

Mount Archer Area Management Statement 2013

Park size:	Mount Archer National Park 4,350ha Mount Archer State Forest 1,921ha Limestone Creek Conservation Park 19.828ha
Bioregion:	Brigalow Belt Bioregion
QPWS region:	Central
Local government estate/area:	Rockhampton
State electorate:	Keppel



Mount Archer summit looking to the north-east.
Photo: NPRSR.

Legislative framework

✓	<i>Aboriginal Cultural Heritage Act 2003</i>
✓	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
✓	<i>Native Title Act 1993 (Cwlth)</i>
✓	<i>Nature Conservation Act 1992</i>
✓	<i>Queensland Heritage Act 1992</i>

Plans and agreements

✓	Bonn Convention
✓	China–Australia Migratory Bird Agreement
✓	Japan–Australia Migratory Bird Agreement
✓	Republic of Korea–Australia Migratory Bird Agreement

Thematic strategies

✓	Level 1 Fire Management Strategy
✓	Level 2 Pest Management Strategy

Vision

Natural ecosystems and flora and fauna populations within the Mount Archer Area are conserved.

The area is managed to conserve the biological values found within it and to preserve the scenic landscape as a background to the city of Rockhampton.

The area offers visitors outstanding opportunities to experience a largely undeveloped natural setting and a sense of remoteness only five km from a major regional city. The area will provide safe, sustainable, nature based recreation and commercial tourism opportunities.

Establish partnerships with the Traditional Owners, local community, neighbours, research institutes, conservation groups, emergency services and Rockhampton Regional Council that contribute to the area's ongoing management.

Conservation purpose

The objectives of management for the Mount Archer Area are to:

- protect regional ecosystems and species of conservation significance and their habitats
- conserve and protect the management areas natural, cultural and scenic values
- encourage outdoor recreation activities and commercial tourism opportunities that are in keeping with the area's natural values
- minimise the impact of pests and inappropriate fire regimes on the natural environment
- incorporate the interests and rights of the Traditional Owners and their affiliations to the area by cooperatively protecting and managing cultural heritage of significance
- provide direction and actions to protect the natural, cultural and social values of the area through appropriate research and monitoring
- foster cooperative relationships with relevant stakeholders to build stronger partnerships to assist management.

Protecting and presenting the area's values

Landscape

Mount Archer National Park and Mount Archer State Forest are situated approximately less than 5km to the north east of the heart of the city of Rockhampton. Mount Archer itself is the highest point within the Berserker Ranges, at 604m. The area consists of Permian volcanics and sediments with quaternary alluvials along drainage lines (Crouch 1998; Willmott 2006). Exposed intrusive rhyolite outcrops occur at Mount Archer. The soils are predominantly shallow stony, black and brown structured, uniform clays and gradational clay loams (Crouch 1998).

The large area of remnant vegetation within the Berserker Ranges is often referred to as the Berserker Wilderness. The area contains large areas of dry rainforest in excellent condition and is rich in biodiversity. This area not only includes Mount Archer National Park and Mount Archer State Forest but also large areas of uncleared native forest not managed by the Queensland Parks and Wildlife Service (QPWS).

The Mount Archer area is a distinctive large patch of relatively undisturbed forests and woodlands. A small isolated residential suburb is located on the summit of Mount Archer and is surrounded by the national park. Rural and rural-residential holdings are located around most of the perimeter of the area. The north-east and south-east boundaries are rural; the western and south-western boundaries are located close to fast developing urban area. Large woodland and forest areas adjacent to urban population centres provide a desirable setting and vista for residents and the urban community. However, they do present challenges in managing the interface between the urban and bushland areas particularly with multiple and often competing interests such as fire, pest plants and animals.

Limestone Creek Conservation Park lies between Norman Road, Rockhampton–Yeppoon Road and Limestone Creek, with Limestone Creek being the north western boundary. The QPWS office complex is in the south-east corner of Limestone Creek Conservation Park.

Regional ecosystems

There are 11 regional ecosystems in the management area, with four listed as of concern as described in Table 1. Site data identified 10 regional ecosystems, including eight classified as being not of concern and two with an of concern biodiversity status.

