

# Canyon Resources Reserve



**Resource Information**

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Prepared by: **Queensland Parks and Wildlife Service, Department of Environment, Science and Innovation.**



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# 1. Introduction

The Queensland Parks and Wildlife Service (QPWS) management planning process aligns with the Values-Based Management Framework (VBMF), an adaptive management cycle that incorporates planning, prioritising, doing, monitoring, evaluating and reporting into all areas of our business (Figure 1). Management plans and statements set the strategic management direction, guiding the next tier of planning and the development of thematic strategies, which in turn inform and prioritise our on-ground operations.

Resource information is a compendium of park information and a supporting document for management plans and management statements. It contains background information about a park’s purpose, values, resources, and legal and administrative framework.

Information about QPWS’s VBMF is available on the Department of Environment, Science and Innovation (DESI) website at [www.desi.qld.gov.au](http://www.desi.qld.gov.au).

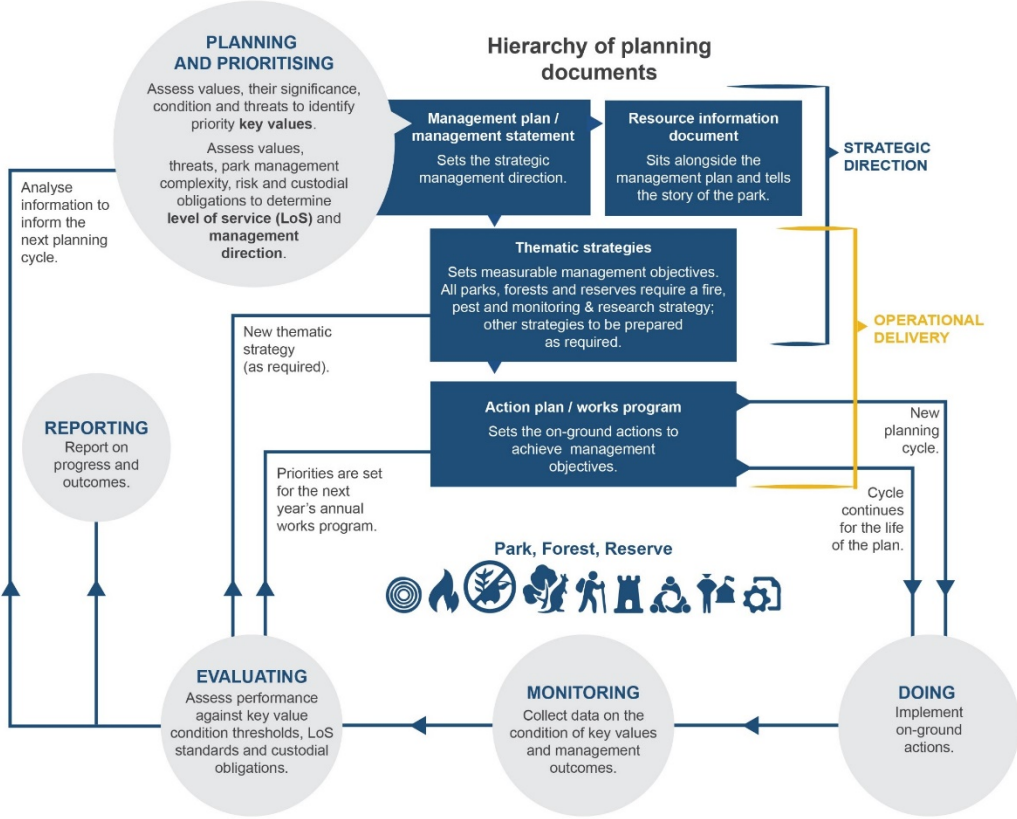


Figure 1. VBMF process for planning and the hierarchy of planning documents

## 2. Canyon Resources Reserve

Canyon Resources Reserve forms an extensive part of a continuous area of relatively undisturbed, spectacular and rugged country. The reserve protects a range of ecosystems that are poorly represented across Queensland's parks, particularly those associated with the northern end of the Einasleigh Uplands bioregion, which has been identified as a national biodiversity hotspot.

