

# Integrated landscape management for long-term ecological, social and economic sustainability



Photo: N. Carlisle, DECC.

*Parks and reserves protect more than six-and-a-half million hectares of NSW, or more than 8% of the state. Many other valuable landscapes and habitats exist on land that is privately owned or managed by other government authorities, private landholders and community groups. DECC works with these organisations and individuals to help them protect native plants and animals and minimise the impacts of salinity, contaminated soils and water quality on biodiversity, threatened species, riverbanks and ecosystems.*

## Context

Communities depend on the sustained health and diversity of native plants, animals and ecosystems which have a right to exist and thrive; produce fresh water, productive forests and oceans; and allow people to connect with and enjoy the natural environment. Habitat loss due to the extreme conditions associated with ongoing drought which are affecting land across NSW, including riverine and groundwater-dependent ecosystems, and the clearing, thinning and disturbance of the state's vegetation over decades, continue to threaten native plants and animals.

DECC is the lead agency for achieving the 13 statewide targets in Priority E4 of the State Plan, 'Better outcomes for native vegetation, biodiversity, land, rivers, and coastal waterways', which aim to improve the state's biodiversity, water, land, community capacity and socioeconomic wellbeing by 2015 (see [www.nsw.gov.au/stateplan/](http://www.nsw.gov.au/stateplan/)).

Draft State of the Catchments reports explain the condition of natural resources measured against the 13 targets. The reports will help land managers and the community assess the pressures on those resources and the actions being taken to reduce them.

In 2008–09, DECC continued to manage protected areas, introduced more effective park management techniques, and improved threatened species conservation and land clearing controls. DECC worked with various stakeholders including Aboriginal communities, on statewide programs such as the Monitoring, Evaluation and Reporting Strategy for natural resources, Aboriginal heritage conservation projects, the NSW Threatened Species Priorities Action Statement, and the Great Eastern Ranges Initiative (see chapter 2 for information on this project).

NSW national parks and reserves attract more than 38 million visits a year. DECC aims to improve visitors' experiences and increase visits in line with NSW State Plan objectives, while continuing to focus on conservation. DECC also manages protected areas with the help of the Aboriginal community, enabling Aboriginal people to co-manage national parks and improving community knowledge of Aboriginal culture.

## Outcomes

DECC aims to integrate landscape management for long-term ecological, social and economic sustainability by:

- improving the condition of natural resources
- protecting and restoring biodiversity and native vegetation
- contributing to increased tourism and community wellbeing through parks and reserves, and investing in environmental projects for regional development
- conserving natural and cultural values through an integrated system of public and private lands
- protecting and revitalising Aboriginal culture and heritage
- increasing Aboriginal participation in land, water and natural resource management.

## Key drivers

DECC's work in the area of integrated landscape management is informed by the:

- *State Plan – A New Direction for NSW* ([www.nsw.gov.au/stateplan/](http://www.nsw.gov.au/stateplan/))
- NSW Biodiversity and Climate Change Adaptation Framework ([www.environment.nsw.gov.au/threatenedspecies/climatechange.htm](http://www.environment.nsw.gov.au/threatenedspecies/climatechange.htm))
- National Biodiversity and Climate Change Action Plan ([www.environment.gov.au/biodiversity/publications/nbccap/](http://www.environment.gov.au/biodiversity/publications/nbccap/))
- NSW Threatened Species Priorities Action Statement ([www.threatenedspecies.environment.nsw.gov.au/tsprofile/home\\_PAS\\_new.aspx](http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_PAS_new.aspx))
- Monitoring, Evaluation and Reporting Strategy
- *National Parks and Wildlife Act 1974* ([www.environment.nsw.gov.au/legislation/legislation.htm](http://www.environment.nsw.gov.au/legislation/legislation.htm))
- *Native Vegetation Act 2003* ([www.environment.nsw.gov.au/legislation/legislation.htm](http://www.environment.nsw.gov.au/legislation/legislation.htm))
- *Threatened Species Conservation Act 1995* ([www.environment.nsw.gov.au/legislation/legislation.htm](http://www.environment.nsw.gov.au/legislation/legislation.htm))
- work undertaken with catchment management authorities.

## Performance indicators

DECC measures performance in the area of integrated landscape management through the following performance indicators:

- RiverBank, Living Murray and Wetland Recovery Program
- Land maintained or improved by property vegetation plans
- Area managed by DECC for conservation
- Reserves covered by an adopted fire management strategy
- The *National Parks Discovery – Walks, Talks and Tours* education program
- Adopted plans of management for the reserve system
- Private and unreserved land in NSW managed for conservation
- Aboriginal Place declarations for sites of Aboriginal cultural significance
- Aboriginal ancestral remains and collections of cultural material repatriated to Aboriginal communities
- Formal agreements with Aboriginal communities for joint management of protected areas.



Photo: M. Tulau, DECC.

## Improve the condition of natural resources

### Water for the environment

NSW RiverBank, the NSW Rivers Environmental Restoration Program, the NSW Wetland Recovery Program and The Living Murray purchase water entitlements from willing sellers that result in increased water volumes directed to priority wetlands across the state.

In 2008–09, these programs purchased a combined 145 GL of water entitlements in NSW to support wetlands in the Gwydir, Macquarie, Lachlan, Murrumbidgee and Murray valleys. The volumes purchased, in combination with Australian Government water purchases and environmental water allocated through water sharing plans under the *Water Management Act 2000*, are starting to redress the imbalance between extractive and environmental uses.

Examples of recent initiatives to redirect water to the environment include the following:

- in November 2008, 90 megalitres of environmental water were delivered to Whittakers Lagoon, on the Mehi Floodplain in the Gwydir Valley, which is an important wetland and has substantial Indigenous cultural values.
- Yanga National Park in the Lower Murrumbidgee houses the most significant populations of southern bell frog (*Litoria raniformis*) in NSW. After successful breeding of the frogs in the Lowbidgee wetlands in 2007–08, it was important that follow-up watering occurred in 2008–09. Over 3,000 megalitres of environmental water were delivered to wetlands in Yanga National Park and on private property near Maude and Balranald during spring and early summer to ensure that areas of suitable habitat were maintained throughout the summer breeding season. A further 25,000 megalitres were delivered to these wetlands to sustain drought-stressed vegetation and waterbird habitat during June.

To provide models for future population trends for the southern bell frog in Yanga National Park, DECC scientists are examining the demographics of this species in western NSW. This work determines the age and sex ratio of frogs collected mainly in the Coleambally Irrigation Area. The research so far indicates that even in large healthy populations, the maximum age attained by the frogs is 3–5 years of age, and that female frogs are unlikely to



Photo: R. Hyne, DECC.

*DECC research has determined that southern bell frogs only breed during significant floods, so these need to occur at least every two to three years to ensure population viability.*

breed until they are at least two-years-old. Consequently, there is a relatively limited opportunity for individual frogs to breed during their lifespans. Breeding also only occurs during significant flooding and at appropriate times of the year.

### Infrastructure projects

NSW RiverBank, funded by the NSW Government, and the NSW Rivers Environmental Restoration Program, the NSW Wetland Recovery Program and The Living Murray, each jointly funded by the NSW and Australian governments, also fund research and infrastructure projects such as the Darling Anabranch Pipeline which has secured 47 GL of water entitlement for land holders by improving delivery of water for stock and domestic use.

In 2008–09, the NSW Rivers Environmental Restoration Program funded the following infrastructure projects:

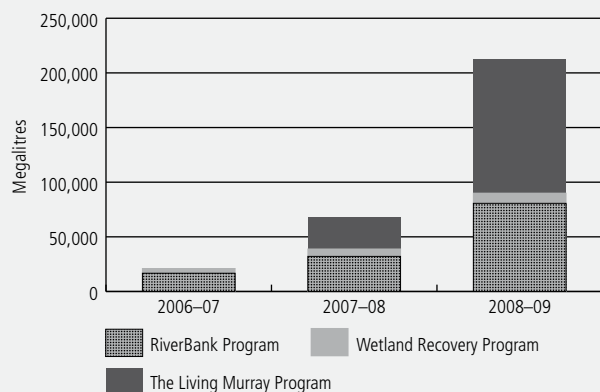
- water flow regulators to improve environmental water delivery
- improved management practices on privately-owned wetlands
- hydrodynamic and other investigations to better inform decision making on the delivery of environmental flows.

## ■ PERFORMANCE INDICATOR

### RiverBank, Living Murray and Wetland Recovery Program

**Definition:** This indicator measures the cumulative amount of water entitlement, measured in megalitres, purchased by NSW RiverBank, the Living Murray Program and the NSW Wetland Recovery Program in the targeted river valleys of NSW. (One megalitre equals one million litres. As a comparison, an Olympic-sized swimming pool holds about two-and-a-half megalitres.)

Cumulative total of water entitlement purchased



**Interpretation:** Water entitlements are a share of the water available in a water management area, the volume of which varies with seasonal rainfall and river catchment runoff. General security (GS) is the most common type of entitlement. As an example, GS availability might be announced with a 50% allocation. That would mean a holder with a 100-megalitre licence entitlement could use 50 megalitres of water. Allocations increase throughout a year if water availability improves.

Through NSW RiverBank and the NSW Wetland Recovery Program, GS water entitlement and small volumes of high security and supplementary access entitlement, are acquired. These programs acquired 48,549 megalitres and 2,544 megalitres of water entitlement respectively in the year to 30 June 2009.

The Living Murray program acquires general and high security licences and had purchases totalling 122,606 megalitres by 30 June 2009.

DECC manages water acquired by NSW RiverBank and the NSW Wetland Recovery Program, and for environmental purposes in water sharing plans made under the *Water Management Act 2000*. The Murray–Darling Basin Commission manages water recovered under the Living Murray Program under an intergovernmental agreement.

- measures that support integrated water management in the Murray–Darling Basin.

Through the NSW Wetland Recovery Program, DECC and the Department of Water and Energy investigated the impacts of around 70 floodplain structures on flows in the Macquarie Marshes. A number of landholders received letters or directions to comply with licence conditions, and five structures will be modified to improve fish passage and water movement during periods of low flow.

### Ramsar wetlands

Under the international Ramsar Convention, NSW maintains 12 Ramsar wetlands. DECC is continuing to prepare ecological character descriptions that provide a scientific baseline for the sites at the time of Ramsar listing, and enable assessment of change in the sites over time. Ecological character descriptions were completed in 2008–09 for Blue Lake and Lake Pinaroo.

### Waterbirds and fish in Gwydir wetlands

Gwydir wetlands, which are internationally significant under the Ramsar Convention, are under ecological stress due to drought, and land and water management practices.

As part of the NSW Wetland Recovery Program, DECC scientists studied the habitat of waterbirds and fish in these wetlands in 2007–2008, when much of the floodplain was extremely dry. The numbers of waterbirds were low and breeding activity was limited.

Eleven native fish species were found. However, three non-native fish species were also found, with the European carp being the most common.

The results of this study were used to support the development of the Gwydir Wetlands Adaptive Environmental Management Plan during 2008–09.



Photo: J. Spencer, DECC.

Sorting the catch from a fyke net which was used to sample fish from the Gwydir wetlands.

## Wetlands

DECC released a draft NSW Wetlands Policy for targeted public consultation in 2008–09, which provides for the protection, and ecologically sustainable use and management, of NSW wetlands. It contains:

- principles to guide management of, and investment in, wetlands
- measures to assist the prioritisation of wetlands for attention



## Healthy rivers and estuaries

DECC scientists have been studying the impacts of nutrients and sediments from coastal rivers on the health of estuaries. They have developed a risk assessment tool called CERAT to help prioritise land use planning decisions and conserve estuary health.

CERAT includes models for all 184 estuaries and their catchments in NSW. The models can assess the potential impact of nutrients and sediments from urban development, clearing and agriculture on water quality, algae and seagrass. The models will be made available to catchment management authorities and local councils, and will be used by DECC to help prioritise projects for funding under the NSW Estuary Management Program.

## Support for catchment management authorities

Catchment management authorities (CMAs) deliver programs that remediate or improve natural resources such as native vegetation and soils, and deal with environmental hazards such as salinity. DECC provides the 13 CMAs in NSW with state-level administration, technical tools, scientific support and grant funding.

DECC also supports CMAs by administering board, chair and general manager appointments, developing financial and corporate governance frameworks and providing technical and project support for native vegetation management, floodplain management, wetland rehabilitation and soils management.

For example, in 2008–09 DECC worked with Hawkesbury–Nepean, Southern Rivers and Sydney Metropolitan CMAs to identify likely sites of salinity outbreaks in Sydney water supply catchments and future urban development areas. This \$1.5 million project is helping the CMAs plan their investments and advise local councils on salinity issues.

## Monitoring, Evaluation and Reporting Strategy

The NSW Monitoring, Evaluation and Reporting Strategy provides practical protocols for monitoring, assessing and reporting on the condition of, and pressures threatening, natural resources such as soils and rivers. The strategy's performance indicators are incorporated into the 13 draft State of the Catchment reports. These reports are widely available to natural resource managers.

## Native vegetation

### Native vegetation reports

The annual Native Vegetation Report Card is DECC's comprehensive summary of actions undertaken by private and public land managers to conserve and manage native vegetation. This year's report card combines three reports: the Native Vegetation Report Card, the Woody Vegetation Change Report and the Compliance and Enforcement Report Card.

During 2008–09, more than 490,000 hectares of native vegetation were conserved or improved across NSW. Around 2,060 hectares were approved to be cleared where environmental values were maintained or improved through mechanisms such as the use of offsets.

Changes in woody vegetation across NSW are identified by a comparison of satellite imagery. The Woody Vegetation Change Report shows a total reduction in the area of woody vegetation in NSW from 2007–2008 of 49,316 hectares (or 0.06% of the area of the state). The major changes occurred as a result of fire scars, cropping, and thinning or clearing for pasture, forestry, and rural and major infrastructure.

## ■ CASE STUDY

### Food webs and ecological function in inland floodplain wetlands

Floodplains are highly productive environments that, when flooded, provide increased nutrients and the successive emergence of bacteria, algae and other aquatic organisms. Floodwaters also attract higher-order predators such as fish and waterbirds.

As food webs and the ecological function of floodplain ecosystems are important yet poorly understood, in 2008–09 DECC scientists studied these processes in the Macquarie Marshes, Gwydir Wetlands, Yanga National Park and Lake Ita. DECC scientists now know that sediments in Lake Ita, when dry, store many viable seeds and eggs of aquatic plants and animals. The research is allowing DECC scientists to understand better how inland floodplain wetlands function, and advise on how to deliver environmental water to restore them.



Sampling in the Macquarie Marshes.

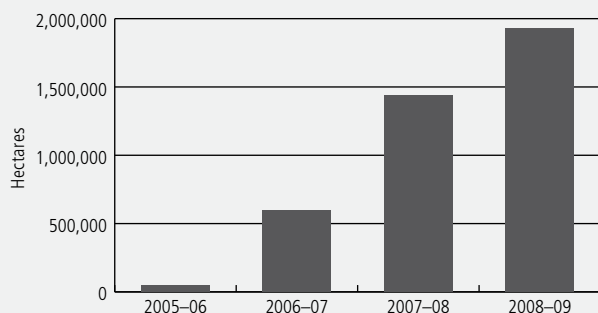
Photo: J. Kellaway, DECC.