Native plants and animals

Open forest and woodland communities cover most of the Mount Archer area. Yellow stringybark *Eucalyptus portuensis* open forest is common in more elevated areas and lemon-scented gum *Corymbia citriodora* open forest dominates many of the steeper areas with southern or eastern aspects. The drier northern and western slopes tend to be dominated by narrow-leaved red ironbark *E. crebra* open forest and woodlands that frequently have an understorey of brush box *Lophostemon confertus*. Many of the sheltered gullies and especially the upper headwaters of Moore's Creek are closed forest communities.

Mount Archer National Park and State forest provide habitat for five significant plant species, listed under both State and Commonwealth legislation (Table 2). Marlborough blue *Cycas ophiolitica* is endemic to central Queensland and found in woodland or open woodland dominated by eucalypts, often on serpentinite substrates (Queensland Herbarium 2007). Two known populations are at Marlborough and around Rockhampton (including the Mount Archer population). Marlborough blue is listed as endangered under both the *Nature Conservation Act 1992* (NCA) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC), and is a critical priority in the Back on Track (BoT) species prioritisation framework. Cycads have an ancient lineage, often referred to as the 'dinosaurs of the plant world' (Queensland Herbarium 2007).

Black ironbox *Eucalyptus raveretiana* is listed as vulnerable under both the NCA and EPBC and is a high priority in the BoT framework (Table 2). It occurs within the alluvial and riparian forests, especially along Moore's and Black creeks. Halifax fan palm *Livistona drudei* is vulnerable under the NCA and is a medium priority in the BoT framework (Table 2). It occurs in and around the edges of vine forests and moist gullies.

There have been 10 animal species of conservation significance recorded in the management area, and a further 12 are identified as potentially occurring or having suitable habitat occurring in the management area (Table 2). The grey snake *Hemiaspis damelii* is classified as endangered under the NCA and is a medium priority in the BoT framework. It requires logs and rocks in riparian woodlands for habitat (Wilson & Knowles 1988). The ghost bat *Macroderma gigas* is listed as vulnerable under the NCA and is a critical priority in the BoT framework. The black-breasted button-quail *Turnix melanogaster* is listed as vulnerable under both the NCA and EPBC and is a critical priority within the BoT framework. It requires areas with a thick litter layer such as eucalypt open forest or dry rainforest (notophyll vine-forest and semi-evergreen vine thicket) with emergent eucalypts (Bennett 1985; Smyth & Young 1996). It is also known to utilise areas of *Lantana* spp. as breeding sites. The glossy black-cockatoo *Calyptorhynchus lathamii* is listed as vulnerable under the NCA. It feeds on *Allocasuarina* spp. and nests in large hollows in the largest trees. If *Allocasuarina* spp. decline or there are insufficient and unsuitable hollows for nesting, the species will be impacted (Pizzey & Knight, 2002).

There are also 13 bird species listed within international agreements that occur or are likely to occur in the management area (Table 3).

Aboriginal culture

The Mount Archer Management Area is in the traditional lands of the Raki-warra clan of the Darumbal tribal group. A registered native title claim (QC97/21) currently applies over the Berserker Ranges.

Limited information is available about sites of cultural or historic significance or any other heritage values in the management area. No cultural heritage survey is known to have been undertaken in the management area or elsewhere in the Berserker Ranges. However, it is reasonable to expect that heritage sites and artefacts occur in the area.

Shared-history culture

The Archer brothers explored the Fitzroy area in 1853 and named the Berserker Ranges and Mount Sleipner. Mount Archer was named in their honour.

History of occupation and land use in the area includes early pioneering settlement through to the development of the communities of Rockhampton, Nerimbera and Mount Chalmers. Over this time the Mount Archer area has remained relatively intact. Several disturbances, including a minor level of gold mining, selective timber harvesting, gravel extraction and temporary occupation by allied military forces during World War II, have had little long-term impact. The current national park was set aside as a water reserve in 1898.

