# Porcupine Gorge National Park

Management Plan 2011 Desert Uplands, Einasleigh Uplands and Mitchell Grass Downs Bioregions

Prepared by:

Planning Services Unit, Department of Environment and Science (DES)

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The Porcupine Gorge National Park Management Plan 2011 has been extended in 2023 in line with the Queensland *Nature Conservation Act 1992* (s120G). Minor amendments have been made. There has been no change to the plan's original management intent and direction.

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Front cover photograph: Porcupine Gorge. Photo: DES.

Top right photograph: Sunset over Porcupine Gorge. Photo: DES.

Centre right photograph: Viewing platform overlooking Porcupine Gorge. Photo: DES.

Bottom right photograph: Multicoloured sandstone created the Pyramid in Porcupine Gorge. Photo: DES.

# **Vision statement**

Porcupine Gorge National Park will protect this unique part of the savanna plains where Porcupine Creek has cut a dramatic sandstone gorge deep into the undulating landscape. The park will be managed to protect threatened regional ecosystems which are vulnerable to invasion by pest plants. Deep permanent waterholes lined with casuarinas and melaleucas will contrast with eucalypts and acacias, including the rarely found pink gidgee, growing precariously from the dry cliffs above.

Animals such as the common wallaroo, red kangaroo and rufous bettong will continue to find refuge in the gorge, along with birds, including the pacific black duck, red-winged parrot, pale-headed rosella and honeyeaters. Waterholes and rock pools will provide habitat for species, including aquatic invertebrates, fish, turtles and water rats. Visitors will explore the gorge from lookouts above and walk to the base of the Pyramid, an isolated monolith of multicoloured sandstone rising from the floor of the gorge.

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# 1. Management intent

The purposes of management will be to:

- conserve the natural ecosystems in the park, including regional ecosystems and plant and animal species of conservation significance
- reduce and eradicate pests, where possible, and ensure control methods have no, or minimal, adverse impacts
- use local provenance species that may occur in the park in rehabilitation and restoration programs
- identify, protect and present Indigenous cultural heritage places, where appropriate, and encourage Indigenous involvement in park management
- identify, protect and present shared-history cultural heritage places, where appropriate
- ensure visitor information is available about the park's natural and cultural values
- encourage and undertake land management and research that supports park management
- undertake an adaptive and cooperative approach between stakeholders to manage the park
- work proactively with neighbours on the management of pests and fire and to minimise intrusions of domestic stock.

# 2. Basis for management

The Queensland Parks and Wildlife Service (QPWS) is responsible for the on-ground, day-to-day management of Porcupine Gorge National Park. The park is primarily managed in accordance with the *Nature Conservation Act 1992* and associated regulations to protect land, wildlife and cultural values. The Nature Conservation Act, in particular section 17, sets the management principles for national parks (Appendix B).

Indigenous people have affiliations with the park and involving Traditional Owner groups is important to the park's management. It is acknowledged that Indigenous cultural heritage places are a custodial responsibility of the respective Traditional Owners and management will be consistent with traditional lore and traditional knowledge. Porcupine Gorge National Park is included in an area subject to a native title claim at the time of writing (Yirendali People Core Country QC06/020). This plan does not affect this claim.

Cultural heritage places in Queensland are managed under the *Queensland Heritage Act 1992* and the *Aboriginal Cultural Heritage Act 2003*. The Charter for the Protection and Management of the Archaeological Heritage and the Burra Charter provide detailed guidelines for managing cultural heritage places. The Queensland Heritage Strategy of 2009 provides direction for managing Queensland's heritage and establishes a policy framework for heritage conservation and responsibilities.

Endangered and of concern regional ecosystems are described under the Department of Environment and Science's (DES) biodiversity status. Endangered, vulnerable and near threatened species are listed under the Nature Conservation (Wildlife) Regulation 2006 (Queensland). The *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) provides for the listing of nationally threatened native species and ecological communities, native migratory species and marine species or those of conservation significance. The park supports migratory species listed under the Commonwealth Environment Protection and Biodiversity Conservation Act (that is, those species listed under the China–Australia Migratory Bird Agreement, Japan–Australia Migratory Bird Agreement).

QPWS has a responsibility under the *Land Protection (Pest and Stock Route Management) Act 2002* to control declared pest plants and animals in protected areas.