## ■ PERFORMANCE INDICATOR

### Land maintained or approved by property vegetation plans

**Definition:** This indicator measures the cumulative total area of land maintained or improved by property vegetation plans (PVPs). A PVP is a voluntary agreement under the *Native Vegetation Act 2003* negotiated between a landholder or a group of landholders and the local catchment management authority. This annual data includes offset areas for Clearing PVPs, Incentive PVPs, Conservation PVPs, Invasive Native Scrub PVPs and Thinning PVPs. It does not include clearing statistics or PVPs for private native forestry, which are reported separately.

#### Total area of land maintained or improved by property vegetation plans



**Interpretation:** The *Native Vegetation Act 2003* commenced in December 2005, so the 2005–06 figure only incorporates seven months of data. PVPs were initially taken up slowly by land holders. Most land maintained or improved in 2006–07, 2007–08 and 2008–09 was for the management of invasive native scrub (approximately 450,000, 690,000 and 440,000 hectares respectively, or 1,580,000 hectares in total).

The Compliance and Enforcement Report Card shows that 434 reports of clearing were received by DECC's Environment Line in 2008, all of which were assessed to determine an appropriate regulatory response. Many were identified as being lawful activities such as routine agricultural management or clearing of regrowth. During 2008–09, DECC commenced nine prosecutions under native vegetation legislation.

### The NSW vegetation information system

The NSW Government needs more accessible and consistent information to better inform native vegetation management and monitoring. While some high-quality vegetation information and mapping exists, much information is highly variable in its scale, quality and coverage. DECC is therefore developing robust spatial data systems and management practices for vegetation information in NSW.

As at June 2009, DECC has developed interim databases for NSW vegetation classifications and vegetation plot data, and a comprehensive compilation of NSW vegetation mapping. In addition, the NSW section of the National Vegetation Information System, with data input capability, is improving reporting to the Australian Government on statewide vegetation information, while supporting DECC programs.

### Property vegetation plans

The *Native Vegetation Act 2003* established property vegetation plans (PVPs) as negotiated agreements between catchment management authorities and land holders to establish areas for clearing, offsets and incentives. To the end of June 2009, 1,470 PVPs have been approved, including 1,046 that include incentive payments to farmers to improve or protect native vegetation.

## ■ CASE STUDY

### Managing inland acid sulfate soils

Record low flows and river levels have led to the drying of many wetlands in the Murray–Darling Basin, resulting in 'inland acid sulfate soils'. As a result, in 2008 the Murray–Darling Basin Ministerial Council directed the Murray–Darling Basin Authority to assess the risk of such soils in wetlands along the Murray River which were affected by regulated flow. DECC is leading the NSW component of this project, assisted by catchment management authorities and the private sector.

The first stage consisted of a rapid field assessment of about 450 sites, which was completed in June 2009. Based on the results and laboratory testing of soil and water samples, it is expected that many of these sites will require more detailed assessment. Results to date suggest that sulfidic sediments are of particular concern in the lower Murray Basin, especially in the Wakool River and associated channels.



Photo: M. Tulau, DECC.

Assessing land for the presence of inland acid sulfate soils.

The project results will inform other DECC programs such as salinity and wetland management programs, inform water allocation and irrigation policies in the Murray Basin, and help catchment management authorities prioritise remediation projects.

This system has reduced clearing approvals from more than 12,000 hectares in 2005–06 to around 150 hectares in 2008–09.

From April 2009, PVPs that propose broadscale clearing must register a summary of the PVP on the land title. This is to ensure that agreed conservation benefits and clearing approvals continue to apply to the land, regardless of future changes in ownership.

### PVPs, Agreements, Data and Customer Service system (PADACS)

The PVPs, Agreements, Data and Customer Service (PADACS) system is software that is used to manage interactions with catchment management authorities and their clients. PADACS uses the Native Vegetation Assessment Tool (NVAT) to produce property vegetation plans under the *Native Vegetation Act 2003*. NVAT integrates environmental assessment with spatial mapping to measure impacts on biodiversity, threatened species, soils and salinity.

PADACS presents officers with environmental assessment information, site maps and landowner details.

Once an assessment is complete, all data is automatically updated, which means data is only entered once and is always up-to-date. Data and collection methods are also standardised to ensure assessments are consistent.

The system automatically generates a task list showing which steps are needed to complete the assessment. The status of approvals can be seen at a glance so landowners can be kept informed.

PADACS was built with the support of the Microsoft Innovation Fund at a cost of around \$3 million. Version 3.0 of PADACS was deployed across NSW in June 2009.

## ■ CASE STUDY

### Vegetation mapping of the Murray catchment

During 2008–09, native vegetation was mapped in the entire Murray catchment using new computer analysis of satellite imagery.

DECC worked with the Murray Catchment Management Authority and Forests NSW on the project, which was funded under the NSW Catchment Action Plan.

More than 350 new vegetation plots were surveyed by contractors. Data for a further 400 native vegetation plots were acquired from other sources. Most land holders welcomed survey contractors onto their properties and, in return, were given information about their vegetation, including species details and satellite imagery.

There is now full data coverage of vegetation in the Murray catchment, with the information available in a comprehensive database that includes native vegetation maps, survey site records and photographs.



Mapping vegetation in the Murray catchment involved deriving patterns in native vegetation using object recognition software.

## Private native forestry

Amendments to the Native Vegetation Regulation 2005 commenced in August 2007 to bring native forestry operations under the *Native Vegetation Act 2003*. A Private Native Forestry Code of Practice came into force at the same time to support the legal changes.

Harvesting timber for the purposes of private native forestry on all lands now requires approval through development consent or the preparation of a Private Native Forestry Property Vegetation Plan (PNFPVP). As at end June 2009, DECC had issued 805 PNFPVPs.

DECC has also established an audit program to ensure compliance with the new arrangements. As at 30 June 2009, DECC had carried out 92 site inspections and formal audits.

The new program represents major progress in reducing the negative impact of logging on private property. Previously, logging was largely unregulated, resulting in some cases in poor silviculture and environmental impacts. The new code sets out requirements that significantly upgrade forest management practices. The reforms are being supported by training programs.

## Brigalow and Nandewar integrated forestry operations approval

In 2008–09, DECC continued preparing an integrated forestry operations approval (IFOA) for the Brigalow and Nandewar region under the *Forestry and National Park Estate Act 1998*.

The proposed IFOA will help balance the protection of the environment, by setting terms for licences under the *Protection of the Environment Operations Act 1997*, the *Threatened Species Conservation Act 1995* and the *Fisheries Management Act 1994*, with the Government's commitment to allow timber to be used for specified volumes of sawlogs, fencing and firewood. The IFOA will prescribe forestry management operations in state forests and other Crown lands in the Brigalow and Nandewar region.

## Review of regional forest agreements

The NSW and Australian governments made 20-year regional forest agreements (RFAs) for the north-east, southern and Eden regions in 1999, 2000 and 2001 respectively. RFAs must be periodically reviewed. A scoping agreement for the review of RFAs was signed by the Minister and the Federal Minister for Agriculture, Fisheries and Forestry in June 2008.

Work progressed during 2008–09 on a report on this major review, including an assessment of progress against the milestones in the agreements. The public will be invited to comment in late 2009.





Photo: T.N. Hayashi.

# Protect and restore biodiversity and native vegetation

## Biodiversity conservation

### Development of a new biodiversity strategy for NSW

In accordance with the *Threatened Species Conservation Act 1995*, the NSW Government produced the state's first biodiversity strategy in 1999. In 2003, major reforms to natural resource management and land use planning meant biodiversity and threatened species management were incorporated into broader government programs. However, these programs did not fully encompass aquatic and marine biodiversity. As a result, the NSW Government decided to develop a new biodiversity strategy, and included this initiative in the State Plan.

DECC and the Department of Primary Industries jointly released a discussion paper for consultation in November 2008. Sixty-three submissions were received from non-

government organisations, catchment management authorities, local councils, state agencies and industry groups.

A draft biodiversity strategy will be released for public exhibition in late 2009, with a final strategy to be released in mid-2010.

### BioBanking Scheme

In 2008 the NSW Government introduced the Biodiversity Banking and Offsets (BioBanking) Scheme to help resolve the loss of biodiversity values, including threatened species, through offsetting the impacts of urban development. A framework for the scheme was established under the *Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006*.

## ■ CASE STUDY

### Biodiversity monitoring reveals distribution of native animals

DECC scientists found that, except for the Birds Australia database, there is little information that can be used to assess the long-term distribution and abundance of native fauna across NSW.

DECC scientists therefore trialled methods for broad-scale monitoring of native animals, and found that early results of non-targeted monitoring in western NSW using pitfall traps were promising. The extent of the range of several species was observed, including the range of the threatened Forest's mouse, which was found in Culgoa National Park more than 100 kilometres further north than previously recorded.

The scientists also trialled targeted monitoring for the long-nosed potoroo which is a little-understood threatened species that lives in dense bushland. Infrared triggered cameras monitored 60 sites along the east coast of NSW across the entire distribution of the potoroos. Initial results show that the potoroo is rare across its distribution, though the cameras also turned up a surprise photo of the uncommon parma wallaby.



Photo: DECC.

One of the few long-nosed potoroos to be captured on infrared camera during DECC's targeted monitoring trial.

Biodiversity ecosystem and species credits are created by land holders when they establish a biobank site. These credits can then be purchased by developers who need to offset the impacts of their development. Other individuals or groups can also buy credits to invest in conservation.

DECC worked in 2008–09 to establish the biobanking public registers. One register contains 28 expressions of interest from land holders who are interested in establishing a biobank site. Other registers show credits available for sale, credit transactions, biobanking agreements and biobanking statements (see [www.environment.nsw.gov.au/biobanking/](http://www.environment.nsw.gov.au/biobanking/)).

More than 100 people have participated in training courses to become accredited BioBanking Assessors. Only accredited BioBanking Assessors can assess applications for biobanking statements and agreements, to ensure consistency in the application of the scheme. Forty-two assessors have been accredited, comprising 27 external consultants and 15 DECC staff.

## Biodiversity management plans

Biodiversity management plans are landscape-wide, multi-species recovery plans that contain strategies to manage threats. A biodiversity management plan for Lord Howe Island was approved in 2007. Three plans completed to draft stage in 2008–09 were for the Border Ranges Rainforests, the Northern Rivers and the Central Coast. The Australian Government has agreed to contribute \$200,000 towards funding the implementation of the Lord Howe Island, Border Ranges Rainforests and Northern Rivers regional plans in 2009–10.

## CASE STUDY

### Biocertification of the Wagga Wagga Local Environment Plan protects threatened species

In January 2009 DECC released a proposal to certify Wagga Wagga City Council's new local environmental plan (LEP). The proposed certification covers 10,655 hectares of the current and future urban and industrial area around Wagga Wagga City. In this area, 1,029 hectares of native vegetation remain, including some highly significant areas of box-gum woodland and inland grey box woodland endangered ecological communities, and habitat for threatened fauna such as the superb parrot and squirrel glider.

The draft LEP proposes to retain all vegetation of high conservation value, which would be linked and consolidated into a viable network of natural areas. Development will be directed away from these areas.

If the Minister certifies the final LEP, the requirement to assess individual development proposals for impacts on threatened species is 'switched off' in the certified area. Thus, future development in the area would have greater certainty and lower costs through a more efficient planning process, and threatened species in the area would be protected in the long term.

## Threatened species

Many threatened species-related projects, surveys and on-ground works were completed in 2008–09. Some brief highlights include:

- assessing the health of the endangered Hunter River population of river red gums after floods
- helping the Boorengen Djugun community at Kempsey to conserve the endangered lesser swamp-orchid, including surveys and habitat assessments
- completing field survey methods and threatened species survey and assessment guidelines for amphibians, to help surveyors assess land for the presence of threatened frogs and other threatened species under the BioBanking Scheme (see [www.environment.nsw.gov.au/threatenedspecies/surveymethodsfauna.htm](http://www.environment.nsw.gov.au/threatenedspecies/surveymethodsfauna.htm))
- restoring lowland rainforest communities for the critically endangered Coven's fig parrot
- mapping habitats made up of the endangered Floyds grass that support the black grass-dart butterfly, the black-necked stork and the endangered north coast emu population
- restoring habitat, and monitoring and surveying threatened flora on Lord Howe Island
- launching a community outreach and fund-raising campaign for the Corroboree Frog Recovery Program



Photo: N. Williams.

*The squirrel glider is one species that will be protected in a certified area proposed to be established under the Wagga Wagga City Council's new local environmental plan.*

The biocertification proposal and the draft LEP were placed on exhibition for public comment for three months.

This strategic approach has been the product of a significant and innovative partnership between DECC and Wagga Wagga City Council.



Photo: I. Hutton, DECC

DECC staff sampling little mountain palms on Lord Howe Island.

- setting up a captive breeding facility near Queanbeyan for endangered rodents under the Saving Threatened Australian Rodents (STAR) project (supported by the Foundation for Parks and Wildlife and the Foundation for Australia's Most Endangered Species)
- annually monitoring the largest populations of the mountain pygmy-possum in the ski resorts of Mt Blue Cow and Charlotte Pass.

## NSW Threatened Species Priorities Action Statement

The NSW Threatened Species Priorities Action Statement (PAS) is the principal legislative mechanism under the *Threatened Species Conservation Act 1995* for recovering threatened species, populations and ecological communities and abating key threatening processes. The PAS is enabling DECC and other managers, such as catchment management authorities and local councils, to prioritise actions to protect threatened species.

In 2008–09, under the PAS, DECC:

- worked with catchment management authorities to prioritise threatened species recovery actions such as assessing sites, developing management agreements with landowners, fencing, and searching for potential habitat
- incorporating PAS actions into regional approaches to biodiversity conservation, focusing on addressing major threats
- identifying priority areas for control of feral animals, such as cats.

The PAS is online – visit [www.threatenedspecies.environment.nsw.gov.au/tsprofile/home\\_recovery\\_new.aspx](http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_recovery_new.aspx).

## Koala Recovery Plan

The koala is listed as a vulnerable species under the *Threatened Species Conservation Act 1995*. Loss, fragmentation and degradation of habitat are the most significant threats to koalas. Other threats include cars, dogs, fire, disease and severe weather conditions.

The NSW Koala Recovery Plan, released in November 2008, identifies actions to ensure the long-term survival of koalas and provides a framework to address the key threats to their survival. The plan sets out targets to be adopted by government agencies, councils, land holders and others to promote koala recovery. DECC has committed more than a million dollars to the plan's implementation.

Actions include working with local councils to prepare conservation plans, protecting koalas and their habitat on lands managed by DECC, further population surveys, working with wildlife rehabilitation groups on rescue work and participating in a review of the National Koala Management and Conservation Strategy.