The last grazing lease over Mount Archer National Park expired in 1974 and Mount Archer State Forest expired in 2010; the timber reserve was revoked in 1985. The estate was gazetted as an environmental park in 1987 and then as a national park in 1994. Mount Archer State Forest was gazetted from a timber reserve in 2000.

The only known European cultural resources in the management area are abandoned mineshafts at New Zealand gully, remnants of old fences and yards and the occasional logging stump. The significance of these resources has not been assessed.

Tourism and visitor opportunities

The Rockhampton local government area has a population of approximately 60,000. With the local population growing due to growth in industry around the region, there will potentially be an increase in tourism and nature based recreation. The Mount Archer area is a key draw card for locals and visitors to the region. There is increasing demand to expand outdoor recreation opportunities in this area in conjunction with Rockhampton Regional Council, the community and recreational user groups.

The area provides opportunities for appreciation of the natural, cultural and scenic values and supports recreation opportunities such as bush walking, bird watching, picnicking, climbing and running. There is increasing interest and demand for mountain bike riding in the area and the QPWS is working with the local mountain bike association to develop new opportunities in the area.

Zamia Track adjacent to Moore's Creek is the only walking track on the national park. The track is popular with locals and visitors and is used in regular health regimes for locals and local sporting events, as well as by those with an appreciation of the natural environment. There are other walking tracks on Fraser Park beginning at the summit of Mount Archer managed by Rockhampton Regional Council; details of these are available on the Department of National Parks, Recreation, Sport and Racing website.

Rock-climbing occurs in Mount Archer National Park and is managed in accordance with the QPWS Operational Policy for Cliff-based Activities (rock climbing, abseiling, canyoning) on QPWS-managed areas.

To assist QPWS in managing recreation opportunities into the future a visitor management strategy will be prepared.

Education and science

The management area provides opportunities for scientific research and monitoring. Results from research and monitoring can benefit the area's management and educate staff and the community.

Research has been undertaken in the past in relation to species of significance such as *Cycas ophiolitica*. It is known that this species, along with other cycad species, depend on various insects for pollination, and various insects depend on the cycads to enable completion of their life cycle. Disruption of these relationships may ultimately result in the extinction of the plant and/or the insects (Queensland Herbarium 2007; Bond 1994). Further research potential exists into the relationship between *Cycas ophiolitica* and the beetles.

Group activity permits have been granted to school groups in the past to camp within the national park.

A seismology sensor owned by the Centre for Earthquake Research in Australia (CERA) is within the exists within the QPWS office complex. It provides data to identify and quantify seismic activity.

Partnerships

QPWS is directly responsible for planning, managing and regulating activities in the management area. Working with neighbours, Traditional Owners, organisations, user groups and individuals with similar interests in managing the area is highly desirable to achieve the vision. Efficiencies in resource sharing, improved communications, decision making and enhanced on-ground outcomes; is to be facilitated, where possible, through working partnerships.

Partnerships with neighbours on the eastern boundary of the State forest are strong, particularly in relation to fire management. This boundary was identified as a key protection zone and a voluntary agreement is in place for the management of fire control lines.

A working relationship with the Traditional Owners is essential so that their views and aspirations for the land can be included in planning and management. Traditional Owners have a role to protect cultural heritage in the management area and a role to educate QPWS and visitors on cultural heritage management.

QPWS has a working relationship with Queensland Rural Fire Service, Rockhampton Regional Council, neighbours and community and conservation groups to assist in the management of fire, pests and grazing.

Other key issues and responses

Pest management

A pest management strategy exists for the Mount Archer area. This strategy helps to prioritise pest plant and animal controls and guide operational work plans and evaluate program effectiveness on QPWS managed estates.

Sisal *Furcraea foetida* is considered a major threat within Mount Archer National Park. It dominates local areas causing significant changes to ecosystem structure by out-competing native species. Within the approved pest management strategy, the aim is to contain the species to small isolated areas within the park.

Rubbervine *Cryptostegia grandiflora* is considered a threat within Mount Archer National Park and State forest. It is a declared class two pest plant within the weeds of national significance database. It causes changes to ecosystems by forming dense thickets. The aim is to reduce numbers and prevent any further increase.

