

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



Photo: S. Cohen, DECCW

*National parks and reserves protect more than six-and-three-quarter million hectares of NSW, or nearly 8.5% of the state. Many other valuable landscapes and habitats exist on land that is privately owned or managed by other organisations and individuals. A rich Aboriginal cultural heritage is also protected under legislation. DECCW works with government agencies, community groups and land holders to protect native plants and animals, and Aboriginal Places and objects, and minimise the impacts of development and industry on water quality, biodiversity, threatened species, riverbanks and ecosystems.*

## Context

People depend on the sustained health and diversity of native plants, animals and ecosystems that contribute to fresh water, healthy soils, productive forests and oceans, and allow people to connect with and enjoy the natural environment. Habitat loss due to clearing, thinning and disturbance of the state's soil and vegetation over decades, and extreme conditions associated with ongoing drought across much of NSW continue to threaten native plants and animals. These extreme conditions have especially affected riverine and groundwater-dependent ecosystems in NSW.

DECCW is the lead agency for achieving the 13 statewide natural resource targets in the NSW State Plan, which aim to improve the state's environmental health and the community's socioeconomic wellbeing by 2015. The *2009 State of the Environment* report describes the condition of natural resources measured against the 13 targets, helping land managers and the community to assess the pressures on those resources and act to reduce them.

In 2009–10, DECCW continued to manage protected areas, introduce new and more effective park management strategies, and improve threatened species conservation and land clearing controls. DECCW worked with state and local government agencies, private organisations and Aboriginal communities on statewide programs such as the Monitoring, Evaluation and Reporting Strategy for natural resources, Aboriginal heritage conservation projects, the implementation of catchment action plans, the NSW Threatened Species Priorities Action Statement, and the Great Eastern Ranges Initiative.

NSW national parks and reserves attract more than 38 million visits each year. DECCW aims to continually improve visitors' experiences and increase visits in line with NSW State Plan objectives, while continuing to focus on conservation. DECCW also co-manages protected areas with Aboriginal communities, enhancing community knowledge and appreciation of Aboriginal culture.

## Outcomes

- 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

- State Plan – Investing in a Better Future ([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

- Water entitlement purchased under the NSW RiverBank, Living Murray and Wetland Recovery programs
- Land maintained or improved by property vegetation plans
- Land managed by DECCW 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: J. Maguire, DECCW

## Improve the condition of natural resources

### Water for the environment

The NSW and Australian governments work under a memorandum of understanding regarding water for the environment. The memorandum was originally signed in February 2009 and updated and re-signed in June 2010. The agreement recognises the importance of purchasing water entitlements to sustain the Murray–Darling Basin. It also sets the framework for the cooperative use of environmental water held by both parties, to gain maximum benefit for the environment.

Through NSW RiverBank, the NSW Rivers Environmental Restoration Program and The Living Murray, DECCW and the Australian Government have purchased and recovered water entitlements totalling 331,881 megalitres. In 2009–10, 40,122 megalitres of water entitlement was purchased under these programs in NSW. This water, together with water allocated through water sharing plans under the *Water Management Act 2000*, is starting to redress the imbalance between the extractive and environmental uses of water.

In 2009–10, more than 160,000 megalitres of environmental water was released to support wetlands in the Gwydir, Macquarie, Murrumbidgee and Murray valleys. In addition, natural flooding in the Narran, Culgoa, Barwon–Darling, Warrego and Paroo rivers produced extensive wetland inundation and provided the best conditions for native biodiversity for many years.

Actions by DECCW to redirect water to the environment included:

- between August and November 2009, DECCW and the Australian Government directed more than 20,000 megalitres of water to the Macquarie Marshes, ensuring the core wetland areas retained healthy wetland plant communities – combined with above average local rainfall, this allowed a colony of 2,000 egrets to successfully fledge
- more than 30,000 megalitres of environmental water were delivered to the lower Murrumbidgee (Lowbidgee) wetlands, particularly wetlands in Yanga National Park, during the spring and early summer of 2009, supporting continued restoration of southern bell frog populations and the breeding of several species of waterbirds
- an additional 77,000 megalitres of environmental water were directed to the Lowbidgee wetlands



Photo: P. Childs, DECCW

*Environmental water delivered to the Lowbidgee wetlands contributed to a good breeding season for several species of waterbird, including egrets.*

in late autumn 2010, which are inundating parts of Yanga National Park for the first time in 10 years – this release includes the single largest volume of water (40,000 megalitres) provided to any site by the Australian Government, and is expected to deliver a broad range of ecological benefits.

### Infrastructure projects to support wetland restoration

Through the NSW Rivers Environmental Restoration Program, DECCW has invested \$10 million since 2007 in infrastructure projects to improve the ecological health of important rivers and wetlands. Projects completed in 2009–10 included:

- constructing regulators adjacent to the Lachlan River near Booligal to prevent unseasonal flows from entering the Muggabah and Merrimajeel wetlands and affecting waterbird habitat
- installing 29 gauging stations to improve monitoring and management of environmental flows to, and within, priority wetlands
- works along the Gingham Channel, in the Gwydir Wetlands, to reduce bank erosion and sedimentation and increase the extent and duration of the flooding of adjacent wetland habitats
- completing the 'Two Bridges' regulators in July 2009, to enable around 95% of great egret and little pied cormorant hatchlings to reach fledgling stage.

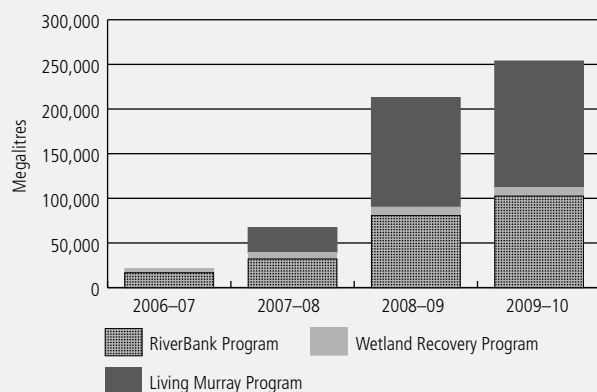


## ■ PERFORMANCE INDICATOR

### Water entitlement purchased under the NSW RiverBank, Living Murray and Wetland Recovery programs

**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 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 represent a share of the water available in a water management area, the volume of which varies with seasonal rainfall and river catchment run-off. 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 can 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. NSW RiverBank (including the NSW Rivers Environmental Restoration Program) acquired 21,875 megalitres of water entitlement in the year to 30 June 2010. Water entitlement purchases under the Wetland Recovery Program were completed in 2008–09.

The Living Murray program acquires GS and high security licences and had purchases totalling 141,853 megalitres by 30 June 2010. Combined with water efficiency infrastructure projects, a total of 220,970 megalitres of entitlement has been recovered under this program.

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

Pillicawarrina, a property adjoining the Macquarie Marshes Nature Reserve, was purchased in January 2009 and floodplain restoration works for the property were commenced during 2009–10. The property was previously an irrigation and dry land cropping enterprise and has a long history of disturbance to the floodplain, including the construction of extensive banks and channels that interfered with the movement of water, as well as land clearing. DECCW has been selectively removing some banks to restore natural floodplain flows, and is planning to restore native vegetation.

For more information on Pillicawarrina, see the case study 'Developing soil carbon trading for certification under the National Carbon Offset Standard' in Chapter 2 under 'Reduce greenhouse gas emissions'.

The NSW Rivers Environmental Restoration Program has invested over \$1.6 million in Yanga National Park to improve DECCW's ability to deliver environmental flows to priority wetlands. Ten regulating structures, ten rock-armoured floodways and an extensive network of flow gauges to better measure environmental flows and flow distribution have been installed, and 40 existing embankments have been breached.

## Wetlands

The NSW Government released a new NSW Wetlands Policy in May 2010 that provides for the protection, sustainable use and management of NSW wetlands. It contains guiding principles that all government agencies will adopt, and that all land managers can refer to when making decisions on wetland management and conservation.

Also in 2009–10, DECCW released draft adaptive environmental management plans for the Macquarie Marshes and Gwydir Wetlands for public comment. These plans bring together scientific, social and cultural research into the ecological assets of the wetlands, identify water needs, and define future management objectives and restoration activities. Further information is available at [www.wetlandrecovery.nsw.gov.au/Management\\_Framework.htm](http://www.wetlandrecovery.nsw.gov.au/Management_Framework.htm)

DECCW works with land holders to protect key wetlands on private land through the NSW Rivers Environmental Restoration Program and Wetlands Recovery Program. In 2009–10, DECCW:

- signed 15 ten-year management agreements with land holders in key Murray–Darling wetland areas, which will help them to protect more than 2,200 hectares of high-conservation wetlands
- worked with Industry and Investment NSW to develop guidelines for grazing and plant conservation in the Gwydir Wetlands and Macquarie Marshes (see [www.dpi.nsw.gov.au/agriculture/field/pastures-and-rangelands/management/grazing-management/guidelines-gwydir-macquarie](http://www.dpi.nsw.gov.au/agriculture/field/pastures-and-rangelands/management/grazing-management/guidelines-gwydir-macquarie))
- held events for land holders and Aboriginal communities in the Macquarie Marshes, Gwydir Wetlands, Lower Lachlan and Lowbidgee Floodplain, including 'Macquarie@Macquarie' at Quambone in August 2009 and 'Biodiversity in the Bush' in the Lowbidgee wetlands in late 2009.

## Ramsar wetlands

DECCW is continuing to prepare ecological character descriptions for the 12 NSW wetlands that are listed as internationally significant under the Ramsar Convention. The descriptions will provide a scientific baseline for the sites at the time of their listing and enable changes in the sites to be assessed over time. In 2009–10, ecological character descriptions were completed for Paroo River Wetlands and Towra Point Nature Reserve.

Extensive rainfall in south-west Queensland caused the Ramsar-listed wetland in Narran Lake Nature Reserve to fill in January and February 2010, leading to major bird breeding. The straw-necked ibis, royal spoonbill, swans and numerous duck species bred on the wetland, with around 20,000 nest sites being established.

### Scientific research to support environmental water

Under the NSW Rivers Environmental Restoration Program, DECCW is undertaking research to improve the management of environmental flows to key NSW wetlands including the Gwydir and Lachlan wetlands, the lower Murrumbidgee (Lowbidgee) floodplain, Macquarie Marshes and Narran Lakes.

DECCW conducted ecological and hydrological investigations to improve understanding of the ecological character of the wetlands and the relationships between ecology and flow regimes. Software was developed to help managers of environmental water to predict ways in which the volume and timing of water delivery will improve ecosystem health and functions, and determine the optimal timing, quantity and duration of required flows.

DECCW and the CSIRO hosted the 'Ecosystem Response Modelling in the Murray–Darling Basin: Better Use of Environmental Water' conference in May 2010. Much of the work showcased at the conference is being used by DECCW to better manage environmental water.

### Mapping wetlands: inundation, vegetation extent and condition

Using Landsat data, DECCW researchers mapped wetland inundation during floods from 1988–2008 in the Lower Murrumbidgee floodplain and Great Cumbung Swamp (Lachlan River) to determine the distribution of, and inundation frequency and flood durations in, these floodplain wetlands.



Photo: I. Baird

*Work being undertaken by DECCW in 2009–10 to restore environmental flows to wetlands will help protect endangered species such as the *Petalura gigantea* dragonfly.*

These mapping studies are providing critical information on wetlands, allowing for better modelling of flood patterns and flow paths, and enabling the response of wetland vegetation to targeted environmental flows to be assessed. Final products will include:

- a methodology for detecting the extent of inundation from optical satellite imagery and monitoring the extent of environmental flows
- digital maps showing the extent of wetland systems, historical inundation zones and their flood frequencies – this information has already provided a basis for adaptive environmental management plans for the Macquarie Marshes and Gwydir Wetlands
- a database of detailed floristic data and vegetation health and condition
- contribution to the setting of the ecological water requirements for vegetation communities in the Murray–Darling Basin Plan, to be released later in 2010.

During the year DECCW also created vegetation maps for the Lower Murrumbidgee floodplain and Great Cumbung Swamp.

## ■ CASE STUDY

### Habitat for threatened species and Aboriginal heritage protected through restoring Lowbidgee lakes and swamps

The property 'Talpee' on the lower Murrumbidgee floodplain borders Yanga National Park. It is home to many bird and animal species including waterbird species and threatened species such as the southern bell frog (*Litoria raniformis*) and fishing bat (*Myotis macropus*). The property also contains Aboriginal heritage sites and objects, such as mounds, scarred trees, canoe trees, burial sites and artefacts.

With changes in hydrology and recent drought, however, key wetlands on the property no longer receive the water they once did and the ecology has suffered.

DECCW and the NSW Land and Property Management Authority have provided financial assistance to the land holders to restore the wetlands. This investment, which will be subject to ongoing monitoring, is enabling on-ground works to be undertaken to



Photo: P. Childs, DECCW

*Lake Tala, a wetland on the 'Talpee' property on the Lower Murrumbidgee floodplain, is being protected through the NSW Rivers Environmental Restoration Program.*

improve water delivery channels to Tiger Swamp, and stock management to be improved in wetland areas. When natural flooding occurs, or environmental water becomes available for these swamps, grazing will be managed during inundation and drying.

## Healthy rivers and estuaries

As part of the NSW Estuary Management Program, DECCW released an Estuary Health Assessment Tools package in 2009–10, which brings together the latest information on assessing, improving and protecting rivers and estuaries in NSW. The package consists of:

- software defining the current disturbances and pressures facing NSW estuaries
- guidelines providing advice on ways in which seawalls can be designed to reduce erosion and improve amenity for plant and animal life
- software to help predict the relationship between land use in catchments and impacts on rivers and estuaries
- monitoring protocols to provide comparable data for assessing the health of rivers and estuaries.

The package was released at the NSW Coastal Conference in 2009, and subsequently at 11 statewide training workshops attended by over 100 natural resource managers. The tools are now being used in estuary management planning.

## Support for catchment management authorities

Thirteen catchment management authorities (CMAs) are established in NSW to deliver programs that remediate or improve natural resources such as native vegetation and soils, deal with environmental hazards such as salinity, and help build the capacity of landowners to manage

their land more sustainably. DECCW provides the CMAs with state-level administration, technical tools, scientific support, grant funding, administration of boards and key appointments, financial and corporate governance frameworks, and project support for management of native vegetation, floodplains, wetlands and soils.

In 2009–10, DECCW provided software to six CMAs in eight project areas to enable them to plan and prioritise their investment in actions to address salinity. The software was trialled and well received by local councils and CMAs in rural and urban environments.

## Ecological models to support the Great Eastern Ranges Initiative

Increasing the resilience of ecosystems in the face of rapid climate change is the primary goal of the Great Eastern Ranges Initiative (see Chapter 2). The initiative is forming partnerships between government and non-government organisations involved in conservation and natural resource management to improve conservation across the landscape.

The Hunter River Catchment has been impacted on by activities associated with agriculture, mining, power generation and infrastructure development. Using GIS modelling techniques and Landsat measures of vegetation, DECCW, Hunter River CMA and the CSIRO developed models of fauna habitat quality for three broad habitat types: moist forest, dry forest and woodlands. Connectivity values were calculated at regional and inter-regional scales.

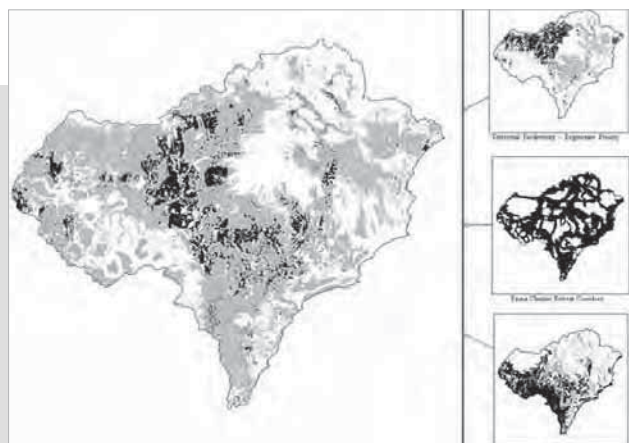
### ■ CASE STUDY

#### Software and guidelines for natural resource management

In 2009–10, DECCW implemented Sight & Catchment Resource Planning and Assessment (known as SCArPA), a combination of guidelines and software that can analyse the costs and benefits of investments in natural resource management planning and assessment activities. SCArPA, which has been provided to CMAs, the Natural Resources Commission (NRC) and other agencies, provides a robust planning framework based on the best up-to-date science, and incorporates sound economic principles.

The project uses biophysical models to predict the environmental impacts of land use and land management changes on properties, and integrates these into a software system that allows data to be used by CMAs to create and implement incentive schemes.