## ■ CASE STUDY

### Saving the providence petrel

The threatened providence petrel is a seabird that, until this year, bred only in the southern mountains of Lord Howe Island. Recent survey work has revealed a new colony breeding in the northern hills.

This species also used to breed on Norfolk Island until it died out more than 200 years ago due to hunting and disturbance from feral pigs. As a consequence, the influx of marine nutrients from seabird guano decreased, resulting in a reduction in tree growth and vigour. Re-establishing a population of the birds on Norfolk Island is essential to restore ecosystem function and regain healthy native forests. A second viable population of the providence petrel would also significantly improve its conservation status.

Research conducted with the University of NSW looked at breeding and feeding nestlings during the 2008 breeding season on Lord Howe Island, to help with the development of successful translocation techniques. Adult birds were fitted with miniature tracking devices



Photo: N. Carlisle, DECC

Tracking devices have helped DECC to find out more about routes taken by, and threats facing, the providence petrel. This bird had just completed an 18,000-kilometre round trip to South Russia.

to identify their key foraging areas and to track the birds on their trans-equatorial migration.

The information gained is also being used to identify interactions between this species and commercial fishers.



## Endangered ecological communities projects

DECC has completed assessments of 16 rare, endangered and vulnerable forest ecosystems and nominated nine as threatened ecological communities to the NSW Scientific Committee. The results of the assessments were presented at scientific workshops and published in the journal *Environmental Management and Restoration*.

DECC completed Stage 1 of a project on experimental rehabilitation and revegetation of threatened ecological communities. DECC established four hectares of plantings of Lower Hunter spotted gum–ironbark forest and Kurri sand swamp woodland at two sites in Cessnock in the Lower Hunter region. The plantings will be monitored for the next 10–15 years to provide information on restoring endangered ecological communities.

### Lower Hunter Regional Conservation Plan

The Hunter Valley region is renowned for its environmental diversity, natural resources and the economic wealth it provides to NSW. To ensure that future sustainable development of the region is balanced with strategic conservation planning, DECC prepared a 25-year *Lower Hunter Regional Conservation Plan*.

The plan complements the Government's Lower Hunter Regional Strategy, which defines where development will be focused over the next 25 years. The plan identifies priority biodiversity areas in the Lower Hunter, and

proposes mechanisms to protect these areas in the future, including through new conservation reserves.

The plan was released by the Minister for Climate Change and the Environment in March 2009. Stage 1 of the plan, which had already commenced in 2006 and is ongoing, is adding significant areas of land to the reserve system in the region.

## Land management in national parks and reserves

### Protected area acquisition program

DECC acquires and reserves land to conserve and protect its natural and cultural heritage values under the *National Parks and Wildlife Act 1974* and the NSW National Parks Establishment Plan 2008. In 2008–09, 59 areas totalling about 125,490 hectares were acquired. These were:

- inland river systems and wetlands associated with the restoration of waterways and conservation of riverine ecosystems, coastal wetlands and lowlands
- Aboriginal cultural heritage areas
- reserve inholdings and perimeter additions
- Brigalow Belt South/Nandewar Bioregion leases
- high reservation value Crown leases.

## CASE STUDY

### Promoting the conservation of endangered grasslands in the Southern Tablelands

The Southern Tablelands region contains several endangered grasslands which are fragmented, of limited extent and poorly understood. The NSW Threatened Species Priorities Statement includes actions to establish conservation management networks to facilitate information and skills exchange between land holders to assist with and promote the conservation of these grasslands.

Over the past two years, the Southern Tablelands Grassy Ecosystems Conservation Management Network has increased its membership from 350 to nearly 700.

DECC has supported network members through site visits, providing management advice, assisting with applications for conservation agreements and wildlife refuges, and ensuring awareness of catchment management authority and other funding. Regular newsletters inform members of upcoming events and training, weed alerts and other useful information.

The network held successful workshops and field days for the community with catchment management authorities, and environmental and community organisations.



Photo: D. Reyniers, DECC.

Scientists examine threatened vegetation at Scottsdale, a property managed for conservation by Bush Heritage Australia.

The project is a good example of achieving conservation outcomes by building and nurturing effective partnerships.



Land was purchased using funds from NSW Government capital allocations, the Environmental Trust, the NSW Rivers Environmental Restoration Program, and the Australian Government programs Caring for our Country (National Reserve System) and Water for the Future. Various land was also transferred to DECC from local councils, the Department of Planning and the Foundation for National Parks and Wildlife.

In June 2009, contracts were exchanged for the purchase of the 181-hectare former Air Services Australia site at Cranebrook in Western Sydney. The purchase is being jointly funded by the Australian and NSW governments to form a new conservation reserve protecting some of Sydney's most endangered species, providing a critical wildlife corridor and securing additional green space for the residents of Sydney's west. The property also contains important Aboriginal archaeological sites.

### Wetlands as part of national parks

The NSW and Australian governments, in 2008–09, jointly purchased the following significant properties which will be added to the NSW reserve system:

- Toorale (91,000 hectares) lies 75 kilometres south-west of Bourke on the confluence of the Darling and Warrego rivers. The purchase of Toorale and its water entitlements enables a more natural flow and better flood patterns in Warrego River, and assists the movement of aquatic species.
- Pillicawarrina (2387 hectares), adjoining the Macquarie Marshes Nature Reserve, comprises various habitats for waterbirds, woodland birds and other fauna. It supports myall woodland and coolibah–black box woodland, both listed as endangered ecological communities under the *Threatened Species Conservation Act 1995*. The land, covered by the purchase of substantial water licences, will deliver environmental water to the Macquarie Marshes Nature Reserve to help restore the floodplain.
- Booligal Station (see case study below).

### New and extended reserves

In 2008–09, five new reserves were established: Minimbah Nature Reserve, Keverstone National Park, Bandahngan Aboriginal Area, Woomargama State Conservation Area and Mullengandra State Conservation Area.

DECC also consolidated existing reserves by improving reserve boundaries, linking protected areas and buffering reserves from adjoining land uses. An additional 52 areas were reserved to add to existing parks and reserves in 2008–09, comprising 42,438 hectares.

Notable reserve additions include:

- adding 1,353 hectares to New England National Park to buffer the adjacent Gondwana Rainforests of Australia World Heritage Area against fire, and weed and pest invasion.
- establishing Bandahngan Aboriginal Area (2.5 hectares) east of Kyogle, which incorporates Tooloom Falls. The reserve is part of the Indigenous Land Use Agreement between the NSW Government and the Githabul people to protect the cultural and spiritual values of the falls.
- the first additions to reserves in the Brigalow and Nandewar Community Conservation Area since its creation in 2005: Pilliga West State Conservation Area (1,655 hectares), Durrigere State Conservation Area (181 hectares), Yarrobil National Park (524 hectares), Dhinna Dhinawan National Park (2044 hectares) and Gwydir River National Park (1,126 hectares).
- adding 2,812 hectares to Oxley Wild Rivers National Park, south-east of Armidale, which has bridged the gap between two previously separate sections of the park.

## ■ CASE STUDY

### Protecting habitat for waterbirds at Booligal Station

In 2008–09, the NSW Government acquired Booligal Station, in the Lower Lachlan, through the NSW Rivers Environmental Restoration Program.

Booligal Station is 6,000 hectares in size and incorporates more than 2,500 hectares of the nationally significant Booligal Wetlands. The wetlands contain one of the most important areas for waterbird breeding in eastern Australia.

Complementary to the land purchase, NSW RiverBank purchased over 24,275 megalitres of water entitlements in the Lachlan that will be used to support these and other wetlands. The management of environmental water will also be enhanced by the installation of new water flow regulators on Muggabah and Merrimajeel creeks that feed into the wetlands.



Booligal Wetlands are important breeding grounds for birds such as ibis, egrets, ducks, cranes and waterhens.

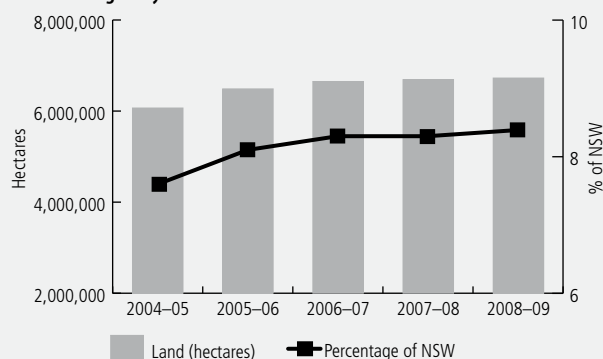
Photo: DECC.

## ■ PERFORMANCE INDICATOR

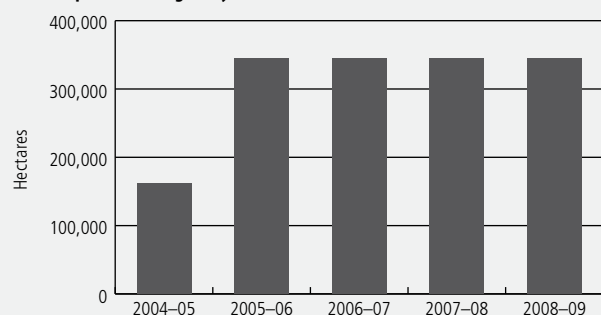
### Area managed by DECC for conservation

**Definition:** This indicator measures the cumulative area of reserves managed by DECC (shown in hectares and as a percentage of NSW), and the area in hectares of marine parks managed by DECC as part of the Marine Parks Authority.

#### Land managed by DECC for conservation



#### Marine parks managed by DECC



**Interpretation:** In 2008–09, 34,233 hectares of land were formally added to the reserve system. Over 2007–08 and 2008–09, the area of new land reserved is lower than in previous years. This reflects the change from transferring large areas of public land (Crown land and state forest) into the national park system, to buying small privately-owned landholdings offered for sale to DECC. Land acquisitions are likely to increase in coming years with the availability of new Federal funding to support land purchases and potential Crown land additions. DECC now manages over six-and-a-half million hectares of land in NSW, which represents almost 8.4% of the state's total area.

At 30 June 2009, approximately 345,100 hectares (34%) of NSW waters were contained in the marine park system, including approximately 64,900 hectares (6.5%) in sanctuary zones.

See Appendix 9 for details of DECC-managed lands and waters.

The rehabilitation project progressed in 2008–09 with the purchase of two neighbouring properties important for the re-inundation of the wetlands. The project also secured \$99,000 of funds for the next three years from the NSW Environmental Trust. Actions will include pest control, restoring native vegetation, and monitoring water quality and biodiversity. Following reports by hydrology and aquifer consultants, there is now a detailed restoration plan for the park.

The park has also had some interim tidal exchange since December 2007. Regular monitoring of the water quality and water levels in the wetland since then, and a study of the fish species occurring in the lower section of the wetlands, have shown significant improvements to the water quality and fish habitat from this limited tidal exchange.

### Bioregions

Bioregions are large, geographically distinct areas of land with common characteristics such as climate, ecological features and plant and animal communities.

### Percentage of NSW bioregions protected in the NSW reserve system

NSW Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion	Percentage reserved	
	2007–08	2008–09
Australian Alps	81.8	81.8
Brigalow Belt South	8.3	8.5
Broken Hill Complex	2.0	2.0
Channel Country	9.4	9.4
Cobar Peneplain	2.4	2.4
Darling Riverine Plains	1.7	1.7
Mulga Lands	3.6	3.6
Murray Darling Depression	5.6	5.6
Nandewar	3.7	3.7
New England Tablelands	9.1	9.2
NSW North Coast	24.4	24.6
NSW South Western Slopes	1.9	1.9
Riverina	1.8	1.8
Simpson Strzelecki Dunefields	11.1	11.1
South East Corner	42.7	42.7
South Eastern Highlands	14.8	14.8
South Eastern Queensland	13.6	13.6
Sydney Basin	38.1	38.2
<b>Total NSW</b>	<b>8.3</b>	<b>8.3</b>

### Restoring a degraded wetland area

The Yarrahapinni Wetlands National Park Rehabilitation Project involves restoring a degraded wetland on the lower Macleay River. The wetland was closed to tides due to flood mitigation structures built in the early 1970s. DECC and the Yarrahapinni Wetlands Working Group have been managing this area as a national park since 2007.

## Wilderness

Wilderness is defined as a large natural area of land that, with its native plant and animal communities, has remained essentially unchanged by modern human activity or can be restored to such a state. DECC assesses land for wilderness values, either independently or following an external nomination proposal.

In 2008–09, the total area of wilderness in NSW reached almost two million hectares, which represents around 30% of NSW parks and reserves or 2.5% of NSW. DECC did not receive any new nominations for wilderness in the same period but continued to assess previous nominations.

## Wild rivers

Section 61 of the *National Parks and Wildlife Act 1974* provides for the declaration of wild rivers in national parks. To be declared 'wild', rivers must be assessed as being in a near-pristine condition in terms of animal and plant life and water flow, and free of unnatural rates of siltation or bank erosion that affect many of Australia's waterways. Five wild rivers have previously been declared – the Upper Brogo, Forbes, Upper Hastings and Kowmung rivers, and Washpool Creek.

In January 2009, the Colo and Grose rivers, in Wollemi and Blue Mountains national parks respectively, were declared wild rivers. Both river systems support a high diversity of fauna and are in good geomorphic and hydrological condition.

The Macdonald River, in Yengo National Park, was also assessed. Although it was found to be in good hydrological and biological condition, sediment deposits, most likely caused by clearing, logging, grazing and drainage works, meant that the river did not meet the criteria to be declared a wild river.

## Karst reserves

Under the *National Parks and Wildlife Act 1974*, DECC manages the state's significant karst (cave) reserves. Responsibilities for Abercrombie, Borenore and Wombeyan karst conservation reserves and the conservation management zone of the Jenolan Karst Conservation Reserve were transferred to DECC in 2006.

The Karst Management Advisory Committee advises DECC on the management of these reserves. During 2008–09, the committee advised on a range of important documents, planning instruments and proposals, including the:

- Jenolan Karst Conservation Reserve Draft Plan of Management
- Far South Coast Escarpment Parks Draft Plan of Management
- Wee Jasper Draft Plan of Management
- Geotourism Discussion Paper
- Karst Monitoring and Evaluation Toolkit

- proposed amendments to the National Parks and Wildlife Regulation 2002
- preliminary assessment of the State of NSW Caves
- proposed collaborative management of Macleay and New England karst areas.

## Wildlife management

### Researching and monitoring wildlife in parks

During 2008–09, DECC continued its research and monitoring programs in national parks and reserves, many with the assistance of volunteers. Programs included:

- artificial rock habitat for the broad-headed snake being developed by the University of Sydney and placed in Yengo National Park and Parr State Conservation Area, as the removal of bush rock has led to a significant decline in the species in these parks. A survey found a snake sheltering under the rocks, indicating that the artificial habitat had been successful.



Photo: N. Williams.