Cat's claw creeper *Macfadyena unguis-cati* is considered a moderate threat within Mount Archer National Park. It is a declared class three pest plant within the weeds of national significance database. The aim is to identify and map areas of infestation and carry out treatments on small infestations where eradication can be achieved.

Leucaena *Leucaena leucocephala* is considered to be a moderate threat on Limestone Creek Conservation Park. It forms dense thickets, hindering wildlife movement and excluding native species. The aim is to eradicate the species in five years. Thickets occur along watercourses so a systematic approach is required. Ongoing control will be required to manage reinfestation along the creek.

Woody weeds including Jerusalem thorn *Parkinsonia aculeata*, prickly acacia *Vachellia nilotica* and Indian jujube *Ziziphus mauritiana* pose a minor threat within Limestone Creek Conservation Park. They have the potential to change ecosystems by becoming the dominant species. The aim is to eradicate existing isolated infestations within two years, with an integrated approach using physical and chemical control.

Giant rats tail grass *Sporobolus pyramidalis* is currently considered a minor threat within Mount Archer National Park. It out-competes natives and changes ecosystems and fire intensities. It is a declared class two pest plant within the weeds of national significance database. The aim is to identify and map areas of infestation within two years and contain areas and eradicate isolated plants.

Guinea grass *Megathyrsus maximus* is a growing threat on the park and adjacent areas including in populations of *Cycas ophiolitica*. It has the potential to change fire regimes within ecosystems.

Pigs *Sus scrofa* are considered to be a major threat on both Mount Archer National Park and Mount Archer State Forest. They cause localised damage, particularly around waterholes and cause significant damage to walking track infrastructure. The aim is to monitor impacts and control where required, particularly in sensitive areas.

Feral horses *Equus caballus* are considered a moderate threat on both Mount Archer National Park and State forest. The aim is to monitor the impacts and remove animals where possible. Animals will be trapped and impounded by the local council.

Fallow deer *Dama dama* occur within Mount Archer National Park. The population is stable, with surrounding properties providing a water source. Populations and impacts should be monitored and controls implemented with neighbours and council.

Fire management

A fire management system has been adopted statewide by QPWS which is the primary agency for fire management on protected areas and State forests. Fire strategies provide the overall framework and direction for fire management and are the foundation from which planned burn programs are developed. A comprehensive fire management strategy exists for the Mount Archer area. This strategy details the area's fire management objectives, of which the highest priority is to protect life and property on reserve and neighbouring lands.

Fire management in Mount Archer National Park and Mount Archer State Forest will be planned and undertaken in accordance with management principles for protected areas specified by the Nature Conservation Act and the *Forestry Act 1959*. It will also meet statutory obligations under the *Fire and Rescue Service Act 1990*.

Vacant blocks of land (forming a continuous strip in many areas) currently exist between the margin of the built-up area of the city and the boundary of the QPWS estate. It is a common misconception that this land is part of QPWS estate. There has previously been some confusion in relation to fire management of this area. A Memorandum of Understanding will be developed between QPWS, Queensland Fire and Rescue Service and Rockhampton Regional Council regarding the management of fire lines in this area.

Authorities

No authorities currently exist on any of the estates. Powerlines and towers exist along the road way and at the summit of Mount Archer; however are not on QPWS estate. Future authorities in the management area must be consistent with management strategies and plans and are to be issued in accordance with the Nature Conservation Act.

Grazing authorities have previously been granted for Mount Archer State Forest. Future grazing will be considered, particularly in the New Zealand gully area, as a pest plant control tool.

