

# D'Aguilar National Park, D'Aguilar National Park (Recovery) and Byron Creek Conservation Park Management Statement 2013

Park size:	
D'Aguilar National Park	36,422ha
D'Aguilar National Park (Recovery)	1,981ha
Byron Creek Conservation Park	72ha
<b>Total</b>	<b>38,475ha</b>
Bioregion:	South Eastern Queensland
QPWS region:	South East
Local government estate/area:	Brisbane City Council Moreton Bay Regional Council Somerset Regional Council
State electorates:	Ashgrove, Pine Rivers, Glasshouse, Moggill, Nanango, Ferny Grove

Within this document D'Aguilar National Park, D'Aguilar National Park (Recovery) and Byron Creek Conservation Park are referred to as D'Aguilar National Park.

## Legislative framework

✓	<i>Aboriginal Cultural Heritage Act 2003</i>
✓	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
✓	<i>Fire and Rescue Service Act 1990</i>
✓	<i>Forestry Act 1959</i>
✓	<i>Native Title Act 1993 (Cwlth)</i>
✓	<i>Nature Conservation Act 1992</i>

## Plans and agreements

✓	Bonn Convention
✓	China–Australia Migratory Bird Agreement
✓	Japan–Australia Migratory Bird Agreement
✓	Jinbara people and the State Indigenous Land Use Agreement Q12012/129
✓	Republic of Korea–Australia Migratory Bird Agreement
✓	South East Queensland Horse Riding Trail Network Management Plan 2011

## Thematic strategies

✓	Level 2 fire strategy
✓	Level 2 pest strategy

## Vision

D'Aguilar National Park will be managed to protect its high natural and scenic values and will be recognised for its rugged landscapes, its high diversity of ecosystems and native species, and for a broad range of recreational and tourism opportunities in a variety of largely natural settings. Being so close to Brisbane, it is the gateway to Queensland's national parks.



Scenic view from D'Aguilar National Park. Photo: NPRSR.

## Conservation purpose

D'Aguilar National Park is valued for its large size, altitudinal and ecological variation and high biodiversity. It conserves open forests, rainforests, woodlands and associated aquatic ecosystems. It is one of the largest national parks in South East Queensland and closest to Brisbane. It provides secure habitat for large numbers of common species and species of conservation significance.

The current national park was formed by the amalgamation of a number of protected areas over a period of decades. The first part of what is now D'Aguilar National Park was gazetted in 1930 as Mount D'Aguilar National Park, with an area of 261ha. In 1940 the park was expanded to 1140ha and renamed Maijala National Park. Jollys Lookout National Park covering 11ha, Boombana National Park covering 37ha and Manorina National Park covering 140ha were gazetted in 1938, 1948 and 1948 respectively.

Byron Creek Conservation Park covering 72ha, Kipper Creek Conservation Park covering 290ha and Cabbage Tree Range Conservation Park covering 430ha were gazetted in 1982, 1983 and 1987 respectively. These parcels of land were donated to the State of Queensland by the late Harold Edward Corbould.

Kipper Creek and Cabbage Tree Range conservation parks were subsequently amalgamated with the four national parks above in 1994 as D'Aguilar National Park. Byron Creek Conservation Park is contiguous with D'Aguilar National Park at Mount Mee and is managed as part of the same landscape.

The tenure of Enoggera, Mount Glorious, D'Aguilar and Mount Mee State forests was reviewed during the South East Queensland Forests Agreement process. Most of the State forest area was converted to forest reserve tenure in 2001 and later, largely gazetted as D'Aguilar National Park in 2009. Part of Mount Mee Forest Reserve was gazetted as D'Aguilar National Park (Recovery) to allow foliage harvesting. Small areas of forest reserve tenure covering 164ha remain as part of the South East Queensland Horse Trail network.

The purpose of D'Aguilar National Park is the conservation of the full diversity of its native species and ecosystems and the protection of its natural landscapes. The focus of natural resource management is to maintain and/or restore the ecological integrity of all ecosystems across the landscape.

## Protecting and presenting the park's values

### Landscape

D'Aguilar National Park is in the South East Hills and Ranges Province of the South Eastern Queensland biogeographic region. The park is mostly hilly with steep slopes and fast flowing streams, and includes mounts Glorious, Nebo, D'Aguilar, Byron and Archer. It provides a prominent backdrop to Brisbane City and the Somerset and Moreton Bay regions.

The geology of the D'Aguilar Range consists of meta-sediments that were deformed and uplifted, with outcrops of volcanic rocks and granitic intrusions. The different rock types have a major influence on vegetation and together form the basis of the regional ecosystems in the national park.

