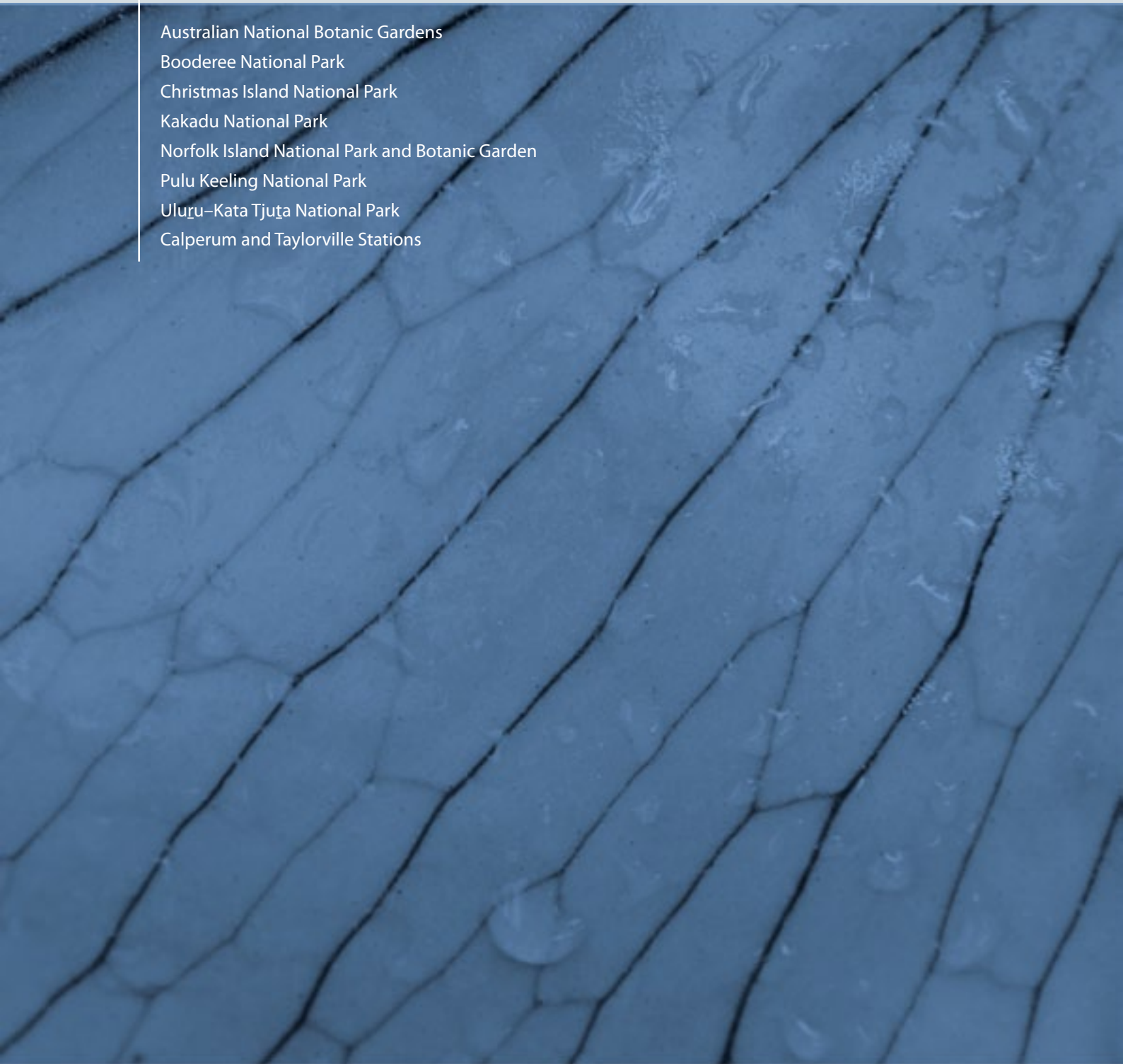
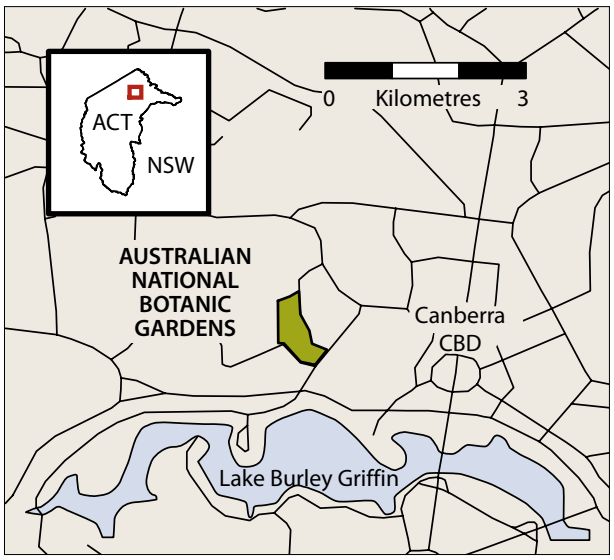
1 Terrestrial reserves summaries for 2010–11



Australian National Botanic Gardens
Booderee National Park
Christmas Island National Park
Kakadu National Park
Norfolk Island National Park and Botanic Garden
Pulu Keeling National Park
Uluṟu–Kata Tjuṯa National Park
Calperum and Taylorville Stations

Australian National Botanic Gardens

www.anbg.gov.au



Special features

The Australian National Botanic Gardens (ANBG) is a major scientific, educational and recreational resource. It was one of the first botanic gardens in the world to adopt the study and display of a nation's native species as a principal goal. Approximately one-third of the known flowering plant species that occur in Australia and about half the known eucalypt species are represented in its living collection. The ANBG is a national showcase for the horticultural use of Australia's native plants. It is a partner in the Australian National Herbarium which provides the scientific identification of plant species represented in the living collection and scientific information on Australian plants.

The ANBG contributes to meeting Australia's obligations under international environment conventions to which Australia is a signatory. In particular, the Convention on Biological Diversity recognises the importance of botanic gardens in *ex situ* and *in situ* conservation, research, training, plant identification and monitoring, raising public awareness, providing access to genetic resources, and global cooperation in the sustainable use of plant biodiversity. The ANBG provides expert participation and contributes scientific data to the Global Biodiversity Information Facility and other international biodiversity projects.

Location	Latitude 35°16′ South, Longitude 149°06′ East
Area	85 hectares
Proclamation date	17 September 1991
IUCN category	Category IV
Biogeographic context	Displays plants from a diverse range of climatic and biogeographic regions—alpine to tropical, coastal to central desert
Management plan	Second management plan expired 9 January 2009. A draft third management plan is in preparation for release for public comment in 2011–12
Other significant management documents	Risk Assessment and Management Schedule; ANBG Masterplan (National Capital Authority); ANBG Emergency Management Plan; Agreement for the Operation of the Centre for Australian National Biodiversity Research (CANBR) between the Director of National Parks and the CSIRO; CANBR Strategic Plan

Financial	Operating	$9.777 million
	Capital	$3.561 million
	Revenue	$11.782 million
Visitors	450,480 to ANBG 104,635 to visitor centre	
Living plants	Planted in 2010–11: 4,265 Total number of taxa in the living collection: 6,267 Total number of plants in the living collection: 76,946	
Herbarium specimens	Specimen records added to database in 2010–11: 17,199 Specimen records in database: 874,478 Total number of specimens in collection approximately 1.2 million: 918,200 items databased, plus approximately 300,000 not databased	
Australian Plant Name Index	Names added to APNI database in 2010–11: 10,530 Total names in APNI database: 215,807	
Seed Bank	Total number of collections in the Seed Bank: 5,061 Number of collections added to Seed Bank in 2010–11: 164	
Australian Plant Census	Names added to APC database in 2010–11: 2,299 Total names in APC database: 19,431	
Australian Plant Image Index	Images added in 2010–11: plant images 12,751, other 615 Total number of images in collection: 76,449	
Permits	9 commercial activity permits; 37 wedding licences; 5 research permits	

International conventions and agreements	
World Heritage Convention	Supports Australia's World Heritage sites through botanical research, scientific plant collections, plant identification, botanical information management, and horticultural and educational programs
Wetlands (Ramsar) Convention	Supports Australia's obligations under the Ramsar Convention through access to plant identification services and data on aquatic plants in the Australian National Herbarium, and by delivering information on Australia's aquatic plants through its website
Other agreements	Collaborates with international organisations including: • Botanic Gardens Conservation International • International Association of Plant Taxonomists • International Plant Propagators Society • International Union of Biological Sciences Taxonomic Databases Working Group • International Plant Name Index (Royal Botanic Gardens, Kew, and Harvard University) • Global Biodiversity Information Facility • International Organisation for Plant Information World Vascular Plant Checklist Project • Species 2000 • Millennium Seed Bank Partnership • American Public Gardens Association • Global Strategy for Plant Conservation

Environment Protection and Biodiversity Conservation Act 1999	
Heritage	On Commonwealth Heritage List

Management arrangements

The ANBG is managed by an Executive Director supported by a General Manager, both appointed by the Director of National Parks. Since 1993 the ANBG has been a partner in the Centre for Australian National Biodiversity Research (CANBR) (formerly the Centre for Plant Biodiversity Research), a joint research venture with CSIRO Plant Industry which incorporates the Australian National Herbarium. The herbarium retains voucher specimens for research and environmental studies and for plants at the ANBG.

Monitoring

ANBG staff stocktake the living collection and record information on plant locations, plant deaths and the overall health of the collection. This information is linked electronically to scientifically documented voucher specimens in the Australian National Herbarium. A team of botanists, including national and international collaborators, ensure that the correct botanical names are always applied to the ANBG's living specimens and used in public interpretation. New accessions help to document the occurrence and distribution of plants in Australia.

Kangaroo, wallaby and rabbit populations are monitored to alert management to threats to the living collection. A venomous snake management plan monitors snake interactions with people.

Future challenges

Major challenges are:

- strengthening scientific research through the acquisition of new resources and partnerships
- integrating climate change considerations into conservation programs and research
- securing future expanded accommodation for the Australian National Herbarium collections
- increasing the reach and impact of the national environmental education program
- undertaking a new site development plan to guide the strategic development of the living collection and major infrastructure requirements
- developing and reviewing contingency plans for major risks such as bushfires, drought, pests and resourcing issues.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Water management and associated infrastructure
- *Ex situ* conservation
- Enhancing the living collection and visitor experience through new developments

Actions

- Increase water use efficiency and sustainability
- Position the ANBG as a leader in *ex situ* conservation including seed banking
- Planning for new developments to expand the range of species represented within the living collection

Performance results 2010–11

- The non-potable water infrastructure improvement project for the ANBG was completed within budget in March 2011. The project enables up to170 million litres of water to be delivered from Lake Burley Griffin to irrigate the Gardens each year. The Gardens will no longer have to rely on Canberra's drinking water supply to sustain the extensive collection of native plants and regular irrigation will be possible, even in times of tough water restrictions
- Continued a program for *ex situ* alpine plant conservation supported by a three-year partnership between the ANBG, Australian National University, University of Queensland and the Friends of the ANBG. The program studies the effect climate change will have on the reproductive ecology and demography of Australian alpine flora. Eight field trips to the Mount Kosciuszko area were undertaken and 94 seed samples were collected
- Made 64 seed collections to secure ACT grassland species in the ANBG Conservation Seed Bank. Experiments being performed on these seed collections help build understanding and knowledge of the germination requirements of these Australian flora species, thus informing conservation and restoration practices

- Following completion of the rehabilitation of the old nursery site in June 2010, design of an arid garden with a 'Red Centre' theme for the site's redevelopment was initiated and is being finalised; the first stage of construction is scheduled to commence in 2011–12
- The grassy woodlands garden at the main entrance was redeveloped to showcase local flora and create a sense of arrival to the Gardens. The redevelopment was opened in October 2010 and acts as a shopfront for interpreting and displaying plants from this threatened ecological community
- The ANBG conservation program focused on grassy woodland communities and sub-alpine flora. Specific conservation projects were undertaken associated with the following threatened species-*Zieria obcordata*, *Z. baeuerlenii*, *Swainsona recta*, *Eucalyptus imlayensis, Lepidium ginninderense* and *Hakea pulvinifera*
- The *ANBG Pest Animal Management Strategy* was reviewed and fauna surveys were completed for rabbits, foxes and kangaroos. The ANBG collaborated with ACT Parks Conservation and Lands staff to reduce rabbit numbers within the Gardens
- The ANBG continued to display approximately one-third of the plant species occurring naturally in Australia, in a managed horticultural setting

KRA4: Use and appreciation of protected areas

Major issues

- Visitor services including signage, interpretation and education programs
- Education programs need to be expanded and promoted to students throughout Australia
- Visitor programs and outreach
- Monitoring and evaluating visitor satisfaction and needs

Actions

- Review existing education programs and develop new targeted programs that meet Australian curriculum requirements
- Use social media platforms to engage with a wider audience
- Develop a calendar of public programs, events and temporary exhibitions targeting key audiences
- Conduct visitor surveys to measure visitor satisfaction and determine future needs
- Encourage greater visitation through a range of programs and initiatives

Performance results 2010–11

- Received a total of 450,480 visitors of which 24 per cent were recorded at the visitor centre
- In October 2010, the ANBG celebrated its 40th anniversary (see case study page 11). The range of events held to mark this milestone included a public open day that attracted 5,000 people, a gala dinner held within the Gardens, a 40th anniversary exhibition in the visitor centre, an orchid exhibition and development of a native 'five senses' garden at Floriade. The celebrations provided extensive media exposure and public interaction with the Gardens
- Continued to evaluate and redevelop education programs to incorporate the national curriculum and inquiry-based learning techniques
- Hosted 8,958 school and tertiary students from 206 schools in ANBG education programs (73 per cent of students participated in programs facilitated by ANBG and 27 per cent in *Do It Yourself* programs run by their own teachers). Schools from every state and territory included the ANBG on their Canberra excursion itinerary
- Participated in a partnership with National Capital Education Tourism Project to attract interstate school excursions to Canberra and the ANBG. Activities included representation at teacher conferences, primary and secondary teacher and tour operators familiarisation tours
- Collaborated with the National Capital Attractions Association Inc to represent and promote the ANBG and other national attractions within Canberra and the surrounding region

- Implemented a successful events and outreach program including:
  - NAIDOC Week (July 2010)
  - Making Music, Weaving Nature's Wonders, Wearing Nature's Treasures: School Holiday programs (July 2010)
  - Science Week: Twilight An Adventure (16 ,19, 20 August 2010)
  - Go Native, Papermaking, and Budding Artists: School Holiday Programs (28 September to 8 October 2010)
  - Wattle walks (1–7 September 2010)
  - spring flower walks (11 September to 10 October 2010)
  - Floriade display and outreach program 'Five Senses Garden' (11 September to 10 October 2010)
  - Canberra Youth Orchestra (24 September 2010)
  - Christmas Concert (4 December 2010)
  - Snakes Alive (13–25 January 2011)
  - St Patrick's Day Concert (17 March 2011)
  - Easter Bilby Storytime (19, 20, 26, 27 April 2011)
- The annual Summer Sounds concert series held in January 2011 was highly successful with 12,000 people attending over four weekends. The concerts were held in partnership with the Friends of the ANBG and commercial sponsorship funded a temporary stage and a proportion of the Garden's event costs
- Hosted a short film festival Flix in the Stix on 26 February 2011. The event was managed and promoted by the event organiser with the ANBG providing the venue
- Bush Magic: Storytime in the Gardens attracted a strong following of repeat family visitors. The program is aimed at preschool children and their families and 11 sessions were run through the year with an average of 33 children at each session
- Promoted the cultural, artistic and scientific values of Australian native plants through exhibitions including:
  - Working on Country Photo exhibit
  - 40th anniversary exhibition '40 years and growing'
  - Friends schools photographic exhibit
  - Sex and Death in the Display Glasshouse
  - United Nation Photo Competition: Year of Biodiversity
  - Rhythm Interrupted – Life Redirected
  - Friends Botanical Art Group Exhibition
  - Australian Plants Bonsai Exhibition'
  - Lasting Beauty: Peter Garnick
- The Gardens part of the ANBG website was updated with a new 'look' and improved functionality. The website has 45,000 pages and provides access to 63,000 images. The ANBG's Facebook and Twitter sites grew in popularity-453 people 'like' ANBG's Facebook page and 214 people follow ANBG on twitter

KRA5: Stakeholders and partnerships

Major issues

- Supporting and participating in national and international botanical forums including the Council of Heads of Australasian Herbaria, Council of Heads of Australian Botanic Gardens, Global Biodiversity Information Facility, Taxonomy Research and Information Network, Atlas of Living Australia, Encyclopaedia of Life and Taxonomic Databases Working Group
- Servicing the department's and CSIRO's need for technical and scientific advice on Australian plants
- Developing new partnerships with government and non-government organisations
- Continuing a collaborative partnership with the Friends of the ANBG

- Supporting and engaging with the Australian Cultivar Registration Authority, the Australian Network for Plant Conservation and Greening Australia
- Ongoing support for the Centre for Australian National Biodiversity Research (CANBR)
- Providing leadership and co-ordination of the Australian Seed Bank Partnership
- Fostering opportunities and partnerships with new stakeholders

Actions

- Continue the ANBG's active leadership role with the Council of Heads of Australian Botanic Gardens
- Continue strategic partnerships and cooperative data management with the Taxonomic Databases Working Group, Global Biodiversity Information Facility, Taxonomy Research and Information Network and Atlas of Living Australia
- Continue the Australian National Herbarium's engagement in the Council of Heads of Australasian Herbaria
- Undertake and promote the services that the ANBG and the CANBR can provide to the department and CSIRO in the form of technical and expert advice
- Continue to foster the positive partnership between the ANBG and the Friends of the ANBG
- Continue hosting the Greening Australia Community Seed Bank, the Australian Cultivar Registration Authority and the Australian Network for Plant Conservation on the ANBG website
- Continue and further develop the joint ANBG–CSIRO partnership in the CANBR
- Co-ordinate the Australian Seed Bank Partnership

Performance results 2010–11

- The ANBG's 17-year partnership with CSIRO Plant Industry was renewed for a further 10 years in December 2010. A new strategic plan for the renamed Centre for Australian National Biodiversity Research was put in place and a new Director for the Centre was appointed in January 2011
- Continued ANBG membership of technical working groups under the Global Biodiversity Information Facility and Taxonomic Databases Working Group
- Engaged a national coordinator for the Australian Seed Bank Partnership in July 2010 to co-ordinate national conservation seed banking efforts. Partners from across Australia met at the ANBG in November 2010 and prepared a 10-year seed collecting and research program to build the national safety net for Australian plant species; a partnership website was also launched
- Continued the close collaboration between the ANBG Conservation Seed Bank and Greening Australia, including joint field collecting, seed storage and management. The ANBG provided Greening Australia with space and irrigation for seedling production
- The Australian National Herbarium continued to play a driving and coordinating role on behalf of the department for projects undertaken by the Council of Heads of Australasian Herbaria. This included continued work with Australia's Virtual Herbarium, and the Australian Plant Census
- The CANBR continued its close association with the Taxonomy Research and Information Network, housing the network's core staff and participating in projects such as systematic and diversity studies of weeds of national significance and biodiversity information management
- The ANBG and the CANBR entered into a partnership with the Australian Biological Resources Study and the Atlas of Living Australia to develop and manage a common taxonomic infrastructure for databases held by these organisations and to develop web services, including a species profile template for the Atlas
- The CANBR participated in a 'Bush Blitz' collaborative biodiversity survey in the Dananbilla, Illunie and Koorawatha Nature Reserves in the south-west slopes of NSW, coordinated by the Australian Biological Resources Study. The results of these surveys will contribute to such projects as Australia's Virtual Herbarium and the Atlas of Living Australia
- The Friends of the ANBG ran the annual students' photographic competition and the autumn and spring plant sales; published quarterly newsletters; provided volunteer guided walks each day and facilitators for the Botanical Resource Centre twice a week; and supported the ANBG's annual summer concerts in January 2011