# 3. Location and regional context

Maps 1 and 2 (Appendix A) show the location of Porcupine Gorge National Park, assets and surrounding tenures.

Hughenden is the closest major town to the park. It has an annual mean minimum temperature of 16.6 °C, annual mean maximum temperature of 31.6 °C and an annual mean rainfall of 492.4 mm (Bureau of Meteorology 2007).

Porcupine Gorge National Park is in the Flinders Shire. The park is 45 km north of Hughenden (or 385 km west of Townsville), along the Kennedy Developmental Road, which links Hughenden to The Lynd and passes to the park's west.

Gazetted as a national park in 1970, Porcupine Gorge National Park protects 5410 ha along Porcupine Creek, a major tributary of the upper Flinders River. Porcupine Gorge National Park was established to conserve the diverse flora and fauna communities of the upper Flinders River catchment. The northern section of the park is in the Einasleigh Uplands biogeographic region and the southern section is in the Mitchell Grass Downs biogeographic region.

The park is important for its geological features, which are a significant part of the landscape and of high scenic value. The park presents sweeping views of the gorge, which has an average depth of 120 m to the bed of Porcupine Creek. The creek bed has an interesting geological feature, an isolated monolith of multicoloured sandstone rising from the floor of the gorge, known as the Pyramid. Porcupine Gorge National Park contains eucalypt, acacia and dry vine thicket vegetation communities. The diverse vegetation and reliable water supply provide significant habitat areas for animals.

Cultural heritage values include the stories and places of the Yirendali people who have a native title claim in the region.

The surrounding landscape is intact and is an important part of the park's aesthetics.

# 4. Protecting and presenting the park's values

## 4.1 Landscape

Porcupine Gorge National Park showcases towering cliffs of coloured sandstone, pockets of vine forests and deep permanent waterholes, all of which contrast with the savanna plains surrounding the gorge. The park provides a high scenic amenity and integrity.

Porcupine Creek on Porcupine Gorge National Park is a major tributary of Flinders River, which flows to the Gulf of Carpentaria. It cuts through a hard basalt cap to form a deep gorge about 120 m deep in the underlying sediment and metamorphic rock. The gorge's geological history dates from between 500 and five million years ago, including areas containing Permian glacial sediments and a section of Cambrian-Ordovician Cape River beds. The gorge's eastern rim has a five million-year-old basalt flow, indicating the creek cut the gorge after this time.

Desired outcomes 2021	Actions and guidelines		
Eroded areas are stabilised and revegetated (using local provenance species), where appropriate.	A1. Repair damaged areas and install drainage and gully-head protection measures, where required, particularly on fence lines and on the walking track down to the gorge.		
The high scenic amenity of Porcupine Gorge is maintained.	A2. Maintain visual integrity of the Porcupine Gorge National Park by preventing additional built infrastructure other than that associated with walking tracks from the Pyramid campground.		

## 4.2 Native plants and animals

### 4.2.1 Native plants

Porcupine Gorge National Park contains eucalypt, acacia and melaleuca woodlands, springs and riparian forests. More than 270 plant species have been identified in the park. Pink gidgee *Acacia crombiei* is an Australian desert hardwood and is listed as a vulnerable species Nature Conservation (Wildlife) Regulation because it only occurs in very small populations on basalt.

Ten regional ecosystems have been identified in the park. Of these, four are of concern under the DES biodiversity status, mainly due to degradation by pest plants, especially rubber vine *Cryptostegia grandiflora* (Appendix C).

Desired outcomes 2021	Actions and guidelines		
The composition and extent of the vegetation types are maintained, subject to natural change. Threatened regional ecosystems and species are protected.	<ul> <li>A3. Develop a recovery plan for the pink gidgee <i>Acacia crombiei</i>.</li> <li>A4. Use local provenance species in rehabilitation projects.</li> <li>A5. Refine vegetation mapping for use in management strategies, particularly for spinifex communities.</li> <li>A6. Consider fauna requirements, such as breeding, nesting and feeding, in relation to managing plant communities.</li> </ul>		

### 4.2.2 Native animals

Porcupine Gorge National Park has many permanent waterholes that provide habitat for aquatic wildlife species. These waterholes also provide an important refuge for a wide variety of terrestrial animals. The park's wildlife includes 80 bird, 30 reptile, 30 mammal and eight fish species, as well as frogs, insects and arachnids. Among them are:

- northern quoll *Dasyurus hallucatus*, which has an endangered status under the Environment Protection and Biodiversity Conservation Act
- squatter pigeon (southern subspecies) *Geophaps scripta scripta*, which is classified as vulnerable under the Nature Conservation (Wildlife) Regulation.