D'Aguilar National Park contains the headwaters of the Pine River and many smaller streams which feed into the Stanley and Brisbane rivers. The park is Brisbane's largest, naturally vegetated water catchment. Runoff from the park flows into Somerset Dam, Wivenhoe Dam, Lake Manchester, Gold Creek Reservoir, Enoggera Reservoir and Lake Samsonvale.

Substantial areas of natural forest adjoin the national park at Lake Manchester and the Gold Creek and Enoggera reservoirs. The Somerset–Wivenhoe Nature Refuge is also close to the park at Northbrook. Several other nature refuges are adjacent to or in close proximity to the park. These areas provide linkages across the broader landscape and enhance the conservation values of the park. D'Aguilar National Park is the foundation for the 'Mountains to Mangroves' corridor concept, which aims to provide a vegetated link between the mangroves of Moreton Bay and the forests of the D'Aguilar Range.

D'Aguilar National Park is the closest large national park to Brisbane and adjoins rural residential and urban areas at Brookfield, The Gap, Ferny Grove, Samford, Mount Nebo and Mount Glorious. Much of the rest of the park is surrounded by country used for cattle grazing. This close proximity to both urban and rural land uses creates a number of challenges, especially in relation to the management of park visitors, fire and pests.

Trends in human population growth in South East Queensland suggest that the number of neighbours and visitors to the park will continue to increase in the future. Future urban expansion close to the park will require more intensive management of neighbour relations, visitors, fire and pests. Increased urbanisation and semi ruralisation of neighbouring land will increase the demands and pressures on QPWS resources across the D'Aguilar Range.

## Regional ecosystems

D'Aguilar National Park is ecologically diverse with 35 regional ecosystems, including two that are endangered and nine that are of concern (Table 1). Included within this diversity are rainforests, open forests, tall open forests and woodlands. Ecotones between forest types are also important habitats for many native animals because of the high diversity of structural elements and plant species occurring in relatively small area. Ecotones are also important for some plant species such as stringybark pine *Callitris macleayana* and the endangered *Corchorus cunninghamiana*.

## Native plants and animals

D'Aguilar National Park has high biodiversity conservation value with 469 species of vertebrate fauna, including 17 species of freshwater fish, and 1150 species of vascular flora recorded.

The park provides protected habitat for 34 species of threatened fauna and 36 species of threatened flora which are listed in Table 2. The area is particularly important for the conservation of the endangered red goshawk *Erythrotriorchis radiatus* and giant barred frog *Mixophyes iteratus*, plus the vulnerable glossy black-cockatoo *Calyptorhynchus lathami*, plumed frogmouth *Podargus ocellatus plumiferus*, brush-tailed rock-wallaby *Petrogale penicillata* and long-nosed potoroo *Potorous tridactylus tridactylus*. The area protects habitat for five endangered plant species including *Corchorus cunninghamii* and *Plectranthus nitidus*, three species of vulnerable *Macadamia*, several threatened orchids and the near threatened hairy hazelwood *Symplocos harroldii*.

The vulnerable spotted-tailed quoll *Dasyurus maculatus maculatus* has recently been reported from the Northbrook area. This species is in decline throughout South East Queensland and was once more commonly seen on the D'Aguilar Range. A survey to confirm its presence in the park is planned.

The near threatened common death adder *Acanthophis antarcticus* has declined dramatically throughout South East Queensland but still occurs in small numbers within the park. Stephens' banded snake *Hoplocephalus stephensii*, the bandy bandy *Vermicella annulata* and the coastal tiapan *Oxyuranus scutellatus* are other reptiles of interest that occur in the park.

D'Aguilar National Park once supported a major population of the southern dayfrog *Taudactylus diurnis*. This species is listed as endangered, but has not been seen since 1979 despite intensive searches. It likely succumbed to the chytrid fungus and may well be extinct.

The park provides protected habitat for 24 least concern species that are listed as priority taxa in the South East Queensland Biodiversity Planning Assessment (Table 4). Included are the barking owl *Ninox connivens*, platypus *Ornithorhynchus anatinus*, greater glider *Petauroides volans*, yellow bellied glider *Petaurus australis australis* and the moist forest herb *Brunoniella spiciflora*.

Many species of invertebrate animals such as the Mount Glorious spiny crayfish *Euastacus setosus* are not listed under the *Nature Conservation Act 1992* but are of high conservation significance. This species is confined to high rainfall areas above 500m altitude at Mount Glorious.

The park supports at least 46 species of butterfly including the vulnerable Richmond birdwing *Ornithoptera richmondia* plus six skippers including the regent skipper *Euschemon rafflesia rafflesia* which is in decline and restricted to rainforest where its larval food plant, *Wilkiea* spp. grows. D'Aguilar National Park has a high diversity of land snails and is a key locality for several species including Australia's largest land snail, the giant panda snail *Hedleyella falconeri*.