Canyon Resources Reserve is within the Kidston subregion of the Einasleigh Uplands, and includes a wide range of unrepresented ecosystems that are considered refugia and centres of endemism.

The reserve has significant natural values, including springs and spring-fed watercourses, scarps and gorges within a plateau area, and habitats that are found nowhere else in Queensland's protected area estate.

The Ewamian People hold native title rights and interests over all of the resources reserve, and as Traditional Owners, have a responsibility under Aboriginal lore to manage the area.

The legislative framework for managing the park, designations over the park and management obligations are outlined further in **Appendix 1**. The location of the resources reserve is highlighted in **Figure 2**.

<b>Bioregion</b>	Einasleigh Upland		
<b>Area</b>	48,622.6ha		
<b>Local government area</b>	Etheridge Shire Council	<b>State electorate</b>	Traeger
<b>Management obligations</b>	QCD2013/007 Ewamian People #3		

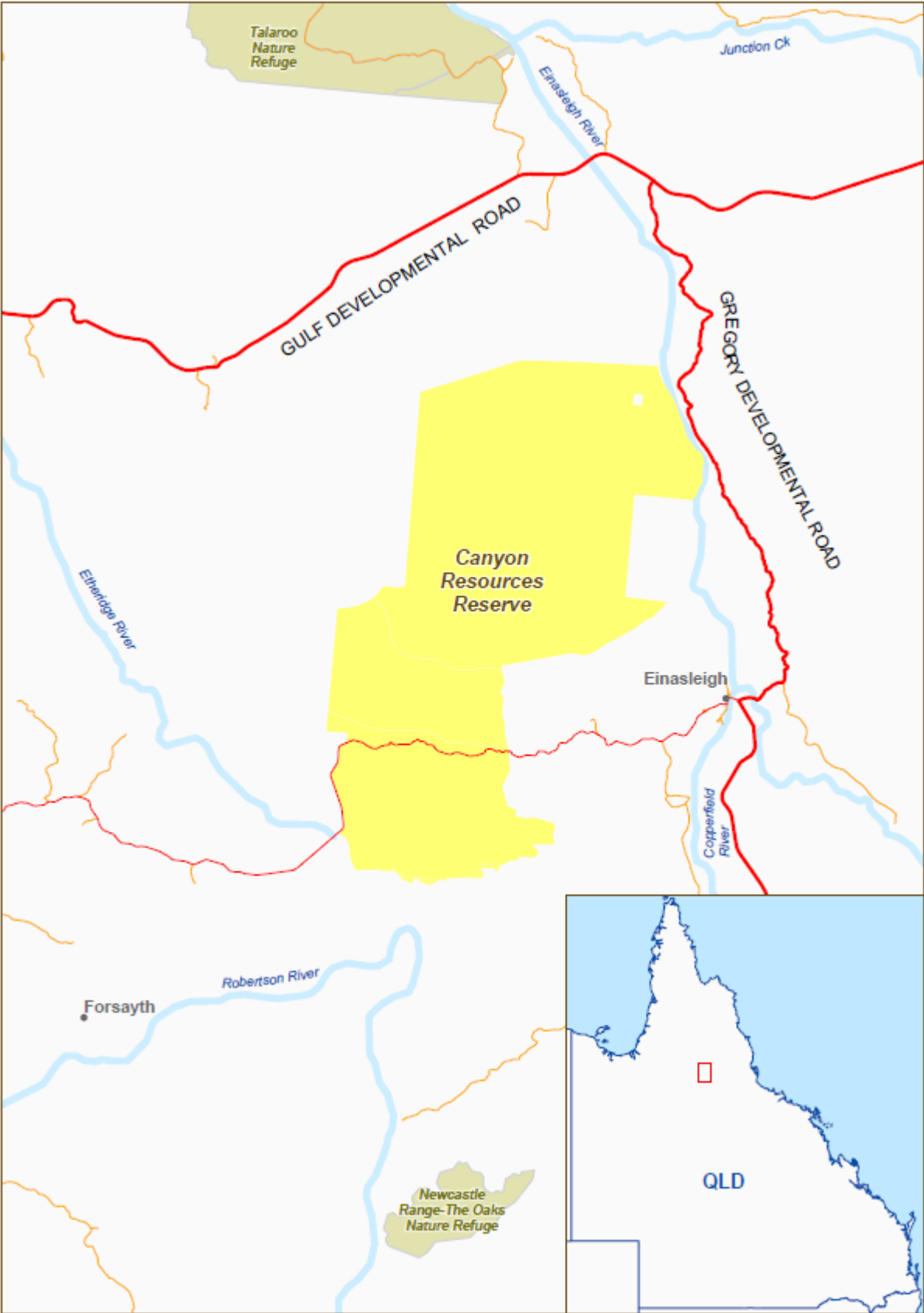


Figure 2. Canyon Resources Reserve location map

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## 2.1 Ewamian People

Canyon Resources Reserve lies within the lands of the Ewamian People, who have a native title determination that includes the reserve (Ewamian People #3 QUD 6018/2001). The registered native title body corporate (RNTBC) is the Ewamian People Aboriginal Corporation RNTBC. The total area of this native title determination is approximately 26,000 square kilometres, including all protected area north of the Gilbert River.

The native title determination also includes management obligations for the RNTBC on the following nearby protected areas: Mount Rosey Resources Reserve, Undara Volcanic National Park and Blackbraes National Park.

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## 2.2 Regional ecosystems

There are 24 regional ecosystems within the reserve, five which have an 'of concern' biodiversity status as outlined in **Appendix 2**. Six of the regional ecosystems on the reserve are restricted to the Newcastle Range (REs 9.10.5, 9.5.1, 9.12.12, 9.12.13, 9.5.7, 9.12.29).

The Newcastle Tableland is biogeographically isolated, and its elevated plateau provides a refuge for plants and animals, with strong connectivity within the Kidston subregion. The reserve is surrounded by low hills and plains and rises from 375 metres to over 790 metres above sea level.