*Artificial habitat has been created for the broad-headed snake in some national parks, as removal of bush rock is threatening the survival of the species.*

- ongoing monitoring of snow levels continuing in the Snowy Mountains to study the impacts of climate change on the alpine zone. The amount of snow has been declining annually and the thaw has been occurring significantly earlier each year. This earlier loss of snow patches affects the plant communities that once existed beneath them, and monitoring has found that these communities are now being invaded by tall herbfield plants.
- as part of recovery of the brush-tailed rock wallaby population in the Shoalhaven region, new individuals being introduced to colonies at Kellets Creek and Kangaroo River. Results of the monitoring so far indicate only limited survival of the introduced animals.
- vegetation on Montague Island being restored to increase numbers of little penguins and other birds. The removal of kikuyu grass and restoration of headland vegetation has led to increased nesting and the improved fledgling success of little penguins.

- the Shorebird Recovery Program continuing in parks and reserves on the south coast, monitoring the populations and breeding success of the threatened hooded plover, little tern, pied oystercatcher and sooty oystercatcher. Under a similar program on the north coast, assisted by contractors and volunteers, Hearn's Lake near Woolgoolga had a successful little tern breeding season.



Photo: D. Andrew, DECC.

*Little terns are being monitored on the north and south coasts of NSW.*

- a flora survey of Goonooigall State Conservation Area in the northern tablelands region in October 2008 finding three endangered ecological communities and 11 rare or threatened species. A similar survey in Nullamanna National Park found 32 hectares of mugga ironbark, not previously known to occur in the park.
- a November 2008 survey of malleefowl mounds in Yathong Nature Reserve in central western NSW finding only a small proportion of mounds were active.

### Kangaroo Management Program

Kangaroos are protected animals under the *National Parks and Wildlife Act 1974*, which means they can only be harmed under the authority of an appropriate licence. DECC may issue licences in a range of circumstances, which can include for public protection, the mitigation of agricultural damage, or commercial purposes.

The commercial harvest of kangaroos in NSW is carried out in accordance with the *NSW commercial kangaroo harvest management plan 2007–11*, which aims to conserve viable populations of kangaroos across their ranges and was completed in 2008–09.

The plan sets out requirements for a harvest, including the use of aerial surveys to estimate population sizes, and setting maximum numbers that may be harvested for commercial purposes. The plan also provides for the establishment of new commercial harvest zones, provided that certain requirements are met. The plan is available on [www.environment.nsw.gov.au/wildlifemanagement/KangarooManagementProgram.htm](http://www.environment.nsw.gov.au/wildlifemanagement/KangarooManagementProgram.htm)

## Wildlife management and licensing

DECC is responsible for protecting wildlife in NSW, including licensing and regulating the sustainable use of wildlife. During 2008–09, DECC, in consultation with stakeholders:

- commenced a review of its policy and procedures for the rehabilitation of fauna
- commenced the development of new standards for the rescue and rehabilitation of fauna
- commenced a review of the marine fauna program, including incident response and training protocols
- finalised a policy to identify and manage fauna disease outbreaks
- prepared the sustainable management plan for protected and threatened plants in the cut flower industry.

In 2008–09, DECC consolidated its use of the Government Licensing System (GLS), which is a whole-of-government initiative to simplify the management of various types of licence in NSW. Around 22,000 current native animal keeper and import and export licences are now managed on the GLS.

### Number of licences issued by category in 2008–09

Interstate import and export	2,257
Scientific research	1,148
Reptile keepers	4,522
Amphibian keepers	309
Mammal keepers	23
Bird keepers	650
Companion animal	97
Fauna dealers	18
Miscellaneous	546
<b>Total</b>	<b>9,570</b>

DECC is preparing a code of practice for the private keeping of native reptiles. The code will contain compulsory standards and optional guidelines, and will include minimum cage sizes. It is being developed with advice from keepers and the pet shop industry.

During 2008–09, DECC audited animal keepers in cooperation with the Australian Government. DECC is also developing a training program for auditing staff to ensure consistent approaches to inspections and enforcement.

In partnership with the NSW Wildlife Council, DECC began developing a code of practice to guide the work of over 4,000 volunteers in NSW who rescue and rehabilitate native fauna.



## Marine parks and aquatic reserves research

NSW has six marine parks encompassing about 34% of the state's coastal waters. Marine parks are managed through zoning plans, which protect sensitive areas and designate where sustainable activities can occur. See 'Conserve natural and cultural values through an integrated system of public and private lands' for information on the review of zoning plans.

DECC is creating high resolution maps of seabed characteristics to provide a better estimate of seabed habitat distribution and structure in the parks. So far, around 480 square kilometres of seabed in NSW marine parks have been mapped.

DECC is also undertaking a range of specific marine research projects, including:

- surveying fauna and flora, including introduced species and reef fish
- monitoring the distribution and behaviour of dolphins
- determining the causes and effects of coral disease
- evaluating impacts of changes in land use on marine habitats and fauna
- evaluating spatial patterns of human use and activity on marine habitats and fauna
- assessing visitor satisfaction with, and the local economic benefits and impacts of, marine parks.

## Marine wildlife management

Each year, DECC responds to numerous incidents involving whales, seals, dolphins and turtles. In 2008, DECC recorded 125 incidents which were attended by DECC staff or fauna rehabilitation groups. About 60% involved marine reptiles, particularly green turtles.

The most prominent incident occurred in August 2008, when staff from DECC, Taronga Zoo, Seaworld and other organisations responded to reports of an abandoned humpback whale calf near Mackerel Beach on the western shores of Pittwater, in northern Sydney.

The plight of the whale calf captured the community's attention. After four days of attempts to reunite the calf with other whales and carefully monitoring its health, a decision was made in consultation with animal welfare groups to euthanase the animal. A post mortem confirmed that the whale was a 7–10 day old calf in poor physical condition, with several shark bites and suffering from acute pneumonia and stomach ulcers.

DECC is continuing to work with experts to re-examine its policy and procedures for incident responses, training, and communication with other expert organisations. A workshop in Sydney in February 2009 brought together representatives from the Australian Government, each state, the Royal Australian Navy, Department of Defence and marine mammal researchers. Another workshop is planned for late 2009.

## Pest animal and weed control

Reducing the impact of invasive species is one of the 13 statewide targets for natural resource management in the State Plan. Examples of weed control programs undertaken in national parks and reserves during 2008–09 include:

- control of broom and willow trees in Kosciuszko National Park
- long-term control of weeds such as St Johns wort, vipers bugloss and serrated tussock at Lake Jindabyne in Kosciuszko National Park (a partnership with Green Fleet Australia)
- hawkweed location and destruction in Kosciuszko National Park
- eradication of bitou bush in national parks on the south coast
- control of ground asparagus and cape ivy to protect littoral rainforest on Cape Hawke on the mid north coast
- alligator weed control in Lane Cove National Park in Sydney.

## Fox and bitou bush threat abatement plans

The *NSW threat abatement plan for predation by the red fox* commenced in 2001 and is currently being reviewed. The review has identified that fox control on the NSW mainland is an effective method for protecting threatened shorebirds such as the little tern and pied oystercatcher. Fledgling success of these birds was much greater at sites where foxes are controlled.

In some areas, fox control has been expanded onto private lands around priority threatened species sites in national parks. This has been a collaborative approach involving government agencies, catchment management authorities, livestock health and pest authorities and the community. Around the Warrumbungle National Park, for example, the Namoi Catchment Management Authority has funded an expansion of fox control onto 13 neighbouring properties. The aim is to maximise protection of the brush-tailed rock wallaby population, including animals recently released into the park as part of a captive breeding program.

On 28 May 2009, the Minister for Climate Change and the Environment officially opened Yanga National Park to visitors. Yanga, in the Riverina, covers 65,000 hectares including 19,000 hectares of river red gum forests. Since purchasing the former pastoral station, DECC has undertaken extensive pest animal and weed programs.

In 2008–09, an extensive fox control program involved baiting 1,000 permanent bait stations in the park. This has significantly reduced foxes within the drought-affected landscape. A feral pig control program was also completed.

DECC staff and contractors also successfully controlled boxthorn, tamarix, spiny burr-grass and agricultural weeds.

Under the bitou bush and boneseed TAP, control programs have been implemented at 106 sites along the NSW coast over the past three years. This work is helping to protect about 90% of the biodiversity identified in the TAP as being at risk.

The implementation of the threat abatement plan, *Invasion of native plant communities by Chrysanthemoides monilifera* (bitou bush and boneseed) was 'highly commended' as an on-ground ecosystem restoration project by the Society for Ecological Restoration International and the *Ecological Management and Restoration* journal.

A bitou bush management manual was launched in January 2009 by the Federal Minister for Environment, Heritage and the Arts, and contains the most up-to-date, practical information on how to manage the weed, from the planning stages through to land restoration and rehabilitation.

DECC is the lead agency for a project with the National Lantana Management Group and Biosecurity Queensland to develop a similar strategy for lantana.

## ■ CASE STUDY

### Operation Safe Haven increases habitat for birds

Whenever exotic rodents invade an island, they severely affect native biodiversity and ecosystems, often leading to the extinction of unique species of flora and fauna. Exotic rodents can prey directly on native animals, compete with native wildlife for food, and prevent plant regeneration by consuming seeds, seedlings and mature plants.

Many threatened species in NSW occur only on offshore islands. Operation Safe Haven aims to protect these species and restore damaged island ecosystems by eradicating rodents from all NSW offshore islands.

This year, Brush Island on the south coast of NSW was declared free of introduced pests following an earlier operation to eradicate ship rats using poison baits placed in bait stations. Rats arrived on the island when a steamer ran aground in 1932, rapidly increased in number and destroyed much of the island's native plant and animal life, particularly seabirds.

Monitoring undertaken in 2008–09 found healthy populations of wedge-tailed shearwaters, short-tailed shearwaters, sooty shearwaters and little penguins. Most astonishingly, the white-faced storm-petrel, the smallest burrowing seabird in NSW, has returned to breed after an absence of 70 years.

The vegetation on the island is also recovering well. The plants are no longer being destroyed by rats, and are benefiting from higher quantities of nutrients being brought ashore by the increasing numbers of breeding seabirds.

Operation Safe Haven has regained an island sanctuary – a place where seabirds and other wildlife can breed undisturbed by introduced pests.

### Feral goat control

Work in western NSW has continued to reduce the impacts of feral goats in reserves by managing watering points, trapping, shooting and strategic fencing. Funds have been provided from the Natural Heritage Trust to monitor the effectiveness of this project at Culgoa, Gundabooka and Paroo-Darling national parks and Nocolleche Nature Reserve.

On the south coast, an ongoing feral goat culling program in Morton and Tarlo national parks and neighbouring properties was undertaken in September 2008 and March 2009. The program, which has been running for over 10 years, is a collaborative effort with Goulburn Livestock Health and Pests Authority. More than 400 goats were culled in 2008–09.



Photo: N. Carille, DECC.

Little penguins are flourishing on Brush Island.



Photo: N. Carille, DECC.

The diminutive white-faced storm-petrel has begun breeding on Brush Island again, following rat eradication.

In Yathong Nature Reserve in the central west of NSW, around 3,000 goats were removed, and in four reserves in the far north of NSW near Bourke, nearly 13,000 goats were removed.

### Feral pig control

DECC has committed substantial funds to pest control on the newly acquired Toorale property (see 'Protected areas acquisition program'). An aerial survey and pig control operations in April 2009 were undertaken with livestock health and pest authorities, which also carried out pig control on neighbouring properties with over 2,000 pigs being culled. The collaborative aerial shoot was then repeated both on Toorale and the neighbouring properties in June 2009, resulting in 380 pigs being culled on Toorale and over 3,000 being culled on neighbouring properties.

### Wild dog control

Controlling wild dogs has continued to be a major priority for park managers during the year. Control is guided in most cases through local wild dog management plans which are developed in consultation with other public land managers, livestock health and pest authorities and wild dog control associations. The plans identify where dogs are causing a problem and where control programs need to be undertaken, independent of land tenure.

Control methods vary from area to area, but may include a combination of aerial and ground baiting, trapping, shooting and exclusion fencing. Baiting and trapping are the preferred methods and, in many areas, specialist dog trappers have been employed in collaboration with livestock health and pest authorities. Aerial baiting was undertaken in 40 reserves during the year.

Major emphasis has been given to the Monaro and Southern Tablelands regions, the Northern Tablelands, the Mudgee/Merriwa area of the Central Tablelands, and Sturt National Park and Ledknapper Nature Reserve in western NSW.

### Deer control

Deer browsing, trampling and wallowing are having a serious and increasing environmental impact in the Illawarra region. In Kangaroo Valley, a number of rural landholders have formed a Landcare group in partnership with DECC to help control feral deer in specially approved culling zones in national parks and on adjoining properties. The program has been running for the past three years. Thirty deer were culled during 2008–09.

The deer control program in Royal National Park and Illawarra Escarpment State Conservation Area with Sutherland Shire Council and Sutherland Livestock Health and Pest Authority continued, with ground shooting of rusa deer taking place mostly on the boundary between the park and suburbs, in coastal valleys and in rainforest margins. There were 20 culling operations in July–October 2008 and May–June 2009.

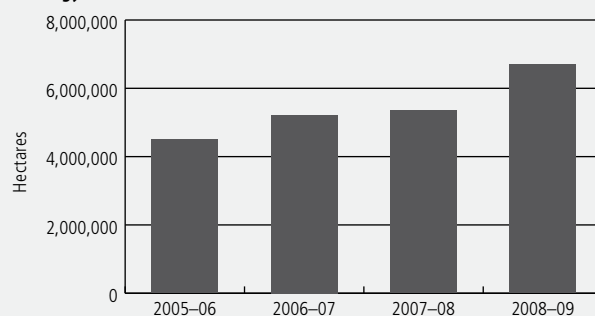
## ■ PERFORMANCE INDICATOR

### Reserves covered by an adopted fire management strategy

**Definition:** This indicator measures the cumulative area of the reserve system covered by fire management strategies adopted under the *National Parks and Wildlife Act 1974*.

DECC works with local bushfire management committees across the state to ensure that its strategies in parks are compatible with each district's bushfire management plan.

#### Area of reserve system covered by an adopted fire management strategy



**Interpretation:** DECC has prioritised the development of fire management strategies, resulting in a significant increase in the number of reserves covered by strategies since 2004.

At 30 June 2009, 828 reserves were covered by an adopted fire management strategy. This is an increase of 773 reserves since June 2004 when only 55 were covered by an adopted strategy. Adopted fire management strategies now cover over 6,704,861 hectares of the reserve system, which is effectively 100% of the parks and reserves where a fire management strategy is required.

## Fire management

DECC cooperates and coordinates firefighting operations with the NSW Rural Fire Service, Forests NSW, the Sydney Catchment Authority and NSW Fire Brigades. DECC is a member of the NSW Bush Fire Coordinating Committee and the Australasian Fire and Emergency Services Authorities Council.

DECC contributes to district bushfire management plans and develops reserve fire management strategies (see performance indicator) for fireprone parks and reserves.

Over the past year, DECC undertook prescribed burning on over 59,202 hectares of parks and reserves, which equates to more than 60% of the hazard reduction burning carried out by all fire agencies across NSW. This also represents a 44% increase in the area treated by hazard reduction on the previous five-year annual average, despite less than ideal burning conditions on the north coast in March and May 2009. DECC also treated approximately 1,800 hectares on lands next to parks. In addition, hazard reduction through means such as slashing was carried out on over 1,013 hectares of parks. Over 9,500 kilometres of DECC fire trails were regularly maintained in 2008–09.