Coachwood *Ceratopetalum apetalum* occurs at Mount Mee in two disjunct populations. This species is more commonly found in warm temperate rainforest at Springbrook and Lamington national parks. Shatterwood *Backhousia sciadophora* is another species that occurs as a disjunct population at Mount Mee, growing in association with the near threatened giant ironwood *Choricarpia subargentea*.

Two other plant species for which D'Aguilar National Park is important are the shining burrawang *Lepidozamia peroffskyana* and the stringybark pine *Callitris macleayana*. Both species require careful fire management to ensure survival.

D'Aguilar National Park supports a high diversity of bird species including migratory species such as cuckoos and monarchs. Some of these species are listed under international agreements and are listed in Table 3. Nomadic species such as the topknot pigeon *Lopholaimus antarcticus* and species that shift elevation seasonally such as the noisy pitta *Pitta versicolor* and grey fantail *Rhipidura albiscapa* rely on the park for essential habitat.

Species with already restricted distributions within the park, such as coachwood, New England blackbutt *Eucalyptus andrewsii* and *Eucalyptus montivaga* may be particularly susceptible to the effects of climatic variations. Species that depend on moist leaf litter for breeding such as the pouched frog *Assa darlingtoni* and species that depend on aquatic ecosystems such as the Mount Glorious spiny crayfish are threatened by prolonged drought and warming.

## Aboriginal culture

The coastal hills and ranges and associated valleys and streams which make up D'Aguilar National Park are valued by Aboriginal people as part of their cultural landscape. Many of the native plants and animals found in the park are significant to Aboriginal people for food and other material needs. Place names such as Enoggera and Boombana suggest Aboriginal origins.

The Jinibara people are the Traditional Owners for much of this park. A native title determination was made in November 2012 for federal court number QUD 6128/98 which covers the majority of D'Aguilar National Park. An Indigenous Land Use Agreement Q12012/129 has been registered. Sites of significance are also known from the Kipper Creek area, outside but near to the national park.

## Shared-history culture

The D'Aguilar Range was named in 1825 by Major Edmund Lockyer, an early surveyor, after Sir George Charles D'Aguilar a British Army officer. Early settlers initially used the area primarily for timber harvesting and selective logging practices. As a result of this activity, an extensive network of roads was constructed throughout the area. Small areas were also cleared for dairying, mixed farming and banana plantations. The first areas of national park were set aside to protect their scenic appeal.

Gold mining occurred along Cedar and Enoggera creeks. The gold mine workings are well recorded and presented at Bellbird Grove within the park.

Reminders of past timber harvesting include the Enoggera fire tower, a springboard tree, Hancock's timber mill gantry at Mount Mee, bullock wagons, timber chutes and other remnants throughout the range. The changing ways in which people value natural resources and how they interact with them are important features of the history of D'Aguilar National Park. A number of historic European sites remain in the park associated with the past forestry activity in the form of accommodation barracks such as Mount Glorious 309 and 809.

A Piper Comanche aeroplane wreck in the park is a well-known historic site and popular bushwalking destination.

## Tourism and visitor opportunities

D'Aguilar National Park is the largest national park in close proximity to Brisbane. It attracts large numbers of visitors from Brisbane and surrounding areas. The park presents a wide variety of nature-based opportunities and settings for visitors to enjoy. It provides eight scenic lookouts, nine day-use areas, two campgrounds, eight bush camping sites, 12 short walking tracks of less than two hours duration and five longer walk tracks which take between two and four hours to complete. Visitor activities include picnicking, scenic touring, bushwalking and camping, both in formed campgrounds and at bush camping sites.

Many other opportunities exist on the numerous fire trails for walking, mountain bike riding, four-wheel driving, motor bike riding, horse riding and for off-track remote area bushwalking. In recent years, more active styles of recreation involving new technologies and adventure recreation have emerged, in addition to the more traditional pursuits of picnicking and bushwalking. There is also ongoing demand for wilderness experiences in remote natural settings. Information on the range of recreation opportunities and settings is provided through brochures and the QPWS website.

Scenic driving and motorbike riding on sealed roads that pass through the park are also popular pursuits with many people who appreciate the forest backdrop and scenic vistas that the park provides. Peak visitor use is on weekends, public holidays and school holidays. Most visitors to the park are nearby residents, independent travellers from elsewhere in Australia and overseas. Small numbers of commercial tourism operators have permits to use the park. Further capacity exists.