Desired outcomes 2021	Actions and guidelines		
Native animal populations, and in particular threatened species, are maintained and protected.	A7. Undertake surveys of native animals found in the park, where required, to establish baseline data and to assist in delivering management decisions, especially northern quoll and squatter pigeon (southern subspecies).		
	A8. Implement recovery plans for species of conservation significance where available.		
	A9. Incorporate new information about threatened animals into fire and pest management strategies.		
	A10. Maintain or restore habitat through appropriate management activities, such as managing fire and controlling stock incursions and pest plants.		
	A11. Liaise with neighbours, Landcare groups and government agencies to protect critical habitat corridors adjoining the park.		

## 4.3 Indigenous culture

Porcupine Gorge National Park is subject to a native title claim (Yirendali People Core Country QC06/020). This plan does not affect the claim. The southern section of the park contains Indigenous cultural heritage places and artefact scatters have been reported around the gorge.

Desired outcomes 2021	Actions and guidelines		
Indigenous people with traditional affiliations in the area are involved in managing cultural heritage values on the park.	<ul> <li>.12. Manage Indigenous cultural heritage places and implement protection measures in consultation with Traditional Owners.</li> <li>.13. Encourage Traditional Owners to help identify, document and protect Indigenous cultural heritage places in the parks and advise on other cultural interests and concerns.</li> </ul>		
	A14. Recognise Traditional Owners through appropriate interpretive materials, such as signs for welcome to country and the DES website.		

## 4.4 Tourism and visitor opportunities

A sub-regional nature-based tourism strategy has been developed for protected areas and council reserves in Dalrymple and Flinders shires (Dalrymple Shire Council et al. 2005). This strategy, developed by Flinders Shire Council, Dalrymple Shire Council, DES and Tourism Queensland, provides a systematic and coordinated approach to developing tourism infrastructure and managing visitors to the national parks and council reserves of the region.

There are more than 15 000 visits to Porcupine Gorge National Park annually. Conventional vehicles can easily access the park, although wet weather may limit access for short periods. Visitors comprise bushwalkers, day visitors (in two-wheel drives) and campers staying one or two nights (Dalrymple Shire Council et al. 2005). The park is promoted through the Overlander's Way brochure, which includes Porcupine Gorge, White Mountains and Dalrymple national parks. The brochure targets the self-drive touring market. Commercial operator permits exist for the park.

There are two key visitor nodes on the park, the Pyramid campground and day-use area and Porcupine Gorge. The camping and day-use area has an unsealed car park that accommodates 15 cars and one bus, a low-key camping area with six pre-booking camp sites and 20 self-registration campsites with toilets and a defined day-use area containing a shelter-shed, picnic tables and a toilet.

A 2.4 km return walking track leads to the bed of Porcupine Creek giving access to the Pyramid. Bushwalking, backpacking and/or camping (fuel stoves only) is permitted along the riverine areas of the gorge. Porcupine Gorge lookout is 11 km south of the Pyramid campground and day-use area. There is a short walking track to the viewing platform. An eight-kilometre run called The Porcupine Gorge Challenge is run through the gorge in June each year.

Desired outcomes 2021	Actions and guidelines		
Opportunities for nature-based recreation are provided.	A15. Support the development of a walking track along the rim of Porcupine Gorge and investigate linking the Porcupine Gorge lookout with the Pyramid campground and day-use area.		
	A16. Implement an online booking system for camping on Porcupine Gorge National Park.		
Park visitors are provided with information to allow them to understand the natural and cultural values of the parks, visitor obligations and potential hazards.	A17. Develop a Statement of Interpretative Intent for the park.		

## 4.5 Education and science

Porcupine Gorge National Park's proximity to Hughenden offers potential for local schools to run educational programs in a natural area. Research interests include geology and associated plant communities. Vegetation monitoring plots have been established on the park.