## Prescribed burns conducted over the past five years on DECC managed lands

Fire year	Number of burns	Total hectares treated
2004–05	148	41,037
2005–06	162	27,400
2006–07	76	23,718
2007–08	157	48,514
2008–09	168	59,202

In 2008–09, wildfires in DECC parks and reserves accounted for only 3.14% of the total number of wildfire incidents in NSW. Approximately 21,745 hectares of DECC land were burnt.

During the year, large wildfires covering more than 1,000 hectares were recorded in Guy Fawkes River, Wollemi, Deua, South East Forests, Fortis Creek and Budawang national parks. These fires were caused by lightning and by suspected arson. DECC firefighters also assisted with 42 fires in areas outside reserves. One fire suspected to be caused by arson, in Kumbatine National Park on the mid-north coast, resulted in the tragic death of one of DECC's valued firefighters.

DECC provided support and resources to Victoria during the devastating fires in February 2009. As part of the coordinated NSW response, DECC committed more than 380 staff and 49 tankers to the Victorian fire suppression and recovery effort.



Photo: K. Nowak, DECC

Conducting a hazard reduction burn.

## Wildfires controlled over the past five years on DECC-managed lands

Fire year	Number of wildfires	Total hectares
2004–05	211	16,887
2005–06	202	26,695
2006–07	372	254,727
2007–08	160	43,726
2008–09	166	21,745

## CASE STUDY

### Bioacoustic monitoring of fire-sensitive threatened fauna

Effective threatened species management requires knowing a population's size, and whether the population is increasing, decreasing or stable. Measuring this can be surprisingly difficult, particularly for rare or cavity-dwelling animals. However, recent technological advances mean it is now possible to monitor populations of elusive species using automated digital recording field units and automated call recognition (bioacoustic monitoring).

One project is using automated bioacoustic monitoring to assess the status and distribution of the threatened ground parrot in NSW. This parrot is only one of three ground-dwelling parrots in the world. Its population has declined in number and distribution so it is now restricted to isolated pockets in coastal and sub-coastal heathland and sedgeland habitats, where it lives in dense vegetation.



DECC and the Foundation for National Parks and Wildlife are carrying out bioacoustic monitoring to determine the size and distribution of ground parrot populations throughout NSW.

Photo: L. Gale, Foundation for National Parks and Wildlife.

The ground parrot is difficult to see, but as it has a distinctive call given at dusk and dawn, the size of its population and distribution throughout NSW can be assessed using bioacoustic monitoring.

Results will be used to explore the relationship between the parrots and fire – a critical issue for their conservation and management.



### Origin and movement of wildfires affecting parks and reserves in 2008–09

Fire origin	Fire movement	Number of fires	Percentage of NSW fires on DECC lands
On-park	Controlled on-park	123	2.32%
On-park	Moved off-park	19	0.36%
Off-park	Moved on-park	24	0.45%

DECC is committed to recovering and rehabilitating its lands after fire. During 2008–09, measures to ensure that disturbed areas were given enough support to recover included:

- using fire suppression strategies with minimum environmental impact
- rescuing wildlife with the assistance of volunteer groups such as the Wildlife Information and Rescue Service (WIRES)
- rehabilitating temporary fire control lines (temporary bulldozer trails and hand-constructed trails and fire breaks)
- removing dangerous tree limbs and trees from visitation areas
- implementing targeted weed and feral animal control programs after fires.

### Fire research

DECC continued researching ways in which native flora and fauna respond to fire, and how to minimise the extinction risks of species sensitive to particular patterns of fire, while balancing this with the protection of life and property. Over the past year, DECC researched the impact of fires on tree hollows and associated arboreal fauna, the impact of fire frequency on native mammals, the impacts of fire on various threatened plants, ways in which fire size can affect the post-fire persistence of certain plants, and the role of fire in setting the balance between cypress pines and eucalypts in the woodlands of western NSW.

### Long-term response of fauna to bushfire and drought in Nadgee

Results were published this year from a study of ground-dwelling, small mammals in coastal eucalypt forests in south-eastern Australia from 1970 to 2005. The mammals studied included four native small mammals (agile antechinus, dusky antechinus, Australian bush rat and Australian swamp rat) and one introduced species (the domestic mouse).

The study area burnt in an intense fire in 1972 and was partially burnt again in 1980. Both fires were associated with prolonged drought. It was found that the intense 1972 fire did not kill all the animals immediately, but led to each species' disappearance over 18 months. Thus, intense fire had a delayed but catastrophic impact on small ground-dwelling mammals.

The less intense 1980 fire did not lead to local extinction, but numbers of native species declined as drought conditions persisted through 1983. These fluctuations in populations show that factors other than fire, such as rainfall and drought, can affect these small mammals.



Photo: K. Stepnell.

DECC's research showed that intense fire had a delayed but catastrophic impact on small mammals such as the Australian bush rat.



Photo: P. Foley

## Contribute to increased tourism, community wellbeing and regional development through parks and reserves

### Taskforce on Tourism and National Parks

In November 2008, the NSW Government received the final report from the Taskforce on Tourism and National Parks in NSW and agreed to support the key findings (see [www.environment.nsw.gov.au/parks/tourismtaskforce.htm](http://www.environment.nsw.gov.au/parks/tourismtaskforce.htm)). The report confirmed that while national parks should continue to contribute to nature based tourism in NSW, conservation must remain a priority. The taskforce brought together individuals with conservation and tourism backgrounds and there was general agreement that, where additional visitor services and accommodation were required, small, low-key, eco-friendly services and facilities were the most appropriate.

The report contains 20 recommendations to promote the nature tourism industry and make it competitive with nature tourism in established areas such as Tasmania and New Zealand. Some recommendations are:

- the NSW Government should commit to sustainable nature experiences tourism as a priority
- destination and product development, marketing and promotion should focus on select key areas that offer iconic sustainable nature
- visitor accommodation and facilities policies should be reviewed to clarify where and what low key, low impact sustainable nature tourism facilities, including accommodation, are appropriate in national parks and reserves. The review should address equitable but appropriate community access.

An inter-agency group made up of Tourism NSW and DECC was established in February 2009 to oversee the implementation of the recommendations.

### Volunteer participation and partnerships

In 2008–09, volunteers contributed significantly to conservation and public appreciation of national parks. It is estimated that each year at least 3,800 volunteers contribute more than 172,000 volunteer hours to weed and fire control, conservation works, threatened species programs and community education.

In 2008–09, DECC continued its partnership with Conservation Volunteers Australia (CVA), engaging 119 volunteers from Australia and overseas who contributed more than 356 volunteer days to planting, weed removal and the repair and construction of a walking track.

The successful volunteer tourism program involving CVA and Charles Sturt University continued at Montague Island, and CVA also launched a new five-day volunteer program for Sydney Harbour National Park where volunteers regenerated bushland during the day and spent their nights at the historic Governor's Cottage at Middle Head.

DECC worked in partnership with the National Parks Association of NSW on 'HarbourKeepers, CoastKeepers and NatureKeepers' programs which engage volunteers in and around Sydney and the Central Coast. In 2008–09 the programs involved 145 volunteers contributing more than 1,142 hours to bush regeneration and community biodiversity surveys. For example, the biodiversity survey in Marramarra National Park contributed valuable data on botany, mammals, herpetology and birds.

As part of the Shoalhaven Youth Volunteering Initiative, DECC worked with students from Shoalhaven High School to interpret the importance of Bomaderry Creek and Bomaderry Children's Home to the Aboriginal community. The project involved consultation with Elders and the planning, design and construction, with help from Boori pre-school students, of a mosaic serpent telling the story of the local Aboriginal community. The project was acknowledged with several awards and is now part of ongoing education programs with local schools and the Aboriginal community.

Volunteer astronomers are supporting the *Discovery* program's celebration of the International Year of Astronomy 2009. Astronomers from across the state have volunteered their time, expertise and telescopes to support events that explore the skies above national parks.

DECC recognised the 20th anniversary of the *Chase Alive* program in Ku-ring-gai Chase National Park and northern Sydney through the making of a documentary – *The Chase Alive Experience*.

In 2009, DECC finalised a volunteering policy to support and encourage volunteering across the agency. A training course in volunteer management was also piloted for DECC staff and will be available later in 2009.

DECC and the Department of Premier and Cabinet hosted a Ministerial Forum on Environmental Volunteering at the Powerhouse Museum. The forum showcased innovative environmental volunteering initiatives from community-based organisations, non-government organisations and the Government.

## Discovery program

The *National Parks Discovery – Walks Talks and Tours* program provides community education and interpretation to bring natural and cultural heritage themes alive. *Discovery* employs local people with appropriate backgrounds to deliver tours and events in national parks and reserves, and through outreach programs in schools. *Discovery* activities during the year included lighthouse tours, wildflower walks, whale watching, community open days on Sydney Harbour islands, bird watching, tree planting, spotlighting, snorkelling and bike riding.

On the south coast during the summer holidays, *Discovery* Rangers took visitors on patrols of coastal shorebird habitats to explain the importance of protecting these threatened birds.

In conjunction with the National Marine Science Centre, a free event was conducted each month at the Solitary Islands Marine Park, where guest speakers included underwater photographers and film makers, scientists, children's authors and specialist shipwreck divers. These events proved very popular.

*Discovery* guide training was conducted at Mangrove Mountain near the Central Coast for new and existing volunteer guides. Nine new guides were recruited and trained.

## Discovery for Schools

In 2008–09, more than 74,000 students took part in cultural and environmental educational activities through *Discovery for Schools*.

In southern Sydney, the *Discovery for Schools* Program has been established in Royal and Kamay Botany Bay national parks for many years, involving both primary and secondary students. More than 8,000 students participated during the year. In Kosciuszko National Park, almost 10,000 teachers and students participated.

A Frog Dreaming Conference was held in May 2009 in the Northern Tablelands region, attended by 160 school students. The conference was a joint effort by DECC, Landcare, the catchment management authority and the Department of Education and Training.

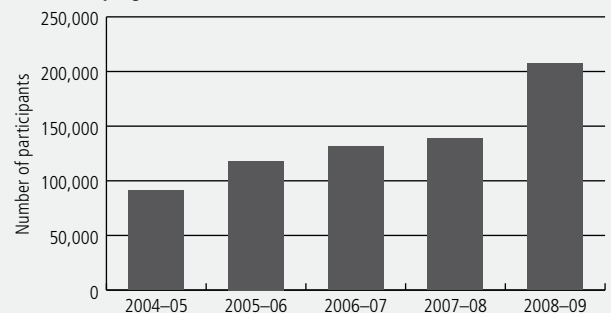
### ■ PERFORMANCE INDICATOR

#### The National Parks Discovery – Walks, Talks and Tours education program

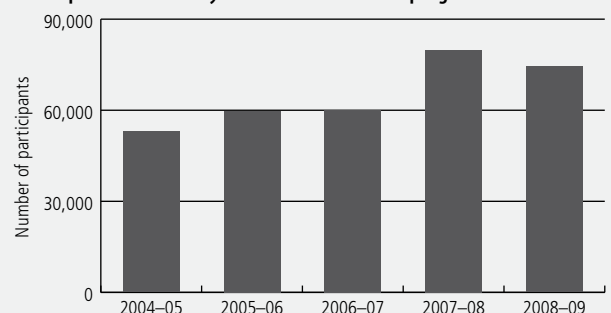
**Definition:** This indicator measures the total number of participants in all *National Parks Discovery – Walks Talks and Tours* education program activities. It also indicates the percentage of a surveyed sample of participants satisfied with their experience. DECC surveys at least 10% of participants in each regional program over the year.

*Discovery for Schools* is conducted in regions that have the required demand for, and suitably skilled staff to deliver, school education activities which include providing key syllabus and curriculum requirements. Activities are school excursions to national parks or outreach programs in classrooms.

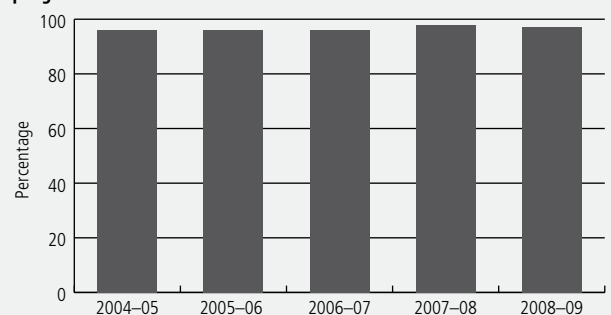
#### Total number of participants in *Discovery – Walks, Talks and Tours* education programs



#### Participants in *Discovery for Schools* education programs



#### Percentage of participants satisfied with *Discovery* education programs



**Interpretation:** *National Parks Discovery – Walks, Talks and Tours* continues to attract participants across the state. The large increase in participation in 2008–09 is partly due to the collation, for the first time, of data from a number of regional guided tour programs conducted at historic sites, caves, lighthouses and other places.

Regional economic hardships and wet weather during 2008–09 affected *Discovery for Schools* participation figures in some areas.

The level of satisfaction among surveyed participants remains high, showing that program activities remain engaging and enjoyable.

## Park visitation management

Under a State Plan target, DECC is working to increase visits to parks and reserves by 20% by 2016 by developing more programs that encourage an appreciation of parks and by providing access to recreational opportunities.

In 2008–09, DECC implemented a new system of estimating visitor numbers to parks across the state. The system involved a telephone survey. More than 1,200 people were interviewed every four weeks from February 2008 to February 2009, giving a total of 15,715 interviews.

The new methodology provided important information about visitors, including:

- 91% of visits were from people from NSW. Victoria and Queensland provided the most interstate visitors, followed by the Australian Capital Territory.
- 54% of visitors went walking during their visit. Water-based recreation, picnicking and dining, and sightseeing were also popular.



Photo: R. Scott, DECC.

*DECC surveys have shown that 90% of visitors are satisfied with their experience in NSW national parks.*

Using this new, more reliable method, it is estimated that NSW national parks received 38 million visits in 2008, which is considerably higher than previous estimates. While it is thought that previous methods significantly underestimated the number of visits, the increase is probably partly due to promotional work undertaken to encourage visitation in 2008. There were high visitor numbers in the summer of 2008–09, with many parks recording one of the busiest summers on record.

Further research will explore the demand for outdoor nature-based recreation across the state, with results to be reported in 2009–10. An inventory of visitor sites has been compiled to provide an overview of the supply of recreational opportunities, and to undertake broad-scale visitor planning.

## Parks Eco Pass

Parks Eco Pass is the new licensing system for recreation and tour operators in NSW national parks and reserves. It was completed in 2009 and will be implemented during 2009–10. This streamlined, statewide licensing system will support the growth of nature and cultural based recreation and tourism, while better ensuring the sustainable use of NSW parks and reserves.

DECC currently licenses 200 recreational and tour operators to conduct a large range of activities, including sightseeing, bushwalking, mountaineering, surfing and kayaking, and cultural, educational and eco tours.