Being close to Brisbane, D'Aguilar National Park is a popular venue for major events, including the Oxfam Trailwalker, the Kokoda Challenge and other orienteering, trail running and endurance horse riding events. The Oxfam Trail walker covers 100km of park trails and attracts over a thousand participants. These events have the ability to attract new park visitors for return recreational visits and to promote the park for further major events.

The park plays an important role in providing for recreation demand particularly from urban populations. It is frequently subject to demands to cater for emerging recreation trends which require innovative management solutions and may necessitate the development of policy direction. As a result, the need for a visitor management strategy for the park has been identified.

The proximity of D'Aguilar National Park to a large conurbation increases the potential for illegal activities to occur in the protected area. Maintaining compliance patrols in key areas will continue to require a high priority.

## Education and science

D'Aguilar National Park has a long history as a location for scientific research on a wide range of biological and ecological topics. Students and scientists from Australian and international universities, museums and herbaria regularly use the park for their research programs. The information generated by this work is not necessarily relevant to park management and is not routinely made available to park managers. Systems need to be developed to ensure research results are made available, where applicable, and to encourage research on topics that are relevant to park management.

D'Aguilar National Park is also used by local schools and universities for education programs on subjects including biology and geology. It is also popular for Duke of Edinburgh's Award activities, Scout and Guide programs.

## Partnerships

Park managers frequently liaise with several state and local government agencies, including the Queensland Police Service, Queensland Ambulance Service and Queensland Fire and Rescue Service, on search and rescue and fire management. A strong partnership with the police is essential for effective compliance of park regulations. Regular communication with these organisations is a priority activity.

Partnerships with HQPlantations, Powerlink, local governments, rural fire brigades and park neighbours support fire management and natural resource management on the national park and adjacent areas. The development and maintenance of good relationships with all partners is essential.

Volunteer groups including the Mount Glorious and Mount Nebo Environmental Protection Association, National Parks Association of Queensland, mountain biking groups, Four Wheel Drive Queensland and Brisbane Bushwalkers Club conduct regular group activities that assist with weed control, forest restoration and track maintenance activities. Public contact volunteers assist park rangers to provide information on park values and orientation to park visitors. These volunteer groups greatly assist park management and provide community members with the opportunity to become engaged with nature.

QPWS and Seqwater work cooperatively on fire, pest and recreation management in and adjacent to the catchment reserves at Lake Manchester, Gold Creek and Enoggera reservoirs.

A partnership with the Murrijabree Aboriginal Corporation was formed to assist with park management and to provide participants with valuable work experience. While this program is currently not occurring on park, activity may recommence in future, subject to the corporation securing further funding.

Partnerships with the Queensland Outdoor Recreation Federation and Tourism and Events Queensland are important for coordinating major events and planning for sustainable recreation and tourism.

## Other key issues and responses

### Pest management

Exotic legumes including silver-leaf desmodium *Desmodium uncinatum*, glycine *Neonotonia wightii*, siratro *Macropitium atropurpureum* and Archer axillaris *Macrotyloma axillare* are becoming prolific in some areas of the park that were once used for cattle grazing. These pest plants smother native ground covers and shrubs, spread quickly and are prolific seed producers. They represent a major threat to the natural integrity of the park.

Other exotic vines including Madeira vine *Andredera cordifolia*, cats claw *Macfadyena unguis-cati*, white moth vine *Araujia hortorum*, balloon vine *Cardiospermum grandiflorum* and Dutchmans pipe *Aristolochia elegans* are especially invasive in moist areas including riparian areas and rainforests where planned burning cannot be used as a control method. Invasive vines pose a significant threat from smothering to a range of regional ecosystems in the D'Aguilar protected areas including to remnant notophyll rainforest on alluvium (regional ecosystem 12.3.1 – listed as endangered) and moist sclerophyll (regional ecosystem 12.11.3). Invasive vines smother native vegetation and prevent the natural regeneration of native flora species. They also threaten the native fauna by causing structural damage in the short term and by destroying their habitats in the long term. Invasive vines are also implicated in bell miner associated dieback by altering the structure of the forest mid-stratum.

Other pest plants include the exotic grasses, Guinea grass *Megathyrsis maximus var maximus*, palm grass *Setaria palmifolia*, signal grass *Urochloa decumbens*, thatch grass *Hyparrhenia rufa* and vasey grass *Paspalum urvillii*. Many exotic grasses found on the park were introduced to Australia for cattle grazing. They compete with native grasses and herbs and are capable of producing very high fuel loads, leading to higher intensity fires that can damage native vegetation and kill wildlife. The exotic grass broadleaf paspalum *Paspalum mandiocanum* has been reported in the park. This is a recognised environmental weed and is spreading rapidly throughout South East Queensland. Early detection, control and good vehicle hygiene are needed to prevent it from becoming established

in the park.