References

- Bennett S 1985 The Distribution and Status of the Black-breasted Button-quail *Turnix melanogaster* (Gould 1837), *Emu*, 85, 157–162.
- Berserker Wilderness Land Management Advisory Committee 2001 *Berserker Wilderness Community Action Plan*.
- Bond W J 1994 Do mutualisticisms matter? Assessing the impact of pollinator and disperser disruption on plant extinction. *Philosophical Transactions of the Royal Society*, London, B. 334, 83–90.
- Crouch S 1998 *Mt Archer and Berserker Range, Rocks and Landscape Notes*, Geological Society of Australia Inc., Brisbane.
- Pizzey G & Knight F 2002 *The Field Guide to the Birds of Australia*, Harper Collins, Australia.
- Queensland Herbarium 2007 *National Multi-species Recovery Plan for the cycads, Cycas megacarpa, Cycas ophiolitica, Macrozamia cranei, Macrozamia lomandroides, Macrozamia pauli-guilielmi and Macrozamia platyrhachis*, Report to Department of the Environment and Water, Resources, Canberra. Queensland Parks and Wildlife Service, Brisbane.
- Smyth A & Young J 1996 Observations on the Endangered Black-breasted Button-quail *Turnix melanogaster* Breeding in the Wild, *Emu*, 96: 202–207.
- Willmott W 2006 *Rocks and Landscapes of the National Parks of Central Queensland*, Geological Society of Australia, Queensland Division.

Management directions

Desired outcomes	Actions and guidelines
<p>Plants and animals</p> <p>The full range of naturally occurring biological diversity, ecological processes and landscape dynamics are maintained.</p> <p>Plant species and communities and animal species of significance are protected.</p>	<p>A1. Monitor the impacts from natural processes, pests, fire and recreation. Use the information to guide management decisions and amend current and future plans and strategies.</p> <p>A2. Ensure any activities are consistent with the areas values and impacts can be mitigated or managed.</p> <p>A3. Implement and review pest and fire strategies when required.</p> <p>A4. Maintain relationships with neighbouring properties to ensure collaborative management of fire and pests.</p> <p>A5. Encourage and allow access for the implementation of research programs, particularly those that will benefit conservation management. Incorporate new information about threatened plants, animals or communities into plans and strategies and WildNet.</p> <p>A6. Minimise threats to plant species of conservation significance through cooperative fire management and pest plant and animal control. For example, minimise the extent of guinea grass on Mount Archer National Park and Mount Archer State Forest as it has the potential to impact on <i>Cycas ophiolitica</i>.</p>
<p>Tourism and visitor opportunities</p> <p>The management area offers a diverse range of sustainable outdoor recreation and tourism opportunities and settings that meet and adapt to visitor needs with minimal impact on the area's natural and cultural values.</p>	<p>A7. Develop and implement a visitor management strategy to enhance visitor management and ensure visitor use remains sustainable.</p> <p>A8. Establish a visitor monitoring program and regularly assess use trends and impacts to ensure planning and management of outdoor recreation and tourism opportunities is guided by best available knowledge of visitor activities, needs and expectations. If activities exceed acceptable impact levels, adaptive management actions are to be undertaken.</p> <p>A9. Develop relationships with local mountain bike association and consider options for mountain biking within the management area.</p>
<p>Partnerships</p> <p>The effectiveness of future management is strengthened through cooperative partnerships.</p>	<p>A10. Continue to build relationships with the local community, Rockhampton Regional Council, Traditional Owners, visitors and interest groups to improve knowledge of the management area, and to highlight its significance to the region.</p> <p>A11. Develop a Memorandum of Understanding with Queensland Fire and Rescue Service and Rockhampton Regional Council for the management of fire lines in the interface zone.</p>