## Parks promotions and marketing plan

Implementation of DECC's promotions and marketing plan for NSW national parks was carried out during 2008–09, following its development the previous year. The electronic newsletters *Explore* and *Naturescapes* were established, and an active public relations campaign was conducted in travel and lifestyle media.

## Upgrading visitor facilities

In 2005, the NSW Government committed \$38 million over four years to improving visitor facilities in Sydney's national parks and reserves through the Revitalising Sydney's National Parks program. Some of the major works in progress or completed in 2008–09 included:

- redevelopment of Wentworth Falls picnic area and lookout in the Blue Mountains
- heritage works at Baker's Cottage in Lane Cove National Park
- maintenance of Smuggler's Track at Barrenjoey Headland to ensure safe public access
- upgrade of facilities at Goat Island in Sydney Harbour National Park in preparation for resumed public access
- a refurbishment of Kamay Botany Bay National Park Visitor Centre.

Across other parts of NSW, significant works included:

- an upgrade to the Minnamurra Rainforest boardwalk and visitor centre, which commenced in September 2008 and is planned to continue over the next four years
- restoration of park accommodation buildings in northern NSW, including Inverary Homestead and outbuildings in Dhinna Dhinawan National Park, two park houses in Kwiambal National Park, and a park house in Gibraltar Range National Park
- an upgrade to the mangrove boardwalk and replacement of road bollards on Ash Island, undertaken between February and June 2009



- the construction of a 4WD-accessible camping and day-use facility at Halls Peak in Oxley Wild Rivers National Park, which was completed in February 2009
- completion of the Pilliga Forest Discovery Centre at Baradine in north-western NSW, which cost \$2.5 million and was officially opened in March 2009.

## Leasing and property management

DECC has a commercial property and leasing portfolio that enhances facilities and services for park visitors. During 2008–09, revenue from all DECC property and leases totalled \$16.612M. Highlights from 2008–09 include:

- the finalisation of leases for 482 additional beds to 46 lessees, which will provide additional accommodation for visitors to Kosciuszko National Park
- the finalisation of lease negotiations with Perisher Blue Pty Ltd to rationalise various lease interests in the Perisher Range resorts under a consolidated mountain lease with common terms and tenure
- the Empire Marina at Bobbin Head, administered by DECC, was awarded an MIAA Australian Marina of the Year 2009 award
- progress in discussions with utility providers, including Sydney Water Corporation and Energy Australia, to negotiate a head deed of easement finalising a commercial arrangement, with Blue Mountains City Council, to operate the newly upgraded Katoomba Scenic Skyway, which traverses Blue Mountains National Park.



Photo: G. Steenbeeke, DECC.

## Conserve natural and cultural values through an integrated system of public and private lands

Building a comprehensive, adequate and representative reserve system to protect natural and cultural heritage in NSW ensures such heritage is conserved. Protected areas on private and other public lands support conserved areas, particularly where ecosystems are poorly represented in reserves.

### National Parks and Wildlife Advisory Council



*Members of the National Parks and Wildlife Advisory Council. Left to right: Ronnie Harding, Jane Judd, Diana Hoffman, Glenda Chalker, Ken Prendergast, Anne Reeves, George McKay, Jean Rice and Bruce Hayllar.*

*Absent: Sally Barnes, Geoff Cary, Janet Hayes, James Ingram, Nick Jacomas, Ian McKenzie, Rod Young, Christine Ferguson.*

The National Parks and Wildlife Advisory Council is constituted under the *National Parks and Wildlife Act 1974*. The council may have up to 19 members with qualifications required of each member as set out in the Act. The council advises the Minister on a range of issues, including the management of parks and reserves, the protection of wildlife, conservation agreements and wilderness areas.

Four meetings are held each year. The council's work is also carried out through subcommittees.

The council has a statutory role in reviewing plans of management for parks and reserves. During 2008–09, the council considered and made recommendations on 20 draft plans of management covering 34 parks and reserves. Significant plans included those for far south coast escarpment parks, Chaelundi National Park and State Conservation Area, and Yellomundee Regional Park.

The council also commented on tourism and national parks, the review of the National Parks and Wildlife Regulation 2002, the biodiversity strategy discussion paper, and various lease proposals for land in Kosciuszko National Park.

### Park Management Program

DECC's Park Management Program aims to continually improve systems, policies and procedures that support park managers. In 2008–09, DECC began:

- reviewing information systems to support tourism and partnership activities
- developing a resource tracking system to support fire operations
- developing a planning information management system and a pests and weeds information system.

### State of the Parks

Through the NSW State of the Parks program, park managers monitor and evaluate the condition of protected areas, identify pressures in national parks and reserves, and find ways of managing these areas more efficiently.

The NSW State of the Parks program continues to set a benchmark for conservation of all national parks and reserves. This was recognised at the Fourth IUCN World Conservation Congress in Barcelona, Spain, in September 2008 where DECC led two sessions showcasing the State of the Parks program.

DECC supported a project with the University of Queensland, Parks Victoria and the Australian Department of Environment, Water, Heritage and the Arts to refine State of the Parks programs. This project is now being used to inform the Australian Government's National Reserve System strategy. The research project will finish in the third quarter of 2009.

### Plans of management

Under the *National Parks and Wildlife Act 1974*, a plan of management must be prepared for each terrestrial park and reserve. These plans are statutory documents that set out conservation values; management goals; priorities for managing weeds, pests and fire; access arrangements;

recreational opportunities; visitor facilities; neighbour relations; and priority works to be carried out in the years ahead.

In 2008–09, 46 plans covering 70 parks and reserves across 450,000 hectares were adopted by the Minister. These included plans for Guy Fawkes River National Park, Nature Reserve and State Conservation Area, Nearie Lake Nature Reserve, Conjola National Park, and Brindabella National Park and State Conservation Area. A further 34 draft plans covering 48 parks and reserves were placed on exhibition for public comment during the year.

Regional operations plans are prepared each year to ensure that the actions and strategies in plans of management are implemented in a systematic and prioritised way. A new framework for regional operations plans was introduced in 2008–09.

## Asset maintenance

As part of its total asset management plan, DECC is implementing a statewide asset maintenance system (AMS) to coordinate management and maintenance of the enormous variety of assets in national parks and reserves. The AMS provides a comprehensive inventory of assets; a statewide tool for consistent and efficient scheduling of maintenance; and a powerful reporting tool for local or statewide analysis of maintenance activities and costs.

Implementation of the new system continued in 2008–09, with comprehensive asset data capture (including GIS information) for infrastructure assets, AMS user training, and field support. The AMS was more than 50% operational across NSW by 30 June 2009, with offices in western and southern NSW due to begin operating the new system later in 2009.

## Historic heritage maintenance

DECC has one of the largest holdings of historic heritage sites in NSW. Each year, DECC manages major planning, works and maintenance projects to ensure that significant heritage is conserved. Highlights in 2008–09 included:

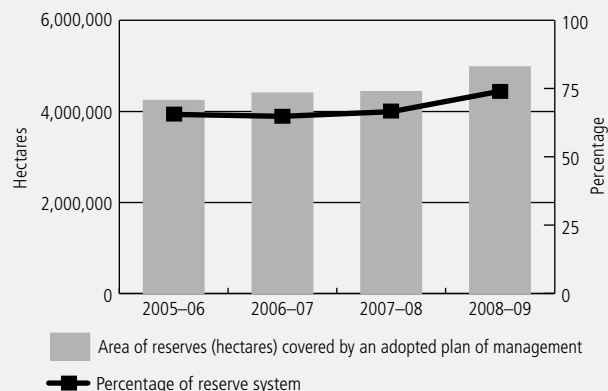
- completing 3D modelling in June 2009 for the historic Innes Ruins near Port Macquarie by British firm Plowman Craven. This is thought to be the first use of the 3D technology in NSW, and will enable DECC to more effectively monitor the condition of the ruins.
- continuing to rebuild iconic alpine huts burnt by wildfires in 2003, with O'Keefe's Hut in the Jagungal Wilderness area completed in January 2009, and

### ■ PERFORMANCE INDICATOR

#### Adopted plans of management for the reserve system

**Definition:** This indicator measures the area and percentage of the reserve system managed by DECC which are covered by an adopted plan of management.

#### Area and percentage of reserve system covered by an adopted plan of management



**Interpretation:** During 2008–09, 46 plans of management were adopted by the Minister for Climate Change and the Environment, covering 70 parks and reserves, and an area of over 450,000 hectares. As at 30 June 2009, there were 270 adopted plans covering 381 parks and reserves. In total, more than 4.8 million hectares are now covered by an adopted plan of management, representing more than 70% of the reserve system.

Parks with no adopted plan of management are managed under the principles set out in the *National Parks and Wildlife Act 1974* and in accordance with DECC policy before a plan of management is adopted.

Sawyers Rest House and Brooks Hut in Kosciuszko National Park completed in March 2009.

- awarding a contract for architectural design works to restore the Kiandra Courthouse site. Removal of cement render from the external western (front) and northern walls of the courthouse was completed.

## Marine park and aquatic reserve planning

The zoning plans for Jervis Bay and Solitary Islands marine parks came into effect in 2002, and the Government committed to reviewing the plans after five years.

Following public consultation in late 2007–08, the Marine Parks Authority developed zoning plan review reports for Jervis Bay and Solitary Islands marine parks, and developed



Photo: G. Dunkerley.

A plan of management was adopted by the Minister for Brindabella National Park this year.

a summary of submissions and public consultation during 2008–09. The reports were provided to the advisory committees for each marine park in April 2009. All reports, summary documents and advisory committee comments will be provided to the Minister for Climate Change and the Environment and the Minister for Primary Industries later in 2009 for consideration.

The Marine Parks Regulation 1999 is also due for staged repeal and must be remade by 1 September 2009. Public consultation on a proposed Marine Parks Regulation 2009 and regulatory impact statement was held in May and June 2009.

Work continued on the development of the first NSW aquatic reserve management plan for Cabbage Tree Bay Aquatic Reserve. It is anticipated that the plan will be finalised in 2009–10.

## Marine park and aquatic reserve management

The Marine Parks Authority manages programs to conserve marine biodiversity, while providing opportunities for sustainable use, enjoyment, appreciation and understanding of marine parks. Examples from 2008–09 include:

- the Australian Research Council awarded researchers at Batemans Marine Park two grants worth \$820,000 to study the effects of human impacts and invasive species on estuaries in the marine park.
- Cape Byron Marine Park successfully obtained funding under the DECC Aboriginal Partnerships Funding Program to assist actions arising from the Memorandum of Understanding between the Bundjalung People of Byron Bay (Arakwal), the Bundjalung Byron Bay Aboriginal Corporation (Arakwal) and the Marine Parks Authority. In 2008–09, funds were used to prepare an Indigenous Fishing Atlas for the Arakwal community.
- staff at Lord Howe Island Marine Park encouraged the local community and businesses to become involved in activities for the International Year of the Reef 2008, including an underwater photographic competition for the Lord Howe Island Central School, marine turtle tours for children and a marine naturalist education program.

## Conservation Partners Program

Conservation partnerships promote voluntary conservation on private land, complementing the building of a comprehensive, adequate and representative reserve system. Linking areas of habitat helps protect the state's biodiversity from pressures including the potential impacts of climate change.

The Conservation Partners Program monitors and supports landowners' management of native vegetation and wildlife habitat, geological features, historic heritage, and Aboriginal cultural sites or places of significance. The program is coordinated statewide to support the establishment and ongoing management of partnerships consistent with conservation priorities.

Two *Bush Matters* newsletters and a *Conservation Partnerships* handbook were published, as well as updated web pages and technical management notes.

## Conservation agreements and wildlife refuges

Conservation agreements under the *National Parks and Wildlife Act 1974* protect and conserve significant natural and cultural heritage on private and other non-reserved public lands in perpetuity. They are voluntarily entered into, registered on the land title and legally binding on current and successive landowners.

As at 30 June 2009, there were 257 conservation agreements protecting 52,728 hectares of land managed solely for conservation.

The involvement of non-government conservation organisations and other public landholders in formal conservation commitments continued to grow across the state. For example, the Casper's Hideaway Conservation Agreement in the Kyogle area now formally protects more than 700 hectares of natural habitat for the threatened brush-tailed rock-wallaby.

A review of conservation agreements in the Sydney area was undertaken, including visits to 19 properties to establish monitoring points to measure future changes in the condition of the properties.

A research project was undertaken in partnership with the Foundation for National Parks and Wildlife to explore marketing issues associated with properties with conservation agreements. The project studied how land holders and agents could best be supported when selling or buying land which is protected by a conservation agreement.

Wildlife refuges protect significant wildlife and habitats on private and other non-reserved public lands on a long-term basis. They are noted on the land title and are legally binding on current and successive landowners. Wildlife refuges represent the longest running private land conservation mechanism in Australia, starting in 1948.

As at 30 June 2009, there were 650 wildlife refuges covering 1,934,032 hectares, about 80% of which are managed jointly for conservation and other compatible land uses, and about 10% solely for conservation.

A Voluntary Conservation and Biodiversity Inventory Project, targeting longstanding wildlife refuges and conservation agreements in the South West Slopes and South East Highlands bioregions, was undertaken in 2008–09 to update information about the status of the land and to support land holders with advice and assistance.

Other major partnership projects in 2008–09 included:

- the Community Conservation Corridors project, focusing on land holder involvement in further establishing wildlife corridors in priority areas of the state to address potential implications of climate change



- the Great Eastern Ranges Initiative, with work progressing in the Kosciuszko to Coast and Southern Highlands target areas (see chapter 2 for more information on this initiative)
- the Box Gum Grassy Woodlands Stewardship Project, which aims to protect and conserve this endangered ecological community, and is under way in the Lachlan, Murrumbidgee, Central West, Namoi and Border Rivers/Gwydir catchments, in partnership with catchment management authorities and the Australian Government. Forty-five properties have so far been assessed for conservation agreements.

A funding initiative for landholders has been developed with the Paddy Pallin Foundation, the Foundation for National Parks and Wildlife and the Wildlife Land Trust to provide funding for conservation projects on lands protected by in perpetuity conservation agreements. The program made its first funding grants in 2008–09, providing \$30,000 to 17 private landholders.

## Land for Wildlife

Land for Wildlife is a voluntary property registration program that encourages and assists private land holders to manage parts of their property for wildlife. Registration in this scheme does not change the legal status of a property. The program complements conservation agreements and wildlife refuges.

The Community Environment Network (CEN), a community conservation organisation, coordinates Land for Wildlife in NSW. CEN hosted a conference in August 2008 to promote further development of Land for Wildlife in NSW. Four new local council partners signed up to the program in 2008–09.

## Wildlife Habitats and Corridors program

The Keep Australia Beautiful Council of NSW again undertook its annual Tidy Towns Awards Program, which included key programs to encourage regional and rural communities to keep their environment as a quality place to live. The Wildlife Habitats and Corridors category was sponsored by DECC, to recognise the efforts and achievements of communities working with their local councils to conserve important wildlife habitat. There were 24 entries this year, and the winning project was the Boorowa River Recovery Project, in which 500 hectares was rehabilitated along 60 kilometres of waterways and across 50 properties, in partnership with a range of community organisations and business sponsors.