- The Friends of the ANBG provided funds to enable the development of a shade shelter over the Crosbie Morrison Amphitheatre, two environmental monitoring stations, interpretative signage in the grassy woodland garden, an orchid display in the visitor centre and a new lichen website
- The Australian Cultivar Registration Authority, based at the ANBG, documents the nomenclature of cultivated plants in the Australian Plant Name Index database. Funding was secured from private donors and the horticulture industry to enhance the index's cultivar data and add scanned pdf documents of the original cultivar descriptions
- The Australian Network for Plant Conservation, based at the ANBG, continued to conduct workshops in plant conservation techniques throughout the country and continued to produce its quarterly newsletter
- The CANBR partnership in the Australian Tropical Herbarium in Cairns continued. The ANBG and the CANBR successfully provided database services to support the tropical herbarium's collections management
- Strengthened partnerships with the NSW National Parks and Wildlife Service, ACT Government, landholders and NGOs to collaborate in the recovery of threatened species and ecological communities. Specific projects included seed banking, cultivation of plants for translocation, research and germination testing

KRA6: Business management

Major issues

- Finalisation of the third management plan
- Effective budget management and new revenue opportunities to meet increasing operational costs
- Ongoing development and retention of staff
- Minimisation of operational risks to staff, visitors and assets

Actions

- Finalise the third management plan for release as a draft for public comment
- Align the strategic risk assessment and business planning timelines to ensure that resources meet existing and emerging needs
- Investigate new revenue opportunities to offset operational costs
- Continue staff development through targeted training programs, regular communication and a team-based approach to projects
- Embed risk management principles in project planning and operational processes

Performance results 2010–11

- Further developed the draft management plan for public consultation in 2011–12
- Addressed the challenge posed by increases in the cost of water through the new project to extract water from Lake Burley Griffin
- Undertook recruitment of essential ongoing positions that were previously non-ongoing contracts, maintained and improved staff consultation, involvement and capacity building through training, staff working groups and planning sessions
- Continued commitment to health and safety through regular occupational health and safety committee meetings and applying risk management principles in developing capital works projects and operational plans
- Developed and implemented a new emergency management plan
- Undertook an energy audit and commenced stage 1 of recommended works
- Developed a draft Fund Raising Strategy, developed a fund raising prospectus and generated sponsorship for the Summer Sounds concert series

KRA7: Biodiversity science, knowledge management and use

Major issues

- Nationally consistent names for Australian plant species
- Systematics and classification of Australian plant species
- Taxonomic botanical research and documentation
- Developing the horticultural knowledge base
- Integrating the living collection database, herbarium database and image database
- Improving access to botanical information and images for application around issues of plant conservation, natural resource management and environmental change
- Awareness of, and engagement with, national and international collaborative biodiversity projects

Actions

- Maintain and curate the Australian National Herbarium collections and associated data content, and links to related information
- Make botanical data, information and expertise available to the national and international botanical communities and to the public
- Develop and maintain the Australian Plant Name Index and the Australian Plant Census to provide an up-to-date listing of flowering plants in Australia as a consensus view of the Australian botanical community
- Undertake taxonomic and systematic research, publish and disseminate research findings, and make data available to the research community and the public
- Develop, maintain and promote authoritative scientific databases of Australian plant information and make this information accessible online using contemporary data standards
- Integrate the department's plant and animal name databases with ANBG databases to allow more consistent management and delivery of biodiversity data
- Expand the extensive plant image collection and improve electronic management and access to the digital collection
- Position the ANBG as a key agency for disseminating information on conservation and environmental change issues in botanic gardens
- Drive national collaborative biodiversity information accession, management and delivery projects

Performance results 2010–11

- Databased 17,199 herbarium specimens with a total of 874,478 collection specimens now recorded in the database and available to the public through the internet
- Maintained currency of data for the Australian Plant Name Index, including extensive editing of existing data and capture of new data
- Updated the Australian Plant Image Index to make 13,366 additional images accessible on the internet
- A special labelling project for the living collection was initiated in June 2011 with 2,000 labels placed on plants in over 80 sections along parts of the Main Path and Rock Garden. This has significantly improved interpretative use and value of the plant collections for visitors. The project will continue next year, focusing on the Rainforest Gully and other areas of high visitor use
- Hosted a national myrtle rust workshop in March 2011 to share information on potential threats posed by this introduced fungus disease to plant collections in botanic gardens (as well as bushland) throughout Australia. A range of information and resources on myrtle rust was made available on the ANBG website
- The interactive Key to Rain Forest Plants, prepared as part of the partnership with James Cook University and the Queensland Herbarium in the Australian Tropical Herbarium in Cairns, was launched as an on-line version. 9,808 images from this project have been imported into the Australian Plant Image Index
- Completed data collation for an agreed list of scientific names for Australian liverworts and hornworts through the Australian Plant Census project

- Maintained the Census of Vascular Plants, Hornworts and Liverworts of the ACT, including addition of much new data for vascular plants
- Negotiated a contract for a partnership with the Atlas of Living Australia to redevelop the nomenclature and taxonomic infrastructure for Australian plant and animal species in association with the Australian Biological Resources Study. This will effectively combine Australian plant and animal names data through a common interface
- Collaborated with the Atlas of Living Australia and the Taxonomy Research and Information Network to develop specifications for species profiles for managing digital biodiversity data. The Atlas of Living Australia also provided additional computer hardware to support increased demand for biodiversity name services
- Continued redevelopment of the living collection information system to better support the operational activities of the nursery, seed bank, horticulture and plant records activities and to integrate with provenance data in the herbarium system
- Appointed research and technical staff to the CANBR to undertake spatial analyses and research into the occurrence and distribution of Australian plants
- Commenced redevelopment of the CANBR website to match its appearance to that of the ANBG and prepare for a major update of content as the new strategic plan for the Centre progresses
- Continued research on the ecological function, structure and small-scale dynamics of grassland communities in south-eastern Australia, using grasslands in the West Wyalong district of NSW as model systems. A paper on this work was published in the journal *Global Change Biology* and other papers resulting from this work are in preparation
- The ANBG and the CANBR participated in national and international biodiversity information management and technical infrastructure projects including the Atlas of Living Australia, the Australian Faunal Directory, the Taxonomy Research and Information Network, the Australian Plant Census, Australia's Virtual Herbarium, the Global Biodiversity Information Facility, the Encyclopedia of Life and the Taxonomic Databases Working Group
- Researchers completed 12 scientific papers or publications resulting from research undertaken at the Australian National Herbarium. Areas of study included Australian Asteraceae, Orchidaceae, Amaranthaceae, Rutaceae, Myrtaceae, Malvaceae, Mimosaceae, Santalaceae, weeds and bryophytes
- The Australian Plant Image Index undertook a contract to collect, database and manage images of weeds for the department's Weeds Australia website
- The Centre for Australian National Biodiversity Research was contracted by the NSW Roads and Traffic Authority to document and manage translocation and conservation of three species of orchids threatened by the Bulahdelah bypass highway realignment

Case study: Australian National Botanic Gardens – 40 years and still growing strong

Dr Judy West started working with plants about the same time as the Australian National Botanic Gardens in Canberra opened its gates — 40 years ago.

And while the Gardens celebrated its 40th birthday last October with a gala dinner, a garden party, activities for the kids and talks and walks, behind the scenes staff were hard at work.

Today as the Gardens' Executive Director Judy still 'loves working with plants' and, wearing her other hat as Assistant Secretary of Parks and Biodiversity Science, is working tirelessly to promote the Gardens as a national scientific institution.

"What many people don't realise is that the Gardens were actually developed as a scientific institution," Judy says. "A key focus over the last year has been boosting the science side of our work.

"We've managed to make substantial progress in this area and have developed and strengthened some of our key partnerships."

One of these partnerships was the renewing of the 17-year agreement between the Director of National Parks and CSIRO to form the Centre for Australian National Biodiversity Research, which includes the Australian National Herbarium with strong links to the Gardens.

"The National Herbarium is doing critical work providing botanical knowledge for Australia," Judy says. It plays an essential role identifying plants and weeds and documenting the country's vast diversity of plant life. I'm now keen to see the herbarium working more closely with our Commonwealth parks helping out with plant surveys.

"Another milestone was our appointment of a national coordinator for the new Australian Seed Bank Partnership which the Gardens is leading, expanding our role in seed conservation.

"We have our own seedbank in Canberra, and we're now working with partners around the country to collect specimens of all plant species nationally listed as threatened or endangered. Our ambition is to have seedbanks in every state to insure against the loss of Australia's flora from threats such as climate change."

As part of its scientific focus, the Gardens also brought together Australia's leading plant and fungal scientists to explore options for managing outbreaks of myrtle rust, a newly introduced fungal disease which infects plants in the Myrtaceae family such as bottlebrushes, tea trees and eucalypts.

"On the physical side of things we also made major improvements to the Gardens infrastructure," Judy adds.

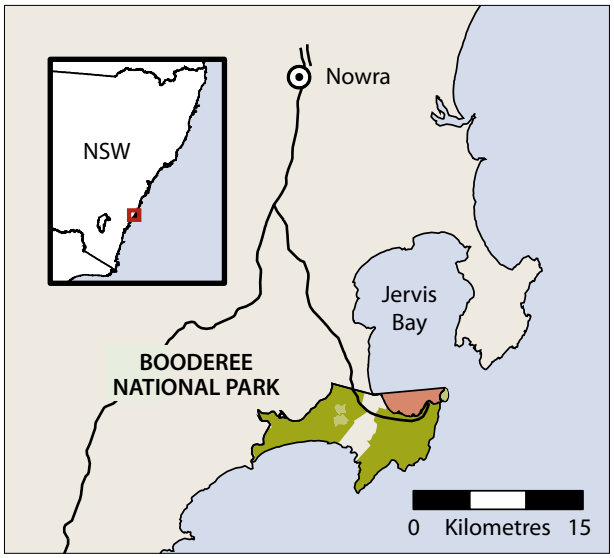
The Gardens now has a drought-secure irrigation supply thanks to the completion of the non-potable water pipeline from Lake Burley Griffin which will save up to 170 million litres of Canberra's drinking water each year.

"We've redeveloped the grassy woodland at the main entrance showcasing local plants and giving a sense of arrival at the Gardens and, close to my heart, we've started work on the Red Centre Garden — a massively challenging project to develop an arid area plant display in Canberra's environment."

Dr Judy West, Parks Australia's Assistant Secretary Parks and Biodiversity Branch has an international reputation for her work in plant systematics and phylogenetics and conservation biology. Judy – Congress President and Chair (right) – speaking with International Botanic Congress delegates Megan Clark CEO of CSIRO and Pat Raven from Missouri Botanic Gardens in St Louis, USA. Photo: Tim Pascoe

Booderee National Park

www.environment.gov.au/parks/booderee



Special features

Booderee National Park is of great significance to its traditional owners, the Wreck Bay Aboriginal community, who are increasingly involved through a unique and evolving joint management model in running and servicing the park, and providing Aboriginal cultural experiences to its many visitors. More than 100 prehistoric Aboriginal sites dating back thousands of years have been recorded on the Bherwerre Peninsula. The Booderee Botanic Gardens component of the park is the only Aboriginal-owned botanic garden in Australia.

Booderee National Park protects most of the southern peninsula of Jervis Bay, the Bherwerre Peninsula, Bowen Island, and the waters and seabed in the southern part of the bay. Staff work cooperatively with the adjoining NSW Jervis Bay National Park and Jervis Bay Marine Park to protect much of the region's biodiversity. Intensive pest control, such as the fox control program, allows species such as the endangered eastern bristlebird (*Dasyornis brachypterus*) and shore nesting hooded plover (*Thinornis rubricollis*) to flourish in Booderee.

Jervis Bay is one of the major biogeographic nodes in Australia and contains a variety of relatively undisturbed marine and terrestrial habitats. The marine environment is one of the most diverse recorded in temperate Australia, with tropical and temperate species represented. The park is renowned for its exceptional water clarity, due to small intact catchments, and for its exceptionally white sands. The park has one of the largest seagrass meadows on the NSW coast, which provides habitat to a wide variety of marine species. Terrestrial vegetation communities include relic rainforest, littoral rainforest, eucalypt forest, woodland, wet and dry heath, salt marsh and coastal wetlands and coastal scrub and grassland communities. The park is rich in flora and fauna.

Location	Latitude 35° 09′ South, Longitude 150°39′ East	
Area	6,379 hectares (including a marine area of 875 hectares)	
Proclamation date	4 March 1992	
IUCN category	Category II	
Biogeographic context	Interim Biogeographic Regionalisation for Australia region: Sydney Basin	
Management plan	First plan expired 3 April 2009, second draft plan released for public comment on 4 May 2011	
Other significant management documents	Risk Assessment and Management Schedule; fire and pest management strategies; Memorandum of Understanding with NSW Rural Fire Service; Memorandum of Understanding with the Department of Defence; Botanic Gardens' Collections Policy; Joint Training Strategy with the Wreck Bay Aboriginal Community Council; Service Contract and Service Level Agreements with the Wreck Bay Aboriginal Community Council	
Financial	Operating	$6.800 million
	Capital	$0.903 million
	Revenue	$6.801 million
	Paid to traditional owners	$0.553 million
Visitors	450,000 (estimated)	
Permits	21 commercial tour operators, 12 research, 5 wedding celebrants	

International conventions and agreements	
Migratory Species (Bonn) Convention	27 of 105 listed Australian species
China–Australia Migratory Birds Agreement	20 of 81 listed species
Japan–Australia Migratory Birds Agreement	23 of 77 listed species
Korea–Australia Migratory Birds Agreement	15 of 59 listed species

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	1 critically endangered 6 endangered 14 vulnerable 25 migratory 59 marine
	Recovery plans	7 being implemented: humpback whale (*Megaptera novaeangliae*); southern right whale (*Eubalaena australis*); albatross (*Diomeda* spp. and *Thalassarche* spp.); Gould's petrel (*Pterodroma leucoptera*); giant petrels (*Macronectes* spp.); marine turtles; grey nurse shark (*Carcharias taurus*) 4 in preparation: grey-headed flying-fox (*Pteropus poliocephalus*); eastern bristlebird (*Dasyornis brachypterus*); green and golden bell frog (*Litoria aurea*); giant burrowing frog (*Heleioporus australiacus*)
Listed flora	Species	2 vulnerable
	Recovery plans	1 in preparation: magenta lilly-pilly (*Syzygium paniculatum*)
Heritage	On Commonwealth Heritage List (part of several listings)	

Numbers of native species recorded						
Mammals	**Birds**	**Reptiles**	**Amphibians**	**Invertebrates**	**Fish**	**Plants**
26	200	17	14	Unknown	308	625

Management arrangements: Board of Management

The Booderee National Park Board of Management has 12 members, including seven representatives nominated by the Wreck Bay Aboriginal Community Council. A new board was appointed in 2009. Two replacement members were nominated by Wreck Bay Aboriginal Community Council in January 2011 and their appointment to the Board is progressing. With the expiry of the first management plan in 2009, the board oversaw preparation of the park's second management plan. A draft plan was released for public comment on 4 May 2011.

Monitoring

A five-year study in partnership with the Australian National University (ANU), which documented the role of fire in determining species distribution and abundance, was completed in 2008 and results are progressively being published. A new partnership study with the ANU commenced in 2009, building on the data collected over the previous five years and looking in greater depth at the impacts of weeds and fire on native species. The published results of these studies indicate several important points. The first is that the 2003 Windermere wildfire generally had little impact on populations of native mammals, in contrast to a number of other studies of the impact of wildfire. The second is that bird diversity decreased at individual sites with the increasing number of fires a site had suffered. Thirdly, eastern bristlebird numbers recovered much more quickly after fire than studies at other sites have shown, probably due to the existence of small pockets of unburnt refuges and intensive fox control. The fourth is that after the 2003 fire it was noted that greater gliders (*Petauroides volans*) which had previously been common in the park were no longer being observed. It is unclear to what extent fire contributed to this apparent local extinction and will be the subject of future research.

Monitoring continued, with a focus on birds including the eastern bristlebird, hooded plover, sooty oystercatcher (*Haemotopus fuliginosus*) and little penguin (*Eudyptula minor*). Research into the ecology of the rare eastern chestnut mouse (*Pseudomys gracilicaudatus*) indicates that it is in relatively high abundance but whether this is due to suitable habitat becoming available following fire or to intensive fox control is not clear. Wildlife monitoring also continued to focus on the effectiveness of regular fox baiting and long-term impacts of the 2003 Windermere and 2007 Cave Beach fires, particularly on long-nosed bandicoots (*Perameles nasuta*) and eastern bristlebirds.

Another study is examining the combined effects of fire, invasive bitou bush (*Chrysanthemoides monilifera*) and wallaby grazing on native plant regeneration. Monitoring results have confirmed that wallabies have a major suppressive effect on the number of plant species and the abundance of individual plant species, with bracken (*Pteridium esculentum*) tending to dominate the grazed blocks and bitou dominating the ungrazed blocks. The park participated in the construction of an ecological model (fuzzy logic) to examine a range of management options and their potential impacts on over-abundant grazers.

Comprehensive visitor surveys are conducted every two years. Key results from the January 2011 (peak visitation period) survey included 97 per cent satisfaction ratings (68 per cent very satisfied), 73 per cent definitely wanting to re-visit and 73 per cent also strongly recommending a visit to Booderee by others. Most positive comments related to beaches, interactions with wildlife and relaxing and enjoying time with family and friends in a natural setting while most negative comments related to people leaving rubbish, overcrowding, parking and noisy campers.

Monitoring compliance with the park's regulations continued, with a range of incidents reported including those related to the marine zoning scheme and catch limits.