The project also provides a means of developing priorities for natural resource management actions, including actions to improve terrestrial and aquatic



SCArPA Software

biodiversity and salinity. The final product is being trialled by nine of the 13 CMAs in NSW.

Murrumbidgee CMA, for example, has successfully used SCArPA to conduct competitive open tender projects which jointly invested almost \$5 million in native vegetation conservation activities between 2008 and 2010.



## Monitoring, Evaluation and Reporting Strategy

The NSW Monitoring, Evaluation and Reporting Strategy (MER 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 resource condition indicators are incorporated into the state of the catchment reports, which will be made available to natural resource managers in 2010–11.

All data collected by the MER Strategy feeds into a user-friendly model that coastal councils use to help them manage estuaries and coastal lakes. This model, known as the Coastal Eutrophication Risk Assessment Tool, predicts what changes will occur in estuaries and coastal lakes as a result of changes in land use. Land and estuary managers and planners in coastal councils need such information to plan development in their areas that allows for growth while minimising the negative effects on estuarine health, or even enhancing such health.

DECCW is developing a new strategy in collaboration with state agencies, CMAs and the Natural Resources Commission, which will cover 2010–2015.

## Native vegetation

### Native Vegetation Act review

A statutory review of the *Native Vegetation Act 2003* was completed in December 2009. The review was carried out to determine whether the objectives of the Act remain valid, and whether the terms of the Act remain appropriate for meeting these objectives. On release of the review report for public comment, 49 submissions were received from a wide range of organisations.

The review found that the policy objectives of the Act remain valid and no fundamental change in the Act's framework is needed. The review report was tabled in Parliament in January 2010.

### Native vegetation reporting

The NSW Annual Report on Native Vegetation is DECCW's comprehensive summary of actions undertaken by private and public land managers to conserve and manage native vegetation. The annual report, which is produced at the end of each calendar year, comprises the Native Vegetation Report Card, the Woody Vegetation Change Report and the Compliance and Enforcement Report Card.

By the end of 2009, more than 456,000 hectares of native vegetation had been conserved or improved across NSW. Around 1,900 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 comparing satellite imagery. There was a total reduction in the area of woody vegetation in NSW from 2008 to 2009 of 64,000 hectares (or 0.08% of the area of the state). Changes occurred as a result of fire, cropping, and thinning or clearing for pasture, forestry, and rural and major infrastructure.

DECCW received 534 reports of clearing in 2009, 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 2009, DECCW commenced seven prosecutions and secured 11 convictions regarding breaches of native vegetation legislation. See Chapter 3, 'Prosecutions' under 'Prevent, reduce or mitigate pollution and other adverse environmental impacts'.

## ■ CASE STUDY

### Improving the condition of estuaries and coastal lake ecosystems

Through the MER Strategy, DECCW is collecting data systematically across almost 200 NSW estuaries, to help meet a State Plan target – that by 2015 there is an improvement in the condition of estuaries and coastal lake ecosystems

The data will show ways in which the condition of estuaries and coastal lakes changes over time, which is crucial information for managers of the land surrounding the estuaries and the estuaries themselves, and will allow a comprehensive assessment of the condition of the estuaries and coastal lakes to be made every three years.

The data will also enable the impact of the main pressures on estuary health to be assessed systematically, and identify what needs to be done to maintain good estuary health or to rehabilitate estuaries that are in poor health.



Canoeing on a coastal estuary in Jervis Bay.

Photo: M. Van Ewijk

## Native vegetation mapping

In 2009, DECCW developed a Native Vegetation Type Strategy to address gaps and limitations in the available mapping of native vegetation across NSW. The ultimate objective was to complete a native vegetation map for all NSW, using consistent classifications, which could then be stored in a comprehensive and accessible native vegetation database.

In the long term, comprehensive native vegetation mapping will reduce costs for business and for government, and create certainty in environmental assessment, land use planning, monitoring and reporting.

A seamless map will also assist in the delivery of the NSW State Plan's natural resource management targets, support priority setting in natural resource investment, and improve reporting on vegetation change, type, extent and condition.

An Interim Native Vegetation Type Standard was released in January 2010. The standard sets out the scientific processes involved in the gathering, processing and presentation of native vegetation information. The interim standard will be refined in consultation with stakeholders during 2010–11.

Also in 2009–10, DECCW completed a range of mapping projects, including:

- a classification for heathland and associated vegetation in the north coast region
- a vegetation type map for the Wagga Wagga area (1:100,000 scale)
- a major upgrade of the vegetation survey database.

## Statewide high resolution vegetation monitoring

During 2009–10, vegetation change analysis techniques using high-resolution satellite imagery were developed. The SPOT 5 satellite provides considerably higher resolution than the Landsat imagery that has previously been used for detecting vegetation change. SPOT 5 enhances DECCW's ability to detect woody vegetation change in landscapes such as open woodlands, grasslands, and highly modified areas.

Statewide vegetation monitoring has required extensive research and the development of new methods for analysis. This research is being done with the Queensland Department of Environment and Resource Management and the University of Queensland. The first sets of high-resolution imagery to be analysed were taken during 2007–08 and 2008–09. DECCW is acquiring imagery for 2008–09 and 2009–10 for the next analysis.

## NSW vegetation information system

While some high-quality vegetation information and maps exist, much of the available information is highly variable in its scale, quality and coverage.

DECCW is therefore developing a NSW vegetation information system to be the focal point for the state's vegetation data and information. The system includes establishing effective and integrated systems for the acquisition, maintenance and delivery of vegetation classifications, vegetation plot survey and vegetation mapping.

The NSW vegetation information system is streamlining the state's contribution to a National Vegetation Information System, and is steadily improving reporting to the Australian Government on statewide vegetation information, while also supporting a large range of DECCW programs.

## Private native forestry

From August 2007, harvesting timber in native forests on private land has required approval through development consent or the preparation of a private native forestry property vegetation plan. By June 2010, DECCW had issued 1,281 such plans.

DECCW has also established an audit program to ensure compliance with the arrangements. By the end of June 2010, DECCW had carried out 162 site inspections and audits, leading to the issue of four penalty infringement notices, and nine operations having to undertake corrective action. In most cases, forestry operations were complying well with the legislation.

## Property vegetation plans

The *Native Vegetation Act 2003* established the use of property vegetation plans as a way of setting areas for clearing, using offsets and providing incentives. By 30 June 2010, 1,824 property vegetation plans had been approved, including 1,260 that include incentive payments to farmers to improve or protect native vegetation.

This system has reduced clearing approvals from more than 12,000 hectares in 2005–06 to around 2,640 hectares in 2009–10.

As from April 2009, summaries of property vegetation plans that propose broadscale clearing had to be registered on the land title. This has ensured that agreed conservation benefits and clearing approvals continue to apply to the land, regardless of future changes in ownership.



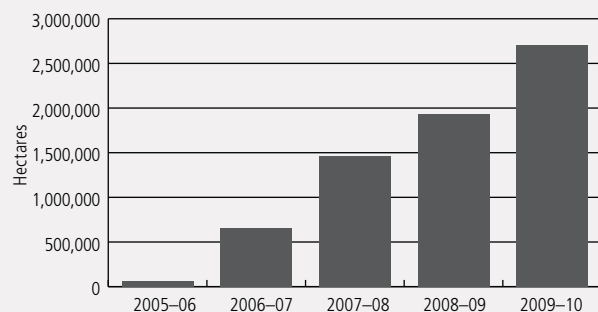
## ■ PERFORMANCE INDICATOR

### Land maintained or improved 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 land holder or group of land holders 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. During 2009–10, about 774,740 hectares were maintained or improved through PVPs. As in previous reporting periods, most land was maintained or improved through Invasive Native Scrub PVPs (about 650,000 hectares). Approximately 124,200 hectares were improved through implementing Incentive or Conservation PVPs, or as offsets for approved clearing.



Photo: J. Lemon, DECCW

# Protect and restore biodiversity and native vegetation

## Biodiversity conservation

### BioBanking Scheme

The Biodiversity Banking and Offsets Scheme (BioBanking Scheme) provides streamlined biodiversity assessment as part of the development application process, including a rigorous and credible offsetting scheme and opportunities for rural landowners to generate income by managing land for conservation.

Establishing the BioBanking Scheme has included preparing guidance materials, setting up the BioBanking Trust Fund and facilitating the first trades in biodiversity credits. Over 80 private consultants have been accredited as biobanking assessors and over 40 site owners have registered their interest in setting up a biobank site.

The first biobanking agreement was signed in May 2010 (see case study).

## ■ CASE STUDY

### First biobanking agreement will preserve Cumberland Plain woodland and threatened native animals

The first biobanking agreement was signed in May 2010 to protect 80 hectares of native vegetation on a property south of Camden, on Sydney's outskirts. The St Marys Towers site, which is owned by the Missionaries of the Sacred Heart, includes 35 hectares of critically endangered Cumberland Plain woodland and 30 hectares of endangered shale sandstone transition forest. Four threatened species have been recorded on the site – the Cumberland Plain land snail, grey-headed flying-fox, large-eared pied bat and little lorikeet.

The site will be protected by a biobanking agreement on the title of the land, with funds paid into a trust to ensure the land will be managed for conservation in perpetuity. The missionaries will manage the site by removing rubbish, installing new fences, controlling

### Growth Centres Biodiversity Offset Program

To offset impacts on biodiversity that will be caused by the development of growth centres in western Sydney, the NSW Government has created a \$530 million conservation fund. Revenue for this fund will be obtained over the next 30–40 years from a special infrastructure contribution that applies to developments in the growth centres, as well as from general government revenue.

Three quarters of the conservation fund (\$397.5 million) is being used to implement the Growth Centres Biodiversity Offset Program. This program, which began in 2008–09, is permanently protecting some of the best remaining bushland in western Sydney and surrounding regions by acquiring land for new reserves and funding agreements with landowners to permanently conserve their land.



Photo: DECCW

*Minister for Climate Change and the Environment, the Hon Frank Sartor (left), congratulates the landowners of the St Marys Towers site for managing NSW's first biobanking agreement.*

weeds and feral animals, and revegetating land that had previously been used by livestock.

The establishment of this site is a significant conservation outcome in a landscape which is rapidly changing as a result of land clearing and invasive weeds.

In 2009–10, program personnel have:

- constructed four kilometres of fencing round a proposed new reserve at Cranebrook to control illegal access and damage – the fencing will protect 180 hectares of high quality bushland that is home to threatened species such as eastern free-tail bats and Cumberland Plain land snails
- negotiated the first biobanking agreement, in May 2010, at the St Marys Towers site at Douglas Park (see case study).

## New NSW Biodiversity Strategy

DECCW and Industry and Investment NSW are working on a new NSW Biodiversity Strategy to replace the strategy developed in 1999. The new strategy will build on the achievements of the past 10 years and follows the 2009 public exhibition of a discussion paper that canvassed options for biodiversity management in NSW. The new strategy is expected to be exhibited later in 2010.

## Biodiversity management plans

Biodiversity management plans have been completed for Lord Howe Island, the Border Ranges rainforests and the Northern Rivers catchment. All have been adopted by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). The Australian Government provided DECCW with \$200,000 to progress the implementation of all three plans in 2009–10. The plans are being implemented through partnerships with Northern Rivers CMA, South East Queensland Catchments, the Great Eastern Ranges Initiative, the Lord Howe Island Board and other partner groups.

## Strategic land-use planning for conservation

### Improvements to biodiversity certification

In June 2010, changes were made to the *Threatened Species Conservation Act 1995* to strengthen provisions relating to biodiversity certification in a local government area. Biodiversity certification involves assessing the type and condition of native vegetation present, surveying and evaluating habitat for threatened species, ensuring important habitats are protected and delivering offsets where clearing of habitat is unavoidable. It helps councils and the NSW Department of Planning to strategically plan for biodiversity conservation across the landscape, rather than on a site-by-site basis, at the same time as they plan for new suburbs and associated infrastructure.

The recent changes improve the ways in which biodiversity certification operates, and involve:

- applying certification to land, instead of local environmental plans, to cut administrative processes and clarify the legal controls applying to particular parcels of land
- establishing a scientifically robust assessment to ensure decisions are repeatable and transparent, and meet high environmental standards



Photo: C. Bretherton, DECCW

*This lagoon with its beautiful river redgums will be protected under biodiversity certification of Albury City Council's local environmental plan.*

- expanding the range of conservation measures that can be taken to conserve or enhance the natural environment
- setting stronger enforcement mechanisms to ensure compliance.

In November 2009, before the biocertification changes were made, DECCW released a proposal to biodiversity certify Albury City Council's local environmental plan. The proposed certification covers 95% of the Albury local government area and directs development away from significant areas of box-gum woodland and inland grey box woodland, which are endangered ecological communities and provide habitat for threatened fauna including the squirrel glider and woodland bird species.

To offset the removal of some remnant vegetation in development areas, Albury Wodonga Corporation will transfer this high conservation value land to the NSW Government along with funds for managing the land to improve or maintain its biodiversity values.



Photo: K. Ho.

*Biodiversity certification will help protect native animals such as diamond pythons.*



## Regional conservation plans

The NSW Department of Planning's regional strategies set the blueprint for sustainable development in regional NSW over the next 25 years. In response, DECCW prepares regional conservation plans to provide biodiversity conservation initiatives and balance the socioeconomic aims of regional strategies.

The Lower Hunter Regional Conservation Plan, revised during 2009–10, sets out a 25-year program to direct and drive conservation planning and efforts in the lower Hunter Valley. It is a partner document to the Lower Hunter Regional Strategy that sets out government planning priorities and identifies proposed areas of growth.

Draft plans for the far north coast and south coast were exhibited for public comment during the year. These plans identify high value biodiversity assets such as rare and depleted vegetation types, endangered ecological communities, important threatened species habitat, old growth forest and habitat corridors, and analyse their conservation status from a regional perspective. They also identify areas where offsets for urban development may be directed. There were 27 submissions received for the far north coast plan, and 12 received for the south coast plan. The plans are proposed to be finalised later in 2010.

Draft plans for the mid-north coast and central coast regions are also being prepared.

## Threatened species

Many threatened species-related projects, surveys and on-ground works were completed in 2009–10 including:

- supplementing brush-tailed rock-wallaby (*Petrogale penicillata*) colonies that are on the brink of extinction with captive-bred animals to raise reproductive rates at key sites across the species' distribution
- surveying and monitoring post-release survival rates of spotted tree frogs (*Litoria spenceri*) in the Geehi Valley, since the first captive bred frogs were released in 2005 – a successful breeding season has raised hopes that the program will achieve the longer-term goal of re-establishing the species in Kosciuszko National Park
- attaining a high survival rate when southern corroboree frog (*Pseudophryne corroboree*) eggs were released into artificial pools. Taronga Zoo successfully bred captive frogs, with most eggs being used to boost wild populations in Kosciuszko National Park.

## NSW Priorities Action Statement

The NSW Threatened Species Priorities Action Statement (PAS) is the principal legislative mechanism under the *Threatened Species Conservation Act 1995* for promoting recovery of threatened species, populations and ecological communities, and abating key threatening processes. The PAS is enabling DECCW and other land and natural resource managers, such as catchment management authorities and local councils, to prioritise actions to maximise protection and recovery of threatened species.

## ■ CASE STUDY

### Western Woodlands Way – enhancing connectivity to increase habitat

The threat of climate change has increased the need to examine conservation issues at a broad regional scale. The Western Woodlands Way project is funded by four CMAs – Border Rivers–Gwydir, Namoi, Central West and Lachlan – to prioritise biodiversity investment across the sheep–wheat belt lands in these catchments. The project is using information on the ecological requirements of 40 species of declining mammals, birds and reptiles including the koala, regent honeyeater, brown tree creeper, barking owl and pale-headed snake, to determine priorities for conserving vegetation, revegetating, and creating and improving connectivity.

Revegetation priorities have been analysed with the Ecology Centre at the University of Queensland, using data on habitat requirements and historical distributions of declining species, and reconstructed maps of pre-European distributions of vegetation communities. It was found that a relatively modest network of



Photo: M. Jarman, DECCW

The barking owl is being studied to increase knowledge of ways in which connecting habitat areas can increase the distribution of threatened species.

revegetation sites could increase species' current areas of occupancy by an average of 40% by using only 15% of the landscape, through significantly enhancing landscape connectivity.

The hooded plover recovery program, for example, forms part of the PAS, and significant activities carried out during 2009–10 included fox control, population monitoring and provision of site protection materials at all known nesting locations. Reduced predation from foxes has resulted in more stable plover numbers over the past nine years.