## Local Government Biodiversity Capacity Building Project

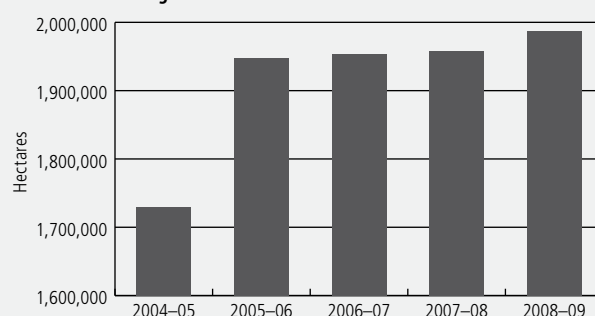
The Local Government Biodiversity Capacity Building Project commenced in 2007–08 as a way to assist local councils to better manage and protect biodiversity.

### ■ PERFORMANCE INDICATOR

#### Private and unreserved land in NSW managed for conservation

**Definition:** This indicator measures the total cumulative land area of NSW that is protected and managed by land holders of private and unreserved public land for conservation. Land is managed under the *National Parks and Wildlife Act 1974*, through voluntary conservation agreements and wildlife refuges.

#### Private land managed for conservation outcomes



**Interpretation:** In 2008–09, 15 new conservation agreements were established over a total area of 29,655 hectares. Nine new wildlife refuges were established over a total area of 258 hectares. At 30 June 2009, landholders managed a total of 1,986,762 hectares of land for conservation outside the reserve system. This represents 2.47% of the land in NSW.

DECC is continuing to build on this project, with a series of workshops and seminars for councils held in the Sydney metropolitan area during 2008–09. A biodiversity training course specifically designed for council staff was also conducted across Sydney. Further training is planned for other regional areas experiencing strong development pressure, such as the NSW north coast.

Ongoing support to councils participating in the project was also provided through a regular newsletter and a web page on DECC's website – visit [www.environment.nsw.gov.au/biodiversity/BiodiversityResources.htm](http://www.environment.nsw.gov.au/biodiversity/BiodiversityResources.htm)

## Nature Conservation Trust of NSW

The Nature Conservation Trust is an independent body established under legislation to enhance support for conservation of natural and cultural heritage among the wider community, encourage stronger private sector investment in conservation, and raise and administer funds to sustain itself into the future. The trust's main work is in promoting conservation on private land in NSW.

This year, DECC supported the work of the Nature Conservation Trust through membership on its Board and Revolving Fund Committee, by providing government funding of \$2 million over four years, and by leading the implementation of recommendations arising from a statutory review of the *Nature Conservation Trust Act 2001*.

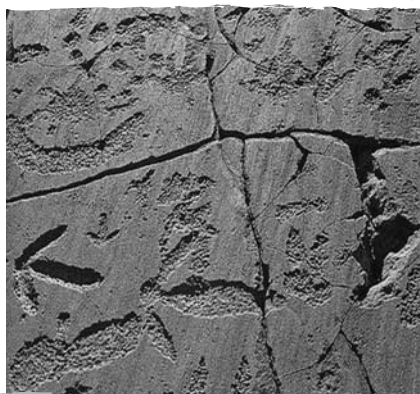


Photo: P. Loughton, DECC.

# Protect and revitalise Aboriginal culture and heritage

## Aboriginal heritage protection

Under the *National Parks and Wildlife Act 1974*, DECC issues Aboriginal Heritage Impact Permits (AHIPs) for any development or activity that is likely to have an impact on Aboriginal objects or Places. Under DECC policy, AHIP applicants must consult with members and representatives of Aboriginal communities that might be affected before commencing with a development or activity.

DECC's Interim Community Consultation Requirements for Applicants have applied since January 2005. As part of DECC's review of these interim requirements, DECC released a discussion paper in 2008–09 and held 19 forums across NSW to seek the views of interested stakeholders. More than 270 Aboriginal people, heritage professionals and government representatives attended the forums, and DECC received 33 written submissions. The issues raised by the forum participants, and their views and suggestions, were vital for drafting the revised community consultation requirements. Once the revised requirements were drafted, DECC conducted further information sessions in key areas around the state to explain the new document and invite comment.

The proposed approach to AHIP consultation is strongly based on traditional lore and custom, which was a strong theme of the feedback received through the forums and in submissions.

Under the draft requirements, proponents must consult with Aboriginal people who know about the cultural significance of the objects or places on their traditional lands that may be impacted on by the proposed development. A new set of community consultation requirements for AHIP applicants will be finalised in 2009–10.

## Aboriginal Places

In 2008–09, DECC reviewed its guidelines and procedures for assessing Aboriginal Place nominations to further streamline the assessment process and better guide staff undertaking assessments.

Two new Aboriginal Places were declared in 2008–09:

- Terramungamine Aboriginal Place is known and valued as a traditional burial ground, and is still recognised as a contemporary Aboriginal burial ground. The area is managed by Dubbo City Council as part of the Terramungamine Reserve Trust lands and is known as the Tubbagah Aboriginal Burial Ground.
- Collingwood Aboriginal Place, near Liverpool, offers a view across a ridgetop and down to the Georges River and surrounding country. It was a meeting place for the Tharawal, Gandangara and Darag peoples, and has views into each of their countries. The place was a vantage point to observe movement, weather patterns, threats from fire, and changes in seasonal vegetation and other resources.

A celebration for Mt Yengo Aboriginal Place was held on the 18 April 2009 to mark one of the largest Aboriginal Places declared in NSW, covering 1,700 hectares of Yengo National Park. Over 150 community members and DECC staff attended the celebrations.

As at 30 June 2009, there were a further three Aboriginal Places under consideration following investigation – Lambie Gorge, Dandry Gorge and Terry Hie Hie. DECC had also commenced investigations into Aboriginal Places at East Ballina, Daruka Axe Quarry, Stockton Riffle Range, Stockton Hospital and Cemetery, Bulahdelah (Alum) Mountain, the former Brewarrina Mission and Cemetery, Nap Nap Burial Ground, Bunyip Hole, Brungle Cemetery, Fort Wallace, Delegate Aboriginal Reserve and Brou Lake (Ten Pelicans).



Photo: DECC.

As part of the Illawarra Repatriation Program, three sets of Aboriginal remains were reburied at the mouth of Lake Illawarra.

## Repatriation and reburial

In southern NSW, DECC implemented a major repatriation program in partnership with six local Aboriginal land councils and Aboriginal communities. The program resulted in the successful collection and return of 27 individual ancestors.

The Illawarra Repatriation Program, Stage 1, involved repatriating five ancestral remains and cultural material. As a result, three sets of remains were reburied at Windang, at the mouth of Lake Illawarra. The other sets of remains are held by DECC awaiting reburial in Stage 2 of the project.

DECC returned a scar tree to the Gandangarra traditional owners, to their building complex in Katoomba. Community members were delighted, and plan ongoing school and community visits to celebrate its return.

A repatriation project carried out with the Gilgandra Aboriginal community in March 2009 returned two sets of remains from the Shellshear Museum at the University of Sydney. The remains had been with the university for more than 50 years and the Gilgandra community was pleased the remains were returned to Country.

In far west NSW, the second stage of the Barham project is under way at Moama, to return 17 skeletal remains held by DECC. The Aboriginal community has negotiated a reburial location on State forest land on the Murray River.

## Aboriginal Heritage Information Management System

The Aboriginal Heritage Information Management System (AHIMS), which has operated for more than 30 years, contains information on 57,603 recorded sites, 9,872 archaeological reports and other Aboriginal heritage reports. It is used by government, industry and heritage professionals for land-use planning, regulation and conservation management. It is also used by local Aboriginal communities to help them manage, conserve and protect local sites and heritage.

During 2008–09, DECC completed several digitising projects for information held on AHIMS, including the rock art tracings project, Aboriginal site cards and archaeological report projects, and photographs and slides of moveable heritage items. These digitising and data management activities are ongoing and greatly enhance the services and capabilities of AHIMS.

## Aboriginal Discovery program

The Aboriginal *Discovery* program involves DECC working in partnership with local Aboriginal communities to encourage the broader community to learn more about local Aboriginal culture and heritage through walks, talks, tours and school programs. During 2008–09, 14 regions delivered an Aboriginal *Discovery* program.

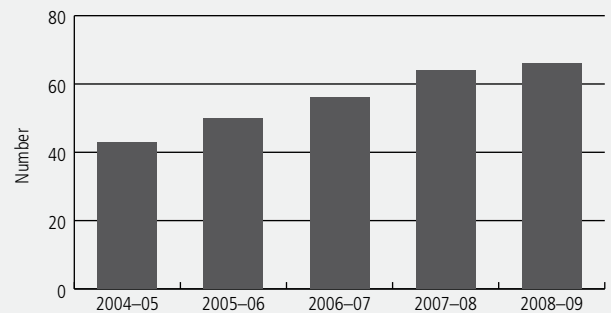
During 2008–09, 48 Aboriginal people across the state were employed to deliver walks, talks and tours, which included art site walks and rock art tours, Starry Starry Night tours incorporating indigenous astronomy, and

### ■ PERFORMANCE INDICATOR

#### Aboriginal Place declarations for sites of Aboriginal cultural significance

**Definition:** This indicator measures the cumulative number of places across NSW that were declared as Aboriginal Places under the *National Parks and Wildlife Act 1974* following recognition of their special significance to Aboriginal culture.

##### Aboriginal Place declarations



**Interpretation:** Two Aboriginal Places were declared in 2008–09 – Terrungamine near Dubbo and Collingwood near Liverpool. As at June 2009, 66 Aboriginal Places had been declared. The number of declarations does not always reflect the level of ongoing investigative work, as investigations may not be completed in a single reporting year, or investigations may find that a nominated place does not meet legislative requirements for declaration.

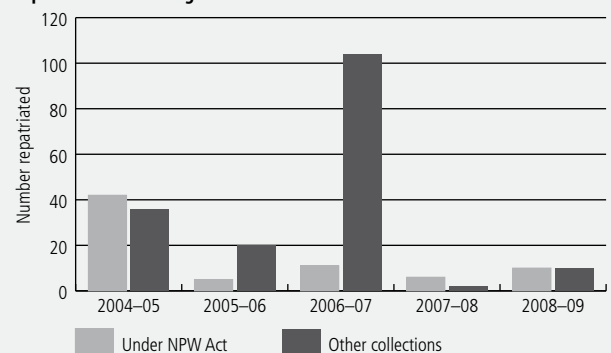
### ■ PERFORMANCE INDICATOR

#### Aboriginal ancestral remains and collections of cultural material repatriated to Aboriginal communities

**Definition:** This indicator measures the number of Aboriginal ancestral remains and collections of cultural material held under the *National Parks and Wildlife Act 1974* (NPW Act) repatriated by DECC to NSW Aboriginal communities. DECC also works with the Australian Museum and community groups to facilitate repatriation under other legislation.

A 'collection' is more than two and up to 200 items. The repatriation process involves extensive consultation with Aboriginal communities to ensure items are returned appropriately and according to Aboriginal community protocols.

##### Aboriginal ancestral remains and collections of cultural material repatriated to Aboriginal communities



**Interpretation:** In 2008–09, DECC returned ten remains and collections held under the NPW Act, and helped return ten remains held by museums and universities to Aboriginal communities.

cultural walks. The 48 Aboriginal *Discovery* rangers across the State provided 28,178 hours of face-to-face interpretive and educational experiences both in parks and at schools in 2008–09.

Two Aboriginal *Discovery* tours introduced last year again proved to be very popular in 2008–09. 'Wiradjuri Wonders' in Kosciuszko National Park focuses on bush tucker, bush craft and traditional pathways through the northern end of the park. In 2008–09, this tour was listed in the Australian national indigenous tour product manual. 'Wanda on Wheels' on the far south coast teaches the public about bush tucker and traditional Aboriginal life, culture, dance and music.



Photo: M. Cooper, DECC

Aboriginal rangers conduct walks in national parks to explain Aboriginal culture to visitors.

## Aboriginal rock art training and management

Over 30 Aboriginal traditional owners, Mutawintji Local Aboriginal Land Council members and DECC staff participated in a rock art training course at Mutawintji National Park in May 2009. The aim was to ensure that there was a large pool of trained and experienced Aboriginal people and DECC personnel with the skills to assess, manage and maintain the extensive Aboriginal rock art across Mutawintji National Park.

In May and June 2009 work was carried out with Aboriginal community members from Cobar and Bourke across a number of properties on the Cobar Penneplain. The Aboriginal rock art on these properties was recorded in the 1970s, but in many instances had not been visited since that time.

In 2009 DECC staff were invited to present a rock art workshop for Parks Victoria, attended by staff from Parks Victoria, Aboriginal Affairs Victoria and the Native Title Office, and archaeologists and anthropologists who work in the Grampians.

## Aboriginal site awareness training

In 2008–09, DECC delivered eight Aboriginal site awareness training programs to 119 participants from the Roads and Traffic Authority, Energy Australia, catchment management authorities and DECC. All programs were delivered with local Aboriginal community representatives, and were designed to improve people's understanding of Aboriginal cultural heritage site values.

Attendees learnt about the cultural values of Aboriginal sites and landscapes, and about the value of community consultation. Attendees also gained knowledge of DECC's responsibilities and procedures, and the legislation that applies to cultural heritage and its management.

## Aboriginal Land Management Framework

The Aboriginal Land Management Framework project (ALMF) is a whole-of-government project led by DECC that coordinates the NSW Government's approach to the access, use and joint management of public land by Aboriginal people. The ALMF project recognises, and will build on, the links between involvement in land management and improved Aboriginal health and wellbeing.

The initial work of the project has been to scope Aboriginal communities' needs and aspirations in relation to land management, so the NSW Government can deliver access and joint management arrangements that meet those needs. Three months of public consultation concluded in April 2009, involving 16 public workshops attended by 215 people from six state agencies and various catchment management authorities.

The workshops provided a forum for Aboriginal communities to present views to the Government, and written submissions were received from key stakeholders. Development of the ALMF will continue in 2009–10 as the Government, in co-operation with NSW Aboriginal Land Council, reviews the feedback.

## New proposals to strengthen conservation of cultural heritage

On 16 April 2009, the Government released for consultation proposed amendments to the *National Parks and Wildlife Act 1974* and the *Threatened Species Conservation Act 1995* that will have implications for cultural heritage conservation. The proposed amendments will:

- modernise and streamline the protection of Aboriginal cultural heritage and related regulatory processes under Part 6 of the *National Parks and Wildlife Act 1974*
- make enforcement provisions more consistent with other environmental legislation
- update wildlife management licensing provisions
- make minor changes to the management of Aboriginal-owned parks under Part 4A of the *National Parks and Wildlife Act 1974*
- update a range of miscellaneous park management provisions.



## Culture camps

Culture camps support and enhance Aboriginal connections to Country through intergenerational learning, the practice of custodial responsibilities and the continuation of valued traditions.