Future challenges

Major challenges are:

- continuing to improve control measures for key threats to biodiversity including bitou bush and foxes
- increasing understanding of fire management and its effect on biodiversity outcomes
- maintain wildfire suppression response capabilities
- improving management of the park's marine estate and increasing marine research
- addressing the park's increasing isolation from adjacent natural areas due to development pressures in the region
- supporting the development of new Aboriginal business enterprises in the park
- identifying ways of replacing critical ageing assets
- completing and implementing the cultural heritage strategy
- completing and development implementation programs for the second management plan with clear identification of outcomes for the next ten years and effective ways to measure and report on their implementation
- developing a new training strategy to support joint management and staff development for the period 2011 to 2015
- progressing phase 2 Service Level Agreements and contracting opportunities with the Wreck Bay Aboriginal Community Council to an agreed timetable and with clear employment benefits
- implementing the Booderee National Park Climate Change Strategy 2010–2015.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Foxes continue to be the most significant feral pest in Booderee and bitou bush continues to be the most significant weed
- Monitoring indicates that increased macropod browsing is changing the post-fire vegetation structure at Booderee
- Restoring biodiversity through re-introductions of native, locally extinct species
- Adopting an ecosystem-based approach to reserve management
- Protection of seabird nesting habitat

- Protecting the marine environment from increasing visitation and use
- Preparing for the impacts of climate change and adapting management strategies accordingly
- Residential development in surrounding areas that is isolating the park from other natural areas through degradation of wildlife corridors and is possibly threatening a range of species
- Implementing a suitable fire management regime

Actions

- Continue fox control with an emphasis on removing residual, bait-shy individual foxes and introducing alternative fox control methods
- Refine integrated control measures for bitou bush taking into account its declining density (fire, ground and aerial spraying) and monitor ecological impacts of these control measures
- Control the spread of kikuyu on Bowen Island and improve penguin nesting habitat
- Continue to implement an ecologically appropriate and visitor-safe fire management program and upgrade monitoring to cope with larger, more intense fires
- Develop a new fire management program for the current period up until 2015
- Develop long term re-introduction strategies for locally extinct species such as southern brown bandicoot (*Isoodon obesulus*), long-nosed potoroo (*Potorous tridactylus*) and greater glider
- Continue to consult with agencies on the park's regional value, the importance of maintaining habitat corridors and links with other natural areas and possible impacts of development
- Work with researchers to better understand potential impacts of key threats including fire, weeds and climate change on the park
- Monitor impacts of recreational fishing

Performance results 2010–11

- Conducted aerial spraying of remote infestations of bitou bush throughout the park in June 2011. Between 2004 and 2011 Booderee's aerial spraying program resulted in a 90 per cent reduction in the area of high density infestation and a 75 per cent reduction in the area of medium density infestation
- Trialled a new technique for treating bitou, involving ultra-low volume ground spraying with splatter guns and spot aerial spraying followed by selective burning in autumn. Encouragingly the impact of this technique on high-value native vegetation communities was minimal compared to the previous technique of broad-scale aerial spraying and broad-scale fire block burning and made little call on resources
- Despite a wet year, again detected no green and golden bell frogs. This listed threatened species has not been detected in the park for six years and is likely to be locally extinct, despite little change to its habitat or hydrology
- Further developed fully integrated fauna surveillance cameras into Booderee's fox control program. Long-term monitoring shows that key indicator species are responding positively to low fox numbers
- Observed stable population trends for eastern bristlebirds and most shorebird populations
- Progressively implemented (subject to resourcing) the Booderee National Park Climate Change Strategy 2010–2015
- Draft fire management program 2010–15 prepared for approval of the park Board later in 2011
- The greater glider has not been detected in the park for the last five years and discussions commenced with researchers on monitoring and a possible re-introduction plan for the species
- Continued to locate a suitable source population for proposed re-introduction of southern brown bandicoots and long-nosed potoroos. A proposal using animals from Victoria failed at the approval stage but negotiations are well underway with NSW State Forests regarding an alternative proposal
- Continued to negotiate with NSW agencies regarding securing the conservation future of the heritage estates area which lies in the 'neck' of the peninsula connecting the park to NSW
- Installed baited remote underwater video (BRUV) cameras to monitor fish populations within park waters and to improve assessments of the impacts of recreational fishing in the park

KRA2: Cultural heritage management

Major issues

- Maintaining the park's cultural values
- Identifying Wreck Bay Aboriginal Community Council priorities for cultural heritage management through a cultural heritage strategy and the second management plan
- Developing and delivering a well-accepted cultural heritage education program in partnership with the Wreck Bay Aboriginal Community Council
- Supporting the Wreck Bay Aboriginal Community Council in developing business enterprises in cultural education

Actions

- Offer school holiday interpretation programs with an increased focus on cultural interpretation
- Develop Koori cultural themes to promote understanding of Aboriginal plant use
- Continue to consult with the Wreck Bay Aboriginal Community Council concerning endorsement of a cultural heritage strategy for the park
- Continue the Junior Ranger program with an integrated approach to education about natural and cultural park values

Performance results 2010–11

- Conducted over 150 cultural interpretation sessions for visiting school groups, special interest groups and as part of the spring, summer and autumn school holiday programs with over 3,000 attendees
- Incorporated broad cultural heritage directions into the draft second management plan. The cultural heritage strategy was held over for further consideration
- Included examples of south coast languages—Dhurga and Dharawal—into signage as part of the new Munjunga Dhugan (Eagles Nest) self-guided walking trail at Murrays Beach
- Continued the Junior Ranger program with Jervis Bay School, involving delivery of approximately 20 sessions. The program took a different class each term on field trips into the park where staff presented local cultural information for children as well as scientific, historical and management information relevant to their school curriculum studies. Park staff also assisted in the planning of a Junior Ranger 'cultural exchange' excursion to Alice Springs and Uluṟu-Kata Tjuṯa National Park, called 'Black Rock to Red Rock'

KRA3: Joint management and working with Indigenous communities

Major issues

- Meeting the obligations of the lease agreement
- Progressing the second phase of contracting arrangements between the park and Wreck Bay Aboriginal Community Council to an agreed timetable
- Developing the second draft management plan

Actions

- Continue to negotiate the second phase of Service Level Agreements for provision of agreed park services under the terms of the Services Contract between the Wreck Bay Aboriginal Community Council and the Director
- Implement an integrated training strategy agreed between the park and the Wreck Bay Aboriginal Community Council
- Prepare the second management plan

Performance results 2010–11

- Progressed the second round of outsourcing, including grounds maintenance and infrastructure maintenance services via finalisation of draft Service Level Agreements
- Continued to deliver a broad range of training to park staff and Wreck Bay Aboriginal Community Council members in accordance with the training strategy
- Completed an audit of the training strategy and commenced the development of a new draft training strategy for the period 2011 to 2015
- Supported six Year 10 indigenous students from the Wreck Bay Community in completing work experience in the park
- Became a host employer of Student Based Apprentices filled by three Wreck Bay Community Year 11 students
- Completed a draft second management plan which was released for public comment on 4 May 2011
- Wreck Bay Aboriginal Community Council (formerly Wreck Bay Enterprises Ltd) contractors undertook $1.87 million of works in the park
- Hosted Kokoda Track Authority management staff to assist and develop asset and track management practices (see case study page 20)
- Hosted Parks Victoria staff and Indigenous members of the Yorta Yorta and Bidwell nations regarding joint management arrangements in the park

KRA4: Use and appreciation of protected areas

Major issues

- Increasing visitors' awareness of the park's natural and cultural values
- Providing infrastructure to facilitate appropriate and safe use of the park, while protecting conservation values
- Age and costly maintenance requirements of the visitor centre
- Maintaining visitor numbers and revenue base in an increasingly competitive domestic tourism market

Actions

- Include conservation and cultural themes in interpretation programs
- Maintain campgrounds and public facilities and infrastructure to a high standard
- Monitor visitor numbers and experiences
- Continue to educate visitors about recreational fishing catch limits and marine zone restrictions and to enforce legislation where appropriate
- Renovate the visitor centre and plan for its replacement
- Manage risk through the park risk watch list and ParkSafe

Performance results 2010–11

- Visitation stable at approximately 450,000 visits per annum. Work commenced on sourcing and implementing a new visitor monitoring (counting) system for the park
- Delivered 150 school holiday interpretation sessions, focusing on Aboriginal cultural values and conservation themes, with over 3,000 attendees. A further 65 interpretation sessions were delivered to primary schools, high schools, universities and special interest groups, with nearly 3,000 attendees in total
- In November 2010 the park won an International Responsible Tourism award for conservation of cultural heritage. This award generated much media and tourism industry interest in the park's joint management model and provided a platform for free promotional and marketing messages
- In November 2010 the park was runner-up in the NSW/ACT Regional Achievement and Community Events and Tourism Awards
- Held a two-day Visitor Experience Assessment (VEA) Workshop in November 2010 with representatives from the Wreck Bay Aboriginal Community Council and NSW conservation and tourism agencies. A report detailing recommendations for follow-up from the 14 VEA assessment criteria was produced and priority actions will be implemented as resources become available

- Continued to upgrade the park's website with news events and public announcements. Monitoring showed that camping information continued to be the most popular feature. An e-newsletter for visitors was published quarterly and regular BLOGs were posted on park website for more immediate park information and special interest stories. Podcast information was compiled for the first time and is designed for download from the park website to help enhance park experience when visiting key sites within the park
- Conducted a comprehensive visitor survey in January 2011 (peak visitation period) with very high satisfaction levels recorded
- Continued to upgrade visitor facilities including the Green Patch water mains, Murrays boat ramp, the botanic gardens walking trails and bridges, visitor information signs and roads, management trails and walking tracks and completed work on a number of campground barbecue shelters
- Opened a new self-guided walking trail at Murrays Beach which includes cultural and conservation information on 14 new signs. The new trail is called Munjunga Dhugan (Eagles Nest) and also introduces visitors to south coast Indigenous languages
- In June 2011 completed a new education kit for schools called the healthy learning program, aimed at Stage 3 students and including a series of lesson plans for teachers and worksheets for students to use when visiting Booderee. The education kit will be downloadable from the park website and hard copies will be made available from the visitor centre
- Recorded generally high levels of compliance with marine zoning scheme and catch limits but there continues to be a problem with a small number of fishers allegedly taking quantities of squid above the bag limit
- Installed five new information shelters at key visitor destination sites; new interpretative signage for these shelters remains in preparation
- Installed stepped outdoor seating at the botanic gardens top lawn area

KRA5: Stakeholders and partnerships

Major issues

- Continuing the cooperative arrangements between the park, the NSW National Parks and Wildlife Service, the Jervis Bay Marine Park and the Department of Defence
- Continuing strong cooperative arrangements with universities
- Monitoring biodiversity recovery after fire through research partnerships

Actions

- Continue integrated management programs in key areas
- Support research in conservation areas identified in the management plan
- Support cooperative undergraduate and postgraduate programs
- Support community involvement in park management through volunteer programs

Performance results 2010–11

- Continued cooperative arrangements with other agencies including the NSW National Parks and Wildlife Service, Jervis Bay Marine Park, NSW Fisheries and Department of Defence. The park continued to lead regional fox management
- Issued 12 research permits including 10 undergraduate conservation studies in accordance with the management plan, a permit to the Jervis Bay Marine Park as part of cooperative marine research and monitoring and a permit to conduct research into the wreck of the convict ship *Hive*. Cooperative undergraduate and postgraduate programs continued with the University of Canberra and the ANU
- Supported Wreck Bay youth/Vincentia High School's Students at Risk program through work experience and the commencement of three student based apprenticeships at the botanic gardens
- Continued support for volunteers working on natural resource management projects including Booderee parkcare (approx 750 hours) and Australian Trust for Conservation Volunteers (approx 320 hours)
- Continued to liaise with local, regional and state tourism bodies, represented Booderee at tourism conferences and attended industry workshops relating to online marketing and promotions

KRA6: Business management

Major issues

- Ensuring that staff have all the necessary skills to do their jobs
- Sustaining the level of revenue from park fees
- Implementing the management plan
- Managing the budget to accommodate increased salary and contracting costs
- Supporting outsourcing to the Wreck Bay Aboriginal Community Council

Actions

- Increase emphasis on individual learning identified in personal development plans
- Continue to monitor trends in revenue from park fees and develop off-peak park use
- Identify budget savings and efficiencies wherever possible
- Contract work to the Wreck Bay Aboriginal Community Council where possible

Performance results 2010–11

- Commenced negotiation of a new Service Contract agreement with Wreck Bay Aboriginal Community Council
- Developed two new draft Service Level Agreements for infrastructure maintenance and horticultural maintenance services for consideration and pricing by Wreck Bay Aboriginal Community Council
- Offered training in line with personal development plans, with emphasis on contract and project management, fire preparedness/fighting and supervisory and management skills
- Successfully completed a firefighter fitness program and commenced a second year of the program
- Helped establish and participated in the Parks Australia human resources and workforce development group
- Revenue generation from park use fees declined with an 8.6 per cent fall in camp fee revenue and a 5.9 per cent fall in entry fee revenue. The wettest year for over a decade contributed to this result however the months of December and February had record results for entry fee revenue and the months of January, March and April were record results for campground revenue. There remains a declining trend in purchase of annual entry permits which is to be addressed through a promotional campaign in 2011–12
- Compliance systems in the collection of entry and camping fees continued to improve, with particular emphasis on weekend compliance at the entry station
- Staff continued the roll-out of power and water conservation measures to reduce the park's carbon footprint

Case study: Booderee – helping PNG rangers safeguard the Kokoda Track

Booderee National Park has become a new training home for Papua New Guinea rangers from the Kokoda Track Authority.

As part of the Australian Government's $4.9 million Kokoda Track Safety Package, over the past year two groups of rangers left their highland villages to learn how Booderee provides a safe environment for trekkers.

It has been an emotional experience for Booderee staff — an opportunity to give something back to a people who fought side by side with Australians during bloody battles along the Kokoda Track in World War II.

"My dad was a fighter pilot in Papua New Guinea so I felt a real bond with these rangers, some of whom are direct descendents of the Fuzzy Wuzzy angels who helped so many Australians during the war," acting park manager Martin Fortescue says.

"Many other park staff also had family fighting in PNG. This is a way of keeping the memories of those friendships alive and continuing to help each other."

As an award winning tourism destination and a jointly managed park with a strong Indigenous ranger program, Booderee was an ideal place for the Kokoda rangers to learn new skills and share their cultural heritage. Both places embrace local Indigenous involvement as integral to their management.

"With hundreds of thousands of people now walking the Kokoda Track, safety is a growing concern," Martin says. "So too is maintaining the cultural integrity of the remote villagers who rarely saw white people a couple of decades ago.

"For some of the Kokoda rangers, this trip was the first time they had left their highland villages, so they got a real kick out of joining us for ocean surveys of shorebirds and seals."

Booderee staff and Wreck Bay Aboriginal Community members shared experiences in building and maintaining walking tracks, controlling soil erosion, managing visitors and campgrounds, monitoring native wildlife and joint management.

Minister for the Environment, Tony Burke also took time out from a family camping trip at Booderee to meet the PNG rangers.

Chair of the Kokoda Track Authority James Enge describes the program as "invaluable — with Booderee's joint management model a great example of how traditional owners can benefit from their lands".

Kokoda Track Authority communication officer Pauline Riman meets Australian National Botanic Gardens' ranger Rosella-Uwedo Hampshire. Pauline was one of several Papua New Guinea officers who spent time with Parks Australia staff at Booderee National Park and in Canberra as part of an exchange program to improve safety on the historic Kokoda Track. Photo: Parks Australia

Christmas Island National Park

www.environment.gov.au/parks/christmas

Special features

The Christmas Island landscape is a characteristic example of a relatively large oceanic island that has been tectonically uplifted, with a distinct series of stepped terraces (which few islands exhibit). There are few islands at similar latitudes with similar floral or faunal components or comparable landscape and marine ecological integrity although several of the island's species are threatened, particularly native reptiles. Christmas Island's remoteness, climate and the influence of land crabs have resulted in the development of distinct tropical rainforest ecosystems that support a number of endemic animal species and 20 endemic plant species. The island provides important habitat for seven endemic land bird species and eight species (and one endemic subspecies) of resident seabirds, including the last remaining nesting habitat of the endangered Abbott's booby (*Papasula abbotti*). The island has an extraordinary diversity and abundance of land crabs, with notable species being robber crabs (*Birgus latro*) and red crabs (*Gecarcoidea natalis*). Red crabs are the island's 'keystone' species as they influence the structure and species composition of the island's rainforests. Red crabs are renowned for their annual migration at the start of the wet season, when tens of millions of crabs migrate to the sea to spawn.

The marine environments of Christmas Island and the park are relatively simple in structure and low in species diversity but relatively pristine and are less threatened than many other tropical marine areas around the world. The island's marine environments include coral reef systems, outer reef slopes and walls, and oceanic waters provide habitat for a number of species including over 600 fish species, and the islands waters are an internationally significant fish hybridisation zone. Notable marine species include whale sharks (*Rhincodon typus*) which are found in waters around the island from November to May each year, hybrid fish species and green turtles (*Chelonia mydas*) which nest on some of the island's beaches.

Location	Latitude 10°29′ South, Longitude 105°38′ East	
Area	8,719 hectares	
Proclamation dates	21 February 1980, 31 January 1986 and 20 December 1989	
IUCN category	Category II	
Biogeographic context	Christmas Island is the coral-encrusted, emergent summit of a basaltic, submarine mountain in the Indian Ocean. Its plants and animals are most closely linked with those of South-East Asia	
Management plan	Third plan expired 13 March 2009. The fourth plan is currently being prepared	
Other significant management documents	Christmas Island Mine-site to Forest Rehabilitation Memorandum of Understanding	
Financial	Operating	$4.493 million
	Capital	$0.075 million
	Revenue	$3.896 million
Visitors	Reliable estimates are not available	
Permits	11 research; 3 other activities	

International conventions and agreements	
Wetlands (Ramsar) Convention	The Dales and a small landlocked mangrove forest at Hosnies Spring are listed under the convention
Migratory Species (Bonn) Convention	31 of 105 listed species
China–Australia Migratory Birds Agreement	48 of 81 listed species
Japan–Australia Migratory Birds Agreement	45 of 77 listed species
Korea–Australia Migratory Birds Agreement	40 of 59 listed species

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	2 extinct 1 critically endangered 4 endangered 7 vulnerable 63 migratory 92 marine
	Recovery plans	10 being partially implemented: Christmas Island shrew (*Crocidura attenuata trichura*); Christmas Island pipistrelle (*Pipistrellus murrayi*); Abbott's booby (*Papasula abbotti*); Christmas Island goshawk (*Accipiter fasciatus natalis*); Christmas Island frigatebird (*Fregata andrewsi*); Christmas Island hawk-owl (*Ninox natalis*); marine turtles; whale shark (*Rhincodon typus*); Christmas Island or Lister's gecko (*Lepidodactylus listeri*); pink blind snake (*Ramphotyphlops exocoeti*) A regional recovery plan is being prepared for Christmas Island which will incorporate ecosystem and species specific recovery actions
Listed flora	Species	2 critically endangered 1 endangered
	Recovery plans	2 being partially implemented: *Asplenium listeri*; *Tectaria devexa* var. *minor* 1 awaiting preparation: *Pneumatopteris truncata* A regional recovery plan is being prepared for Christmas Island which will incorporate ecosystem and species specific recovery actions
Heritage	On Commonwealth Heritage List (as part of a wider listing of the island's natural areas)	

Numbers of native species recorded					
Mammals	**Birds**	**Reptiles**	**Fish**	**Invertebrates**	**Plants**
8[(a)]	95	9	622 species from 80 families	Over 2,000	213

(a) Includes one probably extinct and two extinct terrestrial mammals and three marine mammals

Management arrangements: advisory and consultative groups

The Christmas Island Crazy Ant Scientific Advisory Panel (CASAP) provides scientific and technical advice to the Director to inform the management of invasive yellow crazy ants (*Anoplolepis gracilipes*) in Christmas Island and Pulu Keeling National Parks.

The Christmas Island Expert Working Group, established in early 2009, completed its investigations into the decline of biodiversity on the island. The final report of the Expert Working Group was released in September 2010.

In 2010 the Director established an island-based working group, comprising major stakeholders and chaired by the island's Administrator, to assist with the preparation of the Christmas Island Regional Recovery Plan.

The Director is a member of the Christmas Island Tourism Association and Christmas Island Emergency Management Committee and participates in other island forums.

Monitoring

An island-wide survey is undertaken every two years to assess the effectiveness of the crazy ant control program, identify areas for future control and estimate relative changes in red crab burrow distribution and densities. The survey also provides distributional data on other native and exotic species. A survey was completed in August 2009 and a survey in 2011 has commenced (and will be completed in 2011).

Additional long-term monitoring sites and programs are also being established to help monitor ecosystem and species changes and threats.

Ongoing monitoring of native reptile abundance and distribution showed that native reptiles continued to decline. The reasons for these declines are not known but may be linked to disease and to exotic species, including centipedes and cats.

Biophysical monitoring associated with the Christmas Island Mine-site to Forest Rehabilitation Program continued. This monitoring assesses the program's effectiveness by measuring species growth, soil characteristics and fauna species abundance.