Rupp's boronia (*Boronia ruppia*) is an endangered plant species with only one known population of less than 300 individuals. Over the past year, actions carried out as part of the PAS included collecting seeds for the NSW Seedbank, in collaboration with the Royal Botanic Gardens. All known plants are being monitored and discussions have been initiated with the Land and Property Management Authority and the Namoi CMA to apply adaptive management techniques to the known habitat to control overgrazing from goats.

## Koala Recovery Plan

The koala is listed as a vulnerable species, with loss, fragmentation and degradation of habitat being the most significant threats these animals face.

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. DECCW has committed more than a million dollars to the plan's implementation.

A new National Koala Conservation and Management Strategy 2009–2014 was released in 2009–10 by the Australian Government and signed by relevant states. It complements the NSW recovery plan.

Recovery actions implemented in NSW in 2009–10 included:

- population surveys, with an interim report on surveys conducted in 2007–2009 in the Bermagui/Mumbulla area released in February 2010



Photo: H. McGregor

*Captive-bred and released female brush-tailed rock-wallaby (right) getting to know a local male in Warrumbungle NP.*

- habitat studies, such as a Gunnedah study that is providing insights into the distances koalas travel in a fragmented landscape and their susceptibility to heat waves
- adoption and review of koala plans of management for Port Stephens, Kempsey and Coffs Harbour, and further research to support future plans of management for the Tweed Shire and koala populations at Woomby and Ashby
- constructing koala fencing, underpasses and overpasses to reduce koala road deaths to almost zero along the Pacific Highway
- translocating koalas affected by the Oxley Highway upgrade, with radio tracking and monitoring to ensure successful re-establishment.

## ■ CASE STUDY

### Artificial roosting sites for shorebirds in Towra Point Aquatic Reserve

DECCW, with the support of the Sydney Metropolitan and Southern Rivers CMA, installed two artificial roost structures for shorebirds in Towra Point Aquatic Reserve, through an Australian Government Caring for our Country grant. The two trial structures provide valuable roosting habitat for migratory and non-migratory shorebirds, and are available to birds even in peak high tides. They are built to allow for potential sea level rise in the event of climate change.

Endangered pied oystercatchers are already using the roosts, and migratory shorebirds such as bar-tailed godwits, eastern curlews and whimbrels are expected to use them on their return in October from their northern hemisphere breeding grounds. Construction of another six roosts is planned in the near future.



Photo: DECCW

*Pied oystercatcher using the new artificial roosting site at Towra Point Aquatic Reserve.*

## Endangered ecological communities

In 2009–10, DECCW, working with the University of Newcastle's Centre for Sustainable Ecosystem Restoration, completed the first year's monitoring of a project studying rehabilitation and revegetation of threatened ecological communities. The project involved establishing four hectares of Lower Hunter spotted gum–ironbark forest and Kurri sand swamp woodland at two sites near Cessnock, in the lower Hunter Valley. The vegetation will be monitored for the next 10–15 years to provide valuable information on the feasibility of restoring endangered ecological communities.

## Establishment of national parks and reserves

The NSW Government establishes new reserves to conserve and protect natural and cultural heritage under the provisions of the *National Parks and Wildlife Act 1974*. In 2009–10, 87,187 hectares of land were either reserved or acquired by DECCW under Part 11 of the Act. As at 30 June 2010, 8.4% of NSW or more than 6,04, 861 hectares, has been reserved under the Act.

### New reserves

The NSW Government is continuing to add land to the reserve system in line with its National Parks Establishment Plan (see [www.environment.nsw.gov.au/protectedareas/npestabplan.htm](http://www.environment.nsw.gov.au/protectedareas/npestabplan.htm)). In 2009–10, eight new reserves were established, totalling 8,704 hectares:

- Capertee National Park (2,800 hectares – see case study)
- Goolawah National Park (534 hectares – see case study)

## ■ CASE STUDY

### New reserves for NSW

New Capertee National Park is the 800th park to be reserved in NSW. It is 15 kilometres north of Capertee township, within a continuous forested corridor that is 70 kilometres long and links to the reserves of the Greater Blue Mountains World Heritage Area. It also includes 700 hectares of critically endangered box-gum grassy woodland.

As it lies at the junction of three bioregions, where many species reach the geographic limits of their distribution, the national park supports high species diversity and provides critical feeding and breeding habitat for threatened woodland birds such as the regent honeyeater and swift parrot.

Its connectivity enables species to migrate and move when faced with the effects of climate change.

Located south of Crescent Head on the NSW north coast, Goolawah national park and regional park will provide protection in perpetuity for 591 hectares of forest ecosystems, rainforests and wetlands that are poorly conserved elsewhere. The new reserves will

- Goolawah Regional Park (57 hectares – see case study)
- Burrall Yurrul Nature Reserve (1,341 hectares)
- Clybucca Aboriginal Area (310 hectares)
- Gaagal Wanggaan (South Beach) National Park (635 hectares)
- Abercrombie River State Conservation Area (965 hectares)
- Wiaborough Nature Reserve (2,024 hectares).

### Additions to reserves

There is a commitment to consolidate the reserve system by extending reserve boundaries, linking protected areas and buffering reserves from adjoining land uses. Thirty-four areas have been reserved in 2009–10 comprising 29,072 hectares. Notable additions include:

- nine Crown land areas (1,885 hectares) identified in the North East Regional Forest Agreement as additions to existing reserves in north-east NSW
- 17,260 hectares as an addition to Ledknapper Nature Reserve, in the Mulga Lands Bioregion, protecting a large and diverse vegetation community and significant Aboriginal heritage in north-west NSW
- 3,710 hectares as an addition to Carracabundi National Park in a joint initiative with the National Parks and Wildlife Foundation and Hunter CMA, protecting an important vegetation corridor
- 985 hectares as an addition to Gwydir River Community Conservation Area, which was identified under the Brigalow Belt South and Nandewar assessment as Crown land of high conservation value.



Photo: DECCW

*The new Capertee National Park is a haven for native plants and animals.*

also be part of an important regional habitat corridor stretching from Port Macquarie to South West Rocks.

The reserves contain themeda (*Themeda australis*) grassland, an endangered ecological community and remnant littoral rainforest. Thirteen threatened animal species, including birds, koalas and bats, and two threatened plant species, have been recorded on-site.



## River red gum forests

In May 2010, the *National Park Estate (Riverina Red Gum Reservations) Act 2010* was enacted, ensuring the protection of more than 100,000 hectares of river red gum forests, woodlands and wetlands along the Murray, Murrumbidgee and Lachlan rivers as national and regional parks (these reservations take effect from 1 July 2010, and so are not counted in the figures quoted above).

The Act also includes a \$97-million management and assistance package to ensure that people and communities whose livelihoods will be affected are supported as they develop new opportunities.

## Other land acquisitions and transfers

In 2009–10, 30 areas totalling 38,427 hectares were acquired through either purchase or transfer to DECCW under Part 11 of the *National Parks and Wildlife Act 1974* for future addition to the reserve system. Key land acquired in 2009–10 included:

- inland river systems and wetlands
- coastal wetlands and lowlands
- areas with significant Aboriginal cultural heritage
- reserve in-holdings and perimeter additions
- Crown leases with high reservation value.

Land was purchased using funds from several sources, including the NSW Environmental Trust and NSW Rivers Environmental Restoration Program, and the Australian Government programs Caring for our Country – National Reserve System and Water for the Future. Key purchases in 2009–10 included:

- the 181-hectare former Air Services Australia site at Cranebrook (see 'Growth Centres Biodiversity Offset Program' under 'Biodiversity conservation')
- the property 'Wyninebah' (6,239 hectares) on the Macquarie River for the proposed new Ginghet Nature Reserve, which will connect with Narran Lake Nature Reserve to the north and Macquarie Marshes Nature Reserve to the south
- 18,186 hectares of land west of Cobar, adjoining the existing Mt Grenfell Historic Site, to protect important ecosystems and Aboriginal cultural heritage.

Other notable lands acquired in 2009–10 but not yet reserved included:

- 32 hectares proposed as an addition to Garawarra State Conservation Area, forming an important forest corridor linking with Royal National Park, and including part of the historic Burgh Track linking Helensburgh Railway Station to the coastal walking track – this will allow DECCW to restore and reopen the track to the public
- 1,290 hectares of land for proposed addition to Kings Plain National Park, east of Inverell, with almost eight kilometres of creek frontage and opportunities for increased tourism
- 745 hectares of land proposed as an addition to Chambigne Nature Reserve, near Grafton, with high conservation and Aboriginal cultural heritage values.

The NSW and Australian governments invested in 2009–10 in improving the health of threatened inland river systems and wetlands in the Murray–Darling Basin. Funding under the NSW Rivers Environmental Restoration Program secured the acquisition of two properties – a major new 4291-hectare purchase west of Moree containing the largest remaining intact wetland on the lower Gwydir River, and 870 hectares that will double the amount of conserved Lachlan River frontage.

DECCW successfully attracted more than \$3.8 million in Australian Government funding under the Caring for our Country – National Reserve System program for the joint purchase of four properties comprising more than 7,100 hectares, which will contribute to some outstanding conservation initiatives in western NSW.

## 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. DECCW assesses land for wilderness values, either independently or following an external nomination proposal.

In 2009–10, the total area of wilderness in NSW reached almost two million hectares with the gazettal of the Yengo Wilderness. Wilderness now comprises around 30% of NSW parks and reserves, or 2.5% of NSW.

DECCW did not receive any new nominations for wilderness during 2009–10, but continued to assess previous nominations.

## ■ CASE STUDY

### Wetlands as part of national parks

The 4,326-hectare property Old Dromana within the Gwydir Wetlands to the west of Moree was purchased by DECCW and the Australian Government in February 2010. This property has a Ramsar-listed wetland of about 600 hectares and is the first public conservation reserve in this area. Significantly, the property also contains remnant marsh club rush, and supports threatened species and large populations of migratory birds.



Photo: DECCW

Old Dromana contains the last significant area of marsh club rush in the Gwydir Wetlands.

## Karst reserves

Abercrombie, Borenore, Jenolan and Wombeyan cave systems contain some of the state's most significant karst features, and are protected in conservation reserves.

The Karst Management Advisory Committee assists DECCW in managing the unique and often fragile features of these reserves. During 2009–10, the committee advised on a range of important documents, planning instruments and proposals, including the:

- draft Jenolan Conservation Management Plan
- draft Cave Access Policy
- *Karst assessment criteria summary paper*
- *Guide to NSW karst and caves*
- *Business case for development of a geodiversity strategy for NSW parks*
- *Speleothem sampling guidelines*
- *Environmental regulatory framework for Jenolan visitor use and services.*

## Restoring degraded areas

### Rehabilitation of former Snowy Mountains Hydro-electric Scheme sites

DECCW is remediating many sites in Kosciuszko National Park that were disturbed as part of the scheme. Work conducted during 2009–10 included:

- stabilising and reshaping the Bourkes Gorge Number 1 Spoil Dump, involving stabilising a slope in Bogong Creek and establishing the Cascade Creek drainage line

- rehabilitating Deep Creek Spoil Dump by establishing over 100,000 plants at Jindabyne Valve House, Bourkes Gorge Number 2 Spoil Dump, Geehi Quarry, Tantangara Quarry and Khancoban Tip.

## Blowering Lake foreshores replanting

A joint operation between DECCW and not-for-profit organisation Greenfleet Australia is funding the rehabilitation of about 2,000 hectares of native forest previously cleared for agriculture on the Blowering foreshores in the Snowy Mountains.

Slow natural regeneration of the forest, plus a continual requirement for weed control, has prompted a proposal for more intensive reforestation. To date, about 350 hectares of land have been replanted. New planting of 50 hectares will occur in spring 2010.

## Wildlife management

### Researching and monitoring wildlife in parks

During 2009–10, DECCW continued its research and monitoring programs in national parks and reserves. Some highlights included:

- a November 2009 survey of mallee-fowl mounds in Yathong, Nombinnie and Round Hill nature reserves in central western NSW found 50% more active mounds than in the previous year's survey
- monitoring for the spotted-tailed quoll in the Byadbo Wilderness of Kosciuszko National Park indicated that the animal persists in the southern part of the park, but in other areas there was little evidence of quolls

## ■ CASE STUDY

### Biodiversity survey priorities for reserves in the Sydney basin

The first stage of a biodiversity survey has been completed for reserves in the Sydney basin that cover more than one million hectares, and include areas in the Greater Blue Mountains World Heritage Area. Over the past five years, more than 20 reserves have been surveyed to identify the animals present and to classify and map vegetation communities.

Results of the surveys have found a vast array of threatened species and endangered ecological communities are residing in or visiting the reserves. Over 100,000 new fauna records have been added to the NSW Wildlife Atlas, of which 3,000 relate to more than 50 threatened fauna species.

Almost 500,000 hectares of reserves and adjoining private lands have been mapped so far. Details about the program and the results for individual reserves are available at: [www.environment.nsw.gov.au/surveys/BiodiversitySurveyPrioritiesProgram.htm](http://www.environment.nsw.gov.au/surveys/BiodiversitySurveyPrioritiesProgram.htm)



Photo: DECCW

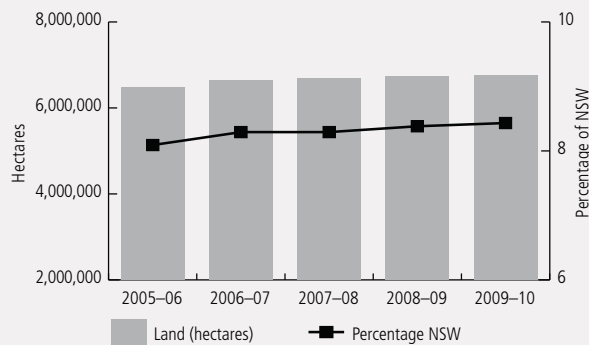
DECCW staff Elizabeth Magarey and George Madani survey on a steep slope in Wollemi National Park.

## ■ PERFORMANCE INDICATOR

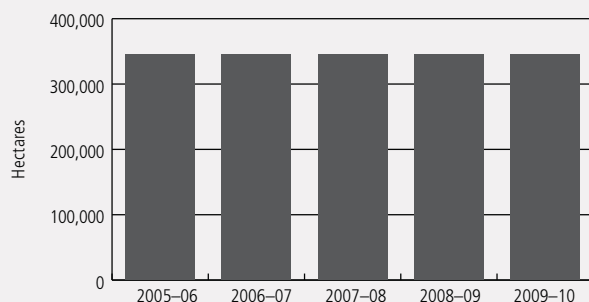
### Land managed by DECCW for conservation

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

#### Land managed by DECCW for conservation



#### Marine Parks managed by DECCW



**Interpretation:** In 2009–10, 38,560 hectares of land were added to the reserve system. Most of these lands were purchased by DECCW with the long-term goal of building a comprehensive, adequate and representative reserve system. As at 30 June 2010, DECCW manages more than 6.7 million hectares of land in NSW, which represents nearly 8.5% of the state's total area. These figures do not include the announced new reserves in the Murray and Murrumbidgee river red gum forests, as these are due to be formally gazetted in July 2010.

At 30 June 2010, approximately 345,100 hectares (34%) of NSW waters were contained in the marine reserve system, including approximately 64,900 hectares (6.5%) in sanctuary zones.

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



National parks enable native animals, such as this pink-tongued lizard, to survive.

- monitoring of endangered populations of the broad-toothed rat in sub-alpine areas of Barrington Tops National Park undertaken between February and May 2010 resulted in eight captures for DNA sampling by the CSIRO
- the 7th annual shorebird survey in February 2010, conducted at Port Stephens in collaboration with the Hunter Bird Observers Club, recorded 3,880 birds, including migratory species and vulnerable pied oystercatchers
- surveys of the hooded plover on the south coast recorded 15 fledglings, almost double the numbers of chicks in previous surveys
- ongoing monitoring of snow levels in the Snowy Mountains to study the impacts of climate change showed that the amount of snow has been decreasing, and that snow was thawing significantly earlier in the year – earlier loss of snow patches affects the plant communities that once existed beneath them, and these communities are now being invaded by tall herbfield plants.

### Wildlife management and licensing

DECCW is responsible for protecting wildlife across NSW, including licensing and regulating the sustainable use of wildlife. Around 23,000 native animal keeper, import and export, and other types of wildlife licences are in force as at June 2010. These are now managed on the Government Licensing Service website (see [www.licence.nsw.gov.au/](http://www.licence.nsw.gov.au/)).