Feral pigs *Sus scrofa*, red deer *Cervus elaphus* and fallow deer *Dama dama* are present at low densities in parts of the park. These pest animals damage understorey and mid-stratum vegetation, interfere with natural regeneration and disturb soil, causing erosion and weed encroachment. Feral cattle and stray cattle from neighbouring properties are also present. There is an ongoing need for boundary fencing in several sections of the park.

Wild dogs *Canis familiaris* and dingoes *Canis lupus dingo* on the edge of the Mount Mee section of the park are controlled in cooperation with neighbouring landholders, Biosecurity Queensland and local governments, several times per year. Dingoes that are located inside the national park are protected and provide a level of control against red foxes *Vulpes vulpes*, feral cats *Felis catus* and other feral animals. They are valued for the ecological role that they play. Passive Activity Index monitoring (Allen Index) is conducted to assess the presence and abundance of dingoes, wild dogs and other feral animals.

A Level 2 pest management strategy has been developed for the park and is being progressively implemented. The Operational Policy – Pest plant and pathogen spread prevention, is also being implemented to reduce the risk of introducing and spreading pest plants.

## Fire management

Implementing a program of regular planned burning and cooperation with neighbours has reduced the incidence of wildfires in the park. Fire is critical for the health of open forest and heath communities and is also used to control weeds such as lantana *Lantana camara* and crofton weed *Ageratina adenophora* across the broad landscape of the park. Planned burning of open forests also helps to protect fire sensitive ecosystems such as rainforests and riparian areas by reducing the occurrence and intensity of wildfires.

The climate of South East Queensland is expected to become hotter and drier, with more extreme events such as storms. The risk of wildfire is likely to increase, in the absence of appropriate fire management (Dudley et al 2011). Implementing prescribed burning during summer and autumn aims to reduce the risk of catastrophic wildfire and reduce carbon emissions.

Fire management also has a role in reducing the incidence of bell miner associated dieback through reducing the density of mid-stratum shrubs and weeds that provide cover for the bell miners *Manorina melanophrys*. In the past, policies which led to less prescribed burning resulted in large wildfires which caused structural damage to open forest ecosystems and allowed weeds such as lantana to proliferate.

The fire strategy for the North D'Aguilar management unit was updated in 2010. The fire strategy for the South D'Aguilar management unit needs to be reviewed to incorporate new burning guidelines for the regional ecosystems in that part of the park. The effectiveness of planned burns and the impacts of wildfire need to be assessed to provide for adaptive management. The response to fire of endangered and of concern regional ecosystems and of threatened plants and animals should be included in this assessment.

Aerial ignition is now being used to good effect to provide mosaic burning and improve the coverage of planned burns in rugged and remote parts of the park. Fire access tracks, both on the park and on neighbouring properties need to be regularly maintained to provide for safe access during planned burning and wildfire response.

Rapid wildfire response across the protected area is necessary with urban and peri-urban adjoining land uses and the increase of population densities against the park boundary. Early detection of wildfires and rapid response is critical for the protection of assets owned by QPWS and adjoining landholders.

## Other management issues

There are numerous telecommunication towers and electricity transmission lines in the park. Section 35 agreements with these utilities are currently being reviewed, with the aim of minimising the impact of these structures on the park. There is ongoing demand for additional telecommunication towers and widening of electricity transmission lines.

D'Aguilar National Park is an important area for beekeeping. There are 180 apiary sites on parts of the park that were formerly State forest. Access to these sites needs to be maintained and the sites need to be monitored to ensure that pest plants do not become established and spread further into the park.

Foliage harvesting is licenced in D'Aguilar National Park (Recovery). Species currently harvested include umbrella fern *Sticherus flabelatus var flabelatus* and the grass tree *Xanthorrhoea latifolia*. The harvesting of curly wig *Caustis flexuosa* has been discontinued.

Existing aging infrastructure places very high demands on resources and limits the ability of QPWS to maintain proactive management.

## References

Dudly N, Higgins–Zogib L, Hockings M, MacKinnon K, Sandwith T and Stolton S 2011, National parks with benefits: How protecting the planet's biodiversity also provides ecosystem services. *Solutions for a sustainable and desirable future*. Vol 2, issue 6, pp 87–95.