Future challenges

Major challenges are:

- developing, funding, coordinating and implementing island-wide landscape and ecosystem conservation approaches and programs, including through the regional recovery plan
- further progressing the island-wide eradication of cats, including assessing interactions with their prey species, particularly rats
- further progressing alternative control methods for crazy ants particularly indirect biological control research currently being undertaken
- working with relevant stakeholders to improve quarantine measures to reduce the likelihood of new invasive species entering the island and rapidly eradicating invasive species that may enter
- determining the reasons for the decline in terrestrial biodiversity, particularly reptiles, and implementing appropriate and feasible threat mitigation actions
- assessing the risks to species and habitats (such as ground-nesting seabirds, land birds and marine habitats) that may currently be secure but could be vulnerable to threatening processes such as invasive species
- developing a long term approach to implementing the Christmas Island Mine-site to Forest Rehabilitation Program, including maintaining and monitoring existing plantings
- establishing long-term control of major invasive weeds, including Siam weed which was first detected in 2010, threatening high value conservation assets
- contributing to the island's long-term sustainable future and economy through the development of nature-based tourism and of educational and scientific research opportunities, including maintaining and upgrading existing infrastructure and developing new infrastructure
- research and monitoring to better understand the island's marine environments including their values, threats and interactions between marine and terrestrial ecosystems and species.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Reducing the likelihood of new invasive species entering the island and park and rapidly eradicating invasive species that may enter
- Developing and implementing strategies to mitigate the impacts of known threatening processes, including yellow crazy ants and cats
- Identifying and, where possible, mitigating the impacts of unknown threatening processes leading to the current decline of threatened native species, particularly reptiles
- Conserving threatened species that are or may be at risk of extinction
- Collaborative and island-wide conservation management through developing and implementing the regional recovery plan
- Management of high priority weed species, particularly species that are invading or may invade relatively undisturbed rainforests
- Reducing crab mortality from traffic impacts
- Marine conservation and management including assessing threats to marine ecosystems and species

Actions

- Yellow crazy ants:
  - commence another island-wide survey
  - conduct an assessment of the off-target impacts of baiting with Fipronil
  - convene Crazy Ant Scientific Advisory Panel meetings
  - progress research into the indirect biological control of crazy ants
  - seek funding to continue crazy ant control for the next four years
- Rehabilitate and maintain former mine site areas, including significant weed control efforts on planted fields
- Control Siam weed and parthenium weed outbreaks
- Cat management including developing partnerships and collaborative approaches to commence the implementation of island-wide cat management
- Prepare a Christmas Island Regional Recovery Plan while continuing to implement actions from existing single species recovery plans
- Implement road management (road underpasses and fencing, stakeholder engagement) and community educational strategies to reduce vehicle impacts on red crabs (during their migration) and robber crabs
- Conduct reptile surveys and/or studies to better understand threatening processes and to inform recovery and reintroduction needs
- Establish a captive breeding program to secure populations of key threatened species
- Facilitate and support research projects, including seabird, robber crab and marine research

Performance results 2010–11

- Commenced the island-wide survey in May 2011 including the addition of scientifically rigorous sampling methodologies for additional species
- Maintained and expanded the on-island captive breeding program for native reptiles
- Contained the single known Siam weed outbreak and island-wide monitoring has not detected any other outbreaks
- Entered into a partnership with Taronga Zoo which resulted in the establishment of captive populations at Taronga Zoo of two native reptile species (see case study page 27)

- Commenced work to identify and manage potential threats to address the decline in native reptiles, including assessing the risks of disease via a contract with Taronga Zoo
- Continued crazy ant management including:
  - further progressed the three-year research project for the biological control of crazy ants, funded by the Director and conducted by La Trobe University
  - held one CASAP meeting
  - completed a study of the off-target impacts of Fipronil which indicated no off-target impacts
  - the Australian Government allocated $4 million over the next four years to continue crazy ant and other invasive species management programs
- Heavy rainfall in 2010 (second highest ever recorded at 3,500 mm and continuing into early 2011) severely hampered earthworks associated with rehabilitation of former mine sites, resulting in only less than one hectare of primary species being planted. Secondary and infill plantings across 18.4 hectares of fields planted in 2008–09 were carried out in early 2011 and weed control was given a greater focus, in response to the higher than normal weed loads arising from the extensive rains
- Continued preparation of the draft Christmas Island Regional Recovery Plan, incorporating ecosystem and species recovery actions
- Established a successful partnership and collaborative approach for island-wide cat management, resulting in the joint funding and supporting de-sexing programs for pet cats and the initiation of cat control in settled areas

KRA4: Use and appreciation of protected areas

Major issues

- Developing island-wide approaches to sustainable tourism development in conjunction with key stakeholders, that is consistent with protecting park values while providing visitors with opportunities for safe and high quality nature-based experiences
- Maintaining, upgrading and developing visitor infrastructure
- Providing educational materials and activities for the community and public

Actions

- Continue participation in the Christmas Island Tourism Association Executive
- Complete installation of new directional signs on walking tracks
- Maintain, and where possible improve, roads, trails and viewpoints and produce new interpretive materials
- Support film crews and journalists working in the park
- Provide environmental educational materials and activities

Performance results 2010–11

- Contributed to Christmas Island Tourism Association meetings, particularly on issues related to nature-based tourism opportunities
- Completed installation of new road and walking track directional signs
- Maintained unsurfaced roads and management tracks
- Produced interpretive brochures on Christmas Island species and a reptile watch poster
- Assisted film crews (Australian and international) and journalists publicising the island's biodiversity and conservation values
- Provided a range of school-based educational activities for Christmas Island District High School, visiting schools and the community including articles in the local paper and talks/tours of the park for visiting dignitaries

KRA5: Stakeholders and partnerships

Major issues

- Progressing collaborative conservation management programs and associated issues
- Effectively engaging and collaborating with stakeholders in aspects of park management and other issues of mutual interest such as tourism and emergency management

Actions

- Provide in-kind and field support for visiting scientists
- Liaise with stakeholders on conservation and park management issues particularly road maintenance, red crab and cat management
- Deliver educational and interpretive sessions for students, residents and selected visitors
- Liaise with the Department of Immigration and Citizenship on induction and education for staff and contractors working on Christmas Island
- Participate in island-wide forums including the Christmas Island Tourism Association Executive and the Christmas Island Emergency Management Committee

Performance results 2010–11

- Established an island-based stakeholder working group, which met three times, to assist with the preparation of the Christmas Island Regional Recovery Plan; consulted with the community and other stakeholders
- Supported visiting scientists and state government officers undertaking research projects including seabirds, land crabs and marine surveys
- Held educational sessions on park and conservation management for students from the Christmas Island District High School, island residents and visiting tour groups including bird-watching groups
- Worked effectively with stakeholders on key conservation programs:
  - development of a cat management partnership with the Shire of Christmas Island, Phosphate Resources Ltd and Australian Government agencies
  - fostered broad stakeholder and community support for road management activities aimed at protecting red crabs during migration periods

KRA6: Business management

Major issues

- Delivering quality management services within a limited budget
- The third management plan has expired
- Ensuring up-to-date governance and management strategies are in place

Actions

- Maintain park management services within budget
- Finalise the preparation of the fourth management plan
- Manage Christmas Island and Pulu Keeling National Parks as one management entity

Performance results 2010–11

- Managed operational and capital budgets within approved parameters
- Largely completed preparation of the draft fourth management plan, to be released for public comment in 2011
- Increased Christmas Island National Park staff support for Pulu Keeling National Park including conducting an island-wide survey of weeds and crazy ant distribution, continuing preparation of a new Pulu Keeling management plan and providing administrative support

Case study: Saving species from extinction

Zoologist Mike Smith arrived on Christmas Island in November 2008, fresh from an academic career at Melbourne's Arthur Rylah Institute — and what was to prove an extremely useful post-doctorate, breeding frogs in the USA.

He found a park community grappling with the imminent extinction of the pipistrelle bat and quickly concluded that the island's reptiles were also in imminent risk of dying out.

Within weeks Mike and team members Brendan Tiernan and Dion Maple made some great discoveries. On the island's rugged far south- west tip, Mike found a Lister's gecko, thought to be extinct and Brendan discovered a coastal skink last seen in 2004. Dion found a Christmas Island blind snake on the western central plateau, another species not seen for decades

Inspired that all was not lost for Christmas Island's threatened ecosystems, Mike and his team began devising a captive breeding program for the nationally vulnerable Lister's gecko and dramatically declining blue-tailed skink. It was no mean task on a remote island with no scientific labs, no huge hardware store and where the ships bring supplies only every month or two if you're lucky.

With remarkable ingenuity, the team scrimped and scrounged and experimented. At the rundown old mine rail station — the 'Pink House'— they took over an old gazebo, stripping back panels to mimic the dappled light of a forest habitat, fencing against robber crab attack and building cages from abandoned steel. A camelback – a camping watering bladder – provided humidity and drinking water and when that failed, Brendan 'borrowed' drips from the medicos at the island's hospital. When the old recycled metal began to deteriorate, the team designed new perspex and aluminium cages, this time waiting for supplies from the mainland.

The geckoes were easy to spot by their eyeshine, and easy to catch. But the blue-tailed skinks are acrobats, jumping high in the air – so Mike designed a sticky wand which captured them at a touch, tails intact. A second-hand shipping container became a lab and another, an insect breeding site to provide food for the lizards.

The reptiles thrived – and bred. They expanded into an old carport and a bunkhouse – but as no-one could yet control the introduced wolf-snake and centipede thought to be causing their rapid decline in the wild, they could not be safely released.

Taronga Zoo accepted the scientific challenge of working collaboratively with Parks Australia to develop a detailed captive breeding and research plan. Dozens of lizards were placed in moist paperlined containers, packed in styrofoam meat boxes and netted to prevent their escape. In April and May the lizards were flown to the waiting quarantine keepers at Taronga Zoo.

Every lizard survived the long journey. All have lived – and they are now happily breeding in Sydney, a safeguard against on-island catastrophes and a population to be eventually released into their former habitat once current threats have been understood and overcome.

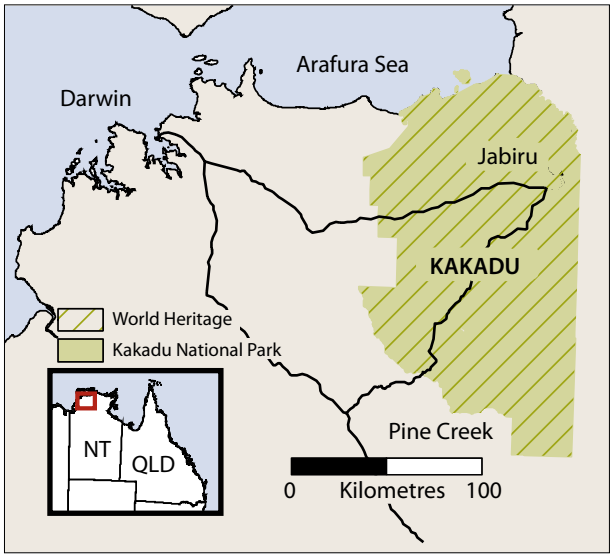
Back on island, not a day goes by without the remaining captive lizards being carefully fed and monitored – at the same time as this national park team controls crazy ants, manages robber crab road kill, undertakes island-wide surveys and monitors other endangered species.

Christmas Island National Park is working with Sydney's Taronga Zoo on a captive breeding program to save the island's reptiles. Left: Christmas Island's blue-tailed skink. Photo: Parks Australia. Right: Lister's Gecko. Photo: Parks Australia

Kakadu is working with the University of Sydney and Territory Wildlife Park on a cane toad trial in the East Alligator area. Quolls eat almost anything – the park is now trying to train them not to eat cane toads by feeding captive-bred quolls a small dead cane toad laced with a nausea-inducing chemical. We're hoping the toad-smart quolls will teach a next generation not to eat the toads. Photo: Bruce Thomson (Australian Wildlife Conservancy)

Kakadu National Park

www.environment.gov.au/parks/kakadu



Special features

Kakadu National Park is inscribed on the World Heritage List for both its natural and cultural values. It is one of the most ecologically and biologically diverse places in Australia.

Bininj (Kakadu's traditional owners and other relevant Aboriginal people) maintain strong links to their country, links that are demonstrated through their cultural practices, spiritual beliefs and traditional management and use of their country. An estimated 15,000 rock art sites and innumerable artefacts and sites of cultural, archaeological and historic significance in the Kakadu region contribute to archaeological evidence indicating that people have lived continuously in the region for at least 50,000 years.

The park contains almost an entire major tropical river catchment (the South Alligator River catchment) and large representative examples of the wet-dry tropical ecosystems of northern Australia. Major landforms in the park include the sandstone plateau and escarpment, extensive areas of savanna woodlands, monsoon forest, riverine and riparian environments, billabongs, floodplains, mangroves and mudflats.

Location	Latitude 13°29′ South, Longitude 132°26′ East	
Area	1,979,767 hectares	
Proclamation dates	5 April 1979, 28 February 1984, 12 June 1987, 22 November 1989, 24 June 1991 and 26 May 2007	
IUCN category	Category II	
Biogeographic context	Located in the wet-dry tropics Interim Biogeographic Regionalisation for Australia regions: Darwin Coastal; Arnhem Plateau; Pine Creek	
Management plan	Fifth plan expires 31 December 2013	
Other significant management documents	Tourism Master Plan; District and Stone Country fire management plans; Crocodile Management Strategy, Feral Animal Management Strategy; Gunlom Mine Sites Rehabilitation Strategy, Cultural Heritage Strategy, Weed Management Strategy, Climate Change Strategy, Waste Management Strategy,.	
Financial	Operating	$17.913 million
	Capital	$11.511 million
	Revenue	$28.799 million
	Paid to traditional owners	$1.637 million
Visitors	175,423 visitors	
Permits	75 film and photography; 111 commercial tour operator (April 2010–March 2011 season) and 91 commercial tour operator (April 2011–March 2012 season); 20 research; 151 bushwalking; 383 camping	

International conventions and agreements	
World Heritage Convention	Listed under cultural criteria (i) and (vi) and natural criteria (ii), (iii) and (iv), recognising the park's outstanding natural and cultural values
Wetlands (Ramsar) Convention	Entire park listed
Migratory Species (Bonn) Convention	39 of 105 listed Australian species
China–Australia Migratory Birds Agreement	51 of 81 listed species
Japan–Australia Migratory Birds Agreement	49 of 77 listed species
Korea–Australia Migratory Birds Agreement	41 of 59 listed species

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	2 critically endangered 8 endangered 11 vulnerable 108 migratory 114 marine
	Recovery plans	6 being implemented: bare-rumped sheathtail bat (*Saccolaimus saccolaimus nudicluniatus*); golden bandicoot (*Isoodon auratus*) and golden-backed tree rat (*Mesembriomys macrurus*); northern quoll (*Dasyurus hallucatus*); Gouldian finch (*Erythrura gouldiae*); eastern partridge pigeon (*Geophaps smithii smithii*), crested shrike tit (*Falcunculus frontatus whitei*) and northern masked owl (*Tyto novaehollandiae kimberli);* marine turtles 6 in preparation: water mouse (*Xeromys myoides*); red goshawk (*Erythrotriorchis radiatus*); yellow chat (Alligators River Region) (*Epthianura crocea tunneyi*); freshwater sawfish (*Pristis microdon*); speartooth shark (*Glyphis glyphis*); northern rivers shark (*Glyphis garricki*)
Listed flora	Species	1 critically endangered 2 vulnerable
	Recovery plans	1 in preparation: multi-species boronia
Heritage	On National Heritage List	

Numbers of native species recorded					
Mammals	**Birds**	**Reptiles**	**Amphibians**	**Fish**	**Plants**
68	292	135	26	320 (276 marine and estuarine, 44 freshwater)	2,022

Management arrangements: Board of Management

Membership to the Kakadu National Park Board of Management is through ministerial appointment. The board has 15 members, ten of whom are appointed as representatives of the park's traditional owners, representing the geographic spread of Aboriginal people in the region and the major language groupings. The remaining members are the Director of National Parks, the Assistant Secretary Parks Operations and Tourism Branch, nominees with environmental and tourism expertise and a nominee of the NT government. The Minister has approved the appointment of new board members for a five year term which commenced in April.

Monitoring

Monitoring and control continued for introduced plants including *Mimosa pigra*, mission grass (*Pennisetum polystachion*), olive hymenachne (*Hymenachne amplexicaulis*), salvinia (*Salvinia molesta*) at Yellow Water and gamba grass (*Andropogon gayanus*). Of these, salvinia and mission grass continue to be major challenges for the park. Two relatively new weed species were also targeted—snakeweed (*Stachytarpheta* spp.) and knobweed (*Hyptis capitata*).

Park staff continued to work with Bininj to identify the park values that are threatened by feral animals and this work will be used in developing future feral animal control programs. On-going monitoring of sites of recent infestations of introduced invasive ants in Jabiru indicated that control work appears to have been successful as no new infestations were detected.

The monitoring of two inshore dolphin species was extended to the West Alligator River and the Wildman River which means that all the major river systems of the park have or are being surveyed for these species. Studies of estuarine crocodile (*Crocodylus porosus*) populations and nesting flatback turtles (*Natator depressus*) in coastal areas of the park also continued.

The collaborative project with the NT Department of Natural Resources, Environment, the Arts and Sport involving targeted surveys of threatened species in recognised biodiversity hotspots in the park, largely in the Arnhem Land Plateau, has been extended for a further three years. All surveys involve park staff (including trainees and school-based apprentices), NT government staff, neighbouring Indigenous ranger groups and traditional owners from Arnhem Land.

Recent surveys targeted species such as white-throated grasswrens (*Amytornis woodwardi*) where 29 individuals were recorded in 25 search areas.

A project in collaboration with the University of Sydney and the Territory Wildlife Park to train northern quolls to avoid cane toads (*Rhinella marina*) as prey and investigate whether this behaviour is passed on to young quolls is in place. Trained quolls were released in the area surrounding the East Alligator Ranger Station and several subsequent trapping events produced promising results. A larger wild quoll population than was thought to exist in the area has also been detected as a result of this work.

Fire monitoring and management continued, based on a strategy of regular data collection and inter-district meetings. The Stone Country Burning Program was implemented for the fifth year, and continues to achieve positive results in preventing late dry season intense fires on the sensitive stone country. The program involves Bininj in bushwalking/burning activities and aims to establish an appropriate fire regime to protect sensitive biodiversity values and facilitate cultural activities on country.

Cultural heritage site monitoring and management continued, including visits to remote areas by Bininj and staff. Park staff also added to existing oral history recordings and development of a cultural heritage sites register, with the support and involvement of Bininj. Major oral history projects that were completed included a booklet on the traditional uses of the South Alligator floodplain, the life history of a significant traditional owner Butcher Knight and a comprehensive report and DVD on the Mudginberri abattoir.

Consultants from the Australian National University worked with Bininj and park staff to finalise a Cultural Heritage Strategy for the park. A cultural heritage workshop was held in May 2011 to facilitate finalisation of the strategy. An associated meeting of Elders was convened which discussed some of the more sensitive aspects of managing cultural material.

Future challenges

Major challenges are:

- ongoing implementation of management plan actions that support Indigenous business ventures and employment including capacity building, address caring for country challenges, support Kakadu's living cultural values and support its World Heritage values
- implementing the actions identified in the park's new Cultural Heritage Strategy particularly in relation to rock art maintenance program management
- improving the understanding of the impacts of fire, feral animals and climate change, coordinating research in these areas and adapting management accordingly
- maximising ecological resilience to increase capacity as climate change manifests
- identifying the cause of small mammal decline and taking appropriate action
- controlling the spread of weeds and the impact of introduced animals
- developing systems and partnerships to make the best use of resources
- upgrading information management systems
- implementing the recommendations of the climate change strategy
- developing staff through formal and informal training programs
- ensuring visitor and staff safety.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- The future impact of climate change on Kakadu, particularly on freshwater wetlands
- Fire management, particularly in sandstone habitats
- Managing pest plant and animal species and their impacts
- Monitoring and protecting threatened species
- Decline of small mammal populations
- Improving the recording, storage and display of species data
- Improving understanding and protection of the marine environments of the Kakadu coast

Actions

- Develop and implement fire strategies for landscape units in the park
- Continue to review and refine fire regimes for the variety of habitats within the park
- Continue to refine the feral animal management plan following population modelling
- Monitor threatened species in biodiversity hot spots
- Continue to control serious pest plant species, focusing on weeds of national significance
- Review and update the park's Weed Management Strategy
- Improve knowledge of landscape change processes
- Address identified gaps in knowledge about potential climate change impacts
- Continue monitoring native animals affected by cane toads
- Monitor the impact of visitor use on Kakadu's natural values
- Improve the use of geographic information system (GIS) technology in recording weed locations and weed data
- Continue to commission and support research that will improve management of the park's natural and cultural values

Performance results 2010–11

- Published the proceedings from the Feral Animal Workshop, the last in the 2008–09 symposia and workshop series on landscape change, with the assistance of the Environmental Research Institute of the Supervising Scientist
- Monitoring and control programs for invasive weed species including *Mimosa pigra* continued. Grassy weeds (mission grass and gamba grass) continue to be major challenges, as are aquatic weeds such as salvinia and hymenachne
- The collaborative project with the NT government monitoring threatened species in biodiversity hotspots was extended for a further three years
- Continued the collaborative project with the University of Sydney and the Territory Wildlife Park for wild release of captive-bred northern quolls trained to avoid cane toads, with initial results suggesting this behaviour may be passed to their offspring
- The bushwalking burning program in the Arnhem Land Plateau undertaken as part of the Stone Country Fire Management Strategy continued to be successful in reducing the incidence of broad-scale late dry season fires as well as the engagement of traditional owners in the implementation of fire management in the park
- In collaboration with Bushfires NT and Warddeken Indigenous Protected Area which adjoins the park, in April 2011 developed and presented the Stone Country Ecological and Cultural training package to at least 20 people from the park and the IPA. The presentation was very successful and a program of delivering the package to other areas will be developed soon
- The collaborative project being undertaken with the NT government on two species of coastal dolphins, the Indo-Pacific humpback (*Sousa chinensis*) and Australian snubfin (*Orcaella heinsohni*), has been extended for a further 12 months to survey the West Alligator and Wildman rivers. The previous project concentrated on the East and South Alligator Rivers which now means that all the park's major river systems have been surveyed for these species