#### New licences issued by category: 2009–10

Interstate import and export	2,113
Scientific research	1,091
Reptile keepers	3,810
Amphibian keepers	304
Mammal keepers	40
Bird keepers	495
Companion animal	91
Fauna dealers	21
Miscellaneous	919
<b>Total</b>	<b>8,884</b>

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



Other activities during 2009–10 included:

- preparing a draft policy and procedures for the rehabilitation of fauna and new standards for rescue and rehabilitation
- finalising a sustainable management plan for protected and threatened plants in the cut flower industry
- commencing work on a sustainable management plan for the plant industry
- continuing audits of key sectors of the animal keeper's hobby program
- a compliance and enforcement training program for staff to ensure consistent approaches to auditing licensees.

### 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. DECCW may issue licences 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 all kangaroo species across their ranges.

Details of the plan are available on [www.environment.nsw.gov.au/wildlifemanagement/KangarooManagementProgram.htm](http://www.environment.nsw.gov.au/wildlifemanagement/KangarooManagementProgram.htm).

## Marine parks

### Marine park planning

NSW has six marine parks encompassing about 34% of the state's coastal waters. Marine parks are managed using zoning plans that protect representative habitats and areas of high conservation value, and designate where sustainable activities can occur.

Solitary Islands and Jervis Bay marine parks, the state's oldest two marine parks, had their zoning plans reviewed during 2008 and 2009. The reviews found that the current zoning plans generally met the objectives of marine park legislation.

However, based on new information from research and monitoring programs and from stakeholder input, opportunities to improve both zoning plans were identified. In April 2010, the new draft zoning plans, the zoning plan review reports and reports on research and monitoring were released and are available on [www.mpa.nsw.gov.au](http://www.mpa.nsw.gov.au).

A review of the Lord Howe Island Marine Park zoning plan commenced in 2009–10.

## ■ CASE STUDY

### New marine research vessel for DECCW

*RV Bombora* is a purpose-built research vessel to be used for marine research throughout NSW waters, including Lord Howe Island. It contains a range of scientific instruments, including a swath acoustic system (which maps the seabed in swaths or sweeps), towed underwater cameras, and oceanographic instruments for sampling the water column.

This technology provides better and higher-resolution bathymetric and seabed habitat information over a much larger area than was previously available. While moving, the vessel can collect information about water temperature, salinity, currents, chlorophyll content and dissolved organic matter. This information can be used to:

- track changes in water quality and dispersal of pollutants
- map marine productivity
- understand the impacts of coastal river outflows on coastal habitats.



Mapping the seabed from the vessel *RV Bombora*.

Photo: D. Stanford, DECCW

The new vessel has significantly increased DECCW's capacity to undertake marine research and monitoring since its maiden voyage in May 2010.

## Marine park and aquatic reserve management

The Marine Parks Authority oversees programs to conserve marine biodiversity, while providing opportunities for sustainable use and enjoyment of marine parks.

Examples of marine park management activities in 2009–10 included:

- progressing Australian Research Council projects worth \$840,000 that are studying the effects of human impacts and invasive species on estuaries in Batemans Marine Park
- adopting the Cape Byron Marine Park Operational Plan
- mapping seabed habitats in Solitary Islands Marine Park
- finalising a policy to help Aboriginal people become involved in planning and managing NSW marine parks, and support the cultural use of fisheries
- installing seagrass-friendly moorings to protect sensitive habitats in Port Stephens–Great Lakes and Jervis Bay marine parks, through projects with the Hunter Central Rivers and Southern Rivers CMAs
- completing a Mooring and Anchoring Policy to balance the protection of marine habitats with the needs of marine park users
- holding a workshop with the non-profit Whales Alive for whale-watching industry operators, so they can share information and experiences on the management and conservation of whales
- conducting marine park *Discovery* tours, such as rocky shore rambles and canoe tours

- giving a series of talks, including shark expert Barry Bruce from the CSIRO describing the movements of great white sharks at Jervis Bay Marine Park
- progressing a primary schools education kit for each marine park, with funding from the Environmental Trust.

## Marine parks and aquatic reserves research

Research and monitoring conducted in 2009–10 was carried out under the Marine Parks Strategic Research Plan 2005–2010. A new five-year plan for 2010–2015 was developed during the year, and will be released for comment later in 2010.

The new plan has been guided by an independent review of marine park science in NSW which found the state's seabed mapping program is probably the best in Australia and praised the excellent scientific work being done (for more information, see [www.mpa.nsw.gov.au/review.html](http://www.mpa.nsw.gov.au/review.html)).

DECCW, with the Marine Parks Authority, is undertaking specific marine research and monitoring projects.

Examples include:

- examining the impacts of vessel anchoring on soft coral, sponge and seagrass habitats
- continuing with research into coral disease and the potential impacts of divers on reef fauna
- monitoring the distribution and behaviour of dolphins
- assessing and understanding ecological changes in highly disturbed estuaries
- cultural mapping in mainland marine parks.

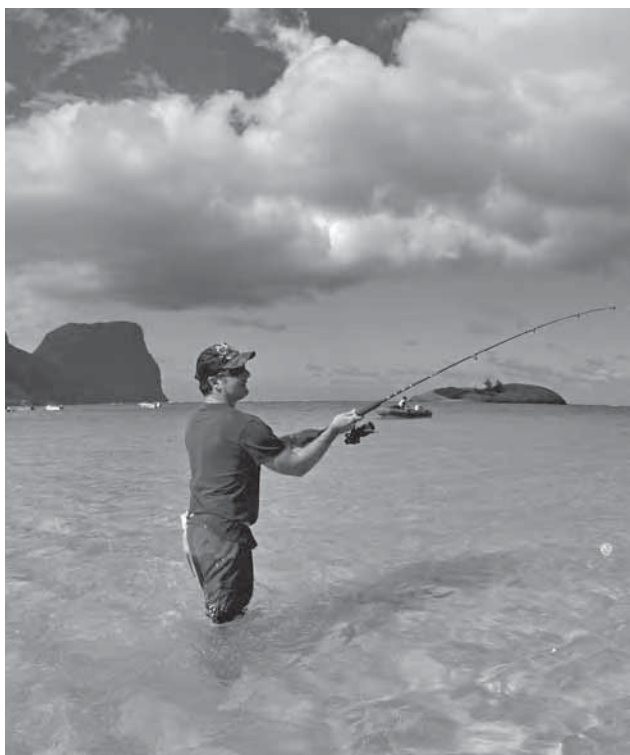


Photo: J. Gilligan

*The review of the Lord Howe Island Marine Park zoning plan will help determine where activities such as beach fishing can occur.*

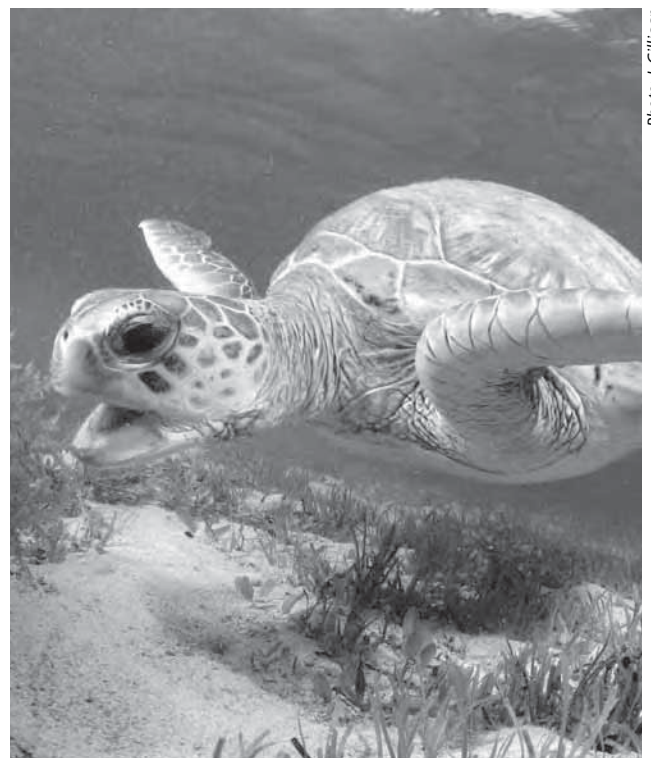


Photo: J. Gilligan

*In 2009–10, several green turtles were rescued by DECCW staff from various incidents.*

## Marine wildlife management

Each year, DECCW responds to numerous strandings and haul-outs involving whales, seals, dolphins and turtles. In 2009, DECCW recorded 211 marine fauna incidents attended either by DECCW staff or fauna rehabilitation groups. About 60% involved marine reptiles, particularly green turtles.

Sadly, four individuals from three separate species of beaked whales were found dead on NSW beaches in 2009–10. Important skeletal material was provided to the Australian Museum.

The number of whales becoming entangled in ropes, nets and fishing gear increased this year, with 16 humpback whales being entangled compared with 12 in 2008. In response, DECCW has boosted resources for training and equipping staff for the difficult and dangerous work of disentangling whales.

The loss of a southern right whale calf on the NSW south coast as a result of a boat strike was recorded in September 2009, and included in the 2010 Report to the International Whaling Commission.

Throughout 2010, DECCW worked closely with the Australian Government and other states to formulate national policies for cetacean conservation and management. Constant communication with other states resulted in early warning of sick or entangled animals, allowing early interception by teams from other states. The Marine Fauna Advisory Group was formed in 2009 comprising members from universities, Taronga Zoo and animal welfare groups, and provides balanced, high quality advice on policy and procedural guidelines.

*Wild About Whales* (see [www.wildaboutwhales.com.au](http://www.wildaboutwhales.com.au)) was launched in June 2010 to coincide with the official start of the whale watching season. The website offers real-time tracking of whales as they migrate along the NSW coast. The site attracted more than 13,000 visits and more than 7,000 unique users in its first two months of operation.

## Weed control

Reducing the impact of invasive species is a statewide target for natural resource management in the NSW State Plan. Examples of weed control programs DECCW undertook in national parks and reserves during 2009–10 included spraying of serrated tussock and blackberry in Nattai National Park, and removing moth vine and bridal creeper from remote areas of the Nattai and Wollondilly valleys.

## Bitou bush and boneseed

Bitou bush is a widespread weed that impacts on coastal ecosystems. The Bitou Bush and Boneseed Threat Abatement Plan identifies priority sites for control. Control programs are being implemented at 116 sites along the coast of NSW, involving in 2009–10 more than 30 different agencies and numerous community groups, and supported by grants from the Australian Government and the five coastal CMAs. These programs are helping to protect around 90% of the high priority biodiversity identified in the plan as being at risk.

DECCW has prepared the *Monitoring manual for bitou bush control and native plant recovery* (see [www.environment.nsw.gov.au/bitouTAP/monitoring.htm](http://www.environment.nsw.gov.au/bitouTAP/monitoring.htm)), which informs land managers of ways in which they can control and eradicate bitou bush, then restore and rehabilitate degraded land.

## CASE STUDY

### Preventing Coolatai grass invasion in box–gum grassy woodland remnants

Coolatai grass (*Hyparrhenia hirta*) is an exotic perennial grass introduced to Australia from Africa in the 1890s. Originally introduced as a pasture crop and soil stabiliser, it is an aggressive competitor that rapidly displaces native vegetation and understorey plants, significantly reducing the biodiversity of native plant communities. In north-west NSW, Coolatai grass is widespread along roadsides and stock routes, and has invaded large areas of native grasslands and woodlands, including in national parks and reserves.

Of particular concern is its invasion into remnants of endangered ecological communities such as white box–yellow box–Blakely's red gum grassy woodland, inland grey box woodland and fuzzy box on alluvial soils.

To address this threat, DECCW, with funding assistance from the Australian Government, has been assessing the impact of Coolatai grass on the diversity of native groundcover species in remnants of woodland in the upper Namoi region, and has successfully prevented



*Spraying Coolatai grass with herbicide.*

Photo: DECCW

it from invading three high-conservation areas by spraying it with herbicides. The information gained is being used to identify and encourage best-practice Coolatai grass control programs that incorporate measures to quarantine and prevent the spread of the grass into high-conservation value remnants of white box–yellow box–Blakely's red gum grassy woodland.





Photo: J. Evans

Weed control has enabled threatened native species, such as this spotted-tailed quoll (*Dasyurus maculatus*), to thrive in New England National Park.

### Orange hawkweed

The first coordinated orange hawkweed (*Hieracium aurantiacum*) eradication program was conducted in Kosciuszko National Park in 2009–10. The invasive threat of this weed is evident from its history in both the United States and New Zealand, where research has identified that it inhibits the growth of other grassland species.

Volunteers, contractors and staff surveyed, mapped and treated orange hawkweed. Fifty-one new sites were identified for control during 2009–10.

### Restoration work in New England National Park

Around 274 hectares of land added to New England National Park adjacent to the Upper Bellinger River are being restored to enable lowland rainforest and moist eucalypt forest to thrive. Northern Rivers CMA provided \$30,000 for the restoration project, which will run over two years.

Over the past 12 months, infestations of blackberry, lantana, privet, briar rose, silver leaf Desmodium, cherry guava, loquat and vine weeds have been controlled. All priority weeds have been photographed from the air and mapped. All significant and sensitive areas, such as areas around heritage buildings, riparian zones and areas dominated by native species, are being restored using bush regeneration techniques.

### Other widespread weeds

DECCW has developed a *National plan to protect environmental assets from lantana* (see [www.environment.nsw.gov.au/lantanaplan/](http://www.environment.nsw.gov.au/lantanaplan/)) in collaboration with the National Lantana Management Group and Biosecurity Queensland.

DECCW has also been working with Industry and Investment NSW and the 13 CMAs to identify regional widespread weed control priorities (see [www.environment.nsw.gov.au/cmaweeds/index](http://www.environment.nsw.gov.au/cmaweeds/index)). The final report to each CMA will be completed in late 2010. This process allows resources to be allocated to sites where biodiversity benefits are likely to be greatest.

### Biosecurity

Many introduced pest species are widely established in NSW and their complete eradication is rarely practicable. Control efforts must therefore be concentrated in areas where they will be of greatest benefit.

The most cost-effective way to manage invasive species is to prevent the introduction of, or respond quickly to, any new incursions. In April 2010, a new incursion of an exotic fungus, myrtle rust (*Uredo rangelii*) was detected on the Somersby Plateau on the Central Coast. This outbreak was the first report of this rust in Australia. As of early June 2010 it had been detected only on three species: *Agonis flexuosa*, turpentine and bottlebrush in five private nurseries. However, its introduction may have serious consequences for other native flora as well as forestry, the florist industry, the nursery industry and home gardens, if it becomes established.

Accordingly, a nationally coordinated response program was implemented as soon as the rust was detected. This program is being led by Industry and Investment NSW, and DECCW is a key partner.

In March 2010, DECCW surveyed the Goodwood Island wharf area on the Clarence River near Iluka to confirm that a colony of yellow crazy ants, first detected in 2004, had been eradicated. Goodwood Island wharf provides shipping supplies to Norfolk and Lord Howe Island. This successful eradication program prevented the further spread of the yellow crazy ant to these islands.

### Education and awareness relating to invasive species

DECCW continues to work with NSW Department of Education and Training and Industry and Investment NSW to raise public awareness and to help the community combat weed problems.

*Weeds Attack!* is an interactive, computer-based learning resource that teaches school students about weeds through games and challenges. The resource is available on [www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/schools](http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/schools).

*NSW: No Space 4 Weeds* is a statewide community campaign to raise awareness of the impact of weeds and highlight the benefits of preventing weeds spreading. It outlines simple actions people can take, such as not dumping garden waste and planting non-invasive garden plants.

## Pest animal control

Pest animal control is a responsibility of all landowners in NSW. DECCW, as manager of around 8.5% of the state, relies on cooperative management of pests with other public and private landowners.

### Wild dogs

Because wild dogs, including dingoes, can cause significant losses to livestock, DECCW has continued to undertake a large number of wild dog control programs during 2009–10, wherever possible in collaboration with district livestock health and pest management authorities and local wild dog associations and cooperatives. Control methods vary but include aerial and ground baiting, trapping, shooting and exclusion fencing. Major emphasis has been given to the following areas:

- Kosciuszko National Park
- far south coast – in the past 12 months, only 14 sheep have been reported as having been killed by wild dogs
- Sturt National Park – DECCW will respond within 36 hours from the national parks office at Tibooburra if there is a report of wild dogs attacking livestock
- Taralga/Wollondilly area
- Turill–Mudgee–Rylstone
- Hunter and mid-coast
- Macleay and Hastings areas
- Dorrigo Plateau – DECCW has also funded repairs and upgrades of the wild dog fence along the western boundary of Cathedral Rock National Park, which now provides a continuous barrier from Guyra Road to the Waterfall Way
- Coffs Coast area
- Northern Rivers – DECCW in partnership with the North Coast Livestock Health and Pest Authority has developed a public information brochure entitled *Wild dog management* in the Northern Rivers to outline land holders' responsibilities in managing wild dogs, and ways in which the authority can assist
- Northern Tablelands – in the Armidale area, DECCW has provided fencing materials to repair more than ten kilometres of the barrier fence bordering Oxley Wild Rivers National Park, and in the Walcha area, DECCW provided a new electric fence energiser and other fencing materials to support local land holders
- Bourke area.