## Management directions

Desired outcomes	Actions and guidelines
<p><b>Landscape</b></p> <p>Landscape integrity is enhanced.</p>	<p>A1. Consider proposals for strategic land acquisition, to expand the area of the park and link-up disjunct sections.</p> <p>A2. Work cooperatively with neighbours, local governments and local communities to improve landscape connectivity and enhance fire and pest management across the broader landscape.</p> <p>A3. Install boundary fencing where needed, to exclude neighbours' cattle from the park.</p> <p>A4. Develop agreements with communication tower users and public utilities to improve fire and pest management.</p> <p>A5. Work with other government agencies to consolidate and coordinate land tenure across existing park boundaries, specifically Lake Manchester, Enoggera and Gold Creek reservoirs as the opportunities arise.</p>
<p><b>Native plants and animals</b></p> <p>Information on biodiversity values is enhanced and applied to management practices.</p>	<p>A6. Build on existing biodiversity information and apply knowledge to adaptive management, with priority given to:</p> <ul style="list-style-type: none"> <li>• mapping ecosystem health to better inform fire and pest management</li> <li>• conducting a survey for the spotted-tailed quoll and the brush-tailed rock-wallaby</li> <li>• mapping sightings of the Richmond birdwing butterfly and the birdwing vine and assessing habitat condition and management requirements</li> <li>• monitoring populations and habitats of key species (e.g. <i>Lepidozamia peroffskyana</i>, <i>Callitris macleayana</i>, <i>Corchorus cunninghamii</i>, <i>Assa darlingtoni</i>, <i>Euastacus setosus</i>) as indicators of ecosystem health</li> <li>• encouraging scientific institutions to conduct research on topics that are relevant to park management.</li> <li>• providing training to park rangers to record native plant and animal observations on departmental databases.</li> </ul>
<p><b>Aboriginal culture</b></p> <p>Aboriginal aspirations are incorporated into park management.</p>	<p>A7. Fulfil the actions identified in the Indigenous Land Use Agreement with native title holders.</p> <p>A8. Work cooperatively with Traditional Owners to recognise and protect Aboriginal cultural heritage values.</p> <p>A9. Consider proposals to work cooperatively with Aboriginal people to provide work experience opportunities on park.</p>
<p><b>Shared-history culture</b></p> <p>Cultural heritage values are protected, presented and restored where feasible.</p>	<p>A10. Investigate options for the preservation and maintenance of the Gantry at Mount Mee.</p>
<p><b>Tourism and visitor opportunities</b></p> <p>Safe, sustainable and culturally appropriate visitor opportunities for outdoor recreation are provided.</p>	<p>A11. Develop a Visitor Management Strategy.</p> <p>A12. Redevelop the Indigenous interpretation trail at Bellbird Grove.</p> <p>A13. Identify, upgrade, maintain and rationalise existing recreational infrastructure to support a contemporary user experience.</p>

Desired outcomes	Actions and guidelines
<p><b>Education</b></p> <p>Park visitors are aware of and supportive of the protection of natural and cultural values and park management actions.</p>	<p>A14. Engage with park visitors through the Connect with Nature program, mobile public contact program, ranger patrols and volunteer programs.</p> <p>A15. Investigate the need for interpretive signage presenting information on the history of the park including forestry and gold mining.</p>
<p><b>Pest management</b></p> <p>The impact of pest plants and animals on conservation values is minimised.</p>	<p>A16. Review and implement the pest management strategy with an emphasis on:</p> <ul style="list-style-type: none"> <li>• a review of existing control programs when new and emerging pest species are recorded and where necessary, reprioritise control activities based on updated threat assessments</li> <li>• reducing the spread of invasive vines and exotic grasses and legumes</li> <li>• coordinating pest plant and fire management</li> <li>• cooperating with neighbours to control problem dogs</li> <li>• assessing the distribution and abundance of feral pigs and deer and reducing the populations and impacts of these species.</li> </ul>
<p><b>Fire management</b></p> <p>Fire management protects life and property, promotes ecosystem health and conserves biodiversity values.</p>	<p>A17. Review and implement the fire management strategy for South D' Aguilar management unit and incorporate the new burning guidelines.</p> <p>A18. Support multi-tenure fire action plans where possible.</p> <p>A19. Explore early fire detection options for the protected area.</p>

