonomy and biogeography. The programme aims to find out what plants, animals, and other organisms occur in Australia, and where they occur, so as to increase taxonomic knowledge needed for the conservation and sustainable use of Australia's biodiversity.

Australian Biological Resources Study publications

Administrative funds expenditure under this programme in 2005–06 was $1.869 million. This funding supported taxonomic publications and research. Results will contribute to the Flora of Australia Online and the Australian Faunal Directory (www.deh.gov.au/biodiversity/abrs), which hold data on 70 900 species, and other publications.

Taxonomic investigations this year included research into introduced pests, such as smut fungi, which causes diseases to cereals and native grasses; and key species, such as polychaetes—segmented seaworms—which are an important food source for many commercially important shellfish and fish.

Work continued on the development of the Australian Biodiversity Information Facility data portal with funding from the Natural Heritage Trust. This portal will provide access to a wide range of biodiversity data held and maintained by individuals and institutions throughout Australia. The Australian Biodiversity Information Facility website has been updated and is at www.abif.org.

Tropical wetlands research

The department's Environmental Research Institute of the Supervising Scientist advises on the management of tropical rivers and their extensive associated wetlands in northern Australia. It is a partner in the National Centre for Tropical Wetland Research and publishes a wide range of scientific research on tropical wetlands and rivers.

Ecological inventory and risk assessment of tropical rivers

Australia's northern river systems are poorly understood but are often cited as offering development potential, chiefly for agriculture, horticulture and mining. The department is investing in Australia's Tropical Rivers Programme to increase knowledge about the environmental characteristics of these tropical river systems.

During 2005–06 the department invested $300 000 from the Natural Heritage Trust to fund the Tropical Rivers Inventory and Assessment Project, administered by Land and Water Australia's Tropical Rivers Programme.

The project examines 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. There are three focus catchments, representing each state or territory within the study region, that are being assessed in more detail. These are the Fitzroy River in Western Australia, the Daly River in the Northern Territory, and the Flinders River in Queensland.

The outcome of this work will be an information base for assessing change and supporting ecological risk assessments of major pressures on the rivers. The information base will inform and support holistic approaches for management of tropical rivers and wetlands by the various stakeholder groups in the region. This project is due for completion in 2006–07.

More information on tropical wetlands research is available at www.deh.gov.au/ssd/nctwr.html.

Results for performance indicators

Performance indicator	2005–06 result
Recovery of threatened terrestrial wildlife	
Number of recovery plans (i) being prepared and (ii) in operation	(i) 348 recovery plans in preparation (ii) 264 plans in operation
Percentage of listed threatened terrestrial species and ecological communities with recovery plans in operation	21% of listed threatened terrestrial species and ecological communities have a recovery plan in operation. This increases to 52% when including plans in preparation
Key threats to terrestrial biodiversity	
Number of threat abatement plans (i) being prepared or revised, and (ii) in operation	(i) 5 threat abatement plans being prepared (ii) 9 in operation
Of those listed key threatening processes on the land that require a threat abatement plan, the percentage that have threat abatement plans in operation	91% i.e. 10 of 11. The 11th plan is being developed
Native vegetation (including forests)	
Percentage change in native vegetation cover, using the National Carbon Accounting System	Estimated to be less than 1%. The trend in loss of native vegetation cover since the early 1990s is likely to be declining
Protected wetlands	
Area of Ramsar-listed wetlands	7.3 million hectares
Percentage of Ramsar-listed wetlands with management plans in operation	Of the Ramsar listed wetlands, 82% have management plans in operation
Australian national parks and other terrestrial protected areas	
Area of land protected and managed through the National Reserve System Programme (NRSP), including area of declared Indigenous protected areas	20.6 million hectares (0.48 million hectares added in 2005–06)
Percentage of protected areas (other than Indigenous protected areas) that have been gazetted	87.5%. This percentage is for properties acquired up to the end of the 2003–04 financial year. The figure does not include information for the last two financial years because under the NRSP funding agreement a proponent may take up to two years to finalise gazettal of a protected area

Performance indicator	2005–06 result
Australian Biological Resources Study Participatory Grants Programme (administered item)	
Number of taxa revised or newly described under the programme	2 355 at December 2005 Final reports from administered funding grantees are due in December each year. The figures reported in December 2006 will be made available at http://www.deh.gov.au/biodiversity/abrs/admin/annual report/index.html
Number of peer reviewed taxonomic information products produced or funded by the programme	141 at December 2005 Final reports from administered funding grantees are due in December each year. The figures reported in December 2006 will be made available at http://www.deh.gov.au/biodiversity/abrs/admin/annual report/index.html
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of projects funded	57 taxonomic research projects
Protecting Australia's Biodiversity Hotspots (administered item)	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of interventions to protect identified hotspots	19 agreements under BushBids
Number of projects funded	3: BushBids (Mt Lofty) Stewardship Initiative ($1.5 million) BushBids Independent Probity Consultant University of Queensland Spatial Prioritisation Project ($110 000)
Bushcare, Landcare, Rivercare, Coastcare[a] (administered item–Natural Heritage Trust)	
Percentage of natural resource management regions that have an accredited natural resource management plan	96% (54 of 56) of the natural resource management regions have an accredited regional plan. Another region has an approved regional strategic directions plan
Percentage of natural resource management regions that have an approved investment strategy	98% (55 of 56) of the natural resource management regions have an approved investment strategy
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of projects funded	See Natural Heritage Trust annual report and annual regional programme reports

[a] The natural resource management regional plans and investment strategies address the objectives of all four 'Cares: Bushcare, Rivercare, Landcare and Coastcare. Projects can achieve multiple outcomes with expenditure and outcomes often attributed to two or more of the cares programmes.