### Foxes

The introduction of foxes into Australia in the 1870s has been linked to severe declines and extinctions of medium-sized ground-dwelling and semi-arboreal mammals, ground-nesting birds and freshwater turtles. Foxes are now widespread across the Australian mainland.

Although eradication is not possible in the immediate future, under the NSW Fox Threat Abatement Plan, initiated in 2001, fox control has been established at more than 50 priority sites across nearly one million hectares of public and private lands. Monitoring programs measure the responses of targeted threatened species, other native fauna and foxes to fox control at these sites.

A draft revised threat abatement plan was prepared in 2009–10 and is expected to be released in 2010–11.



Photo: S. Chen, DECCW

*DECCW ranger Rob Hunt setting up an M-44 ejector to help control wild dogs and foxes in national parks.*

### Feral goats

DECCW has successfully completed a Natural Heritage Trust-funded project based in western NSW. The results show that restricting access to artificial water sources can significantly reduce goat numbers, and increase the migration of goats into a controlled area, where they can be managed.

To measure feral herbivore populations in national parks in western NSW, DECCW conducted aerial surveys at Toorale, Gundabooka, Booligal and Willandra national parks in 2009–10. Findings from the surveys are contributing to a collaborative project with Industry and Investment NSW and Western CMA to evaluate feral goat populations and trends across western NSW.

Two aerial culling operations were completed in winter in Nattai National Park resulting in the culling of around 200 goats. In the Northern Plains region, more than 2,500 goats were culled. In far west NSW, more than 45,000 goats were removed from Paroo Darling, Mutawintji, Gundabooka and Mungo national parks, mainly using contract mustering.

## Wild horse management

Through the Horse Management Plan for Kosciuszko National Park, horses continue to be removed from key locations with high conservation significance, and from areas such as roads where they are a risk to public safety. Aerial surveys in 2009 across the Australian Alps reserves in NSW and Victoria determined that there are more than 7,500 horses in that area, their numbers having increased by 22% since the 2003 bushfires.

In 2009–10, DECCW in conjunction with horse interest groups and the RSPCA humanely trapped and removed more than 470 horses from Guy Fawkes River National Park in northern NSW. Most horses have been made available to horse interest groups.

## Fire management

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

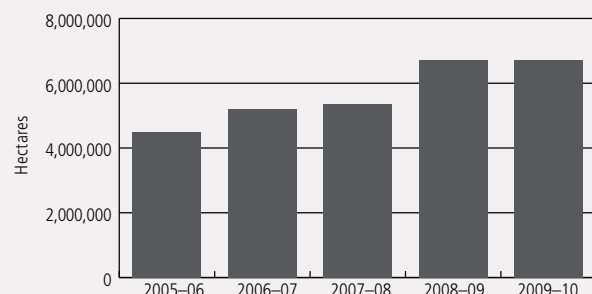
Through these cooperative arrangements, DECCW contributes to district bushfire management plans and develops reserve fire management strategies (see performance indicator) for all fire-prone parks and reserves.

### ■ 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*. DECCW 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:** In recent years, DECCW has prioritised the development of fire management strategies for national parks and reserves, resulting in finalised fire management strategies covering around 6.7 million hectares or 100% of parks and reserves where a fire management strategy is required. However, this figure does not include about 40 recently established reserves that strategies are being prepared for.

In 2009–10, excellent weather conditions for hazard reduction burning allowed DECCW to undertake prescribed burning on more than 93,000 hectares of parks and reserves. This was more than 60% of the hazard reduction burning carried out by all fire agencies across NSW, and represented more than double the annual average over the previous five years (see table).

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

Fire year	Number of burns	Total hectares treated
2005–06	162	27,400
2006–07	76	23,718
2007–08	157	48,514
2008–09	168	59,202
2009–10	269	93,117

DECCW also treated more than 5,500 hectares on lands next to parks, while hazard reduction through mechanical means such as slashing was carried out on over 1,600 hectares of parks. More than 9,000 kilometres of DECCW fire trails were maintained in 2009–10.

Wildfires in DECCW parks and reserves in 2009–10 accounted for only 5.7% of the total number of wildfire incidents in NSW. Approximately 120,000 hectares of DECCW land were burnt.

During November and December 2009, significant wildfire activity was recorded in the north coast, Northern Tablelands and plains, and Blue Mountains areas. Most of these fires were caused by lightning.

DECCW fire fighters assisted with 105 fires in areas outside reserves during the year. A tragic incident involving the crash of a helicopter in the Dorrigo area during these suppression efforts resulted in the death of one of DECCW's valued fire fighters, Aaron Harber.

DECCW deployed five fire fighting personnel to British Columbia during forest fire emergencies in Canada during July 2009. DECCW personnel formed part of a larger joint ANZ task force sent to assist the suppression efforts.

#### Wildfires on DECCW-managed lands

Fire year	Number of wildfires	Total hectares
2005–06	202	26,695
2006–07	372	254,727
2007–08	160	43,726
2008–09	166	21,745
2009–10	327	121,941



## Origin and movement of wildfires affecting parks and reserves in 2009–10

Fire origin	Fire movement	Number of fires	Percentage of NSW fires on DECC lands
On-park	Controlled on-park	216	3.6%
On-park	Moved off-park	33	0.6%
Off-park	Moved on-park	88	1.5%

DECCW is committed to rehabilitating park lands after fire. During 2009–10, measures to ensure that disturbed areas were given 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 comprising temporary bulldozer trails and hand-constructed trails and fire breaks
- removing dangerous tree limbs and trees from visitor areas
- implementing targeted weed and feral animal control after fires.

## Fire research

DECCW researches the ways in which native flora and fauna respond to fire, and how to minimise extinction risks for species sensitive to particular patterns of fire, while balancing this with the need to protect life and property. Over the past year, DECCW research included finding out about:

- 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
- the role of fire in setting the balance between cypress pines and eucalypts in the woodlands of western NSW.

## CASE STUDY

### Fire success in the Blue Mountains

During the spring and summer of 2009–10, 63 fires were recorded in the parks and reserves of the Blue Mountains, most of which (89%) were caused by lightning.

Reserves in this region include remote and difficult terrain as well as bushland directly adjoining urban areas. Utilising DECCW's remote area fire fighting teams who are skilled in dry fire fighting techniques and fire aviation, 94% of these fires were successfully controlled in park lands before they could spread to any other land.

Overall only 9,000 hectares were burnt in the Blue Mountains this year, with 62% of fires being contained in 10 hectares of land or less. The largest fire, in Wollemi National Park, was contained in the park but affected 3,700 hectares of land.

DECCW fire fighters also assisted with 11 fires on other lands in the Blue Mountains region.



Photo: DECCW

*Using fire aviation in remote and difficult terrain in the Blue Mountains.*



Photo: M. Jarman, DECCW

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

## Sustainable visitation and tourism

### Amendments to the National Parks and Wildlife Act 1974

In June 2010, the *National Parks and Wildlife Amendment (Visitors and Tourists) Act 2010* was passed by the NSW Parliament and will be proclaimed on 1 October 2010.

The legislation implements several recommendations of the 2008 Taskforce on Tourism and National Parks – see [www.environment.nsw.gov.au/parks/tourismtaskforce.htm](http://www.environment.nsw.gov.au/parks/tourismtaskforce.htm).

The amendments passed by Parliament aim to:

- clarify, without materially broadening, the types of activities and visitor facilities allowed in national parks
- constrain the scale of new accommodation in parks and, for the first time, rule out developments such as major resorts, rifle ranges and large sporting complexes
- strengthen environmental checks and balances by introducing new sustainability measures, requiring that any leasing and licensing proposals in national parks be consistent with the natural and cultural values of the land
- increase public scrutiny of leasing and licensing arrangements by providing more opportunities for the public to comment on what happens in their local parks
- provide greater safety and access by permitting licensed tour operators to lead small groups into remote and spectacular areas.

The changes bring NSW into line with other significant ecotourism destinations, including New Zealand and Africa, benefit rural and regional economies and boost local employment opportunities.

### Park visitation management

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

Using a new and improved method of telephone surveying, it was estimated that NSW national parks received 38 million visits in 2008. While this is considerably higher than previous estimates, it is also thought that

promotional work to encourage visitation has played a role. Counters located on 17 key walking tracks in the Blue Mountains calculated 907,240 people using the tracks in 2009–10 – an increase of 7% from the previous year.

Research exploring the demand for outdoor nature-based recreation across the state was completed in 2009–10. The study examined recreational use and expectations in greater Sydney; on the north coast, northern tablelands, southern tablelands and south coast; and in western NSW. Detailed results are available on [www.environment.nsw.gov.au/research/demandforoutdoorrecreation.htm](http://www.environment.nsw.gov.au/research/demandforoutdoorrecreation.htm).

### Parks Eco Pass

DECCW licenses recreational and tour operators to conduct a large range of activities in parks, including sightseeing, bushwalking, horse riding, mountaineering, surfing and kayaking, and cultural, educational and eco tours.

Parks Eco Pass is the new licensing system launched in 1 July 2009 for recreational and tour operators. It provides a streamlined, statewide licensing system that will support the growth of nature- and cultural-based recreation and tourism, while better ensuring the sustainable use of NSW parks and reserves. By June 2010, DECCW had received 158 applications through Parks Eco Pass and issued 104 licences.

### Promoting our parks

A marketing and communications plan was developed in 2009–10 for 2010–2014. New guidelines to strengthen the consistency of messaging and presentation across all national parks have been developed, and public awareness of DECCW as a conservation agency offering a wide range of nature and cultural experiences has been increased through development of the DECCW website.

Two statewide online promotional campaigns were launched in the first half of 2010. *Wild, Wild World* (see [www.wildwildworld.com.au](http://www.wildwildworld.com.au)) celebrates the International Year of Biodiversity and promotes statewide nature tours and activities. The site received more than 5,300 visits by 3,700 different users in its first three months of operation.

*Wild About Whales* (see [www.wildaboutwhales.com.au](http://www.wildaboutwhales.com.au)) was launched in June 2010 to coincide with the official start of the whale watching season.

Events held in national parks included the inaugural Sydney Harbour Island Hopping, a key event in the Grave Sydney program in October. Island Hopping attracted more than 6,000 visitors to Fort Denison, Clark Island, Shark Island and Garden Island. Surveys showed more than half of the visitors had not been to a harbour island before.



Photo: D. Boud

*Island Hopping, held in October 2009, proved to be a very popular event.*

A public relations campaign in 2009–10 meant around 450 articles and accounts were generated across print, radio, television and online channels. The email newsletters *Explore* and *Naturescapes* kept visitors updated on news, events and highlights (see [www.environment.nsw.gov.au/naturescapes](http://www.environment.nsw.gov.au/naturescapes)).

Blue Mountains National Park celebrated its 50th anniversary in September 2009. A highlight was a moonlit walk into Leura Forest run by DECCW. Other celebrations included the Golden Gumtree Postal Run that delivered a school education program to some 1,200 students at 16 mountain schools.

## National Landscapes in the southern ranges

The National Landscapes program is a partnership between Tourism Australia and Parks Australia, developed to identify and promote up to 20 of Australia's best natural and cultural landscapes. The program aims to achieve conservation, social and economic benefits for Australia through promoting nature-based tourism experiences.

### ■ CASE STUDY

#### Upgrading Burragorang lookout

Upgraded facilities were completed at the popular Burragorang lookout, in Burragorang State Conservation Area, including a new accessible viewing platform, three new barbecues strategically located throughout the precinct, new picnic shelters, upgrades to tables and seating, updated visitor information signs, and renovation of the toilet amenities, including better accessibility.

The success of the project has been reflected in positive comments and feedback received from visitors and the local community.

A Tourism Masterplan for the Australian Alps National Landscape was launched in April 2010 by the Australian Government (see [www.tourism.australia.com/en-au/marketing/5651\\_national-landscapes-program.aspx](http://www.tourism.australia.com/en-au/marketing/5651_national-landscapes-program.aspx)). DECCW is a member of the Steering Committee promoting the Australian Alps.

## Upgrading visitor facilities

Examples of major works in progress or completed in 2009–10 include:

- continuing the upgrade of the Grand High Tops walking track in the Warrumbungle National Park
- installing shelters, barbecue facilities, toilets and a walking track to the Sculptures in the Scrub installation at Dandry Gorge in the Pilliga region
- upgrading one of the three cabins at Dawsons Spring in Mt Kaputar National Park to improve access for people with a disability
- upgrading campgrounds in northern Kosciuszko National Park where horses are permitted, including Long Plain, Old Camp, Ghost Gully and Wares Yards
- continuing work on the Mount Stillwell Walking Track in Kosciuszko National Park, with the stone paving and crushed granite track now extending from Charlotte Pass vehicle turning circle to the top of Charlotte Pass chairlift
- completing the Thredbo Valley track works from Bullocks Flat to the Diggings picnic area
- completing the two-year project to re-light the South Glory Cave at Yarrangobilly Caves in Kosciuszko National Park and install new hand rails, security cameras, emergency phones and visitor counters
- upgrading tracks in the World Heritage-listed Wollumbin, Nightcap and Border Ranges national parks, with funding from the federal Jobs Fund
- completing a major upgrade of the Minnamurra Rainforest Visitor Centre, café and boardwalk
- restoring sections of the Grand Canyon Walking Track, near Blackheath.



Photo: DECCW

*The upgraded Burragorang lookout.*



## Leasing and property management

DECCW manages a large portfolio of commercial property and leases that are used to enhance facilities and services for park visitors. During 2009–10, revenue from all DECCW property and leases was about \$23 million.

Highlights from 2009–10 included:

- commencing an ongoing accommodation compliance program during the 2009 ski season to better monitor compliance with the terms of leases
- continuing to implement the IPART Report on Crown Land Communication Tower Sites, which is improving rental returns and formalising occupancies for telecommunication and broadcasting facilities
- finalising lease arrangements for the first high ropes adventure course in Blue Gum Hills Regional Park
- introducing market-based rents for, and improving the environmental performance of, the marina and public facilities at Akuna Bay, Ku-ring-gai Chase National Park, pending a comprehensive environmental assessment
- winning New Tourism Development awards for the unique accommodation at Sugarloaf Point Lighthouse in Myall Lakes National Park.

## Discovery program

The *National Parks Discovery – Walks Talks and Tours* program provides community education and interpretative activities for visitors and school groups. Discovery activities during the year employed local people with relevant experience and included lighthouse tours, wildflower walks, whale watching, community open days, bird watching, tree planting, spotlighting, snorkelling and bike riding.

The *Discovery* program was themed 'Starry Starry Night' in 2009 in recognition of the International Year of Astronomy. In 2010, the program has been themed around 'Wild Wild World', to acknowledge the International Year of Biodiversity. New and revitalised tours and activities have been developed consistent with these themes, and have been very popular.

In southern Sydney, 286 activities were conducted during 2009–10. In addition, 98 Aboriginal cultural activities and 20 'International Year of Biodiversity' activities were conducted.

*Discovery* in the Blue Mountains enjoyed a 34% increase from the previous year's participation, with more than half of this year's 11,581 participants joining programs led by Blue Mountains Aboriginal Discovery Guides.