Desired outcomes 2021	Actions and guidelines		
Research and specialist observation increases knowledge of the park's ecology and helps to refine management	A18. Continue vegetation monitoring to evaluate the effects of management actions, including controlling pest plants and fire (prescribed burns and wildfire), on plant populations and diversity.		
techniques.	A19. Encourage research projects that assist management directions, such as managing buffel grass by using fire and chemicals.		
	A20. Continue to gather ecological data on the health of the parks, including changes in flora and fauna populations.		
	A21. Ensure a summary of research findings is provided to QPWS staff through the permitting system so that relevant information can be incorporated into management practices.		
	A22. Encourage park visitors who record flora and fauna observations to report their findings to QPWS.		

## 4.6 Partnerships

As part of the sub-regional nature-based tourism strategy (Dalrymple Shire Council et al. 2005), partnerships have been developed with community groups. The Hughenden Lions Club has a memorandum of understanding with the department to develop a walking track in Porcupine Gorge National Park from the Pyramid campground north along the rim of the gorge.

Desired outcomes 2021	Actions and guidelines		
Good working partnerships with community groups and neighbours are promoted. Habitat corridors adjacent to natural areas are maintained or restored, in cooperation with neighbours.	<ul> <li>A23. Encourage and support the active participation of community groups, neighbours and individuals in projects that help protect and enhance the park and surrounding area.</li> <li>A24. Liaise with neighbours, Landcare groups and government agencies to protect critical habitat corridors adjacent to the parks.</li> </ul>		

# 5. Other key issues and responses

## 5.1 Pest management

At Porcupine Gorge National Park, the major pest plants are rubber vine *Cryptostegia grandiflora* and parthenium weed *Parthenium hysterophorus*, both declared Class 2 pest plants. Non-declared pest plants include kapok *Aerva javanica*, buffel grass *Cenchrus ciliaris*, wild cotton *Asclepias curassavica* and pink periwinkle *Catharanthus roseus*. Parkinsonia *Parkinsonia aculeata* has been eradicated from the park, but reinfestation is likely as it occurs on neighbouring properties. Rubber vine has been significantly suppressed in the northern section of the park and is under control in the southern section.

Pest animals found in the park include Class 2 declared pests, such as feral pigs, wild dogs, foxes and rabbits, and non-declared pests, such as cats and cane toads.

Desired outcomes 2021	Actions and guidelines		
The integrity of native plant and animal	A25. Develop and implement a Level Two Pest Management Strategy that:		
communities is maintained and the impacts of pest plants and animals on natural and cultural values is minimised through	<ul> <li>manages pests in accordance with the QPWS operational policy – Management of Pests on QPWS-managed Areas</li> </ul>		
strategic, sustained management.	<ul> <li>uses the QPWS Pest Management System and ParkInfo to plan, manage, record and monitor all pests and pest management</li> </ul>		
established in the park.	<ul> <li>prioritises long-term control measures for threatened vegetation</li> </ul>		
A dingo population is maintained to reduce	communities and critical species habitat		
mammals and to maintain macropod numbers.	<ul> <li>establishes preventative hygiene measures for minimising pest introductions and outbreaks</li> </ul>		
	<ul> <li>participates cooperatively in pest management planning and implementation across the landscape with other land managers, government departments, local governments and utility providers to ensure successful pest management at a landscape-level</li> </ul>		
	<ul> <li>does not adversely affect the natural integrity of the park and uses the best available scientific and technical knowledge.</li> </ul>		
	A26. Actively manage the park to ensure no new declared pest plants become established.		
	A27. Develop an action plan for buffel grass, rubber vine and parthenium that details threats to flora and fauna communities, maps distribution and develops strategic control and monitoring programs.		
	A28. Continue to control and eventually eradicate rubber vine in the northern section of the park, and contain it in the southern region.		
	A29. Continue to manage wild dog populations with park neighbours, land protection staff, Flinders Shire Council and the Wild Dog Committee when significant stock damage or loss has been reported in the area, in accordance with the QPWS operational policy – Wild Dog Management.		
	A30. Maintain dingo populations to reduce impacts of feral cats and pigs on small mammals and to maintain macropod numbers.		