DECC staff delivered a highly successful Hunter Valley Cultural Camp for male Elders, where sites of significance were revisited and re-examined. The Elders were delighted with the opportunity to re-record special areas.

In April 2009, DECC supported Dhungutti-initiated men to carry out a traditional ceremony in the Macleay Valley area. With more than 20 participants, it was the largest ceremony conducted for the Dhungutti/Gumbaingarr people since the 1930s.

In April 2009, DECC and Mission Australia held a culture camp at Camp Cypress near Baradine for Aboriginal high school students from Dubbo who were involved in Mission Australia's Leadership and Cultural Development Program. This program supports young Aboriginal students with the aim of keeping them in school and building resilience. A highlight of the camp was the tour of the Burra Bee Dee Aboriginal Mission near Coonabarabran with Auntie Maureen Sulter, who shared stories of her childhood, and the work she and the local community had done to install a walking track with interpretive signage at the reserve.

With the major purchase by the Australian and NSW governments of Toorale Station on the junction of the Warrego and Darling Rivers, a 'Back to Country' activity was held for Barkindji Kurnu Aboriginal traditional owners in May 2009. The weekend event brought back more than 25 Barkindji Elders directly connected to Country.

Some important Aboriginal sites had been identified through a preliminary Aboriginal cultural heritage survey leading up to the weekend's event, and these were shown to the Elders.

## Rivers Environmental Restoration Program

The NSW Rivers Environmental Restoration Program, which aims to arrest the decline of wetlands in the Lower Murrumbidgee and Lachlan River systems, also includes the Recording of Aboriginal Use and Values project. The project has strong engagement from Aboriginal people throughout the Lake Cargelligo, Griffith, Ivanhoe, Hay, Balranald and Robinvale regions.

The project involves archival and historical research of Aboriginal peoples' connection to the region and the wetlands, oral history research (involving the recording of Aboriginal and non-Aboriginal people), archaeological research to examine past Aboriginal use, and establishing socio-economic development opportunities for Aboriginal people through access to, and use of, the wetlands.

This project aims to finish in June 2010, and will demonstrate the importance of wetlands, Aboriginal cultural values around wetlands and the need to maintain those values through environmental watering. It will also seek to establish and strengthen Aboriginal people's access and use arrangements, enable long-term investment through Aboriginal culture camps and building cultural identity, enable businesses based on cultural tourism to access the wetlands, and provide Aboriginal participation in water partnership committees.

## ■ CASE STUDY

### North West Region Sculptures in the Scrub: young Aboriginal people find out about their past

Four highly regarded sculptors – Brett Garling, Col Henry, Ken Hutchinson and Aboriginal artist Badger Bates – worked with DECC and Aboriginal community representatives from the Pilliga on the Sculptures in the Scrub Project near Baradine. An Aboriginal Elder and a young person assisted each sculptor with the creation of their pieces.

The artist's designs reflected the key themes of recognising and supporting cultural identity and enhancing the natural and cultural beauty of Dandry Gorge. The gorge is a culturally significant landscape for the Gamilaroi people and a place rich in cultural resources.

The project provided an opportunity for Elders and community leaders to exchange cultural knowledge with young Aboriginal people and the wider community. The sculptures have been strategically placed to allow visitors to view these works against the beautiful vista of the gorge and the ruggedness of the Pilliga scrub.



Col Henry's sculpture, *Scrub spirits*, looks out over Dandry Gorge.

To enhance the visitor experience, an Aboriginal *Discovery Program* guided by local Aboriginal people will be developed to explain to visitors the cultural values and significance of the site, and the inspiration and the process that created the sculptures.



Photo: M. Cooper, DECC.

## Increase Aboriginal participation in land, water and natural resource management

### Aboriginal Cultural Heritage Advisory Committee



Photo: DECC.

*The Aboriginal Cultural Heritage Advisory Committee at Byron Bay.*

The Aboriginal Cultural Heritage Advisory Committee (ACHAC), established under the *National Parks and Wildlife Act 1974*, consists of nominees of the NSW Aboriginal Land Council and Aboriginal Elders groups, as well as registered native title claimants and Aboriginal owners. It advises the Minister and the Director General of DECC on any matter relating to identification, assessment and management of Aboriginal cultural heritage in NSW.

On 31 March 2009, the committee members finished their three-year term and work was under way to reconstitute a new committee.

At the final ACHAC meeting on 25 and 26 March 2009 the committee reviewed the goals and priorities of its three-year strategic agenda. Committee members agreed that ACHAC is an empowering mechanism that helps Aboriginal people to have an instrumental role in advising the NSW Government on cultural heritage issues that affect Aboriginal people across the state.

### Aboriginal lands cleanup program

DECC is committed to reducing the incidence of litter and illegal dumping in Aboriginal communities to improve health, social and educational outcomes through the Aboriginal Lands Clean-Up Program. Under the program, Local Aboriginal Land Councils and local councils develop collaborative projects that prevent illegal dumping on Aboriginal-owned lands.

To date, \$500,000 has been provided under the Waste and Sustainability program of the Environmental Trust. The funds have been awarded to ten Local Aboriginal Land Councils and local councils to:

- clean up illegally dumped materials on Aboriginal-owned lands
- deter further illegal dumping
- maximise recycling and resource recovery from illegally dumped materials
- foster relationships between Aboriginal communities, local and state government and community groups.

Five completed projects in 2008–09 have resulted in:

- the re-use of around 2500 tonnes of material
- the recycling of around 100 tonnes of metal, concrete, brick, glass and whitegoods
- the disposal of 317 tonnes of mixed wastes, including 34 tonnes of asbestos material.

A further three projects are nearing completion, and two others are under way.

Successful completion of the projects will allow Aboriginal communities to implement broader waste management strategies. Improved land management also allows Aboriginal communities to explore further land-use options, such as entering into BioBanking or sustainable native forestry agreements.

## Land Alive

Land Alive is funded by the Environmental Trust to build the capacity of Aboriginal landowners to be effective land managers. The project builds knowledge and understanding of the biodiversity and cultural values of land holdings, develops experience in conservation programs and delivers accredited training in conservation land management to the Aboriginal community.

In 2008–09, the Land Alive project funded the development of management plans for five Local Aboriginal Land Councils and commenced training for 30 Aboriginal trainees in conservation land management. The Land Alive project also commenced the Connecting Culture to Biodiversity project which documents and verifies Aboriginal cultural resource use in north-east NSW.

The Land Alive project also funded the NSW Aboriginal Land Council to establish a position dedicated to working with DECC on making the BioBanking Scheme accessible to, and understood by, the Local Aboriginal Land Council network.

## Joint management of parks

The joint management of parks and reserves involves DECC and Aboriginal people sharing responsibility for management, and is an important recognition of the special link that communities have to their traditional lands. Formal joint management options include:

- DECC returning a protected area to its Aboriginal owners and leasing it back to be jointly managed under Part 4A of the *National Parks and Wildlife Act 1974*
- Indigenous Land Use Agreements (ILUAs) with native title holders under the *Native Title Act 1993*
- memoranda of understanding (MoUs) between DECC and Aboriginal communities.

DECC also enters into less formal partnerships with Aboriginal people to protect and manage their culture, heritage and land.

As at 30 June 2009, joint management arrangements included:

- Aboriginal ownership and lease back of Mutawintji National Park, Mutawintji Historic Site and Mutawintji Nature Reserve in the far west; Mt Grenfell Historic Site near Cobar; Biamanga and Gulaga national parks on the far south coast; and the Worimi Conservation Lands near Newcastle.
- ILUAs with the Bundjalung people of Byron Bay (Arakwal) for Arakwal National Park and a proposed Ti Tree Lake Aboriginal Area near Cape Byron; and with the Githabul people for ten parks in the Kyogle area.
- MoUs for Mungo National Park near Mildura; Kinchega National Park near Menindee; Goobang National Park and Snake Rock Aboriginal Area near Peak Hill; Pilliga Nature Reserve near Coonabarabran; and parks in the Central Coast–Hunter Range Region and in metropolitan Sydney and for Saltwater National Park and part of Khapphinghat Nature Reserve.

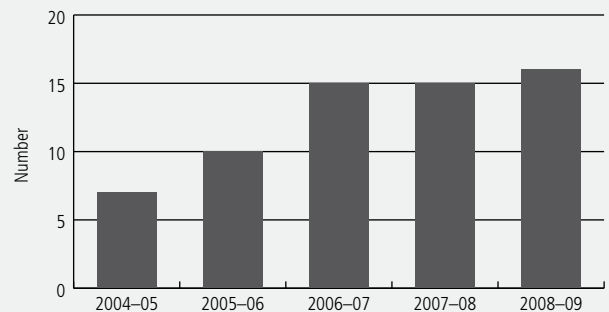
### ■ PERFORMANCE INDICATOR

#### Formal agreements with Aboriginal communities for joint management of protected areas

**Definition:** DECC works with Aboriginal communities to incorporate cultural practices into the management of parks and reserves under joint management arrangements. These agreements are guided and formalised under the *National Parks and Wildlife Act 1974* and the *Native Title Act 1993* (Commonwealth). This indicator shows the cumulative number of formal joint management agreements in place with Aboriginal communities, including leases, Indigenous Land Use Agreements and memoranda of understanding.

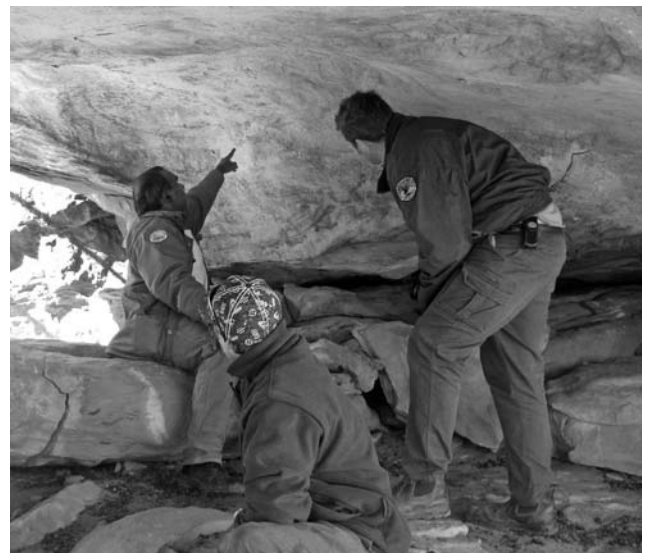
DECC also engages in informal partnerships with Aboriginal communities. However, given the localised nature of many of these, they are difficult to measure accurately and have not been included in this indicator.

#### Formal agreements with Aboriginal communities for joint management of protected areas



**Interpretation:** During 2008–09, one new joint management agreement, the Saltwater National Park MoU between DECC and the Saltwater Tribal Council (Aboriginal Corporation) on behalf of the Saltwater people was signed off in December.

At 30 June 2009, with the inclusion of Saltwater National Park, there are now 16 formal joint management arrangements in place with Aboriginal communities covering 99 areas across more than 1.5 million hectares (or 23%) of the reserve system.



Curator Gerald Quayle explains the significance of Aboriginal rock art in Mutawintji National Park to DECC staff.

Photo: P. Loughton, DECC.

DECC is also working with Forster Local Aboriginal Land Council to cooperatively manage lands at Seal Rocks.

In December 2008, DECC entered into a MoU with the Saltwater Tribal Council for Saltwater National Park. A ceremony was held in April 2009 in Saltwater National Park to celebrate the signing of the MoU. The MoU recognises the Worimi and Biripi peoples' connection to Saltwater National Park and provides for them to continue traditionally using the park and camping in it.

In March 2009, the chairs of the 16 boards of management and committees for Aboriginal joint managed parks in NSW, met in Taree and attended the celebrations for the Saltwater MoU. The chairs agreed to meet twice each year to share experiences and advise DECC. The Githabul people hosted the second meeting of the chairs in Kyogle in June 2009.

## Aboriginal Park Partnerships Program

In 2008–09, DECC established a four-year Aboriginal Park Partnerships Program to support a range of partnerships between DECC and Aboriginal communities for park management, education and interpretation in parks and to support Aboriginal people's access to and use of parks for cultural activities. In 2008–09 the program funded 27 projects, including cultural camps or 'back to country' days, oral histories projects, education and interpretation projects and tourism projects.

Examples of projects funded under the programs in 2008–09 were:

- *Yun Yi Barragay: Walk With Me* – an Aboriginal eco-cultural schools education program
- an Aboriginal Guiding Project on the mid-north coast, in which seven guides received training in Certificate I in Tourism or Aboriginal guiding
- 20 Worimi community members and visitor information officers received training in Certificate 1 in Aboriginal tour guiding
- eight members of the Karuah Aboriginal community completed a Certificate 2 CALM TAFE accredited course through working as a 'green team'
- DECC worked with the Brungle/Tumut Aboriginal community to develop a MoU and an oral and written history of the Brungle/Tumut Aboriginal community, and commenced the training and mentoring of Aboriginal people in delivering cultural tours
- the Towra Team, comprising 15 members of the La Pouse Aboriginal Community, continued to contribute to the management of Towra Point Nature Reserve and Kamay Botany Bay National Park in Sydney's south, acting as wardens for the little tern colony and undertaking bush regeneration and *Discovery* Guide training.

## Other joint projects with Aboriginal communities

DECC worked with Aboriginal communities on a range of other projects and programs across NSW. Examples include:

- throughout 2008–09, DECC consulted with the Bandjalang people regarding management of Mibinjbah (Black Rocks) in Bundjalung National Park, including future recreation management
- an Aboriginal training workshop was conducted in December 2008 for local Indigenous people from the Gundungurra, Jerrinja, Yuin and Wiradjuri communities and Batemans Bay Aboriginal Land Council to introduce them to the *Discovery* Program, with a view to providing skills and networks for establishing their own businesses
- Hawkesbury and Blue Mountains Aboriginal community members worked with DECC on bushcare projects in Yellowmundee Regional Park from May 2009 until 2011, focusing on lantana removal and regeneration of the natural bushland.

## Aboriginal Water Trust

In 2008–09, the Aboriginal Water Trust funded eight new grants to Aboriginal community organisations to purchase and install water infrastructure, and to implement sustainable water and water re-use projects (see also Appendix 17 Grants to community organisations).

## Aboriginal Water Use Capacity Project

In 2008–09, DECC worked with the Department of Water and Energy, the Department of Primary Industries, catchment management authorities, Local Aboriginal Land Councils and Aboriginal communities to deliver the Aboriginal Water Use Capacity Project. The project was funded by \$300,000 from the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust.

The project is delivering best practice information and training to Aboriginal people for planning and implementing water-based activities, participating in the implementation of water reforms, improving access to water markets, and supporting the sustainable use of natural resources.

DECC and the inter-agency project team consulted with focus groups and workshops to establish Aboriginal communities' knowledge of water management, and to identify areas where information and resources were required.

These workshops informed the development of a culturally appropriate package that addresses Aboriginal community information requirements. The package includes a training manual and support materials and resources. Project officers also developed an educational DVD which showcases Aboriginal communities' projects regarding the cultural values of water, and water use for economic development and social benefits.