## Tables – Conservation values management

**Table 1: Endangered and of concern regional ecosystems**

Regional ecosystem number	Description	Biodiversity status
12.3.1	Gallery rainforest (notophyll vine forest) on alluvial plains	Endangered
12.3.3	<i>Eucalyptus tereticornis</i> woodland to open forest on alluvial plains	Endangered
12.3.2	<i>Eucalyptus grandis</i> tall open forest on alluvial plains	Of concern
12.8.8	<i>Eucalyptus saligna</i> or <i>E. grandis</i> tall open forest on Cainozoic igneous rocks	Of concern
12.8.25	Open forest with <i>Eucalyptus acmenoides</i> or <i>E. helidonica</i> on Cainozoic igneous rocks especially trachyte	Of concern
12.11.9	<i>Eucalyptus tereticornis</i> open forest on metamorphics +/- interbedded volcanics, usually at higher altitudes	Of concern
12.11.14	<i>Eucalyptus crebra</i> , <i>E. tereticornis</i> woodland on metamorphics +/- interbedded volcanics	Of concern
12.12.6	<i>Eucalyptus montivaga</i> tall open forest on Mesozoic to Proterozoic igneous rocks	Of concern
12.12.8	<i>Eucalyptus melanophloia</i> woodland on Mesozoic to Proterozoic igneous rocks	Of concern
12.12.12	<i>Eucalyptus tereticornis</i> , <i>E. crebra</i> or <i>E. siderophloia</i> , <i>Lophostemon suaveolens</i> open forest on granite	Of concern
12.12.14	Shrubby woodland usually of rocky near coastal areas on Mesozoic to Proterozoic igneous rocks	Of concern

**Table 2: Species of conservation significance**

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
<b>Plants</b>				
<i>Acacia baueri</i> subsp. <i>baueri</i>	tiny wattle	Vulnerable	-	-
<i>Acomis acoma</i>	-	Near threatened	-	Low
<i>Bosistoa transversa</i>	three-leaved bosistoa	Common	Vulnerable	-
<i>Cassia marksiana</i>	-	Vulnerable	-	Low
<i>Choricarpia subargentea</i>	giant ironwood	Near threatened	-	Low
<i>Commersonia salviifolia</i>	sage-leaved rulingia	Near threatened	-	-
<i>Corchorus cunninghamii</i>	-	Endangered	Endangered	High
<i>Cyperus semifertilis</i>	-	Vulnerable	Vulnerable	Low

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
<i>Dendrobium schneiderae</i> var. <i>schneiderae</i>	-	Near threatened	-	Low
<i>Eucalyptus curtisii</i>	Plunkett mallee	Near threatened	-	Low
<i>Genoplesium cranei</i>	-	Vulnerable	-	-
<i>Genoplesium sigmoideum</i>	-	Near threatened	-	Data deficient
<i>Gossia inophloia</i>	thready-barked myrtle	Near threatened	-	Low
<i>Haloragis exalata</i> subsp. <i>velutina</i>	-	Vulnerable	Vulnerable	Low
<i>Jasminum jenniae</i>	-	Endangered	-	Low
<i>Lepidium peregrinum</i>	-	Common	Endangered	Low
<i>Leucopogon recurvisepalus</i>	-	Endangered	-	Low
<i>Macadamia integrifolia</i>	macadamia nut	Vulnerable	Vulnerable	Medium
<i>Macadamia ternifolia</i>	bopple nut	Vulnerable	Vulnerable	Low
<i>Macadamia tetraphylla</i>	-	Vulnerable	Vulnerable	Medium
<i>Marsdenia coronata</i>	slender milkvine	Vulnerable	Vulnerable	Low
<i>Marsdenia longiloba</i>	-	Vulnerable	Vulnerable	Low
<i>Melaleuca williamsii</i> subsp. <i>fletcheri</i>	-	Vulnerable	-	-
<i>Nothoalsomitra suberosa</i>	-	Near threatened	-	Low
<i>Papillilabium beckleri</i>	-	Near threatened	-	Low
<i>Pararistolochia praevenosa</i>	-	Near threatened	-	High
<i>Picris evae</i>	-	Vulnerable	Vulnerable	High
<i>Plectranthus leiperi</i>	-	Vulnerable	Vulnerable	Low
<i>Plectranthus nitidus</i>	-	Endangered	Endangered	Low
<i>Pomaderris crassifolia</i>	-	Vulnerable	-	Low
<i>Pterostylis scoliosa</i>	-	Endangered	-	Data deficient
<i>Ricinocarpos speciosus</i>	-	Vulnerable	-	Medium
<i>Senna acclinis</i>	-	Near threatened	-	Low
<i>Sophora fraseri</i>	brush sophora	Vulnerable	Vulnerable	Low
<i>Symplocos harroldii</i>	hairy hazelwood	Near threatened	-	Low