KRA2: Cultural heritage management

Major issues

- Protection and appropriate presentation of World Heritage cultural values
- Managing the park as part of a living culture for Bininj
- Supporting Bininj participation in cultural activities and traditional practices
- Balancing the need to protect rock art and other significant Aboriginal heritage with facilitating its appreciation by visitors

Actions

- Development and implementation of the park's Cultural Heritage Strategy
- Continuation of rock art protection and maintenance work
- Continuation of cataloguing and preserving cultural heritage materials
- Continuation of population and refinement of the park's Cultural Information Management System
- Continue to increase awareness of the Cultural Information Management System, particularly amongst Bininj, and to add data to the system
- Continue to collect oral histories and ensure these are properly protected and archived
- Support Bininj leadership in natural and cultural resource management activities
- Establish two-way learning strategies and programs
- Facilitate visits on country for Bininj, particularly in remote locations, as a tool for re-establishing cultural links to country
- Seek opportunities to transfer knowledge between generations
- Ensure that Kakadu's living cultural status is recognised in tourism strategy development and decision-making
- Review the approach to protection and interpretation of historic heritage in the park

Performance results 2010–11

- Continued the review of recorded cultural material, storage of cultural objects, and cultural heritage databases in consultation with Bininj. The review will include development of protocols to ensure that these sensitive cultural resources can be accessed appropriately and in a user-friendly format
- Produced DVDs recording the views of Bininj on various management issues
- Produced a report on the life history of a significant traditional owner Butcher Knight; similar reports on other key people have commenced
- Completed report and DVDs on traditional uses of the South Alligator Floodplain
- Continued to transfer approved audio and video materials from the park for long-term storage and protection in accordance with the partnership agreement between the National Archives of Australia and the Director
- Held a two-day cultural heritage workshop in May 2011 which included discussions on how best to implement the Cultural Heritage Strategy
- Continued rock art management with the involvement of relevant Bininj
- Continued discussions with the Aboriginal Areas Protection Authority and Northern Land Council about a register of sites of significance and access protocols
- Commenced oral history projects recording the history of and preparing statements of significance for Anlarr (Nourlangie Camp), the old Jim Jim pub and Munmalary
- Completed development of Sickness Country protocols for the southern part of the park

KRA3: Joint management and working with Indigenous communities

Major issues

- Meeting the commitments outlined in the lease and the fifth management plan
- Ensuring shared decision-making occurs at all levels within the park
- Monitoring and reporting on implementation of the fifth management plan

Actions

- Ensure decision-making is consistent with the consultation guidelines
- Encourage increased Aboriginal engagement in work plans through recruitment and skills development programs
- Support traditional land management projects
- Support the board
- Continue day-to-day consultations with traditional owners

Performance results 2010–11

- Bininj staff continued certificate level studies, numeracy and workplace English language and literacy training
- Engaged Bininj in delivering interpretive and environmental programs
- Continued programs to re-engage young Aboriginal people in education and continued the Junior Ranger program with Jabiru and Gunbalanya area schools
- Continued skill development and training for Bininj staff via internal and external courses
- Consulted on wide-ranging park management issues with Bininj through the Northern Land Council
- Continued day-to-day joint decision-making by relevant Bininj and park staff
- Continued supporting a Northern Land Council Kakadu Officer position under contractual arrangements with the Northern Land Council
- Held regular meetings of the board
- Convened a training and workshop forum between the park and neighbouring Indigenous Protected Areas and other Indigenous managed areas
- Engaged Bininj as part of the Kakadu Indigenous Ranger Program, with 8.5 FTE positions filled for the entire year plus up to an additional 6 temporary positions at various times throughout the year

KRA4: Use and appreciation of protected areas

Major issues

- Ongoing implementation of the new Kakadu brand to better position the park, nationally and internationally, as a major tourist destination in the Top End
- Improving the quality and range of visitor experiences
- Improving visitor safety
- Communicating with the tourism industry
- Implementing the park's Tourism Master Plan and strategic direction for increasing the benefits from tourism

Actions

- Continue to implement the new brand strategy focusing on experiencing Kakadu's World Heritage values and to develop and implement a Tourism Master Plan
- Monitor the tour operations permit system and tour guide accreditation
- Increase knowledge of visitation patterns and experiences through visitor surveys park wide and for specific sites
- Regularly review safety of visitor areas
- Regularly inspect and maintain visitor facilities

Performance results 2010–11

- Continued to refine the Kakadu visitors' website to better match visitor expectations to experiences in the park and convey essential information to travellers
- Continued to update pre-visit and on-site visitor information to integrate the new brand
- Conducted quarterly visitor surveys to monitor satisfaction of visitors with their experience. Visitor satisfaction levels with the park averaged 91 per cent over the survey period
- Conducted safety audits at key visitor sites to address potential risks
- Liaised with major tourism industry stakeholders including Tourism Top End and Tourism NT to facilitate activities to promote Kakadu
- Delivered a range of seasonal interpretive programs incorporating natural and cultural content
- Awarded to Inspiring Place Pty Ltd the tender to develop a park-wide walking strategy in consultation with relevant stakeholders
- Delivered essential orientation, safety and interpretive information to visitors prior to and upon arrival in Kakadu via Bowali Visitor Centre
- Implemented Park Pass sales via authorised agents and online
- Continued to provide detailed visitor information for use in tourism planning and resource allocation

KRA5: Stakeholders and partnerships

Major issues

- Continuing effective relationships with the tourism industry, NT government, research institutions, and neighbours (particularly Indigenous ranger groups)
- Continuing to participate in local, regional, national and international initiatives associated with Kakadu's World Heritage values
- Building relationships with educational institutions to develop 'education to work' pathways for Bininj

Actions

- Build a cooperative relationship with tourism stakeholders such as Tourism Top End and the NT government
- Develop an operational relationship with park neighbours, in particular Aboriginal associations and neighbouring Indigenous ranger groups
- Take an active role in community programs
- Establish and support links with managers of other World Heritage areas
- Build a strategic alliance with the West Arnhem College and Charles Darwin University to progress education to work programs
- Work with the Kakadu Research Advisory Committee to advise the board and the Director on research matters

Performance results 2010–11

- Continued the relationship between the Australian and NT governments, with joint funding and planning to advance tourism in the park
- Continued to work cooperatively with the Bushfires Council NT and other NT government agencies, West Arnhem Shire and the Northern Land Council
- Continued the Junior Ranger program as part of the Year 6 curriculum and implemented a Junior Ranger program at West Arnhem College
- Continued to engage with major tourism industry stakeholder group
- Supported community events including festivals celebrating Indigenous culture and community spirit, such as the Mahbilil Festival in Jabiru and the Stone Country Festival in Gunbalanya
- The new Kakadu Research Advisory Committee met in May 2011, where it was agreed that research proposals should address Bininj research priorities and facilitate Bininj participation and on-country visits

KRA6: Business management

Major issues

- Recognising high levels of staff expertise and performance
- Securing resources to implement the fifth management plan and meet park lease obligations
- Complying with obligations under the EPBC Act and EPBC Regulations for the management of Commonwealth reserves
- Maintaining and upgrading infrastructure

Actions

- Implement the department's performance development scheme
- Fulfil the department's financial management and reporting obligations
- Manage park assets and developments to relevant Australian Standards

Performance results 2010–11

- Continued ParkSafe, occupational health and safety training and incident reporting and assessment
- Continued to allocate and prioritise resources to meet the aims of the park lease and fifth management plan
- Continued to carry out the management plan implementation strategy
- Implemented the performance development scheme for all staff focusing on key result areas and staff development
- Prioritised asset management and the work program against risk considerations and maintenance schedules

Case study: World Heritage for Koongarra – a traditional owner's battle

For more than two decades, Kakadu traditional owner Jeffrey Lee has refused to consent to uranium mining on his traditional lands of Koongarra, a 1,200 hectare site within the boundaries but never under the protection of Kakadu National Park.

Koongarra is a stunning woodland area overlooked by Nourlangie Rock, one of Kakadu's most popular visitor destinations with ancient rock art galleries, first settlement paintings and stunning views and walks. With burial sites and its own rock art, Koongarra faces east to Lightning Dreaming, home of the powerful creation ancestor Namarrgon or Lightning Man, who is responsible for the dramatic electrical storms on the Arnhem plateau.

Koongarra was excluded from the park boundaries in 1979 because of its potential uranium resources — and from later inclusion by UNESCO in the Kakadu World Heritage Area. A subsidiary of the French mining company Areva holds outstanding applications for exploration permits and mineral leases over the property — but under Aboriginal Lands Right law, has not been able to explore or mine without Aboriginal consent.

Jeffrey is the last surviving member of the Djok clan, the key traditional owners of Koongarra — although other clans have traditional responsibilities in the area.

Two years ago through the Northern Land Council, he and other traditional owners wrote to then Environment Minister Peter Garrett, saying they wanted the threat of mining removed forever by making Koongarra part of Kakadu National Park. The national newspaper, The Age, reported it as a generous offer — a gift casting aside possibly huge mining royalties and asking no compensation.

Jeffrey Lee's plea was answered in the 2010 election campaign, with a commitment by the Gillard Government to incorporate Koongarra into Kakadu — a commitment supported by the Coalition shadow minister and the Northern Territory Government.

Over the past year Jeffrey Lee has continued his fight with some frustration at the impediments he has had to overcome.

He has watched while the Government and the Director of National Parks have carefully afforded Areva natural justice while moving through the legal steps towards Koongarra's incorporation. The company has so far reserved its right for legal action to protect its interests.

So in June 2011, when the UNESCO World Heritage Committee was to consider including Koongarra as part of the Kakadu World Heritage area and Areva threatened legal action, Jeffrey took action again.

In a recorded video message he successfully petitioned Environment Minister Tony Burke to support his travel to Paris to put his story to the World Heritage Committee.

Environment Minister Tony Burke and Djok traditional owner Jeffrey Lee. Photo: Parks Australia

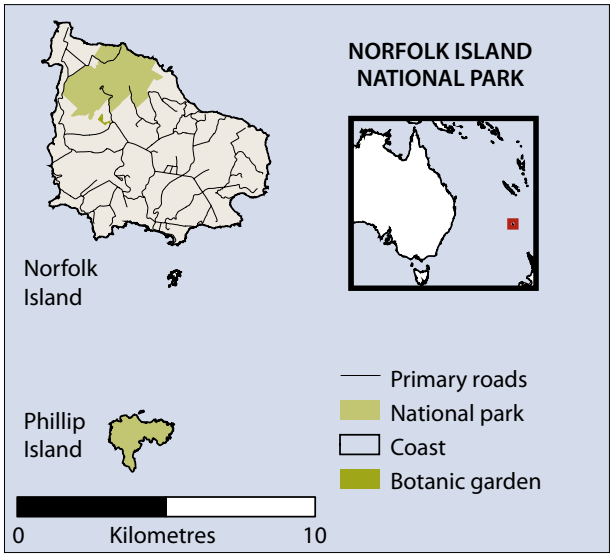
"I want to ensure that the traditional laws, customs, sites, bush tucker, trees, plants and water at Koongarra stay the same as when they were passed on to me by my father and great-grandfather," Jeff told the committee.

The World Heritage Committee included Koongarra in the Kakadu World Heritage Area.

Jeffrey's battle is not yet over. He is now working with the Government and the Northern Land Council on what he hopes are the final steps — the incorporation of Koongarra into Kakadu National Park, with all the protection the *Environmental Protection and Biodiversity Conservation Act 1999* offers.

Norfolk Island National Park and Botanic Garden

www.environment.gov.au/parks/norfolk



Special features

Historically, Norfolk Island has been subject to extensive land clearing for agriculture and housing.

Today, the national park and botanic garden are the last refuge for many plants and animals including over 180 native plant species, 40 of which are endemic and 46 which are listed species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Seven bird species and subspecies are endemic to Norfolk Island with four of these listed as threatened species under the EPBC Act: the Norfolk Island boobook owl (*Ninox novaeseelandiae undulata*), the Norfolk Island green parrot (*Cyanoramphus cookii*), the Norfolk Island golden whistler (*Pachycephala pectoralis xanthoprocta*), and the Norfolk Island scarlet robin (*Petroica multicolor multicolor*). All these species are forest dependent, and hence the national park and botanic garden have become critical habitats for the future survival of these species.

The national park, particularly the Phillip Island section, provides important habitat for many species of seabirds, including many migratory and marine species listed under the EPBC Act.

There are two native reptiles, the Lord Howe Island (Norfolk Island) skink (*Oligosoma lichenigera*) and the Lord Howe Island (Norfolk Island) gecko (*Christinus guentheri*), that are endemic to the Norfolk and Lord Howe Island groups. Neither is found on the main island but both species occur on Phillip Island. Both are listed threatened species under the EPBC Act.

Location	Latitude 29°01′ South, Longitude 167°56′ East	
Area	695.5 hectares (includes Mount Pitt section 493 hectares; Phillip Island 197 hectares; and Norfolk Island Botanic Garden 5.5 hectares)	
Proclamation dates	National park 31 January 1986 (Mount Pitt section); 24 January 1996 (Phillip Island) Botanic garden 31 January 1986	
IUCN category	Norfolk Island National Park: Category II (national park) Norfolk Island National Park Forestry Zone: Category VI (managed resource protected area) Norfolk Island Botanic Garden: Category IV (habitat/species management area)	
Biogeographic context	Isolated small islands of volcanic origin (2 to 3 million years old) in the South Pacific Ocean. Prior to European settlement, Norfolk Island was almost entirely covered by sub-tropical rainforest	
Management plan	Current plan expires on 12 February 2018	
Other significant management documents	Norfolk Island Region Threatened Species Recovery Plan; Norfolk Island National Park Weed Control Strategy	
Financial	Operating	$1.149 million
	Capital	$0.440 million
	Revenue	$1.011 million
Visitors	23,700 (estimated). Visitor survey indicates over 90 per cent of visitors to Norfolk Island visit the national park and/or botanic garden	
Permits	12 commercial tour operator; 3 commercial photography; 8 scientific research; 4 other activities; 1 collection for traditional use	

International conventions and agreements	
Migratory Species (Bonn) Convention	17 of 105 listed Australian species
China–Australia Migratory Birds Agreement	24 of 81 listed species
Japan–Australia Migratory Birds Agreement	29 of 76 listed species
Korea–Australia Migratory Birds Agreement	22 of 59 listed species

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	5 extinct 5 critically endangered 2 endangered 5 vulnerable 37 migratory 57 marine
	Recovery plans	A regional threatened species recovery plan for the island came into effect in August 2010. This plan identifies priorities for management actions to assist the recovery of all listed plant and animal species on Norfolk Island. Previous recovery plans for the Norfolk Island green parrot (*Cyanoramphus cookii*) and for the Norfolk Island golden whistler (*Pachycephala pectoralis xanthoprocta*) and Norfolk Island scarlet robin (*Petroica multicolor multicolor*) have been replaced by the regional threatened species recovery plan.
Listed flora	Species	15 critically endangered 16 endangered 15 vulnerable
	Recovery plans	A regional threatened species recovery plan for the island came into effect in August 2010. This plan identifies priorities for management actions to assist the recovery of all listed plant and animal species on Norfolk Island.
Heritage	Phillip Island is on the Commonwealth Heritage List	

Numbers of native species recorded			
Mammals	**Birds**	**Reptiles**	**Plants**
2	50	2	180

Management arrangements

The Norfolk Island community provides guidance to the Director on national park and botanic garden management through the Norfolk Island National Park Advisory Committee, which meets formally twice a year and informally as required. A new Norfolk Island National Park Advisory Committee with revised terms of reference and operating structure was appointed in August 2010.

The Norfolk Island Administration currently manages forestry operations within the forestry area of the national park. Any operations require approval from the Director of National Parks. The future management of this area is under review.

Monitoring

Monitoring of Norfolk and Phillip Islands for new pest animals and plants continues. Isolated nests of the Asian paper wasp (*Polistes chinensis*) have been identified and destroyed to prevent their spread in the park.

Argentine ants (*Linepithema humile*) have been identified on Norfolk Island. Some control measures have been progressed, but the distribution of the ants across the island continues to increase. For this reason, monthly surveys for Argentine ants are conducted at all visitor areas and around the periphery of the park, particularly focusing on areas near known infestations. At 30 June 2011, Argentine ants had not been detected in the park or botanic garden, although they have been detected in adjacent properties.

Rat populations are monitored as part of a park-wide rodent management program. Records are kept of bait taken and animals trapped. In addition, eight rat monitoring stations are set three times per year to provide an indication of rat activity. Monitoring results indicate that, although bait take has reduced in the past 12 months, it rose sharply in the previous two years. The number of rodents killed in snap traps also continues to rise. These results suggest the baiting program is only showing moderate success and rodents may have developed aversion to the previous bait regime. Racumin has been in use in the park for over 15 years and in May 2011 a new toxin; brodifacoum, was introduced to bait stations.

External researchers provided encouraging results of surveys for forest and seabirds during the year. For example, a 2010 forest bird survey indicated that the endemic Norfolk Island gerygone (*Gerygone modesta*) and slender-billed white-eye (*Zosterops tenuirostris*) and the threatened golden whistler and green parrot are present in higher numbers than previously estimated. As a consequence, their conservation status appears to be slightly more secure than previously assessed.

Research on Phillip Island indicated an increase in numbers of providence petrels (*Pterodroma solandri*), new breeding locations for threatened western Kermadec petrels (*Pterodroma neglecta neglecta*) and an increase in the number of nests of white-necked petrels (*Pterodroma cervicalis*). A fledgling flesh-footed shearwater (Ardenna carneipes) was also discovered, confirming this species now breeds on Phillip Island.

Monitoring of visitor satisfaction continued with a survey conducted over December 2010 and January 2011. Overall, the majority of visitors to the national park rated their visit as 'excellent' (53.7 per cent) or 'very good' (45.1 per cent). This represents a significant increase from the previous year (20 per cent and 42 per cent respectively). Similarly, 43.6 per cent of respondents rated their visit to the botanic garden as 'excellent' and the same percentage as 'very good' (37 per cent and 43 per cent respectively in the previous year).

It is unclear why visitor satisfaction has risen, though significant resources have been directed to improving visitor facilities including new brochures and signage, resurfaced walking tracks and enhanced facilities at the Captain Cook lookout. Park management has also increased the focus on vegetation management along tracks and in the more visible areas of the park to showcase Norfolk's natural environment (see case study page 43).

Future challenges

Major challenges are:

- transitioning to a more effective feral animal control/eradication program, particularly for rodents, cats, chickens and crimson rosellas
- finding more efficient and practical ways to meet the requirements of endangered species programs including through implementing the regional threatened species recovery plan
- achieving a sustainable balance between protecting the natural values of the park and supporting visitor use of the park and botanic garden
- managing remnant endemic and important native species in the park's forestry area.