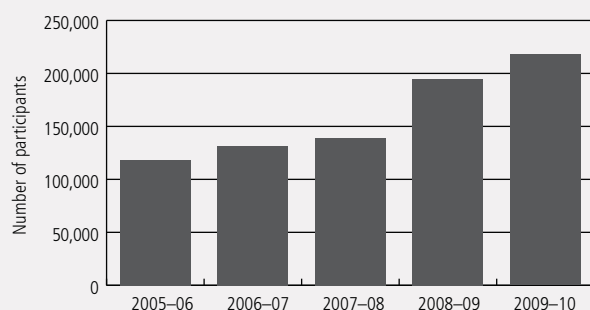
### ■ PERFORMANCE INDICATOR

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

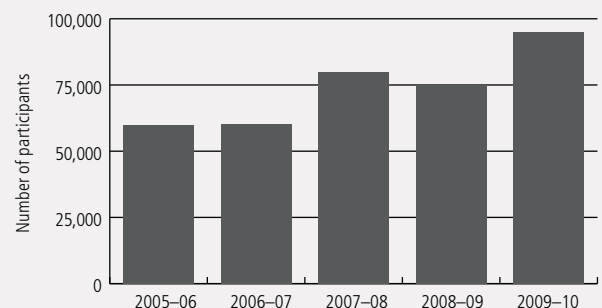
**Definition:** This indicator measures the total number of participants in all *Discovery – Walks Talks and Tours* education program activities. It also indicates the percentage of a surveyed sample of participants satisfied with their experience. DECCW surveys at least 10% of participants in each regional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

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

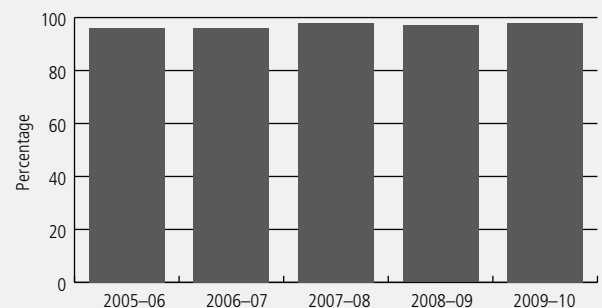
#### Total number of participants in *Discovery – Walks Talks and Tours* education programs



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



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



**Interpretation:** *Discovery – Walks, Talks and Tours* education programs recorded a strong 12% growth during the year, with 218,009 participants. The increase was largely due to the commencement of new activities, including popular *Discovery* tours of the Cape Byron Lighthouse Museum, which attracted over 15,000 participants during the year, as well as the continued growth of the *Discovery for Schools* program.

At Ben Boyd National Park on the far south coast, DECCW conducted tours to the national park for passengers of two cruise ships visiting Eden. Passengers from a German cruise ship were led by a German-speaking Discovery Coordinator.



Photo: M. Van Ewijk

*Finding out about the coastal environment through Discovery.*

### **Discovery for Schools**

This program supports nine casual Discovery Rangers, a part-time Aboriginal Discovery Ranger and a casual Aboriginal Discovery Ranger.

Across the Sydney area, 364 programs were delivered to 12,364 students.

In northern NSW, over 300 programs were delivered to more than 25,000 students, focusing on Aboriginal culture, cane toads, and living with wildlife.

## **Volunteer participation and partnerships**

In 2009–10, volunteers contributed significantly to conservation and public appreciation of national parks. It is estimated that each year around 4,000 volunteers contribute more than 177,000 volunteer hours to weed and fire control, conservation works, threatened species programs and community education.

In 2009–10, DECCW continued its partnership with Conservation Volunteers Australia (CVA), engaging volunteers both from Australia and overseas for more than 346 volunteer days for planting, weed removal and repairing walking tracks.

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

Corporate volunteering has continued to develop in Sydney Harbour National Park and Lane Cove National Park.

In 2010, DECCW rolled out a new volunteering policy to support and encourage volunteering across the agency. Training in volunteer management was also conducted for DECCW staff.

## **■ CASE STUDY**

### **Protecting the Mogareeka little tern breeding colony**

Volunteers on the far south coast are celebrating another season of monitoring and protecting the Mogareeka little tern breeding colony. The colony of threatened birds successfully raised 17 chicks this year, despite a challenging time with flooding, high seas and disturbances from domestic dogs.

Bega Valley Shire Council rangers and many volunteers have been involved with monitoring the birds and talking with local beach users, which have been vital for the survival of the nests. There have been reports of 107 little terns fledging on the south coast this season, with around 70 fledglings at Lake Conjola.



Photo: J. Dunn, DECCW

*Chick at the Mogareeka little tern breeding colony.*



Photo: M. Jarman, DECCW

## 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 can support protected areas, particularly where ecosystems are poorly represented in national parks and reserves.

### National Parks and Wildlife Advisory Council

The National Parks and Wildlife Advisory Council is constituted under the *National Parks and Wildlife Act 1974* to advise the Minister for Climate Change and the Environment on a range of issues, including the management of parks and reserves, and the protection of wildlife, conservation agreements and wilderness areas. The council may have up to 19 members, with qualifications required of each member as set out in the Act. 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 (see 'Plans of management' section). During 2009–10, the council considered and made recommendations on 35 draft plans of management covering 46 parks and reserves. Significant

plans included those for Glenrock State Conservation Area, Macquarie Nature Reserve, Jervis Bay National Park and Woollamia Nature Reserve. The council was also consulted on amendments to the plan for Cape Byron State Conservation Area.

The council also commented on park planning initiatives, the Game and Feral Animal Control Bill, managing water in parks and DECCW's plans to mitigate and adapt to the effects of climate change.

### Park Management Program

DECCW's Park Management Program aims to continually improve systems, policies and procedures to support park managers. In 2009–10, DECCW:

- commenced initiatives to improve communication between park management staff, including information sessions using video conferencing technology to reach regional locations
- developed new specifications for volunteer management, planning information systems, a pests and weeds information system and a system for managing section 121 'occupier' wildlife licences
- refined processes for standardising regional and local operations plans.



Photo: SC Photography

*The National Parks and Wildlife Advisory Council. Standing left to right: Lynne Moyce, Alice Prudhoe, Nick Jacomas, Sally Barnes, Ken Prendergast (Deputy Chair), Suzanne Jones, Michael Dunlop, Glenda Chalker, Rod Young, Alison Verwey, Ian McKenzie. Seated left to right: Bruce Hayllar, Jane Judd (Chair), Anne Reeves, Ronnie Harding, Janet Hayes. Absent: George McKay.*



## 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, procedures for neighbour relations, and works to be carried out.

In 2009–10, 22 plans covering 33 parks and reserves across 80,793 hectares were formally endorsed by the Minister for Climate Change and the Environment. These included plans for Bangadilly National Park, Weriboldera State Conservation Area, Jubullum Flat Camp Aboriginal Area, Mullion Range State Conservation Area and Giralang Nature Reserve. A further 17 draft plans covering 32 parks and reserves were placed on exhibition for public comment during the year.

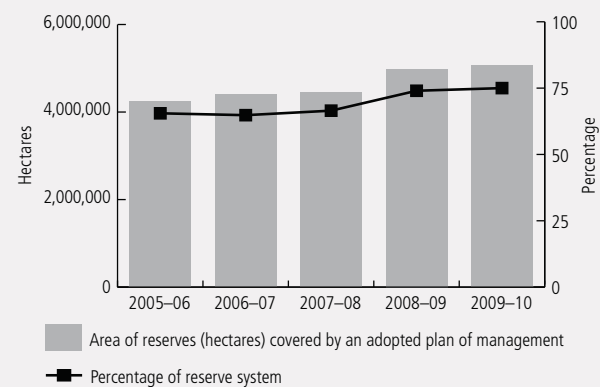
Regional operations plans are prepared each year to ensure that the actions and strategies in plans of management are implemented in a systematic and prioritised way.

### ■ PERFORMANCE INDICATOR

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

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

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



**Interpretation:** As at 30 June 2010, there were 292 adopted plans covering 414 parks and reserves. In total, more than 5 million hectares are now covered by an adopted plan of management, representing over 75% 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 DECCW policy before a plan of management is adopted.

## Park asset maintenance

DECCW's assets in national parks and reserves include land and buildings, plant and equipment, visitor facilities, and infrastructure such as roads, signs, bridges, car parks, fences and pipelines (an overall summary of assets is provided in Appendix 19).

To help maintain these assets, DECCW introduced a statewide asset maintenance system (known as the AMS) in 2009–10. Functions of the AMS are to enable a comprehensive inventory of assets to be maintained, schedule maintenance activities and analyse costs.

For example, the AMS contains detailed information on 33,000 signs, 775 picnic areas with 2,560 barbecues and 4,150 picnic tables and seats, and 625 viewing platforms and lookouts. It also shows there are 25.6 kilometres of pedestrian bridges and elevated walkways, 52 kilometres of retaining and sea walls, 593 vehicle bridges (with a combined length of 16 kilometres) and 38,000 kilometres of roads and trails.

DECCW's park management business areas began adopting this major new system in November 2009. DECCW has been working on further data quality review, back-up training and the development of 'cyclic maintenance plans' for priority assets including roads and high-risk structures.

## Managing historic heritage

DECCW manages many historic heritage sites across NSW parks and reserves. Highlights in 2009–10 included:

- completing 3D modelling of the historic Innes Ruins near Port Macquarie, in June 2009 – this exercise is thought to be the first use of 3D modelling technology in NSW, and will enable DECCW 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 completed in 2009, Sawyers Rest House and Brooks Hut completed in March 2010, the Pretty Plain hut being re-opened in March 2010, and the Dr Forbes Hut being re-opened in May 2010
- completing the first stage of refurbishment of the 1890 Kiandra Courthouse in Kosciuszko National Park in May 2010
- continuing restoration of the Officers Mess and commencing work on the Training Farm Dormitories in Scheyville National Park
- finalising planning documents for the refurbishment of a further accommodation section of the historic Yarrangobilly Caves House (constructed in 1917)
- completing significant works at Currango Homestead, with all historic buildings painted, all floor-coverings replaced in key buildings, and a walking track interpretation booklet and visitor guide being printed
- completing conservation works on Bakers Cottage, in Lane Cove National Park, including stabilising the building from ground subsidence, and replacing windows and doors
- completing refurbishment of lighthouses in northern NSW
- commencing a two-year stonework program to conserve the granite guard towers and front-range buildings at Trial Bay Gaol, and to upgrade interpretative facilities

- developing a DECCW Reconstruction Policy to guide future reconstruction, re-creation or rebuilding of heritage structures and sites, to be finalised in 2010–11
- commencing development of a DECCW Adaptive Re-use of Heritage Places Policy, to be finalised in 2010–11.

## Cultural and historic heritage in the landscape

DECCW conducts high-level research to assist staff and the public to better understand and manage cultural and historic heritage.

In 2009–10, DECCW completed *Cultural landscapes: a practical guide for park management*, which aims to assist park managers in managing cultural heritage places and landscapes in NSW parks, and in engaging local communities in managing and conserving parks.

A *Cultural Heritage Research Prospectus* was prepared to explain the types of research DECCW undertakes in the fields of culture and heritage, and ways in which DECCW can work collaboratively with, or support, individuals or groups wanting to undertake cultural heritage research (see [www.environment.nsw.gov.au/resources/cultureheritage/2010105cultureprospectus.pdf](http://www.environment.nsw.gov.au/resources/cultureheritage/2010105cultureprospectus.pdf)).



Photo: C. Smith

The opening of Pretty Plain hut in Kosciuszko National Park.

### ■ CASE STUDY

#### Conservation agreement permanently protects largest feral-free area on Australian mainland

Scotia Sanctuary, the largest feral-free area on mainland Australia at 64,000 hectares, is also the largest area ever to be permanently protected under a conservation agreement with DECCW.

The sanctuary, which is 150 kms south of Broken Hill and managed by the Australian Wildlife Conservancy, is surrounded by a protective fence which keeps feral animals out, and is a refuge for many threatened species including Bolams mouse, malleefowl, mala, greater bilby, burrowing bettong, woylie, greater stick-nest rat, bridled nail-tail wallaby and numbat. The sanctuary contains an endangered ecological community – *Acacia loderi* woodland (Broken Hill gidgee).

Scotia also forms the central part of a large continuous area of more than 350,000 hectares of protected areas. It links Nanya Conservation Agreement Area and Tarawi Nature Reserve in NSW with Danggali Conservation Park

*Place-making in national parks: a case study of park-use by Arabic-speaking and Vietnamese Australians on the Georges River, NSW* is a collaborative research project with the University of Technology, Sydney, on migrant use and perceptions of Georges River National Park. Key findings of the research included the strong preference for large group picnics, based on extended families, and a clear tendency for park use and nature appreciation to be influenced by cultural traditions. The publication will be available in 2011.

## Conservation Partners Program

Conservation partnerships promote voluntary conservation on private land. 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 who manage their land for conservation.

### Conservation agreements and wildlife refuges

Conservation agreements under the *National Parks and Wildlife Act 1974* 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 2010, there were 268 conservation agreements protecting 127,500 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.



Photo: S. Cohen, DECCW

The threatened bridled nail-tail wallaby *Onychogalea fraenata* is one of the many native species that will be protected in Scotia sanctuary in perpetuity under a conservation agreement covering 64,000 hectares.

and the Bookmark Biosphere Reserve in South Australia. These protected areas are about one and a half times the size of the Australian Capital Territory.

This is an excellent conservation outcome in an area that has been pressured by land-use change and clearing.

DECCW continued to support land holders with conservation agreements through visits to properties. Monitoring points were established on more than 20 properties to measure any future changes in conservation values.

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. As at 30 June 2010, there were 659 wildlife refuges covering 1,934,694 hectares, about 80% of which were managed jointly for conservation and other compatible land uses, and about 10% solely for conservation.

Other major partnership projects in 2009–10 included:

- the Great Eastern Ranges Initiative, with work progressing in the Kosciuszko to Coast, Southern Highlands and Hunter target areas, and with 34 conservation agreements and two wildlife refuges commencing negotiation (see 'Great Eastern Ranges Initiative' under 'Minimise and manage potential increased risks to life, property and the environment' in Chapter 2)
- the Box Gum Grassy Woodlands Stewardship Project under way in the Lachlan, Murrumbidgee, Central West, Namoi and Border Rivers/Gwydir catchments, in partnership with CMAs and the Australian Government, with negotiations commenced to establish conservation agreements on 27 properties
- commencement of the Protected Areas on Private Lands project, with the Australian Government, under which 20 conservation agreements are being negotiated, focusing on under-represented bioregions in western NSW
- continued funding initiatives for land holders 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, with grants in 2009–10 providing \$60,000 to 21 land holders.

## Wildlife Habitats and Corridors program

The Keep Australia Beautiful Council of NSW again undertook its annual Tidy Towns Awards Program, which includes 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 DECCW to recognise the efforts and achievements of communities working with their local councils to conserve important wildlife habitat. There were 23 entries this year, with one of the winning projects the Wagga Wagga City Council Bio-certification Project, reported on in last year's annual report, in which land, water and biodiversity were comprehensively mapped across the local government area.

## 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.

During 2009–10, DECCW continued its support for the work of the Trust through membership on its Board and conservation committee. In addition, DECCW made a further \$500,000 grant payment to cover operational and administrative costs as part of the Government's four-year, \$2-million commitment to the Trust.



Photo: S. Cohen, DECCW

*The property Gundharwar on the south-west slopes of NSW is covered by a conservation agreement to protect land in perpetuity.*



## ■ 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 private and other public land holders 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 2009–10, 11 new conservation agreements were established plus one addition to an existing conservation agreement, protecting a total area of 74,772 hectares. Eleven new wildlife refuges were established protecting a total area of 1,178 hectares. There were two revocations of wildlife refuges. As at 30 June 2010, landholders managed a total of 2,062,194 hectares of land for conservation outside the reserve system. This represents 2.57% of the land in NSW.

## ■ CASE STUDY

### Improving the recognition and safety of rangers in South America

DECCW staff are supporting conservation efforts in the Amazon through membership of the Protected Area Workers Association NSW (PAWA).

Improving the professional standards, recognition and safety of protected area workers elsewhere in the world is an important focus of PAWA. As a result, 12 DECCW staff members travelled to Bolivia in November 2009 for the 6th World Ranger Congress and donated seven duffel bags containing 42 GPS units, 12 fire helmets, 24 fire uniforms, and numerous fire-rated gloves and field shirts, to South American rangers.

PAWA's Equip the Amazon project works in partnership with Brazilian agencies to help indigenous communities living in Tumucumaque Indigenous Park to protect their land. Located in north-east Brazil, the park encompasses more than 4.2 million hectares of Amazon rainforest and is home to numerous indigenous communities, many of whom live traditional lifestyles with minimal influence from the outside world. Tumucumaque lands are coming under increasing threats from deforestation



Training South American rangers in using GPS units.

to make way for agriculture, illegal mining and timber extraction. Equip the Amazon provides indigenous communities with much needed resources for effective land management, and the training necessary for using and maintaining those resources. DECCW supports Equip the Amazon through donating superseded equipment such as GPS units, digital cameras and fire fighting equipment, and through promoting this project to staff and the broader community.



Photo: P. Laughton, DECCW

# Protect and revitalise Aboriginal culture and heritage

## Conservation, protection and management of Aboriginal cultural sites and objects

DECCW's Aboriginal Heritage Conservation Officers, located across NSW, work in close partnerships with local Aboriginal communities and conservation specialists to protect, conserve and manage Aboriginal cultural sites and objects, such as rock art, traditional burials and scarred trees.