The reserve contains a number of springs, not displayed on regional ecosystem mapping, and the sandy plateau in the central area has wetlands.

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## 2.3 Species

There are over 90 bird, seven reptile, and seven frog species known on the reserve. The conservation status of threatened species recorded in the park are included in **Appendix 3**.

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## 2.4 Geophysical features

The reserve landform and soils vary greatly, ranging from deep sands and earths, rock platforms and crevices, fertile loams and infertile sands and earths, within sheltered valleys and watercourses. Watercourses include streams with permanent or near permanent water, and springs and seeps.

The reserve includes part of the tributaries to the Etheridge and Einasleigh rivers. Rock basements in these tributaries create permanent and semi-permanent rock pools. The lateritic/ferricrete hardpan on the red soil plateau area has depressions that form several closed wetlands. These wetlands are fringed by seasonally waterlogged, sandy discharge zones. The plateau margins, in the north and east, have near permanent spring and seep systems that sustain flows well into the dry season. There are numerous artificial waters on the reserve such as dams, including four on the plateau surface.

The reserve has three major landscapes of the subregion not protected elsewhere—sandy plateaus, rocky rhyolite ranges and tableland, and dissected hills on pre-Cambrian high-grade metamorphics.

Canyon Resources Reserve has diverse geological and geomorphic features, including Quaternary alluvials, Cainozoic laterites and residual soils, Jurassic and Cretaceous sediments, rhyolites, granites and high-grade metamorphic rocks.

Rhyolite and granite areas form a rugged tableland of stony ranges and upper catchments. These areas are little disturbed and are self-sustaining. Similarly, the extensive red soil plateau surface and associated exposed margins of Jurassic and Cretaceous sediments form an upper catchment area, a

recharge area and discharge zones. These areas are large, diverse and little disturbed, and are also considered self-sustaining.