Report on performance by key result areas

KRA 1: Natural heritage management

Major issues

- Managing pest animals and weeds
- Rehabilitation of highly degraded sections of the forestry area
- Protecting and enhancing populations of endangered species
- Continuing the rehabilitation of Phillip Island
- Building an adequate knowledge-base to underpin management decisions

Actions

- Continue implementing the conservation weeding program
- Plan for the improved management of the forestry area to increase habitat for listed species
- Implement identified recovery actions for endangered species
- Continue vertebrate pest species management programs
- Increase research and survey work within the park and botanic garden

Performance results 2010–11

- Increased population estimates for forest birds – the endemic Norfolk Island gerygone and slender-billed white-eye and the threatened golden whistler and green parrot are present in higher numbers than previously estimated
- Increased estimation of abundance of seabird numbers on Phillip Island with several species showing evidence of increased nesting sites and higher numbers; breeding of flesh-footed shearwaters was also confirmed
- Completed weed control in 6.5 of the 19 coups identified in the weed control strategy for the park. Under the strategy, coups are treated on a two-yearly cycle, focusing on priority weed control to increase habitat opportunities for native species
- Continued weed management activities on Phillip Island, effectively keeping the east end of the island relatively weed free and making a significant difference in weed cover in Long Valley
- Continued management of morning glory (*Ipomea cairica* and *I. indica*) in the botanic garden
- Completed a discussion paper on the future management of the forestry area and sought community input. The proposal includes consolidating the area of the park used for timber plantations, replacement of eucalypt plantations with native species, rehabilitating degraded areas and providing greater public access with new recreational opportunities. Negotiations are now underway with the Norfolk Island Government to come to an agreement on future management
- Trapped 13 cats within the park under the feral cat control program
- Rodents took approximately 714 kg of bait in the park and more than 329 rats and 15 mice were caught in traps
- Removed over 35 feral chickens from the park and botanic garden
- Actively supported 4 scientific researchers in monitoring and research activities on listed species

KRA4: Use and appreciation of protected areas

Major issues

- Growing visitor expectations in relation to tourism infrastructure
- Providing safe and well-presented walking tracks and visitor facilities
- Providing high quality interpretive signs and pamphlets
- A growing demand for a professional environmental information centre
- A strong community and tourism desire for additional recreational opportunities, particularly mountain bike riding, in the forestry area of the national park

Actions

- Improve park entrances to provide a sense of entry into the park and garden
- Resurface walking tracks to reduce slipping hazard and improve amenity
- Redevelop the Captain Cook visitor area
- Redesign and replace interpretive signs and brochures
- Construct a professional and functional interpretation centre

Performance results 2010–11

- Modern sawn post and rail fences installed at all five park entrances and new welcome signs installed
- Resurfaced and maintained all walking tracks in the national park and botanic garden

- Constructed new toilet block, boardwalk, lookout and picnic facilities to improve the visitor area at Captain Cook monument
- Designed, produced and installed new interpretive signs, including plant identification, historic information, site information and other natural resource information
- Began construction of an interpretive centre in the botanic garden. Work is expected to be completed on the structure by the end of 2011, with fitout to occur in 2012
- Conducted the annual visitor survey which confirmed continuing high level of visitor satisfaction among visitors to both the national park and the botanic garden

KRA5: Stakeholders and partnerships

Major issues

- Working effectively with the Norfolk Island Government, local tourism operators, environmental groups, the community, and professional and amateur researchers
- Revitalising and redirecting operations of the Norfolk Island National Park Advisory Committee

Actions

- Meet regularly with tourism industry representatives
- Work with the teachers and students of Norfolk Island Central School as a way to engage the younger members of the community
- Coordinate twice-yearly meetings of the Norfolk Island National Park Advisory Committee as the formal mechanism for community input into park management

Performance results 2010–11

- Celebration of the 25th anniversary of the declaration of Norfolk Island National Park, coinciding with a postage stamp release recognising the park
- Through networking and regular contact, maintained professional and cordial relationships with the following stakeholders and partners: other departmental staff; other Australian Government departments on Norfolk Island; the Norfolk Island Government and administration; Norfolk Island tourism operators and industry groups; and environment and conservation groups
- Worked with Norfolk Island Central School in rehabilitating areas of the park and botanic garden and providing educational visits to Phillip Island
- Successfully managed a permit system for commercial operators, researchers and local traditional use collectors
- Provided newspaper articles and radio interviews covering topical issues with an environmental focus
- Gave talks to local groups and organisations about park activities
- Appointed a new Norfolk Island National Park Advisory Committee with revised terms of reference and operating structure

KRA6: Business management

Major issues

- Delivering quality management services within a limited budget
- Maintaining transparent and accountable processes of permit issuance, contract management and decision-making

Actions

- Maintain park management services within budget
- Transition from contractors to staff as a more cost-effective and productive way of operating

Performance results 2010–11

- Managed operational and capital budgets within allowed parameters
- Improved tracking and compliance with permit conditions for commercial operators and contractors

Case study: Norfolk Island National Park – keeping our visitors satisfied—the information challenge

When Norfolk Island National Park Manager Coral Rowston left the mainland more than two years ago, she took with her a PhD in ecology and a background in natural resource management. Luckily for the island and its 20,000 or so annual visitors, she also has a passion for education and interpreting the natural world.

Voted this year as a 'woman of change' by a Norfolk Island Year 7 student, Coral's energy has paid off with visitors to the national park being overwhelmingly satisfied with their experience — with 98 per cent rating it as 'excellent' or 'very good' in a recent survey.

Coral has been a driving force in promoting Norfolk Island National Park and Botanic Garden as a major attraction for visitors to the island.

"Visitor surveys tell us that more than 90 per cent of people who travel to Norfolk Island spend at least some time in the park and garden," Coral says. "We also know that most of our visitors are aged between 50 and 69 years, are quite well educated, have a thirst for knowledge and want to know about the places they visit.

"To meet the needs of our visitors we've embarked on a major revamp of our communications with a swathe of new materials produced including brochures, track signs colour-coded to match a new walking track brochure, plant identification signs for the botanic garden as well as road and park entrance signs. Information panels cover features of the natural environment and the park's history.

"The feedback we're getting is really encouraging. Our last visitor survey showed an increase in satisfaction about the park — with 80 per cent of visitors rating the signage as either 'excellent' or 'very good' compared to 60 per cent in 2010", Coral says.

The national park is also using social networking to promote this natural tourism destination through facebook — with 400 friends already on board — mostly in the 35–40 years age group, a key target for tourism on the island.

To celebrate the park's 25th anniversary last January, Coral worked with Norfolk Island philatelic to bring out a commemorative stamp series featuring four endangered plants now on their way to recovery — the Norfolk Island abutilon, Phillip Island hibiscus, popwood and broad-leaved myrta. A great conservation success story!

A new interpretive centre, currently being built and due to be completed mid-2012, will also boost the quality and availability of information provided to visitors about the park's special environment and how it is managed for future generations to enjoy.

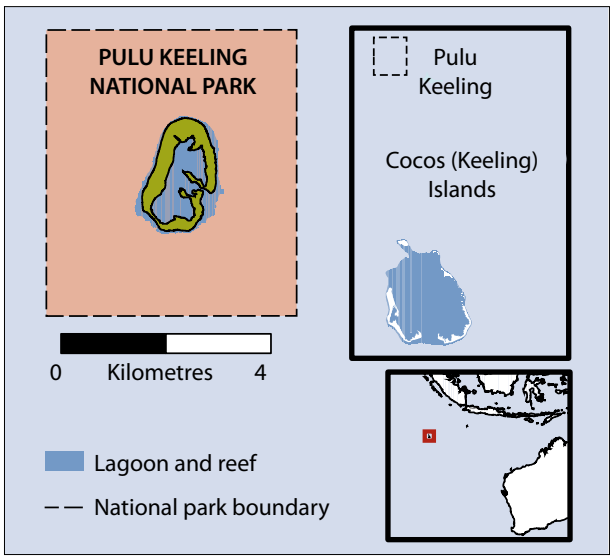
Norfolk's facebook page:
www.facebook.com/home.php?#!/pages/Norfolk-Island-National-Park-and-Botanic-Garden/352922925338)

Norfolk Island National Park turned 25 this year. To celebrate Norfolk Island philatelic released a stamp series featuring four endangered plants that are now on their way to recovery — Norfolk Island abutilon, Phillip Island hibiscus, popwood and broad-leaved myrta. Photo: Parks Australia

A hawksbill turtle tagged in Cocos waters back in 2003 was found this year in the Lindi district of Tanzania—representing an incredible journey of 6,100 kilometres. In fact it is the longest recorded migration for a hawksbill turtle and the first ever trans-Indian Ocean crossing reported for any sea turtle species. Photo: Parks Australia

Pulu Keeling National Park

www.environment.gov.au/parks/cocos



Special features

Pulu Keeling National Park's most outstanding feature is its intact coral atoll ecosystem. With the widespread global decline of similar coral island habitats and their reefs due to human interactions, the conservation and protection of the park and its wildlife are of international importance.

The park, which makes up the whole of North Keeling Island, is an internationally significant seabird rookery. The breeding colony of the dominant bird species—the red-footed booby (*Sula sula*)—is one of the largest in the world. The island is also the main habitat of the endangered Cocos buff-banded rail (*Gallirallus philippensis andrewsi*) found only on the Cocos (Keeling) Islands.

The critically endangered Round Island petrel (*Pterodroma arminjoniana*) has been recorded on the island but has not been sighted in recent years, despite intensive searching. Green turtles (*Chelonia mydas*) nest on the island and hawksbill turtles (*Eretmochelys imbricata*) inhabit the waters of the park; both species are listed as vulnerable.

Location	Latitude 11°50′ South, Longitude 96°49′ East	
Area	2,602 hectares (including marine area extending 1.5 kilometres around North Keeling Island)	
Proclamation date	12 December 1995	
IUCN category	Category II overall comprising: Terrestrial Zone Category Ia (122 hectares) Marine Zone Category II (2,480 hectares)	
Biogeographic context	Isolated atoll in the Indian Ocean formed atop an old volcanic seamount	
Management plan	Second plan expired 27 April 2011. The third plan is currently being prepared	
Other significant management documents	Visitor access, boating, diving and fishing strategies; Management Plan Implementation Schedule; Risk Assessment and Management Schedule	
Financial	Operating	$0.511 million
	Capital	not applicable
	Revenue	$0.602 million
Visitors	23 visitors to Pulu Keeling National Park	
Permits	20 marine access; 1 commercial dive tour; 1 commercial photography; 1 scientific research	

International conventions and agreements	
Wetlands (Ramsar) Convention	Entire park listed
Migratory Species (Bonn) Convention	8 of 105 listed Australian species
China–Australia Migratory Birds Agreement	15 of 81 listed species
Japan–Australia Migratory Birds Agreement	15 of 77 listed species
Korea–Australia Migratory Birds Agreement	8 of 59 listed species

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	1 critically endangered 4 endangered 5 vulnerable 24 migratory 36 marine
	Recovery plans	2 being implemented: Cocos buff-banded rail (*Gallirallus philippensis andrewsi*); marine turtles 2 being partially implemented: blue whale (*Balaenoptera musculus*) and sei whale (*Balaenoptera borealis*); Round Island petrel (*Pterodroma arminjoniana*)
Listed flora	Species	None
Heritage	North Keeling Island on Commonwealth Heritage List	

Numbers of native species recorded			
Mammals	**Birds**	**Reptiles**	**Plants**
5 (marine)	24	6 (5 marine)	31

Management arrangements: management committee

The Pulu Keeling National Park Community Management Committee comprises the Director of National Parks (or his nominee), three others nominated by the Director and six community representatives nominated by the Cocos (Keeling) Islands Shire Council.

Monitoring

The red-footed booby population in the park has been monitored since 1985. Analysis of the data in 2009 again put the number at around 30,000 breeding pairs. Unfavorable weather patterns and vessel unavailability to access the park resulted in no surveys carried out during the 2010 breeding season.

With a current estimate of 1,000 individuals, the buff-banded rail population remains stable in the park and staff continue to monitor the population. A project to investigate the establishment of a second viable population within the Cocos (Keeling) Islands group which began in 2008 continued. Funding has been allocated for rat control on one of the southern atolls which would be critical before a translocation program could be considered.

Systematic marine turtle monitoring has been maintained in the park over the last ten years. However, no detailed surveys were conducted during 2010–11.

Following an island-wide survey in 2009, data continue to show that invasive yellow crazy ants (*Anoplolepis gracilipes*) are fairly widespread with some sites recorded at supercolony density. A first round of survey was performed to detect the presence of scale insects and whether there are any honeydew producing mutualistic partners for yellow crazy ants at the park.

Future challenges

Major challenges are:

- preventing new introductions of and containing the impact of existing exotic pest species and diseases. Island fauna is especially vulnerable to the introduction of exotic species; outbreaks of scale insects and weeds, especially Siam weed (*Chromolaena odorata*) and die-back (*Phytophthera* spp.) on nearby Christmas Island and in Western Australia, may pose a threat to the park
- managing the current threatening exotic species coral berry (*Rivina humilis*) and yellow crazy ants
- adapting management actions in response to the impacts of climate change, which poses a particular challenge to the future management of low-lying atolls such as Pulu Keeling National Park
- ability to implement fieldwork and compliance programs, as regular access can be difficult to maintain.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Regular access to the park to perform routine tasks
- Illegal entry to the park
- Illegal wildlife harvesting
- Monitoring of the red-footed booby and buff-banded rail populations
- Monitoring and management of threatening exotic species
- Maintaining and monitoring the ecological character of the Ramsar listed wetland

Actions

- Maintain a workable arrangement with the service provider to provide boats for access to the park
- Maintain surveillance and boat patrols
- Survey bird numbers regularly
- Undertake an island-wide survey targeting exotic weed and pest species
- Develop a research and monitoring program plan to increase knowledge of park ecosystems and management of threatening processes

Performance results 2010–11

- Continued working with the community and with other stakeholders to detect incidents involving protected species
- The baseline data on the distribution and abundance of exotic species allow quantitative assessments of weed control work to be made. Approximately 11,200 m2 of area covered with weed (paw paw), which is equivalent to 19 per cent of its total estimated distribution, was treated
- Updated the park's map of main vegetation communities using GIS
- Undertook survey to detect scale insects as part of efforts to manage the threat of yellow crazy ants
- Completed a Ramsar site Ecological Character Description for the park
- Access difficulties to the park reduced the capacity to undertake some management duties

KRA2: Cultural heritage management

Major issues

- The SMS *Emden* shipwreck is a popular diving site
- Visitors to Malay gravesites

Action

- Ensure access to sites is managed appropriately

Performance results 2010–11

- Managed access to cultural heritage sites effectively
- Conducted two guided walking tours of the gravesites and the *Emden* memorial site
- Distributed cultural educational material on walking tours

KRA4: Use and appreciation of protected areas

Major issue

- Potential for park visitors to introduce exotic species

Actions

- Implement quarantine procedures
- Prevent introduction of exotic species

Performance results 2010–11

- Continued to inspect visitors' equipment, clothing and footwear prior to visitors swimming ashore and ensure that it is scrubbed. No evidence was found that new species have been introduced
- Educational activities with local students and community member performed

KRA5: Stakeholders and partnerships

Major issues

- Continuing a positive working relationship with the community
- Dissatisfaction with the department with regard to the red-footed booby harvest proposal decision-making process

Actions

- Promote the benefits of the park (including employment, tourism and local expenditure)
- Continue the ongoing community relations and education programs

Performance results 2010–11

- Continued to use the Home Island office to build positive working relationship with stakeholders, locals and tourists. Attended community and school functions
- Continued to advertise local employment opportunities and engage community members where possible. Maintained a temporary employment register
- Maintained regular meetings and communication with stakeholders
- Continued educational activities with the Cocos (Keeling) Islands District School and community, specifically on invasive species but also incorporating other local conservation messages
- Held one meeting of the Pulu Keeling National Park Community Management Committee

KRA6: Business management

Major issue

- Isolation limits access to business management support networks

Action

- Facilitate visits to the park by external support staff and facilitate off-island training

Performance results 2010–11

- Managed operational and capital budgets within approved parameters
- Received regular support from Christmas Island National Park staff with field work, financial functions and geographic information system data management

Park management — a community affair on the Cocos Islands

Pulu Keeling National Park — Australia's most remote and one of its smallest national parks — is also chief ranger Ismail Macrae's office.

Weather permitting, Ismail takes a boat across 24 kilometres of open ocean to work in his 'office', an isolated coral atoll some 1.2 square kilometres in size and a haven for seabirds which flock in their thousands to this environment which has never seen continuous occupation by people.

The national park is part of the Cocos Keeling Islands, Australia's most remote island territory lying over 2,900 kilometres north-west of Perth, a small speck in the vast Indian Ocean.

Ismail has called the Cocos (Keeling) Islands home for 26 years, ever since he returned with his island-born parents who had been working in North Borneo.

Looking after Pulu Keeling is the job of Ismail and his senior ranger, Trish Flores — with a key focus on invasive species such as weeds and yellow crazy ants.

It is also a community affair, consulting back on the main Cocos' islands with the 500 or so residents, many of them Cocos-Malay. Unlike most park rangers, Ismail and Trish spend much of their time off park, educating the local community about Pulu Keeling's ecological significance — its internationally-recognised seabird rookery. They see that raising awareness in the community about the fragility of the stunning environment around them, as an investment — creating passionate champions.

The community gets involved in looking after the Cocos' environment through initiatives such as school projects, junior rangers, care of injured birds and revegetation programs on the southern atolls.

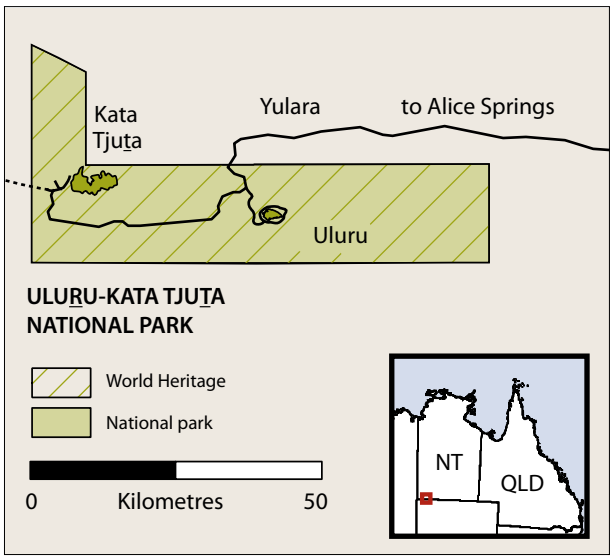
With the help of the community Ismail and Trish are revegetating small areas of the southern atolls with Pisonia trees — favoured nesting sites for seabirds. The community has helped to plant out 350 Pisonia cuttings that were propagated from trees on Pulu Keeling National Park — the only Cocos island which still has large and original stands of these trees.

Ismail Macrae. Photo: Parks Australia

Parliamentary Secretary for Sustainability, Environment, Water, Population and Communities Don Farrell and Chair of the Uluṟu–Kata Tjuṯa National Park Board of Management Harry Wilson symbolically exchange paintings during the 25th anniversary celebrations marking the handback of Uluṟu and Kata Tjuṯa to Aṉangu traditional owners. Photo: Grenville Turner

Uluṟu–Kata Tjuṯa National Park

www.environment.gov.au/parks/uluru



Special features

Uluṟu–Kata Tjuṯa National Park is inscribed on the World Heritage List for both the cultural and natural values of its landscape. The park supports traditional owners to maintain their living culture and contains landscapes of exceptional scenic beauty. It also protects the iconic rock outcrops of Uluṟu and Kata Tjuṯa and outstanding examples of arid zone flora and fauna.

Uluṟu–Kata Tjuṯa National Park is a place of great spiritual and cultural importance to Aṉangu (western desert Aboriginal people). For countless generations this ancient landscape has been influenced by the activities of Aṉangu and their ancestors. The land management techniques that are a feature of these activities are an intrinsic part of *Tjukurpa* (traditional law and culture) and a feature of the joint management of the park by Aṉangu and Parks Australia.

Location	Latitude 25°15′ South, Longitude 130°43′ East	
Area	132,566 hectares	
Proclamation dates	24 May 1977, 28 October 1985	
IUCN category	Category II	
Biogeographic context	Interim Biogeographic Regionalisation for Australia region: Great Sandy Desert	
Management plan	Fifth plan came into effect 9 January 2010 and expires 8 January 2020	
Other significant management documents	Lease between the Uluṟu–Kata Tjuṯa Aboriginal Land Trust and the Director of National Parks; Visitor Infrastructure Master Plan; Uluṟu Climb Health and Safety Report; Cultural Heritage Action Plan; Vertebrate Pest Strategy; Women's Cultural Heritage Plan; Fire Management Strategy and Operations Manual; Buffel Grass Management Strategy, Tourism Directions Strategy Stage 1	
Financial	Operating	$13.472 million
	Capital	$2.339 million
	Revenue	$14.044 million
	Paid to traditional owners	$1.708 million
Visitors	269,242 visitors (16 years and above) based on park tickets sold	
Permits	184 media permits; 95 tour operators; 3 research	

International conventions and agreements	
World Heritage Convention	Listed under cultural criteria (v) and (vi) and natural criteria (ii) and (iii), recognising the park's outstanding natural and cultural values and its significance as a cultural landscape
Migratory Species (Bonn) Convention	10 of 105 listed Australian species
China–Australia Migratory Birds Agreement	12 of 81 listed species
Japan–Australia Migratory Birds Agreement	14 of 77 listed species
Korea–Australia Migratory Birds Agreement	13 of 59 listed species
Other agreements	Listed as a biosphere reserve under the UNESCO Man and the Biosphere Programme

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	6 extinct 2 endangered 3 vulnerable 16 migratory 36 marine (birds)
	Recovery plans	3 being implemented: mala or rufous hare wallaby (*Lagorchestes hirsutus*); tjakura or great desert skink (*Liopholis kintorei*); itjari-itjari or southern marsupial mole (*Notorcytes typhlops*) 2 in preparation: murjta or brush-tailed mulgara (*Dasycercus blythi*); waru or black-flanked rock-wallaby (*Petrogale lateralis*)
Listed flora	None	
Heritage	On National Heritage List and Commonwealth Heritage List	

Numbers of native species recorded					
Mammals	**Birds**	**Reptiles**	**Fish**	**Amphibians**	**Plants**
21	170	73	None	4	Over 400

Management arrangements: Board of Management

The current traditional owner representatives on the Uluru–Kata Tjuta Board of Management were appointed by the then Minister for the Environment, Water, Heritage and the Arts in November 2008 for a period of five years.