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
<i>Taeniophyllum muelleri</i>	-	Common	Vulnerable	-
<b>Animals</b>				
<i>Acanthophis antarcticus</i>	common death adder	Near threatened	-	Medium
<i>Accipiter novaehollandiae</i>	grey goshawk	Near threatened	-	Low
<i>Adelotus brevis</i>	tusked frog	Vulnerable	-	Medium
<i>Anthochaera phrygia</i>	regent honeyeater	Endangered	Endangered	Medium
<i>Assa darlingtoni</i>	pouched frog	Near threatened	-	Low
<i>Calyptorhynchus lathami</i>	glossy black-cockatoo	Vulnerable	-	High
<i>Climacteris erythroptis</i>	red-browed tree creeper	Near threatened	-	Low
<i>Cyclopsitta diophthalma coxeni</i>	Coxen's fig-parrot	Endangered	Endangered	Critical
<i>Dasyurus maculatus maculatus</i>	spotted-tailed quoll (southern subspecies)	Vulnerable	Endangered	High
<i>Delma torquata</i>	collared delma	Vulnerable	Vulnerable	Medium
<i>Erotoscincus graciloides</i>	-	Near threatened	-	Medium
<i>Erythrotriorchis radiatus</i>	red goshawk	Endangered	Vulnerable	High
<i>Geophaps scripta scripta</i>	squatter pigeon (southern subspecies)	Vulnerable	Vulnerable	Medium
<i>Kerivoula papuensis</i>	golden-tipped bat	Near threatened	-	Medium
<i>Lathamus discolor</i>	swift parrot	Endangered	Endangered	Medium
<i>Lewinia pectoralis</i>	Lewin's rail	Near threatened	-	Low
<i>Litoria brevipalmata</i>	green thighed frog	Near threatened	-	Medium
<i>Litoria pearsoniana</i>	cascade treefrog	Vulnerable	-	Low
<i>Lophoictinia isura</i>	square-tailed kite	Near threatened	-	Low
<i>Melithreptus gularis</i>	black-chinned honeyeater	Near threatened	-	Low
<i>Mixophyes iteratus</i>	giant barred frog	Endangered	Endangered	Medium
<i>Neoceratodus forsteri</i>	Australian lungfish	-	Vulnerable	Critical
<i>Neophema pulchella</i>	turquoise parrot	Near threatened	-	Low
<i>Ninox strenua</i>	powerful owl	Vulnerable	-	Medium
<i>Ornithoptera richmondia</i>	Richmond birdwing	Vulnerable	-	Critical

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
<i>Petrogale penicillata</i>	brush-tailed rock-wallaby	Vulnerable	Vulnerable	High
<i>Phascolarctos cinereus</i> (southeast Queensland bioregion)	koala (southeast Queensland bioregion)	Vulnerable	-	-
<i>Podargus ocellatus plumiferus</i>	plumed frogmouth	Vulnerable	-	Low
<i>Potorous tridactylus tridactylus</i>	long-nosed potoroo	Vulnerable	Vulnerable	Medium
<i>Pteropus poliocephalus</i>	grey-headed flying-fox	Common	Vulnerable	Critical
<i>Saproscincus rosei</i>	-	Near threatened	-	Low
<i>Taudactylus diurnus</i>	southern dayfrog	Endangered	Extinct	Low
<i>Turnix melanogaster</i>	black-breasted button-quail	Vulnerable	Vulnerable	Critical
<i>Tyto tenebricosa tenebricosa</i>	sooty owl	Near threatened	-	Low

**Table 3: Species listed in international agreements**

Scientific name	Common name	Bonn	CAMBA	JAMBA	ROKAMBA
<i>Acrocephalus australis</i>	Australian reed-warbler	✓	-	-	-
<i>Apus pacificus</i>	fork-tailed swift	-	✓	✓	✓
<i>Ardea ibis</i>	cattle egret	-	✓	✓	-
<i>Ardea modesta</i>	eastern great egret	-	✓	✓	-
<i>Coracina tenuirostris</i>	cicadabird	-	-	✓	-
<i>Cuculus optatus</i>	oriental cuckoo	-	✓	✓	✓
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	-	✓	-	-
<i>Hirundapus caudacutus</i>	white-throated needletail	-	✓	✓	✓
<i>Merops ornatus</i>	rainbow bee-eater	-	-	✓	-
<i>Monarcha melanopsis</i>	black-faced monarch	✓	-	-	-
<i>Myiagra cyanoleuca</i>	satin flycatcher	✓	-	-	-
<i>Pandion cristatus</i>	eastern osprey	✓	-	-	-
<i>Plegadis falcinellus</i>	glossy ibis	✓	✓	-	-
<i>Rhipidura rufifrons</i>	rufous fantail	✓	-	-	-
<i>Symposiarchus trivirgatus</i>	spectacled monarch	✓	-	-	-

Bonn: Bonn Convention

CAMBA: China–Australia Migratory Bird Agreement

JAMBA: Japan–Australia Migratory Bird Agreement

ROKAMBA: Republic of Korea–Australia Migratory Bird Agreement