During 2009–10, officers conducted the following works:

- conserved Aboriginal burial sites at Kinchega National Park, Mungo National Park and Lake Victoria, and on private land at 'Eastcourt Station' in the lower Murrumbidgee catchment, using both traditional and contemporary techniques
- assisted Forbes Shire Council to relocate a scarred tree from a prominent area that may have been dangerous to the public to Lachlan Aboriginal Natural Resource Advisory Committee education area
- conducted Aboriginal rock art conservation work on the Cobar Peneplain, assisted by Aboriginal community members from Cobar and Lake Cargelligo, including protective measures to remove wasp and swallow nests, apply silicon protection to redirect water, and assess other potentially damaging impacts
- conducted a ground penetrating radar investigation at the former Carowra Tank Aboriginal Mission Cemetery,

near Ivanhoe in western NSW, which revealed Aboriginal burials, and ongoing work with the Aboriginal community of Ivanhoe, Lachlan CMA and the Lachlan Aboriginal Natural Resource Advisory Committee to fence, revegetate and establish interpretative signs at the site

- implemented remedial conservation works including fencing, geotex matting and erosion netting at a cultural site at Murrinna Point, Bermagui, that contains burials, cultural objects and middens, and which had been affected by public access for surfing and fishing.

DECCW also develops policies and strategies to help staff meet their culture and heritage responsibilities. In 2009–10, activities included:

- finalising the Aboriginal Languages Policy which implements the NSW Government's Aboriginal Languages Strategic Plan and guides DECCW staff in the use of Aboriginal languages in publications, interpretive materials, signage and tours (see [www.environment.nsw.gov.au/nswcultureheritage/aboriginallangspolicy.htm](http://www.environment.nsw.gov.au/nswcultureheritage/aboriginallangspolicy.htm))
- preparing an Aboriginal Heritage Conservation Strategic Policy, to be finalised later in 2010, which sets out the broad goals for achieving healthy Country and healthy communities
- preparing a Sale of Aboriginal Objects Policy, to be finalised later in 2010, to guide DECCW staff about their legal responsibilities and obligations regarding the protection of Aboriginal objects.



Photo: D. Gordon, DECCW

DECCW staff member Glen Morris inspecting the Biames Shelter site at Milbrodale, NSW with Uncle Tom Miller and Steve Talbot of the Mindaribba Local Aboriginal Land Council.

## Aboriginal cultural heritage legislative reform

Changes to the *National Parks and Wildlife Act 1974* relating to the protection of Aboriginal cultural heritage were passed by the NSW Parliament in June 2010. The main amendments:

- introduce updated offences for harming Aboriginal objects and declared Aboriginal Places, and increase the penalties for these offences
- provide a number of defences that a person can rely on to avoid prosecution for the offence of harm to Aboriginal objects
- provide exemptions from and exclusions to Aboriginal cultural heritage offences, so that in certain circumstances an offence does not apply, and a person cannot be prosecuted
- modernise the existing Aboriginal Heritage Impact Permit (AHIP) system
- require Aboriginal community consultation to be a legal obligation which must be followed before AHIPs can be applied for.

Other amendments also improve the enforceability of the legislation, including through:

- introducing remediation directions
- increasing the time within which DECCW can commence court proceedings where an offence has occurred
- allowing greater options for courts when sentencing offenders
- expanding the ability of any person to take court action to restrain threatened or apprehended breaches of the Act or Regulations.

The Aboriginal cultural heritage provisions in the Act and related Regulations will commence on 1 October 2010. The new amendments significantly strengthen the protection of Aboriginal cultural heritage in NSW. Potential penalties for Aboriginal heritage offences increase, in some cases from \$22,000 to up to \$1.1 million for companies. The NSW Government has also committed to a broader reform process over the next two years, which will examine Aboriginal cultural heritage issues in NSW and their recognition in legislation.

## Aboriginal heritage protection

Under the *National Parks and Wildlife Act 1974*, DECCW issues Aboriginal Heritage Impact Permits (AHIPs) for any development or activity that is likely to have an impact on Aboriginal Places or objects. Under DECCW policy, AHIP applicants must consult with Aboriginal people who hold cultural knowledge about the significance of any Aboriginal Place or object before commencing with the development or activity.

In April 2010, DECCW replaced the *Interim community consultation requirements for applicants 2005* with the *Aboriginal cultural heritage consultation requirements for proponents 2010*. The new requirements provide a clearer and more definitive

process for determining the appropriate people to consult. Certainty is improved by separating 'consultation' from 'employment', and by clarifying the information DECCW requires for decision making.

DECCW conducted 18 information sessions around the state during April and May 2010 to explain the new requirements. DECCW also prepared a 10-minute DVD which provides information on the consultation process, along with tips about how Aboriginal people can get involved. These can be found on [www.environment.nsw.gov.au/licences/consultation.htm](http://www.environment.nsw.gov.au/licences/consultation.htm).

## Aboriginal Places

Aboriginal Places are lands of special significance for Aboriginal culture, declared by the Minister for Climate Change and the Environment under section 84 of the *National Parks and Wildlife Act 1974*. Aboriginal Places include lands that contain Aboriginal burials, historic sites such as locations of massacres or Aboriginal objects, places identified by Aboriginal stories or celebrated by ceremony, post-contact living areas such as missions or Aboriginal reserves, areas containing culturally significant landscapes, and plant or animal species.



DECCW Aboriginal Field Officer highlighting rock art at Ku-ring-gai Chase National Park, Sydney.

Photo: DECCW



Four new Aboriginal Places were declared in 2009–10:

- Cubawee Aboriginal Place was declared in May 2010. 'Cubawee' means 'a place of full and plenty' in the Bundjalung language. Cubawee Aboriginal Reserve, seven kilometres west of Lismore, was a self-managed Aboriginal settlement from the 1930s to the 1960s.
- Terry Hie Hie Corroboree Ground and Grinding Grooves Aboriginal Place is a place of special significance to Aboriginal people because it is linked with the site of the historic Terry Hie Hie Aboriginal settlement.
- Dandry Gorge Aboriginal Place, in north-west NSW, holds a wide range of culturally valued sites and provides a link between Aboriginal people and culture today and in the past.
- Lambie Gorge, located on Ngarigo Country in Cooma, is significant because it includes Bagal or totemic figures embodied in the landscape associated with the snake, frog and turtle story. It also possesses evidence of being a traditional camping area as indicated by the presence of artefact scatters.

To date, 70 Aboriginal Places have been declared across NSW.

In 2009–10, DECCW began developing a new Aboriginal Places Policy to guide DECCW staff in nominating, assessing and managing Aboriginal Places. The policy will be finalised in 2010–11.

DECCW is also developing a web-based map of all Aboriginal Places across NSW which will be finalised by the end of 2010.

## Repatriation and reburial

The NSW Repatriation Program facilitates the return of Aboriginal ancestral remains, Aboriginal cultural property, knowledge and information that originate from NSW, and that are currently held in Australian museums and collecting institutions, to Aboriginal communities. Repatriations are carried out under an agreed NSW Repatriation Framework and Program.

DECCW also coordinates the return of ancestral remains and cultural material held in DECCW collections under the *National Parks and Wildlife Act 1974*.

In 2009–10, DECCW conducted repatriations of 65 sets of remains and objects. These included:

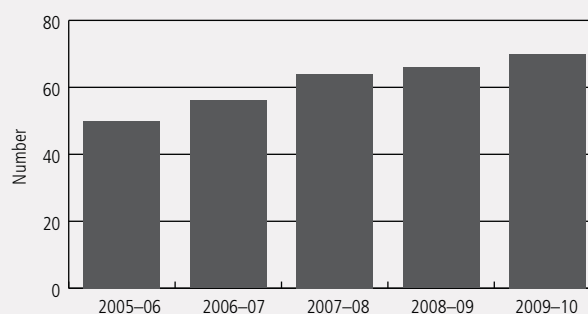
- 18 sets of remains were buried in the Barham State Forest in July 2009, with members of the Deniliquin and Moama Aboriginal communities, and staff from Forests NSW and DECCW, participating in this project
- 12 sets of ancestral remains held at the Australian Museum and University of Sydney were reburied at Koonadan Historic Site, a traditional Wiradjuri burial ground near Leeton in November 2009
- three sets of ancestral remains from the Leeton Local Aboriginal Land Council boundary were reburied at the Koonadan Historic Site
- a scarred tree was repatriated from the Kurnell Museum by members of the Eden Aboriginal community, assisted by DECCW, to be on permanent display in the Monaro Bobberrer Gudu Aboriginal Cultural Centre on the far south coast of NSW

## ■ 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:** Four Aboriginal Places were declared in 2009–10: Terry Hie Hie and Dandry Gorge in north-west NSW, Lambie Gorge in southern NSW and Cubawee in northern NSW.

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.

- a scarred tree was repatriated from the Victoria Museum by members of the Baradine Local Aboriginal Land Council, assisted by DECCW, and placed in a permanent location where it can be viewed by the local Aboriginal community.

During 2009–10, DECCW also developed a Collections Care and Control Strategy to ensure the proper safe keeping and management of Aboriginal objects in DECCW's possession before they are repatriated to communities. The strategy has resulted in a comprehensive inventory of all materials being held, and their storage in safe and secure facilities.

## Aboriginal Heritage Information Management System

The Aboriginal Heritage Information Management System (AHIMS) contains 64,000 Aboriginal sites recorded during the last 40 years in NSW. DECCW constantly updates its records on the system, to ensure there are no errors and that new sites are promptly recorded.

DECCW, other government departments, Aboriginal communities and developers rely on AHIMS for accurate data about Aboriginal cultural heritage sites and objects in NSW.

DECCW also works with Aboriginal communities and other organisations to ensure their participation in accurately recording information in AHIMS.

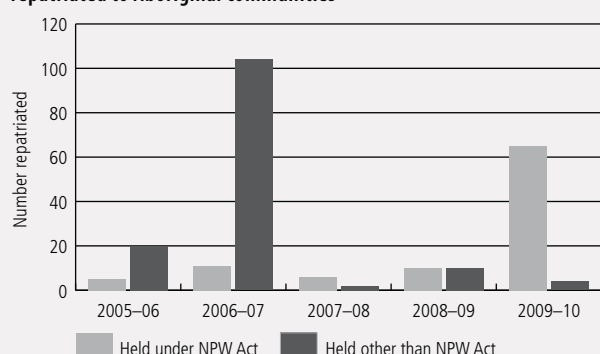
## ■ PERFORMANCE INDICATOR

### 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* which DECCW has repatriated to NSW Aboriginal communities. DECCW also works with the Australian Museum and community groups to facilitate repatriation under other legislation.

A 'collection' may be 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 2009–10, DECCW returned 65 sets of remains and collections held under the *National Parks and Wildlife Act*, and helped return four remains and collections held by museums and universities to Aboriginal communities.

Activities relating to AHIMS in 2009–10 included:

- correcting the location of more than 300 Aboriginal sites in Royal National Park, in partnership with the Illawarra Prehistory Group
- returning 2,500 copies of Aboriginal site cards to the Darkinjung Local Aboriginal Land Council, after the information they contained, including photographs, maps and descriptions of Aboriginal sites, had been recorded in AHIMS
- assisting local Aboriginal land councils to set up GIS systems to view their site information in an interactive way.

## Research into Aboriginal cultural heritage

DECCW researches Aboriginal culture and heritage to more effectively work with Aboriginal communities to protect and manage their heritage.

*Aboriginal women's fishing in NSW: historical documents* was completed in 2009–10. A thematic history of Aboriginal women's fishing practices was produced for general readership, and an extended annotated bibliography was produced for those wanting to explore the subject in more detail. Both documents are available from [www.environment.nsw.gov.au/nswcultureheritage/fishing.htm](http://www.environment.nsw.gov.au/nswcultureheritage/fishing.htm)

*Aboriginal wellbeing* was also produced in 2009–10, and includes interviews with Aboriginal people who participated in 11 publications produced since 2003 on NSW Aboriginal women's and men's heritage – see [www.environment.nsw.gov.au/chpublications/](http://www.environment.nsw.gov.au/chpublications/).

The participants have subsequently been invited to speak about their experiences of participating in the production of the publications and to reflect on how this experience affected their wellbeing. These reflections will be presented in *Aboriginal men's and women's heritage: wellbeing*, which is expected to be available in late 2010.

## ■ CASE STUDY

### Aboriginal heritage and culture identified and preserved in wetlands

The NSW Rivers Environmental Restoration Program aims to arrest the decline of wetlands in the Lower Murrumbidgee and Lachlan River systems. The Recording of Aboriginal Use and Values project, which concluded in 2009–10, has documented Aboriginal cultural values around the wetlands, and aims to increase Aboriginal people's access to, and use of, the wetlands, their waters and their resources.

The project engaged over 60 Aboriginal community members from Lake Cargelligo, Griffith, Ivanhoe, Hay, Balranald and Robinvale, and trained Aboriginal people in historical research, tracing family history, oral history recording, archaeological site identification and use of technical tools to record Aboriginal sites. The project:

- resulted in 517 new records relating to Aboriginal people's association with, and connection to, the wetlands, as well as information relating to Aboriginal people's involvement in natural resource management and views on water management and regulation
- included archaeological research and predictive modelling that recorded over 1,200 new Aboriginal sites
- produced 13 Aboriginal oral histories and five non-Aboriginal oral histories containing information on people, places and events
- identified a range of socioeconomic development opportunities for Aboriginal people in natural and cultural resource management
- led to two formal access and use agreements between private land holders and Aboriginal community organisations to allow Aboriginal people access to certain lands for cultural purposes and to use wetland resources sustainably
- gave effect to the Murrumbidgee Cultural Water Allocation, which is part of the Murrumbidgee Water Sharing Plan.

## Aboriginal Discovery program

Through the Aboriginal *Discovery* program DECCW works 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.

*Discovery* in the Blue Mountains enjoyed a 34% increase in 2009–10 over the previous year, and more than half this year's 11,500 participants joined programs led by Blue Mountains Aboriginal Discovery Guides.

*Discovery* Programs at Tumut have grown over the past four years to deliver programs to more than 5,000 participants each year, with a major focus on Aboriginal Discovery. The Aboriginal Discovery Program is offering an Aboriginal Tour Guide Training and Mentoring Program, which is increasing opportunities for Aboriginal people to work with DECCW to develop their careers through accredited training and traditional learning.

Since early 2009, this *Discovery* program, in conjunction with landscape photographer Murray van der Veer, has run a regular three-day photographic workshop which is available to all new and experienced photographers (see <http://discoveryphoto.org/dpj/>). In May 2010, a photographic exhibition entitled 'Discovering Country' held at the Rocks in Sydney showcased works from the workshop. Proceeds from the exhibition are contributing towards further training and employment opportunities for Aboriginal people in the Snowy Mountains and Tumut regions.

At Jigamy Farm on the far south coast, students took part in NAIDOC week activities for schools in July 2009. Activities included a bush tucker walk, Aboriginal dance, story telling, language and art. The process involved a collaborative effort with Eden Local Aboriginal Land Council, Eden community Elders and the Bournda Environmental Education Centre.

## Aboriginal rock art conservation and management

During 2009–10, DECCW worked with Aboriginal communities to protect and conserve important rock art sites. Works included installing drip lines and fences near Cobar, and removing graffiti from sites in Jervis Bay National Park on the NSW south coast and at Como in Sydney's south.

DECCW completed conservation works at The Basin, in Ku-ring-gai Chase National Park. DECCW Aboriginal field officers, with the Metropolitan Land Council, highlighted engravings, removed vegetation and installed new interpretive signs.

In April 2010, with assistance from the Illawarra Aboriginal community, DECCW carried out conservation works on an Aboriginal rock art engraving site in Dharawal Nature Reserve, south of Sydney. The works, involving the removal of lichen and vegetation from the site, gave members of the community the opportunity to learn different conservation methods.



Photo: B. Welsh, DECCW

Conserving rock art by removing lichen from within an engraving at Dharawal State Conservation Area, south of Sydney.



Photo: J. Lemon, DECCW

The site at Dharawal State Conservation Areas once rock art conservation has been completed.



## Aboriginal Land Management Framework

The Aboriginal Land Management Framework is a whole-of-government project led by DECCW to coordinate access to, and use and joint management of, public land by Aboriginal people. The project aims to develop a common understanding between the NSW Government and Aboriginal communities about programs and initiatives to strengthen connections to Country, and build on the strong links between Aboriginal people's involvement in land management and improved health and wellbeing outcomes for communities.

In the first phase of the project, DECCW conducted workshops with Aboriginal people to find out about their needs and aspirations regarding land management. A report on the issues raised during the public consultation workshops is available on [www.environment.nsw.gov.au/nswcultureheritage/almf.htm](http://www.environment.nsw.gov.au/nswcultureheritage/almf.htm). The project will be finalised in 2010–11 with the development of information packages for Aboriginal and non-Aboriginal landowners and Aboriginal people with an interest in public land.