The majority of board members must be Indigenous persons nominated by the park's traditional Aboriginal owners. The board comprises 12 members: four male and four female traditional owner representatives; the Director of National Parks; and one nominee each from the Northern Territory Government, the Minister for Tourism and the Minister for the Environment.

The board has a responsibility to prepare and implement the management plan and advise the Minister on the park's future development. Through joint management, Anangu and *Piranpa* (non-Aboriginal people) work together to manage the park's cultural and natural heritage.

Monitoring

The fourteenth annual tjakura or great desert skink (*Liopholis kintorei*) survey took place in February–March 2011. Numbers of breeding burrows and burrows containing juveniles continues to increase.

The second spoor-based brush-tailed mulgara (*Dasycercus blythi*) survey occurred this year and continued to build on our understanding of mulgara habitat preferences across the park. Trapping surveys provided anecdotal evidence that areas of mature spinifex are important to this small marsupial carnivore. Further surveys will permit more robust conclusions about mulgara habitat requirements to be made. As a matter of caution, fire management of mulgara habitat areas is being adapted pending future results.

The seventeenth vertebrate survey of the park was undertaken in October–November 2010, the first in many years to be held during a year of consistent and above average rainfall. The most exciting discovery was confirmation of spoor of the common brushtail possum (*Trichosurus vulpecula*), thought to be extinct in the park previous to this survey. Additionally, reptile abundance was one of the best ever recorded with total captures two to three times higher than for most other surveys and with the second highest species diversity on record.

The park's rare flora survey was finalised this year with 14 out of 15 target species found within the park. These baseline surveys will be used to monitor the impact of management activities and climatic variation on the distribution and abundance of the species in the coming decades. Further monitoring and study is required for five of the target species including *Santalum acuminatum* and *Acacia ammobia* to gain a better understanding of recruitment strategies, fire sensitivities and suitable propagation techniques.

Monitoring for the striated grasswren (*Amytornis striatus*) conducted in September 2010 located five pairs of birds living in a small area of complex spinifex habitat in the south of the park. This is the largest number of the species recorded since initial surveys in 1992, however we are still unable to locate the birds in any other sites on the park

making this small habitat extremely important to the continued survival of the species. Research planned for 2011–12 will aim at quantifying the exact size of the species' habitat, the population size and the key habitat elements that have led to the bird's survival in this area of the park. Based on this knowledge, future management activities will be aimed at recreating this habitat on a larger scale to allow the population to expand.

The park's waterhole monitoring program continued throughout 2010–11 to quantify the health of the waterholes at the base of Uluṟu and gain an improved understanding of the cause of frog mortality at Muṯitjulu waterhole. Bacterial disease has been excluded as a cause, as has the most common viruses affecting amphibians. Additional monitoring in 2011–12 will focus on water chemistry and heavy metal concentrations. Monitoring of the invertebrate population on the Uluṟu summit also continued with the suspected discovery of a new sub-species of fairy shrimp (confirmation awaits the results of DNA analysis).

The park's remote camera-based monitoring program for euros (*Macropus robustus*) and feral animals also continued at the waterholes at the base of Uluṟu and at the Ayers Rock Resort sewerage treatment facility. A camera will also be installed in the near future on neighbouring Aboriginal land. This program continued to give important information on the activity and abundance of these species in the park and surrounding areas and on the impact of tourism and other human use at some of these areas. Track-based monitoring of the distribution and abundance of introduced predators continued in the sensitive borefields area of the park which is essential habitat for a number of endangered species. Rabbit burrow mapping also occurred in key target areas, enabling successful rabbit control to be carried out throughout the year.

The visitor survey conducted in December 2010 found domestic visitor satisfaction of 94 per cent and 89 per cent for international visitors. Vehicle counters also provided information on traffic movement across the park on the main roads.

Future challenges

Major challenges are:

- quantifying the abundance and distribution of the park's common brushtail possum population and instituting management actions to conserve the species
- controlling the increase in introduced predators expected following the above average rainfall experienced this year
- managing the impact of visitors on cultural sites particularly those with high visitation around Uluṟu
- managing visitor safety in the harsh environment, in particular for visitors who choose to climb Uluṟu
- retaining and developing staff in a remote area
- increasing Aṉangu engagement in park management
- managing the budgetary impact of decreasing visitor numbers
- maintaining a whole of government approach to ongoing service provision (municipal, essential and social and other services) to the Muṯitjulu Community.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Restricting the spread of introduced buffel grass (*Cenchrus ciliaris*) and reducing its abundance throughout the park
- Reducing the impacts of vertebrate pests (fox, cat, camel, rabbit, feral dogs)
- Monitoring the status of threatened species and managing threatening processes
- Reintroducing locally extinct species
- Controlling erosion and repairing existing damage
- Using fire effectively as a habitat management tool
- Quantifying the impact of climate change on semi-arid ecosystems
- Ensuring that monitoring activities provide effective data on ecosystem health

Actions

- Implement the fire and vegetation management strategy to guide fire planning and activity within the park
- Implement the Buffel Grass Management Strategy to improve the effectiveness and efficiency of resource use to achieve improved conservation and recreational outcomes over the next five years
- Implement the draft vertebrate pest strategy to control feral pests and their impacts on endangered species
- Continue the annual fire planning workshop to include all stakeholders in a regional approach to planning the seasonal burn program
- Continue to monitor the park's threatened species to improve understanding of these species and ensure management is effective and adaptive
- Maintain the pest-free enclosure
- Continue to develop a species reintroduction program
- Continue to propagate important species in the park's nursery and undertake revegetation programs in construction areas, sacred sites and locations where buffel grass has been successfully removed
- Continue the erosion control program
- Improve data and geographic information system (GIS) management

Performance results 2010–2011

- The Fire Management Strategy and Operations Manual are now being used to plan all burns within the park. Several burns were conducted
- The Buffel Grass Management Strategy is now being used to prioritise buffel grass control activities and included continuation of the Conservation Volunteers Australia program around the base of Uluṟu and removal of buffel grass from roads and tracks throughout the rest of the park to reduce spread
- Finalised the Vertebrate Pest Management Strategy and worked with the board to gain direction for future camel control activities in the park
- Used GIS technology to map burns and the distribution of invasive weeds, feral animals and threatened species, resulting in efficiencies in planning and implementing management programs
- Mapped and assessed several rare flora species
- Conducted monthly vertebrate pest monitoring for cats, foxes and dogs in the borefields area of the park
- Mapped rabbit burrows across the park and treated over 400 burrows with the poisonous gas phostoxin to reduce population explosions after good rainfall received this year
- Conducted the annual mulgara, great desert skink and marsupial mole surveys
- Undertook the 17th vertebrate survey in October–November 2010, the first in many years to be held during a year of consistent and above average rainfall
- Confirmed the presence of the common brushtail possum which was previously thought extinct in the park; this species is of particular significance to Aṉangu and is a candidate for reintroduction
- Conducted sampling for invertebrates and water quality testing at Uluṟu waterholes

KRA2: Cultural heritage management

Major issues

- Supporting the continuation of Aṉangu living culture and knowledge
- Protecting historic and Aṉangu cultural information, sites and objects

Actions

- Revise the Cultural Heritage Action Plan (2002) and continue to implement the Women's Cultural Heritage Plan (2005)
- Continue the rock art conservation, oral history and repatriation programs
- Identify, catalogue and conserve cultural, historical and archaeological sites and objects
- Protect cultural sites around Uluṟu

- Maintain the Cultural Sites Management System database as an information repository, planning and reporting tool
- Support Anangu participation in the annual Women's Law and Culture meeting
- Support and promote the use of traditional knowledge and skills in all areas of park management and especially in fire management
- Facilitate and support the transfer of knowledge between Anangu generations

Performance results 2010–2011

- Began a successful program aimed at increasing the number of women engaged in cultural work throughout the park. Work includes revegetation of sacred sites, tool and medicine making and public interpretation activities
- Held two Cultural Heritage and Scientific Consultative Committee meetings to provide advice to the board on natural and cultural heritage issues
- Applied for a grant from the Australian Institute of Aboriginal and Torres Strait Islander Studies to fund archaeological survey work throughout the park, in partnership with archaeologists from the University of Queensland
- Continued cultural site patrols and added the resulting data to the Cultural Site Management System
- Through meetings of the Joint Management Partnership Team, facilitated Anangu Board members' involvement in the World Heritage Periodic Report and the review of the retrospective Statement of Outstanding Universal Value
- Undertook an overnight cultural trip with Anangu and park staff to the community of Lila to assist in the preparations for the 25th Anniversary of Handback
- Facilitated the transfer of knowledge through *inma* (ceremony) performances at the 25th Anniversary of Handback celebrations

KRA3: Joint management and working with Indigenous communities

Major issues

- Managing the park in accordance with the lease obligations, joint management principles and the management plan
- Providing opportunities for Indigenous economic development in the park
- Maintaining relationships and partnerships with relevant Anangu organisations
- Ensuring traditional owners are appropriately consulted about park projects and park management activities
- Supporting Anangu employment, education and training
- Supporting ongoing transfer of traditional knowledge between generations of Anangu

Actions

- Maintain productive working relationships with joint management partners
- Work with the Central Land Council (CLC) to ensure effective traditional owner consultation about significant park projects
- Support and encourage Anangu enterprise development in the park
- Develop and implement an intergenerational training and employment strategy and continue to provide opportunities for Anangu to develop park management skills and experience
- Continue to develop the Mutitjulu Community Rangers program to increase levels of Anangu engagement in park management activity
- Continue to develop the Junior Ranger program in consultation with the Mutitjulu school and Anangu

Performance results 2010–2011

- Held three meetings of the board, supported by meetings of the board's consultative committees
- Continued to engage community, build capacity, provide training and employment and support Anangu in the region via workplace development coordinators first engaged in 2010
- Employed two additional Anangu trainees in specified trainee ranger roles

- Developed a literacy and numeracy program which is attended weekly by Anangu trainees and Mutitjulu Community Rangers program participants
- Established accredited programs of study in Conservation and Land Management for all Anangu trainees and selected Mutitjulu Community Rangers program participants
- Jointly recruited and employed the Community Liaison Officer position with the Mutitjulu Community Aboriginal Corporation representatives and the CLC Joint Management Officer
- Formally entered into a contract with the CLC for the employment of the CLC Joint Management Officer
- Continued to support the agreement between the Mutitjulu Community Aboriginal Corporation and the park in employing Anangu, including acknowledging and recompensing senior Anangu for their traditional knowledge and skills
- Anangu participation in flexible employment through the Mutitjulu Community Rangers program has remained high with a number of *wati* (men) and *kunga* (women) regularly engaged in park activities
- Developed a regional cross cultural appreciation program which can be delivered by Anangu for new park staff and other regional stakeholders
- Supported the attendance of Anangu staff and the park's workforce development coordinators at the department's Indigenous Employees Conference in early 2011
- Through the Mutitjulu Community Rangers program, increased Anangu participation in cultural interpretation presentations at the cultural centre, with presentations now delivered twice weekly
- Undertook Junior Ranger activities to facilitate intergenerational transfer of knowledge
- Engaged Pitjantjatjara interpreters for board, consultative committee and other meetings to improve communication with traditional owners and community members
- Worked with Mutitjulu Community and board members to facilitate the 25th Anniversary of Handback celebrations held at the park on 25 October 2010

KRA4: Use and appreciation of protected areas

Major issues

- Implementation of an online ticket system for the park
- Managing the expectations of international and Australian film crews and professional photographers
- Managing ageing infrastructure
- Facilitating a number of new tourism development proposals for the park identified through the Tourism Directions Strategy
- Maintaining a high level of visitor safety in the park
- Managing the Uluru climb to reduce the risks to the health and safety of visitors, and to respect cultural traditions
- Interpreting key park messages to visitors
- Development of high quality tourism opportunities to facilitate closure of the climb

Actions

- Monitor visitor satisfaction
- Continue media briefings (using face to face briefings and electronic communications)
- Develop collaborative marketing campaigns between the park, Tourism Australia and Tourism NT
- Develop new interpretive signage, including visitor safety messages for electronic, print and other media
- Provide key interpretive messages to visitors on the park prior to arrival
- Maintain visitor infrastructure including walking tracks and pathways
- Continue tour operator workshops and orientation programs for tour guides and industry stakeholders to further knowledge on the park's natural and cultural values
- Monitor the number of tour guides who have completed the compulsory tour guide certification

- Develop pre-visit information for visiting school groups and educational tourism groups
- Develop guidelines and processes to facilitate and support potential new tourism opportunities and events to benefit traditional owners and the park
- Implement the Tourism Directions Strategy Stage 1

Performance results 2010–2011

- Conducted visitor surveys in December 2010. An average 94 per cent of domestic respondents and 89 per cent of international respondents were satisfied overall with their visit
- Facilitated VIP visits to the park for international parliamentarians and other guests, in particular the visit of Oprah Winfrey in December 2010
- Successfully introduced the Uluṟu-Kata Tjuṯa Knowledge for Tour Guides program on 1 April 2011; currently 636 guides are enrolled in the course
- Undertook one rescue of a visitor on Uluṟu and responded to a further 21 emergency alarm activations
- Issued 184 media permits for the park
- Issued 95 tour operator permits
- Facilitated successful marketing campaign between Tourism Australia, Tourism NT and the park with VIP visits
- Implemented the Cultural Centre Tenants group meetings
- Progressed consultation and planning for upgrading the Cultural Centre for future use and interpretation
- Maintained the park's rock rescue, emergency response, first aid and fire suppression capabilities
- Celebrated the 25th Anniversary of Handback of title to the park to traditional owners with a cultural festival and concert at Talinguṟu Nyakunytjaku (see case study at page 60)
- Delivered free interpretive events to visitors including the daily ranger-guided Mala Walk at Uluṟu
- Delivered education programs for visiting school groups
- Continued to work with regional partners on the Red Centre National Landscape and Red Centre Way tourist drive
- Facilitated a visit of Aṉangu members of the board and the Tourism Consultative Committee to meet with members of the Red Centre National Landscapes Steering Committee in Alice Springs
- Facilitated a discovery tour for Aṉangu board members and Tourism Consultative Committee members to visit tourist sites and venues along the Red Centre way and to learn from other Indigenous tourism business owners about starting a business
- Consulted tourism stakeholders about developing an online ticket system for the park
- In consultation with Aṉangu continued design and development of new interpretive signage for the park
- Continued development of event policies and guidelines to facilitate new and innovative events in the park
- Under the new plan of management, the first event was held in the park at Muṯitjulu Waterhole in December 2010
- Graphic design and construction of the 291 new interpretative signs for the park are in the final stages of completion

KRA5: Stakeholders and partnerships

Major issues

- Providing opportunities for new Indigenous business enterprises
- Maintaining an effective working relationship with the Muṯitjulu Community
- Developing and maintaining good relationships between the park and the new owners of the Ayers Rock Resort (Indigenous Land Corporation)
- Maintaining an ongoing partnership with the tourism industry
- Maintaining good relationships with regional training, education and employment stakeholders
- Engaging with Northern Territory and Australian government agencies working with the Muṯitjulu Community

Actions

- Hold meetings of the board's consultative committees
- Participate in building relationships with new resort owners, the Indigenous Land Corporation
- Communicate clearly with all parties about developments in the park and the Mutitjulu Community and report on progress to stakeholders
- Establish a Cultural Centre tenants group to agree on future direction for the cultural centre
- Meet regularly with local stakeholder groups
- Continue supporting volunteer and community groups in protecting park values

Performance results 2010–2011

- Held four meetings of each of the Tourism Consultative Committee and the Film and Photography Consultative Committee and two meetings of the Cultural Heritage and Scientific Consultative Committee
- Facilitated a visit by Parks Canada for industry stakeholders on developing the visitor experience and an audit of the destination
- Led the development of an Anangu literacy and numeracy development program in collaboration with Anangu Jobs and the Nyangatjatjara College
- Established relationship with Batchelor Institute of Indigenous Tertiary Education to provide accredited study programs in conservation and land management for the park's Anangu staff and selected Mutitjulu Community Ranger program participants
- Attended meetings with and provided briefings for the new owners of Ayres Rock Resort, the Indigenous Land Corporation
- Supported teams from Conservation Volunteers Australia working on weed control in the park
- Met regularly with Mutitjulu Community Aboriginal Corporation representatives and the Department of Families, Housing, Community Services and Indigenous Affairs Government Business Manager based at the Community
- Participated in Yulara Counter Disaster Committee meetings
- Held tourism stakeholder meetings to seek feedback on online ticketing and other issues
- Formed the Uluru Regional Employment Group to ensure a regional approach to training and employment of Indigenous job seekers
- Produced quarterly e-newsletters to communicate park news and activities to stakeholders
- Approved several applications for renovations to infrastructure within Mutitjulu Community

KRA6: Business management

Major issues

- Implementing the fifth plan of management
- Recruiting and maintaining staff to the park
- Providing suitable staff housing and an improved office environment
- Managing fluctuations in fuel prices affecting diesel power generation and the vehicle fleet
- Maintaining park infrastructure and road networks
- Providing essential services to the Mutitjulu Community
- Developing lease agreements for business enterprises at the cultural centre
- Improving corporate governance procedures
- Reduced revenue due to a shortfall in expected visitor numbers
- Staff training and development
- Maintaining staff health and safety at work

Actions

- Ensure that the Housing, Training, and Occupational Health and Safety committees are functional and meet regularly
- Develop the park's Intergenerational Training and Employment Strategy
- Continue to implement the staff training plan and update the training calendar
- Continue to develop new deeds of standing offer
- Continue to implement safe working procedures, including job safety analyses and standard operating procedures

Performance results 2010–2011

- Commenced implementation of the fifth management plan
- Continued to develop the staff cultural awareness package
- Staff, Anangu and Mutitjulu Community members attended numerous training events, ranging from informal information sessions to accredited training
- Two staff members received assistance under the department's Study Support Scheme
- Implemented Parks Australia's staff mobility policy to support the retention and development of staff
- Developed Parks Australia's mentoring program guidelines for implementation in 2011–12
- Delivered certificate level training in frontline management to a number of the park's middle management staff
- Held regular meetings of the Occupational Health and Safety Committee and the new Training and Employment Committee
- Staff provided with resilience and wellbeing training specifically developed for staff living in remote areas
- Continued deeds of standing offer or contracts for sewerage and septic systems, cleaning, air conditioner maintenance, fleet servicing and fire detection
- Senior park staff attended science and Parks Australia forums
- Negotiated with the NT government and Australian government agencies, a tripartite agreement and funding for a review of essential services for Mutitjulu Community and commenced contract for the review

Case study: Uluṟu–Kata Tjuṯa National Park – a turning point for tourism

***Tjukurpa munu manta kuṉpungku kanyintjaku* | Keeping culture and country strong together**
Theme of the 25th anniversary of handback celebrations in October 2010.

Watching the sun come up over Uluṟu on the morning of the handback celebrations gave its board members, past and present, a chance to reflect on the history and future directions of the park.

The handback celebrations provided Aṉangu with the opportunity to come together with local businesses and visitors to celebrate this momentous occasion.

Board chair Harry Wilson said the festival offered an opportunity for Aṉangu to teach visitors about *Tjukurpa* (law) so they could better understand Aṉangu culture and help protect the country and its people. Hundreds of people attended on the day, watching *inma* (traditional song and dance), local artists and craftsmen at work and dancing to contemporary Aboriginal bands from the Northern Territory.