## 5.2 Fire management

QPWS has developed a Statement of Fire Management Intent for Porcupine Gorge National Park to:

- · protect life and property on the reserve and neighbouring lands
- protect pink gidgee *Acacia crombiei* using regular fire in surrounding woodlands to reduce the risk of unplanned, intense fires
- develop and maintain a mosaic of fire frequency, intensity and season that is consistent with the ecological limits of the vegetation community
- apply appropriate fire regimes to conserve and maintain of concern ecosystems
- maintain habitat diversity in fire-tolerant communities.

Desired outcomes 2021	Actions and guidelines		
Fire is used to protect life and property and the ecological processes on the park.	A31. Review the statement of fire management intent for Porcupine Gorge National Park in accordance with QPWS procedures every five years.		
Neighbouring landholders are encouraged	A32. Avoid planned burns in pink gidgee ecosystems.		
to assist in cooperative management of fire to enhance and extend the outcomes of management programs.	A33. Conduct planned burns around dry vine thickets and other sensitive ecosystems to reduce the risk of damage from wildfires.		
	A34. Maintain fire breaks around the camping area for visitor safety and protect infrastructure from wildfires.		
	A35. Encourage research and monitoring into the impact of fire on vegetation communities, such as grasslands.		
	A36. Prohibit camp fires on the park.		
	A37. Work with other agencies, Traditional Owners and neighbours to coordinate fire management activities.		

## 5.3 Climate change

Higher temperatures, drought and a consequent change in fire regimes are likely effects of a changed climate that would impact on the area's natural values. Although these impacts are hard to manage and are largely outside the scope of the plan, reducing stresses on the environment could make it more resilient to climate change.

Desired outcomes 2021	Actions and guidelines		
Understand potential impacts from climate change, particularly on the threatened species and ecosystems. Impacts of invasive species as a result of climate change are minimised.	<ul> <li>A38. Encourage research that is associated with climate change impacts and that supports and informs management decisions.</li> <li>A39. Promote linking important habitats for climate change-affected species by establishing and maintaining corridors and connections.</li> <li>A40. Monitor the impacts of invasive species as a result of climate change and, where necessary, include actions in pest management and fire programs to minimise identified impacts.</li> <li>A41. Reduce unnecessary stresses on ecosystems by: <ul> <li>controlling pest plants that impact on their structure and composition</li> </ul> </li> </ul>		
	minimising risk of widespread damaging wildfires		
	<ul> <li>undertaking planned burns for ecological purposes under conditions that promote ecosystem health and the retention of critical flora and fauna habitat values.</li> </ul>		

# 6. References

Bureau of Meteorology 2007, Commonwealth of Australia, <www.bom.gov.au>

Dalrymple Shire Council, Flinders Shire Council, Tourism Queensland and Queensland Parks and Wildlife. 2005, Sub-regional Nature-based Tourism Strategy: Protected areas and council reserves in Dalrymple and Flinders shire councils.

James, CD, Landsberg, J and Morton, SR (1999) *Provision of watering points in the Australian arid zone: a review of effects on biota*, Journal of Arid Environments 41(1): 87–121.

Landsberg, J, James, CD, Morton, SR, Hobbs, TJ, Stol, J, Drew, A and Tongway, H (1997) *The effects of artificial sources of water on rangeland biodiversity*, Final report to the Biodiversity Convention and Strategy Section of the Biodiversity Group, Environment Australia.

Sattler, P and Williams, R (eds) 1999, *The conservation status of Queensland's bioregional ecosystems*, Environmental Protection Agency, Queensland Government, Brisbane.

# 7. Hyperlinks

Aboriginal Cultural Heritage Act 2003 <www.legislation.qld.gov.au>

DES website <<u>www.des.qld.gov.au</u>>

Environment Protection and Biodiversity Conservation Act 1999 and Regulations 2000 <www.environment.gov.au>

Land Protection (Pest and Stock Route Management) Act 2002 <www.legislation.qld.gov.au>

Nature Conservation Act 1992 <www.legislation.qld.gov.au>

Nature Conservation (Wildlife) Regulation 2006 < www.legislation.qld.gov.au>

Queensland Heritage Act 1992 <www.legislation.qld.gov.au>

Regional ecosystems <<u>www.des.qld.gov.au</u>>

The Charter for the Protection and Management of the Archaeological Heritage <www.icomos.org>