## Botany Bay initiatives

Botany Bay is a highly symbolic place, as it was a point of significant early contact between Aboriginal people and Europeans. During 2009–10, as part of the launch of the Meeting Place Project, the dual naming of Kamay Botany Bay National Park took place, attended by members of the La Perouse Aboriginal community. School children from Kurnell Public School and La Perouse and Matraville Solider Settlement Public School participated in the ceremony through dancing and tree planting.

*First Encounters* is the title of a long-running exhibition at the Kamay Botany Bay Visitor Centre art gallery. The exhibition is the result of a partnership between DECCW, the Boolarng Nangamai Aboriginal Art and Culture Studio and the Australian Society of Marine Artists. The current Aboriginal display is a private collection on loan from a local Aboriginal Elder.

## Supporting the practice of Aboriginal culture and heritage

Each year, DECCW develops teaching and training resources and conducts training for communities, staff, other agencies and the public in the care and management of Aboriginal cultural heritage. Activities in 2009–10 included:

- the Dreaming Tracks Project, which recorded traditional walking routes that Aboriginal people used to access the Hunter Valley, and revisited significant sites recorded in earlier surveys from the 1970s and 1980s, with community members from the Wannaruah, Mindaribba, Awabakal, Bahtabah and Wonarrua Nations Aboriginal corporations
- producing the Cultural Connections to Wahluhal Country in the Bundjalung Nation CD-ROM Interactive Education Support Kit, to support primary school curriculum-based learning about Aboriginal connections to the local natural environment, native plants and animals, and science and technology
- training in Aboriginal site awareness and Aboriginal culture and heritage management through the Riverina Institute of TAFE as part of private native forestry courses, to assist private land holders, machine operators, forest contractors and crews working on private property to better understand and manage cultural sites and artefacts
- the Aboriginal Cultural Heritage Teachers Kit (to be released in late 2010), a resource to help teachers conduct lessons about traditional and contemporary Aboriginal culture and heritage
- Our Country, Our Water, a resource for Aboriginal communities about water management in NSW
- Aboriginal site awareness training sessions, which aim to improve participants' understanding of Aboriginal cultural heritage site values, DECCW's responsibilities and procedures, and the legislation that applies to cultural heritage and its management.

## ■ CASE STUDY

### Muttonbird Island arts project

In June 2010, the Federal Government announced the successful grant recipients for the second round of the Jobs Fund. One successful grant was for the redevelopment of the entrance to Muttonbird Island Nature Reserve in Coffs Harbour.

A grant of \$320,000 will develop an interpretive arts project that includes an outdoor education and performance space, information on the cultural and natural values of the nature reserve, employment of Aboriginal artists, and training and employment of Aboriginal Discovery rangers to run cultural tours of the nature reserve and surrounding reserves, including Solitary Islands Marine Park.

The island is important to the local Gumbaynggirr people and is the site of a nesting colony of shearwaters. The project is an important outcome for the local Aboriginal community of Coffs Harbour, with both Elders and young people involved. The area is an important tourism drawcard for Coffs Harbour, with over 150,000 visitors per year.

The public art project is a collaboration between Arts Mid North Coast (who received the grant), Coffs Harbour City Council, the local Aboriginal Elders Group (Garlamirla Guyuu Girwrrwaa) and DECCW.

## 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. Camps conducted with DECCW support during 2009–10 included:

- the Living Country Culture Camp at the Jenolan Karst Conservation Reserve in November 2009, where representatives from the six Aboriginal language groups of the Greater Blue Mountains World Heritage Area (Darkinjung, Darug, Dharawal, Gundungurra, Wanaruah and Wiradjuri), along with staff from DECCW and the Jenolan Caves Trust, took part in workshops, art, dance, story telling, bushwalking, boomerang throwing, swimming and visiting the Jenolan Caves
- the 31st Eden cultural camp with the La Perouse Men's Elders Group in November 2009
- a women's cultural camp at Saltwater National Park involving Aboriginal women from the Taree community in December 2009
- a culture camp on the south coast in March 2010 for the Shoalhaven community to promote and educate male Koori youth on men's health issues, with health professionals, service providers and community members attending
- a culture camp in Yarriabini National Park on the north coast in March 2010 for the Dhungutti and Gumbaynggirr community to celebrate the signing of a memorandum of understanding between DECCW and local Aboriginal communities.



Photo: J. Herder, DECCW

*Paintings completed at an Aboriginal women's cultural camp at Yengo National Park for the Mingaletta Women's Group.*



Photo: M. Jarman, DECCW

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

## Aboriginal Cultural Heritage Advisory Committee

The Aboriginal Cultural Heritage Advisory Committee is established under the *National Parks and Wildlife Act 1974*, and consists of nominees from the NSW Aboriginal Land Council and Aboriginal Elders groups, as well as registered native title claimants and Aboriginal owners. It advises the Minister for Climate Change and the Environment and the Director General of DECCW on matters relating to the identification, assessment and management of Aboriginal cultural heritage in NSW.

A new committee was re-constituted on 9 November 2009, with 11 members appointed by the Minister for Climate Change and the Environment for two- and three-year terms.



Photo: SC Photography

*The Aboriginal Cultural Heritage Advisory Committee at Gap Bluff. Front row left to right: Alice Williams, Viola Brown, Maureen O'Donnell, Merle Williams. Back row left to right: Larry Kelly, Robin Heath, Victor Perry (Chair), Glenda Chalker (Deputy Chair), Steven Meredith. Also appearing in photo on extreme right: Norman Laing, Executive Director Country, Culture and Heritage Division. Absent: Ian Woods.*

## Joint management of parks

The joint management of parks and reserves involves DECCW 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:

- DECCW 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*

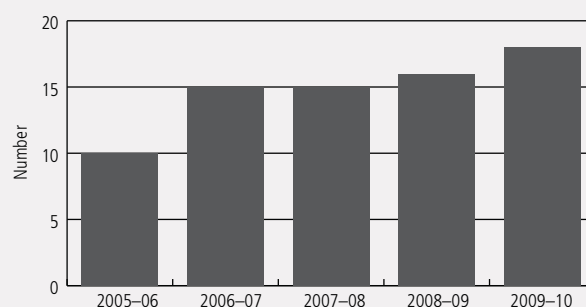
### ■ PERFORMANCE INDICATOR

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

**Definition:** DECCW 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.

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

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



**Interpretation:** During 2009–10, two new joint management agreements were finalised. A memorandum of understanding for Yarriabini National Park between DECCW and the Dunghutti and Gumbaynggirr peoples was signed in March 2010. A lease-back arrangement under Part 4A of the *National Parks and Wildlife Act 1974* for Gaagal Wanggan (South Beach) National Park between DECCW and the Gumbaynggirr peoples was signed in April 2010.

At 30 June 2010, with the inclusion of Yarriabini National Park and Gaagal Wanggan (South Beach) National Park, there are 18 formal joint management arrangements with Aboriginal communities in place, covering 111 areas across more than 1.5 million hectares (or 23%) of the reserve system.



- Indigenous land use agreements with native title holders under the *Native Title Act 1993*
- memoranda of understanding between DECCW and Aboriginal communities.

DECCW may also enter into less formal partnerships with Aboriginal people to protect and manage their culture, heritage and land.

On 26 March 2010, DECCW and the Dhungutti and Gumbaynggirr people celebrated the signing of a memorandum of understanding for Yarriabini National Park, near Scotts Head. The memorandum allows Aboriginal people to be more involved in managing the national park, which incorporates Mt Yarrhapinni. Aboriginal people have already had significant involvement in managing the park, including creating the sculpture at the Pines picnic area, advising during redevelopment of the picnic area and Yarriabini Lookout, and advising on bush foods and Aboriginal heritage management.

On 23 April 2010, the new Gaagal Wanggan (South Beach) National Park near Nambucca Heads was created. This park is owned by the Unkya and Nambucca Local Aboriginal Land Councils and jointly managed with the Gumbaynggirr people. The new park is the result of the NSW Government and the Nambucca Heads and Unkya Local Aboriginal Land Councils negotiating a resolution to land claims under the *Aboriginal Land Rights Act 1983*.

The NSW Government has recognised the importance of these lands and waters to the Gumbaynggirr Aboriginal community, and also the need to protect the significant coastal and estuarine values of the area and maintain public access and enjoyment. The Aboriginal community wish to see the land conserved for and used by the public.

In October 2009 and March 2010, the chairs of the boards of management and committees for all Aboriginal joint managed parks in NSW met to share information and discuss issues relevant to all parks. The October meeting was hosted by the Worimi Conservation Lands Board of Management at Port Stephens. The second meeting was held in conjunction with the DECCW Aboriginal staff network meeting in Bourke, and was hosted by the Gundabooka National Park Co-management Committee.

## Aboriginal Park Partnerships Program

In 2008–09, DECCW established a four-year Aboriginal Park Partnerships Program to support partnerships between DECCW and Aboriginal communities for park management, education and interpretation, and to support Aboriginal people's access to and use of parks for cultural activities. Projects funded under the program in 2009–10 included:

- seven Aboriginal guides receiving training in Certificate I in Tourism or Aboriginal guiding
- eight members of the Karuah Aboriginal community completing a Certificate 2 CALM TAFE accredited course through working as a 'green team'
- work with the Brungle/Tumut Aboriginal community to develop a an oral and written history of the community, and continued training and mentoring of Aboriginal people in delivering cultural tours
- recruitment and training for Stage 2 of the Towra Team Project, which has led to the employment of 12 casual Field Officers and two casual Discovery Guides, who have gained a driver's licence and pesticide certification; and developed bush regeneration, cultural heritage, first aid, and land management skills in partnership with the Guriwal Aboriginal Corporation and the La Perouse Land Council
- development of a draft co-management agreement for Koonadan Historic Site in Leeton, including 'Back to Country' days, workshops, and a site master plan
- cultural heritage surveys on Woggoon Nature Reserve, involving 15 Aboriginal community members and support from the Condobolin Local Aboriginal Land Council, which has identified items and a site of cultural significance
- a project management trial, in which an Aboriginal cadet project manager is employed and mentored by project management consultants, and is helping to develop business plans for projects in the Blue Mountains and western Sydney.



Photo: DECCW

Illegally dumped waste can be a major problem for Aboriginal communities. DECCW is helping Local Aboriginal Land Councils and local government to clean up such waste on Aboriginal-owned land.

## Aboriginal lands clean-up program

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

To date, more than \$1 million has been provided by the Environmental Trust to ten Local Aboriginal Land Councils and local government 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.

Eight completed projects in 2009–10 resulted in the re-use of around 2,500 tonnes of material; the recycling of around 170 tonnes of metal, concrete, brick, glass and white goods; and the disposal of 499 tonnes of mixed wastes.

The projects will allow Aboriginal communities to implement broader waste management strategies and explore further land-use options, such as entering into biobanking or sustainable native forestry agreements. A further eight projects are under way, with six of these nearing completion.

## ■ CASE STUDY

### Aboriginal knowledge and cultural values in natural resource management

The Aboriginal Knowledge and Cultural Values in Natural Resource Management Project was a partnership between DECCW and several CMAs, and was funded through the National Action Plan for Salinity and Water Quality. The project aimed to increase Aboriginal community participation in managing natural resources in the catchments of the Hawkesbury–Nepean, Hunter, Macquarie, Lachlan and Murrumbidgee river systems. Like other river catchments across the state, these catchments face increasing pressures from development, competing water uses, pollution and the impacts of drought.

The project also aimed to address the need for a consistent management system that incorporates Aboriginal values of Country into broader natural resource and environmental management in NSW. The project employed 24 Aboriginal Community Facilitators for 18 months, most of whom completed TAFE qualifications while working on projects. Another six young Aboriginal people were employed on the project to provide technical mapping support.

As a result of the skills and qualifications gained, most Aboriginal participants have gained further employment with government, Aboriginal community and business

## Land Alive

Land Alive is funded by the Environmental Trust over four years 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 Aboriginal communities. Thirty Aboriginal trainees continued training in conservation land management during the year.

In 2009–10, Land Alive funded the development of management plans for a further four Aboriginal-owned areas, bringing the total number of Aboriginal land management plans to nine. Biobanking assessments have been funded for three Aboriginal-owned areas and Land Alive is supporting one Aboriginal landowner in discussions with a developer.

Land Alive also funded the Hot Spots Fire Management Program, in which the Nature Conservation Council helped two Aboriginal landowners to plan for fire.

A mid-term evaluation of Land Alive undertaken in April 2010 found that more follow-up work with landowners is needed to ensure more use of their completed land management plans, and that communities need simple and clear communication material to explain the core concepts of biobanking. DECCW will be focusing on these



DECCW negotiated the protection of a cultural heritage site with the Wonnarua community and Xstrata mine. Featured in the photo are members of the Wonnarua community, Uncle Barry French and Alan Paget.

Photo: DECCW

organisations. One facilitator confirmed at the awards day that by working on this project, and in receiving her Certificate 4 in Conservation and Land Management, she had achieved her lifelong ambition to be qualified and employed in an environmental job and to work on behalf of her community.

The project has been a highly successful and a positive partnership between DECCW, catchment management authorities and Aboriginal communities in the management of Aboriginal heritage, natural resources and the environment.

areas in 2010–11, including continued funding for the NSW Aboriginal Land Council to establish a position dedicated to working with DECCW on making the BioBanking Scheme accessible to, and understood by, local Aboriginal land councils and communities.

## Other joint projects with Aboriginal communities

In 2009–10, DECCW concluded the three-year funding and management agreement with NTSCorp, who implemented the Gomeroi Project. This three-year project built the capacity of the Gomeroi Nations in north-west NSW to participate and engage in land use planning, and natural resource and water management, and to implement self-governance.

DECCW completed an Aboriginal Women and Natural Resource Management Program, interviewing Aboriginal people in NSW who have worked in natural resource management (e.g. as members of Aboriginal green teams). Participants found the most significant benefits of such work were an enhanced sense of community, developing their leadership skills, access to Country, facilitating their ability to care for Country and strengthening their cultural identity. The outcomes of the research will be presented in a report in late 2010.

DECCW supported the Regional Partnership Agreement, which was signed in 2009–10 in Coffs Harbour between the Australian and NSW governments, the Many Rivers Training Enterprise and Employment Aboriginal Corporation, the NSW Aboriginal Land Council and representatives from industry and non-government organisations. The agreement aims to address Indigenous unemployment in the Many Rivers region, by increasing Aboriginal employment in the climate change, environment and conservation job markets.

In a partnership between DECCW and Aboriginal community members of the Blue Mountains and Hawkesbury, the Yellowmundee Aboriginal Bushcare program is continuing to target lantana at sites that

are significant to local Darug people in Yellowmundee Regional Park. The program commenced in May 2009 and will continue until 2011.

DECCW's Tumut parks office organised an adventure kids camp for Aboriginal youth in May 2010, as the first stage of a two-year project. It is hoped that the second stage will see DECCW employing a trainee adventure guide in partnership with local adventure tourism providers.

DECCW's Narrabri parks office continued to develop partnerships through existing joint management arrangements. Programs established in 2009–10 included:

- the employment of 12 Aboriginal people with DECCW
- the Sculptures in the Scrub project at Dandry Gorge in the Pilliga
- Aboriginal site training and surveys
- site conservation works
- exploration of the cave complex at Kelvin Aboriginal Area near Gunnedah.

Bomaderry Creek Regional Park near Nowra gained new visitor facilities and interpretation works following a volunteer project organised by DECCW with Aboriginal students from Shoalhaven High School. The project, part of the Shoalhaven Volunteer Youth Initiative, involved the students volunteering one day a week for eight months, during which time they created and installed two mosaic artworks interpreting the significance of Bomaderry Creek to the local Aboriginal community.

At Eden on the far south coast, four Aboriginal community members were employed as a summer crew from October 2009 to June 2010, receiving training as remote area fire fighters, participating in wildfire suppression and hazard reduction, and working on visitor facility construction projects.

## ■ CASE STUDY

### Creating new opportunities at Sea Acres Rainforest Nature Reserve

The Yun Yi Barragay – Walk With Me program is a partnership project with the local Aboriginal community to develop and market educational and interpretive experiences in Sea Acres Nature Reserve. Three new visitor and educational experiences were created in 2009–10: Bush Tucker Tours, Schools Education Program and Coastal Walk. These are being piloted with targeted groups and schools. The program employs four casual Aboriginal interpretive guides.



Ben McMillan and Natalie Talbot join Uncle Bill O'Brien, Aboriginal Discovery Ranger and Nardja Davies, Sea Acres Rainforest Nature Reserve, for a bush tucker tour.

Photo: O. Wilson