The celebration was one of many steps Aṉangu and park staff took this year to promote Uluṟu-Kata Tjuṯa as a living cultural landscape and support Aṉangu businesses.

Over the years many people have visited and enjoyed Uluṟu and Kata Tjuṯa. Many have also gone away learning only a little about the cultural importance of the park, about *Tjukurpa* and Aṉangu connection to the land.

This year the park is addressing this challenge through its Tourism Directions: Stage 1 strategy, released in September. The strategy provides a renewed focus on building partnerships between Aṉangu, government and industry to develop and maintain tourism opportunities.

Harry said that Aṉangu had many ideas for potential tourism developments and were keen to see tourism outcomes for Aṉangu.

"We've been thinking about developing tourism businesses so that in future our children and our children's children will be working. We need more jobs here. Working with key stakeholders to help get business off the ground is really important," he said.

Aṉangu took advantage of one such opportunity to promote their culture and businesses to an international audience when American superstar Oprah Winfrey announced she would visit the park in December.

Aṉangu elder Judy Trigger presented Oprah with a beautiful, handmade *ininti* (red bean) necklace and guided Oprah on one of the many cultural walks at the park.

"Oprah was excited to learn about our culture through the walks and talks we took her on. She was quick to learn that we don't climb Uluṟu and happy to respect this request from Aṉangu. It is a very important message for all visitors to the park," Judy said.

Oprah described her visit to the rock as 'awesome' and said she planned to return.

"Me being here is a way of paying respects to the Aboriginal people and showing respect for the land and their culture and all that this rock means to them and the continent and to the world," she said.

Oprah spent time with Aṉangu during her visit to Uluṟu–Kata Tjuṯa National Park. Photo: SDP Media

The Tourism Directions strategy is also focused on another major source of employment in the region – Ayers Rock Resort at Yulara.

The Indigenous Land Corporation's $300 million purchase of the resort this year could create historic Indigenous employment training opportunities.

Harry Wilson said the Uluṟu-Kata Tjuṯa Board of Management was keen to develop a memorandum of understanding for how the board would work together with the resort.

"We're looking forward to seeing what ideas and projects can be developed that will complement activities at the park and the resort," Harry said.

"The memorandum of understanding is an opportunity to work with the resort to achieve outcomes that we are all interested in, including promoting Aṉangu culture appropriately to visitors and building opportunities for Aṉangu to be employed in a range of different jobs at the park and the resort."

Inspiration is coming from many directions. Aṉangu members of the board of management and the Uluṟu-Kata Tjuṯa Tourism Consultative Committee went on a road trip to Alice Springs where they experienced first-hand some of the wonderful Indigenous tourism experiences on offer in the Red Centre.

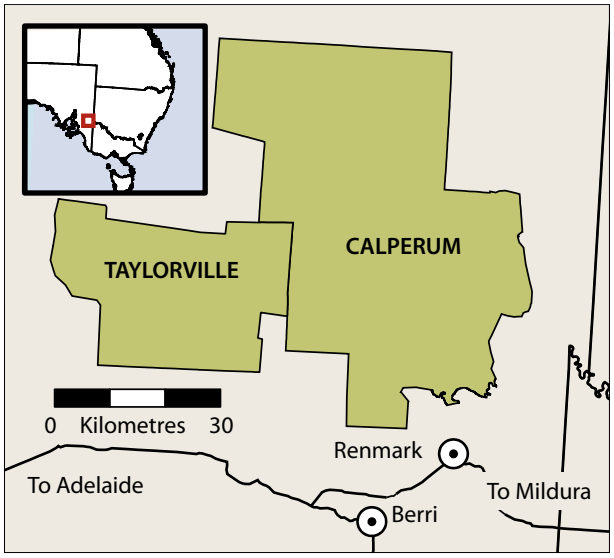
The park's events manager Nick Ambrose said that Aṉangu came away with loads of ideas and were very excited by what they had seen and heard. The group also met the Red Centre National Landscape Steering Committee at the Alice Springs Desert Park and took the opportunity to provide the meeting with feedback from the trip.

A follow up meeting at Muṯitjulu is now being organised to discuss the next steps forward.

Aṉangu elder Judy Trigger presented Oprah with a necklace made from ininti (red bean) when Oprah visited Uluṟu–Kata Tjuṯa National Park. Photo: SDP Media

Calperum and Taylorville Stations

www.environment.gov.au/parks/biosphere/riverland



Special features

Calperum and Taylorville Stations are adjoining pastoral leases in the Riverland area of South Australia approximately 250 kilometres east of Adelaide, near the Victorian border.

Calperum and Taylorville are important locally, nationally and internationally because of their intact mallee vegetation, the presence of several threatened bird species, and their wetlands and related species. The properties form critical habitat for the endangered black-eared miner (*Manorina melanotis*). They are also important for the conservation of the nationally vulnerable malleefowl (*Leipoa ocellata*), the regionally vulnerable bush stone-curlew (*Burhinus grallarius*) and the nationally vulnerable southern bell frog (*Litoria ramiformis*). The floodplain system is internationally recognised as a significant part of the Riverland Ramsar site.

The properties are key components of the Riverland (formerly Bookmark) Biosphere Reserve. While biodiversity conservation guides the management of both properties and both actively rely on community participation in management activities, there are differences in the management objectives of the two properties. Taylorville is managed as an IUCN Category IV reserve, for habitat and species conservation. Calperum is managed for a broader, additional set of objectives, including environmentally sustainable development such as tourism.

Location	Latitude 33°49′ South, Longitude 140°34′ East (Calperum) Latitude 33°56′ South, Longitude 140°11′ East (Taylorville)	
Area	331,238 hectares combined area: Calperum 238,638 hectares; Taylorville 92,600 hectares	
Status	Pastoral leases in South Australia, held by the Australian Government through the Director of National Parks (Calperum acquired in 1993, Taylorville acquired in 2000)	
IUCN category	Calperum: not assigned Taylorville: Category IV	
Biogeographic context	Interim Biogeographic Regionalisation for Australia region: Murray–Darling Depression	
Management plan	Non-statutory management plan covering both properties finalised in February 2005 (expired with previous management contract in 2008 but still in effect until the next plan is finalised)	
Other significant management documents	Management contract with Austland Services Pty Ltd; Biosphere Reserves Seville Strategy and statutory framework	
Financial	Operating *	$0.528 million
	Capital	$0.008 million
	Revenue	$0.102 million
Visitors	Over 2,700 bed-nights in camping grounds, dormitories and other accommodation	

* This funding is provided by the Director of National Parks. Austland Services provides at least matching resources

International conventions and agreements	
Wetlands (Ramsar) Convention	Part of Calperum included in Riverland Ramsar site
Migratory Species (Bonn) Convention	8 of 105 listed Australian species
China–Australia Migratory Birds Agreement	17 of 81 listed species
Japan–Australia Migratory Birds Agreement	15 of 77 listed species
Korea–Australia Migratory Birds Agreement	13 of 59 listed species
Other international agreements	Major component of the Riverland Biosphere Reserve under the UNESCO Man and the Biosphere Programme

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	1 endangered 6 vulnerable 13 migratory 46 marine (birds)
	Recovery plans	2 being implemented: malleefowl (*Leipoa ocellata*); black-eared miner (*Manorina melanotis*)
Listed flora	Species	None
Heritage	On Commonwealth Heritage List	
Other	Taylorville and most of Calperum listed as critical habitat for black-eared miner	

Numbers of native species recorded					
Mammals	**Birds**	**Reptiles**	**Amphibians**	**Fish**	**Plants**
26	189	70	10	12	Over 350

Management arrangements

Calperum and Taylorville Stations are managed by Austland Services Pty Ltd (a company established by the Australian Landscape Trust) under contract to the Director of National Parks. The current management contract runs from 3 July 2008 to 30 June 2013. Austland Services provides additional support for management activities and community-based programs.

Monitoring

Significant monitoring programs track the physical and biological attributes of both properties. Ongoing, routine monitoring program included surveys of small vertebrates (mammals and reptiles), malleefowl and black-eared miner populations, floodplain grazing pressure, floodplain tree health, groundwater salinity, surface water quality, rainfall and atmospheric gas and energy flows (the last as part of the Ozflux network, a national ecosystem research network set up to provide the Australian and global ecosystem modelling communities with nationally consistent observations of energy, carbon and water exchange between the atmosphere and key Australian ecosystems). Special purpose monitoring activities conducted during the year included intensive rabbit monitoring in restoration areas, additional black-eared miner surveys to locate new colonies and vegetation surveys.

Rainfall on both properties was well above the long-term average in 2010–11, with some exceptional monthly totals (frequently in excess of 100 mm) being recorded in the period from August 2010 though to March 2011. These high rainfalls have led to strong ecological responses from plant and animal communities across the properties. Significant recruitment of vegetation was readily apparent at long-term monitoring sites, while informal observations have indicated that widespread increases in associated faunal populations also occurred. Among the fauna populations, these increases have been most obvious among insect and bird populations. Populations of species of migratory woodswallows were substantially higher across the properties compared to past years, with estimates of a total population in excess of 100,000 birds. Notable observations during the 2010 spring/summer small vertebrate surveys included high reptile species diversity, enhanced numbers of small mammals in mallee sites and new records for three reptiles and one mammal.

Generally high rainfall within the Murray Darling Basin also generated sustained high water levels in the waterways and wetlands of Calperum, with extensive overbank flows inundating areas that had not been watered since the early 1990s. This in turn produced high levels of breeding activity of birds in Lake Merreti and Lake Woolpolool—key lakes of the Riverland Ramsar site. For example, breeding rookeries of darters, cormorants and ibis of several species formed on the lakes for the first time since 1995 and produced at least three broods.

Floodplain inundation has rejuvenated substantial areas of floodplain vegetation, increasing the vigour of existing river red gum (*Eucalyptus camaldulensis*), black box (*Eucalyptus largiflorens*) and lignum (*Muehlenbeckia florulenta*) stands and supporting recruitment of new vegetation. For example, preliminary surveys have detected health improvements in approximately 60 per cent of the trees around Lake Woolpolool compared to pre-inundation condition. The high flows have also recharged fresh groundwater reserves within the floodplain and these reserves can be expected to support continued recovery of floodplain vegetation for some time after river flows return to more typical levels.

Future challenges

Major challenges are:

- supporting and promoting the development of sustainable economic activities based on the region's natural resources, particularly ecotourism
- optimising the management regime for Calperum's wetlands to make most effective and efficient use of available water resources
- protecting the critical threatened species habitat provided by mature mallee on Taylorville and Calperum from fire and other potential threats
- developing cross-tenure approaches to managing the broader landscape for shared goals
- landscape-scale restoration of ecological communities and functions
- understanding and managing the effects of salinity on the Calperum floodplain
- understanding and managing the potential impacts of climate change.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Rehabilitating and conserving native vegetation and endemic fauna
- Controlling feral animals and weeds
- Conserving fauna
- Managing wetland watering regimes
- Managing fire, salinity and climate change impacts

Actions

- Continue feral animal control programs
- Monitor native animal populations and vegetation condition
- Implement fire management strategies
- Support recovery programs for threatened birds
- Actively restore and revegetate wetlands and semi-arid woodlands
- Rationalise watering points
- Encourage and support research into key issues

Performance results 2010–11

- Continued regular feral animal control programs, including laying over 3,000 fox baits and 50 km of rabbit control bait trail and ripping over 400 rabbit warrens. Feral goat and feral pig control programs were intensified to respond to favourable climatic conditions
- Collaborated (through on-ground implementation and management support) in regional pig and goat control programs being managed by the SA Murray–Darling Basin Natural Resources Management Board and the SA Department of Environment and Natural Resources
- Supported regional efforts to control locust outbreaks within the region, through temporary placement of trainees with state government control teams
- Continued and enhanced a diverse program of biological monitoring including broadscale small vertebrate surveys, threatened species monitoring, floodplain tree health surveys, vegetation photopoint surveys, and aquatic and terrestrial wetland/floodplain species assessments
- Conducted additional wetland monitoring activities to assess impacts of floodplain inundation
- Continued to develop data collection and management techniques, particularly the use of Calperum's geographic information system to manage and track research and landscape management programs
- Supported four postgraduate research projects on mallee woodland carbon cycles, freshwater ecology, bird population genetics and salt-tolerant floodplain trees
- Supported ongoing management of atmospheric gas flux monitoring tower on Calperum and collaborated in efforts to develop associated ecological monitoring programs to establish a virtual transect from the mallee woodlands to the floodplain
- Continued to implement the Bookmark Mallee Fire Management Plan, including grading of 255 km of fire control tracks
- Hosted training exercises by local Country Fire Service units
- Actively supported threatened species recovery programs for the black-eared miner and malleefowl through biological surveys, predator control and fire management
- Continued to manage survey data on behalf of the black-eared miner recovery team
- Initiated a new project to update black-eared miner population data and mitigate threats from fire and habitat 'invasion' by a related species
- Continued to maintain a series of enclosures to serve as reference points for vegetation restoration projects
- Collaborated with the SA Department of Environment and Natural Resources in the development of a bird monitoring program for areas of neighbouring Chowilla Station
- Continued major restoration projects to restore the vegetation of floodplain and adjacent semi-arid woodland on Calperum
- Completed a paper outlining ecological factors and practical management issues to provide a rigorous guide to planning and implementation of restoration projects in Calperum's semi-arid woodland environments; a similar paper focussed on floodplain communities was also commissioned
- Continued monitoring floodplain groundwater through a network of over 70 groundwater test wells
- Partnered in the finalisation of the Riverland Ramsar Site Management Plan 2010–15
- Supported a range of activities associated with the notification of a change in ecological character under Article 3.2 of the Ramsar Convention
- Actively participated in the drafting of the Lock 1 to SA Border Water Delivery Plan as part of the Australian Government's Lower Murray Environmental Water Use Options project
- Secured funding from the Foundation for National Parks and Wildlife and the SA Department of Environment and Natural Resources for two additional dam/water point decommissioning projects
- Secured environmental water allocations for filling Lake Merreti and Lake Woolpolool, and conducted enhanced monitoring to document the impact of the lakes' filling
- Secured funding from the SA Murray–Darling Basin Natural Resources Management Board for enhancement of control structures on Lake Woolpolool, including the installation of fish gates to aid in the management of pest fish species

KRA2: Cultural heritage management

Major issue

- Protecting and conserving Indigenous and non-Indigenous heritage

Action

- Protect, conserve and encourage awareness and recognition of heritage

Performance results 2010–11

- Continued to monitor, protect and revegetate identified Indigenous and non-Indigenous heritage sites
- Continued to protect and maintain iconic structures that recall the early pastoral industry, including the Yubalia Outstation ruins, Coopers Camp fishers' hut and various items of pastoral-era infrastructure
- A second group of full-time trainees under the Aboriginal Learning on Country: Calperum project graduated. This major project develops natural resource and cultural heritage management skills in the region's Aboriginal population and is run in collaboration with state, Australian Government and private partners. In 2010 the program was expanded, with a new intake of five trainees and a team leader
- Continued to host the Working on Country: Riverland Aboriginal Rangers project in collaboration with the SA Murray–Darling Basin Natural Resources Management Board, with funding from the Australian Government's Working on Country program. The project employs five full-time trainees and a team leader, working on natural and cultural heritage management at several sites across the Riverland region
- Hosted and encouraged visits by regional Aboriginal elders to promote engagement in cultural heritage management
- Conducted study tour to Mungo National Park, with emphasis on joint management, and cultural tourism issues
- Hosted 3-day workshop on 'Discovering the Cultural History of the Riverland', including training on recording and registering significant sites
- Conducted occasional guided tours through more remote areas of Calperum, including cultural heritage sites, for members of the general public
- Supported SA Aboriginal Heritage Branch officers in on-ground works to preserve a regional heritage site
- Sent delegates to the National Indigenous Land and Sea Management Conference

KRA4: Use and appreciation of protected areas

Major issues

- Providing quality visitor services that are compatible with conservation objectives, visitor safety and management requirements
- Communicating the values of Calperum and Taylorville
- Conducting relevant research to support management objectives
- Conducting commercial activities that achieve ecologically sustainable use of natural resources, provide financial benefits that support the protection and/or rehabilitation of natural and cultural assets, and serve as models for the region

Actions

- Manage and monitor day-to-day recreational use
- Develop, maintain and promote education programs for a range of audiences, using the resources at Calperum and Taylorville and the McCormick Centre for the Environment in Renmark
- Continue current research programs, develop further research programs as needed and manage research data
- Develop suitable ecologically sustainable activities
- Review how efficiently available water resources are used

Performance results 2010–11

- Continued to redevelop and enhance volunteer and visitor accommodation.
- Provided more than 2,700 bed-nights of accommodation to volunteers, students and visitors to Calperum
- Continued to upgrade interpretive signs and materials
- Continued occasional 'tag-along' tours to provide the public with safe access to the remote mallee woodland areas of Calperum
- Continued to support the development of sustainable ecotourism in the region through the Riverland Ecotourism Association and Riverland Tourism Association
- Participated in the development of a new Regional Tourism Growth Plan by the SA Tourism Commission
- Conducted education programs for students from pre-primary through to tertiary level, using Calperum and the McCormick Centre for the Environment as key activity sites
- Continued field trips for students in Year 8 and Year 9 Renmark High School Science and Society and Environment courses
- Supported professional development days for teachers of environment-related subjects
- Continued to provide a Vocational Education and Training program for senior secondary students studying for Certificate 1 and 2 units in Conservation and Land Management
- Hosted three groups of North American tertiary students under the International Student Volunteers program
- Hosted numerous field trips and camps for TAFE SA, university and non-government groups studying biology, ecology and environmental management
- Hosted and/or supported activities for community environmental management and education programs and organisations, including Waterwatch, Frogwatch, Community Stream Sampling, the River Murray Youth Council, Rotary's Preserve Planet Earth project, Riverland Youth Theatre and GrowSmart Careers in Science
- Supported the delivery of a regional youth diversion program (Calperum on the Land) in conjunction with SA education and legal/law-enforcement agencies, and provided nature-based training activities for participants in the program

KRA5: Stakeholders and partnerships

Major issues

- Promoting the UNESCO Man and the Biosphere Programme
- Involving the community in land management
- Supporting and recognising volunteers
- Fostering long-term capacity for sustainable development in the community

Actions

- Promote and disseminate information that assists in achieving the goals of the Man and the Biosphere Programme
- Promote, support and oversee extensive volunteer involvement
- Develop a system for consistently recording volunteer hours
- Participate in the Riverland Biosphere Community Committee

Performance results 2010–11

- Continued to promote Calperum and the McCormick Centre as places available for research and monitoring, education, skill-sharing and public recreation. Encouraged volunteers to foster these objectives at all suitable opportunities
- Continued to provide various forms of support and to encourage existing and potential volunteers, and maintained a database to record and analyse volunteer contributions to management of the properties
- Two long-standing volunteers each passed the 3,000 hours mark for accumulated activity
- Continued to use the McCormick Centre to disseminate information on the Man and the Biosphere Programme
- Initiated a series on monthly public lectures on natural resource management topics at the McCormick Centre
- Continued the Paddock Adoption Scheme, under which teams of community members take direct responsibility for the day-to-day management of particular sections of Calperum and Taylorville
- Continued to engage with Adelaide-based Rotary clubs to promote Calperum and Taylorville as a focus for activity under Rotary's Preserve Planet Earth program

KRA6: Business management

Major issues

- Property maintenance
- Business management
- Environmentally sustainable management

Actions

- Maintain infrastructure
- Manage the two properties professionally and accountably

Performance results 2010–11

- Upgraded infrastructure to support expanded in-house production of seed and tube-stock for use in revegetation projects
- Upgraded equipment storage facilities
- Maintained existing equipment, buildings, fencing, tracks and other infrastructure
- Constructed new, multi-bay vehicle parking shelter
- Continued enhancement of mallee evacuation points and forward fire-fighting bases
- Continued to maintain and develop visitor accommodation and related infrastructure
- Further upgraded computing and communications infrastructure
- Maintained a recycling program

A guided beach walk in Pulu Keeling National Park—one of Australia's smallest and most remote national parks, a tiny speck in the vast Indian Ocean about 2,000 north-west of Perth. Photo: Parks Australia