Tables – Conservation values management

Table 1: Of concern regional ecosystems

Regional ecosystem number	Description	Biodiversity status
11.3.3	<i>Eucalyptus coolabah</i> woodland on alluvial plains	Of concern
11.3.4	<i>Eucalyptus tereticornis</i> and/or <i>Eucalyptus</i> spp. tall woodland on alluvial plains	Of concern
11.3.25	<i>Eucalyptus tereticornis</i> or <i>E. camaldulensis</i> woodland fringing drainage lines	Of concern
11.12.3	<i>Eucalyptus crebra</i> , <i>E. tereticornis</i> , <i>Angophora leiocarpa</i> woodland on igneous rocks especially granite	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
Plants				
* <i>Backhousia oligantha</i>	-	Endangered	-	Low
* <i>Callicarpa thozetti</i>	-	Endangered	-	Low
* <i>Choricarpia subargentea</i>	-	Near threatened	-	Low
* <i>Cycas ophiolitica</i>	Marlborough blue	Endangered	Endangered	Critical
* <i>Eucalyptus raveretiana</i>	black ironbox	Vulnerable	Vulnerable	High
* <i>Graptophyllum excelsum</i>	-	Near threatened	-	Low
* <i>Livistona drudei</i>	Halifax fan palm	Vulnerable	-	Medium
Animals				
* <i>Accipiter novaehollandiae</i>	grey goshawk	Near threatened	-	Low
* <i>Adelotus brevis</i>	tusked frog	Vulnerable	-	Medium
* <i>Anamalopus brevicollis</i>	Capricorn worm-skink	Least concern	-	High
^ <i>Botaurus poiciloptilus</i>	Australasian bittern	Least concern	Endangered	Medium
* <i>Calyptorhynchus lathami</i>	glossy black-cockatoo	Vulnerable	-	-
^ <i>Chalinolobus dwyeri</i>	large-eared pied bat	Vulnerable	Vulnerable	Medium
^ <i>Dasyurus hallucatus</i>	northern quoll	Least concern	Endangered	Medium
^ <i>Delma torquate</i>	collared delma	Vulnerable	Vulnerable	High

Scientific name	Common name	Nature Conservation Act 1992 status	Environment Protection and Biodiversity Conservation Act 1999 status	Back on Track status
* <i>Denisonia maculata</i>	ornamental snake	Vulnerable	Vulnerable	Medium
^ <i>Egernia rugosa</i>	yakka skink	Vulnerable	Vulnerable	Medium
^ <i>Erythroriorchis radiatus</i>	red goshawk	Endangered	Vulnerable	High
^ <i>Furina dunmalli</i>	Dunmall's snake	Vulnerable	Vulnerable	Medium
^ <i>Geophaps scripta scripta</i>	squatter pigeon	Vulnerable	Vulnerable	Medium
* <i>Hemiaspis damelii</i>	grey snake	Endangered	-	Medium
* <i>Lophoictinia isura</i>	square-tailed kite	Near threatened	-	Low
* <i>Macroderma gigas</i>	ghost bat	Vulnerable	-	Critical
* <i>Ninox strenua</i>	powerful owl	Vulnerable	-	Medium
^ <i>Nyctophilus corbeni</i>	eastern long-eared bat	Vulnerable	Vulnerable	Medium
^ <i>Poephila cincta cincta</i>	black-throated finch (white rumped)	Endangered	Endangered	High
^ <i>Pteropus poliocephalus</i>	grey-headed flying-fox	Least concern	Vulnerable	Critical
^ <i>Rostratula australis</i>	Australian painted snipe	Vulnerable	Vulnerable	Medium
* <i>Tirnix melanogaster</i>	black-breasted button-quail	Vulnerable	Vulnerable	Critical

* confirmed to occur

^ likely to occur as habitat is present

Table 3: Species listed in international agreements

Scientific name	Common name	Bonn	JAMBA	ROKAMBA	CAMBA
<i>Apus pacificus</i>	fork-tailed swift	-	✓	✓	✓
<i>Ardea ibis</i>	cattle egret	-	✓	-	✓
<i>Ardea modesta</i>	eastern great egret	-	✓	-	✓
<i>Gallinago hardwickii</i>	Latham's snipe	✓	✓	✓	✓
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	-	-	-	✓
<i>Hirundapus caudacutus</i>	white-throated needletail	-	✓	✓	✓
<i>Hirundo rustica</i>	barn swallow	-	✓	✓	✓
<i>Merops ornatus</i>	rainbow bee-eater	-	✓	-	-
<i>Monarcha melanopsis</i>	black-faced monarch	✓	-	-	-

Scientific name	Common name	Bonn	JAMBA	ROKAMBA	CAMBA
<i>Myiagra cyanoleuca</i>	satin flycatcher	✓	-	-	-
<i>Rhipidura rufifrons</i>	rufous fantail	✓	-	-	-
<i>Rostratula australis</i>	Australian painted snipe	-	-	-	✓
<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