The reserve contains a wide range of geologies and land surfaces representative of the southern part of the Kidston subregion. The most outstanding geology is an extensive remnant of a residual Tertiary surface and its associated landforms and soils, including intact residual lateritic soils, skeletal soils on exposed ferricrete, closed and open drainage depressions, seeps and springs, and fringing scarps. Underlying the plateau surface, and exposed around its margins, is a sequence of Jurassic and Cretaceous sediments that includes the Coffin Hill and Yappar Members of the Gilbert River Formation. The Jurassic sediments form stony slopes with skeletal soils on mainly indurated finer sediments. Cretaceous sediments form broad ledges with deep pale sands on coarse sandstone.

In the north-east, there is also a complex dissected lowland area, consisting of a deep weathered surface on pre-Cambrian biotite granite, partly covered by Tertiary outwash from the adjacent ranges. The watercourses in this area, and in the south-east, have small terraces of Quaternary alluvials and current within-channel deposits.

Targeted track drainage (through the construction of low impact 'whoa-boys'), targeted weed control, pig control and fire management are the major short-term issues for managing geophysical values.

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## 2.5 Recreational opportunities

The resources reserve has potential for camping and exploration-style tourism and recreation, in a part of Queensland which has limited opportunities for tourists.

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## 2.6 Tourism and visitor opportunities

The Savannahlander railway passes along the southern boundary of the reserve.

The Einasleigh to Forsayth road bisects the southern part of the property, traversing the metamorphic foothills, the sandstone plateau margins and the red plateau. This road is being progressively upgraded and is now a regionally significant tourist drive.

The plateau provides a good location for bush camping on a popular tourist route. The plateau is of particular interest due to its outstanding condition and the aesthetically pleasing character of its woodlands, especially with the yellow trunks of Queensland yellow-jacket *Eucalyptus similis* and red soils. The water courses are easily accessible and provide seasonal opportunities for day use. The extensive, inaccessible areas provide an opportunity for wilderness walking with spectacular views.

There are several points in the metamorphic hills where there are extensive views along the margin of the plateau and east over the valley of the Einasleigh River. The sandstone plateau is an unusual environment with mature woodlands over flat, rich red soils. An increase in camping could lead to more frequent and longer stays by tourists, and support the local economies of the surrounding towns of Einasleigh, Forsayth and Georgetown. The remote areas in the north of the reserve have great potential for wilderness-based recreation.

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## 2.7 Historic cultural heritage

No historic cultural heritage places have been found on the reserve. The Savannahlander railway, passing the resources reserve's southern boundary, is listed on the Queensland Heritage Register (Place ID 601637).



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## 2.8 Partnerships

The management of pests and fire is significantly enhanced by the cooperation of reserve neighbours and local rural fire brigades. Neighbouring rural fire brigades include Newcastle Range Rural, Einasleigh Rural (which includes the reserve), Forsyth and District Rural and Mount Surprise Rural. QPWS strives to develop and maintain good relationships with neighbouring property holders.

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## 2.9 Scientific research

There is little educational and scientific information available for the reserve. However, due to the reserve's high landscape, ecosystem and floristic diversity and connectivity, there are likely to be opportunities for scientific study.

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## 2.10 Pests

Nineteen plants classed as environmental weeds have been recorded on Canyon Resources Reserve, including rubber vine *Cryptostegia grandiflora* and prickly acacia *Acacia farnesiana*. Tracks through the park are a major concern as avenues for the spread of pest plants.

Seven pest animals are known on Canyon Resources Reserve, including feral pigs *Sus scrofa*. Pig control measures have been implemented, with regular review of control and eradication options. Cane toads *Rhinella marina*, pigs and cats *Felis catus* are listed as key threatening processes under the *Environment Protection and Biodiversity Conservation Act 1999*.

Refer to **Appendix 4** for a list of pest plants and animals that have been found in the Canyon Resources Reserve.

# Appendices

## Appendix 1. Legal, policy and management commitments

### Gazettal details

Canyon Resources Reserve was gazetted on 27 November 2015.

The tenure of this property was changed from regional park to resources reserve by the *Nature Conservation and Other Legislation Amendment Act 2016*, commencing 1 July 2016.