Performance indicator	2005–06 result
Australian Government's Community Water Grants Programme (administered item)	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
Number of projects funded	1 750 projects approved in round 1 and approximately 80% received funding this year.
Strengthening Tasmania—Tamar River Pylons (administered item)	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)	100%
A sustainable future for Tasmania—Community Forest Agreements (administered item)	
Proportion of Forest Conservation Fund reservation target met	Yet to commence
Improved access to forest areas for tourists	Yet to commence
Level of landholder involvement in voluntary forest reservation programme	Yet to commence
Increased private tourism investment initiated through tourism funding	Yet to commence
Area of private land reserved under the Forest Conservation Fund	Yet to commence
Sub-output 1.2.1—Wildlife protection	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)[b]	100%
Percentage of statutory timeframes triggered that are met (Target: >90%)[c]	98% of statutory timeframes triggered under the EPBC Act were met during 2005–06[d]. Details and reasons are provided in the EPBC Act Annual Report in Volume 2 – Legislation Annual Reports
Sub-output 1.2.2—Land and water strategies	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)[b]	100%
Percentage of statutory timeframes triggered that are met (Target: >90%)[c]	> 90% timeframes met in accordance with departmental standards
Sub-output 1.2.3—Land and water investment	
Percentage of payments that are consistent with the terms and conditions of funding (Target: 100%)[b]	100%
Percentage of statutory timeframes triggered that are met (Target: >90%)[c]	Not applicable

[b] Applies to provision of grants programmes funded entirely from the Department of the Environment and Heritage appropriations for the output.

[c] Applies to areas that administer legislation, for example reporting timeframes triggered under the *Environment Protection and Biodiversity Conservation Act 1999*.

[d] Includes statutory extensions under the EPBC Act.

Performance indicator	2005–06 result
Administration of the Natural Heritage Trust (purchased output)	
All investments approved by Ministers in 2005-06 are provided with funding, in accordance with Trust accountability and acquittal procedures, to meet the Trust's objectives	Funding was provided under financial agreements that reflect accountability, reporting and acquittal procedures All approved investments contributed to Natural Heritage Trust objectives and were consistent with the priority areas of activity
The number of investment strategies that are prepared, evaluated and for which funding is agreed and specified in financial agreements The number of individuals/community groups supported through Australian Government Envirofund grants The number of on-ground actions funded by the Trust	55 of the 56 natural resource management regions have an investment strategy that was evaluated and for which funding is agreed and specified in financial agreements Through the Envirofund, 1 145 projects (worth $20 million) were approved, approximately equal to number of individuals and community groups supported (4 600 projects funded since 2002) For on-ground actions, see the Natural Heritage Trust annual report and annual regional programme reports
Investment strategies reflect agreed priorities and delivery arrangements for the Trust	Activities receiving funding through regional investment strategies reflected agreed priorities and delivery arrangements
Integrated Natural Resource Management Regional Plans meet agreed accreditation criteria	54 of the 56 natural resource management regions have accredited regional plans and another region has an approved regional strategic directions plan
The administration of the Trust is consistent with comparable grants and natural resource management programmes	The regional components of the Natural Heritage Trust and National Action Plan for Salinity and Water Quality are delivered in tandem through the natural resource management regions, ensuring consistency in administration Local level delivery of the Natural Heritage Trust through the Australian Government Envirofund informs and is informed by comparable grants programmes such as the National Landcare Programme and the Australian Government Water Funds Community Water Grants
A monitoring and evaluation strategy is in place at each level of the Trust delivery framework	A monitoring and evaluation strategy is in place at each level of the Natural Heritage Trust framework. Implementation of the strategies has been agreed with all states and territories

Resources

Departmental outputs	Budget prices $'000	Actual expenses $'000
Sub-output: 1.2.1 Wildlife protection	11 220	11 647
Sub-output: 1.2.2 Land and water strategies	15 524	15 313
Sub-output: 1.2.3 Land and water investments	17 749	20 755
Sub-output: 1.2.4 Terrestrial parks and reserves	50 029	50 962
Sub-output: 1.2.5 Tropical wetlands research	632	466
Total (Output 1.2: Conservation of the land and inland waters)	**95 154**	**99 143**

Administered items

Australian Biological Resources Study Participatory Grants	1 869	1 865
Maintaining Australia's Biodiversity Hotspots	4 124	1 920
Natural Heritage Trust (Landcare, Bushcare, and Rivercare Programmes)	275 512	257 226
Australian Government's Community Water Grants Programme	46 210	46 149
Tasmanian Community Forest Agreement	0	5 500
Strengthening Tasmania—Tamar River Pylons	1 000	1 000
Total (Administered)	**328 715**	**313 660**

Other annual reports providing information on this output

Annual report on the operation of the *Environment Protection and Biodiversity Conservation Act 1999* included in the second volume of this set of annual reports

Annual report of the Department of Agriculture, Fisheries and Forestry at www.nrm.gov.au/publications/#books

Annual report of the Natural Heritage Trust at www.nht.gov.au/publications

Regional Programmes Report at www.nrm.gov.au/publications/regional-report

Annual report of the Director of National Parks at www.deh.gov.au/parks/publications/index.html#director

Annual report of the Supervising Scientist at www.deh.gov.au/about/publications/annual-report/index.html