# 8. Appendixes

- Appendix A Maps
- Appendix B Definitions
- Appendix C Regional ecosystems

## Appendix A – Maps

#### Map 1 Location







## Appendix B – Definitions

#### Authorised management purposes

Authorised management purposes are actions by managing agencies or authorised contractors only, and necessary for the management of the national park(s) and approved infrastructure, under the *Nature Conservation Act 1992* and subordinate legislation. This includes activities authorised in a national park by another Act (for example, the *Native Title (Queensland) Act 1993*). It does not include other actions or activities by groups or commercial operations, such as commercial tourism operations, which may be permitted in the park.

#### Endangered (species)

At the state level, these species are listed as endangered under schedule 2 of Queensland's Nature Conservation (Wildlife) Regulation 2006. At the national level, they are species listed under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

#### Management principles for national parks

Under Section 17, Nature Conservation Act 1992:

- (1) A national park is to be managed to—
  - (a) provide, to the greatest possible extent, for the permanent preservation of the area's natural condition and the protection of the area's cultural resources and values
  - (b) present the area's cultural and natural resources and their values
  - (c) ensure that the only use of the area is nature based and ecologically sustainable.
- (2) The management principle mentioned in subsection (1)(a) is the cardinal principle for the management of national parks.

#### Of concern (regional ecosystems)

For biodiversity planning purposes, regional ecosystems are assigned a DES biodiversity status of concern if 10– 30 per cent of its pre-clearing extent remains unaffected by moderate degradation and/or biodiversity loss. Moderate degradation and/or biodiversity loss is defined as floristic and/or faunal diversity that is greatly reduced but unlikely to recover within the next 20 years, even with the removal of threatening processes; or soil surface that is moderately degraded.

#### **Regional ecosystems**

Regional ecosystems were defined by Sattler and Williams (1999) as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. Readers should refer to this publication for background information about regional ecosystems and the bioregional planning framework used in Queensland.

Compilation of the information about regional ecosystems presented in Sattler and Williams (1999) was derived from a broad range of existing information sources including land system, vegetation and geology mapping and reports. However, the framework is dynamic and is regularly reviewed as new information becomes available. During the past few years the Queensland Herbarium has developed a program for explicitly mapping regional ecosystems across Queensland. This has resulted, and will continue to result, in updates to the descriptions and status of regional ecosystems. Therefore, updated regional ecosystem descriptions in the format of Sattler and Williams (1999) are maintained in DES's Regional Ecosystem Description Database.

#### Species of conservation significance

Species of conservation significance refers to those species that are threatened (that is, endangered, vulnerable or near threatened species), and may also refer to other species that are subject to threats at a regional or local level.

#### Vulnerable (species)

At the state level, these species are listed as vulnerable under schedule 3 of Queensland's Nature Conservation (Wildlife) Regulation 2006. At the national level, they are species listed under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

# Appendix C – Regional ecosystems

Table 1: Of concern ree	aional ecosystems	s for Porcupine	Gorge National Park.
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Regional ecosystem number	Regional ecosystem name	DES biodiversity status	Reason for status and the threats to ongoing sustainability
9.3.1	River red gum <i>Eucalyptus</i> <i>camaldulensis</i> , river she-oak <i>Casuarina cunninghamiana</i> on alluvial soils	Of concern	Vulnerable to invasion by pest plants, especially rubber vine <i>Cryptostegia grandiflora</i> .
9.3.12	River tea tree <i>Melaleuca</i> bracteata river bed	Of concern	Vulnerable to invasion by pest plants, especially rubber vine <i>Cryptostegia grandiflora</i> .
9.3.17	River red gum <i>Eucalyptus</i> <i>camaldulensis</i> , river tea tree <i>Melaleuca bracteata</i> river channels	Of concern	Vulnerable to invasion by pest plants, especially rubber vine <i>Cryptostegia grandiflora</i> .
9.8.6	Pink gidgee <i>Acacia crombiei</i> on scree slopes of basalt hills	Of concern	Threatened by clearing for pasture development and harvesting of sandalwood <i>Santalum lanceolatum</i> .