### Applicable Acts and statutory powers

- *Nature Conservation Act 1992* (Qld)
- *Native Title Act 1993* (Cwth)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
- *Biosecurity Act 2014* (Qld)
- *Aboriginal Cultural Heritage Act 2003* (Qld)
- *Mineral Resources Act 1989* (Qld)
- *Mining and Quarrying Safety and Health Act 1999* (Qld)
- *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld)

### Authorities

Exploration permits for minerals other than coal:

EPM 13072  
EPM 18093  
EPM 25199  
EPM 25200  
EPM 25211  
EPM 25424  
EPM 25451  
EPM 25522

## Appendix 2. Regional ecosystems of significance

Regional ecosystem	Description	Biodiversity status
9.3.3	<i>Corymbia</i> spp. and <i>Eucalyptus</i> spp. dominated mixed woodland on alluvial flats, levees and plains	Of concern
9.3.12	River beds and associated waterholes on major rivers and channels	Of concern
9.3.13	<i>Melaleuca</i> spp., <i>Eucalyptus camaldulensis</i> and <i>Casuarina cunninghamiana</i> fringing open forest on streams and channels	Of concern
9.10.5	<i>Eucalyptus similis</i> +/- <i>Corymbia erythrophloia</i> open forest on remnant sandstone sheets overlying mountain ranges	Of concern
9.12.29	<i>Eucalyptus similis</i> and <i>E. shirleyi</i> +/- <i>E. crebra</i> low open woodland on low granite hills with rocky outcrops	Of concern

## Appendix 3. Species of conservation significance

Scientific name	Common name	NC Act status	EPBC Act status
<b>Plants</b>			
<i>Cycas cairnsiana</i>	-	Vulnerable	Vulnerable
<i>Macropteranthes montana</i>	-	Vulnerable	Vulnerable
<i>Solanum angustum</i>	-	Endangered	-
<b>Animals</b>			
<i>Phascolarctos cinereus</i>	koala	Vulnerable	Vulnerable

No species listed in the Convention on the Conservation of Migratory Species (CMS), China–Australia Migratory Bird Agreement (CAMBA), Japan–Australia Migratory Bird Agreement (JAMBA) or Republic of Korea–Australia Migratory Bird Agreement (ROKAMBA) have been recorded on Canyon Resources Reserve.

## Appendix 4. Pests

Scientific name	Common name	Biosecurity Act 2014 status	Historic Notes
<b>Plants</b>			
<i>Acacia farnesiana</i>	prickly acacia		
<i>Acmella uliginosa</i>	-	-	
<i>Argemone ochroleuca</i>	Mexican poppy/ saffron poppy	-	
<i>Bidens bipinnata</i>	bipinnate beggar's peg	-	<ul style="list-style-type: none"> <li>North-east lowlands and rhyolite hills</li> </ul>
<i>Bothriochloa pertusa</i>	Indian couch	-	<ul style="list-style-type: none"> <li>In the metamorphic areas primarily on tracks and around licks. Southern section. Readily spread by vehicles and cattle</li> </ul>
<i>Calotropis procera</i>	calotrope	-	<ul style="list-style-type: none"> <li>Invasive. Emerging pest. May form dense thickets on alluvial areas or riparian zones</li> </ul>
<i>Crotalaria goreensis</i>	Gambia pea	-	
<i>Crotalaria juncea</i>	sunhemp	-	
<i>Crotalaria pallida</i> var. <i>obovata</i>	streaked rattlepod	-	
<i>Cryptostegia grandiflora</i>	rubber vine	Restrictive matter – Invasive category 3	<ul style="list-style-type: none"> <li>North-east lowland section, especially in the Einasleigh River riparian zone. Potential to smother native species and impact threatened regional ecosystems. The plateau area provides a recharge surface for wetlands and adjacent springs and watercourses, and the remainder of the property covers upper catchments of tributaries of both the Einasleigh and Etheridge rivers. Priority to protect these strategic sites from invasion by rubber vine. The property includes a section of the western bank of the Einasleigh River. Infestations along this river are not strategically located for successful control, and experience constant re-infestation from upstream</li> </ul>
<i>Digitaria ciliaris</i>	summer grass	-	
<i>Digitaria didactyla</i>	Queensland blue couch	-	
<i>Echinochloa colona</i>	awnless barnyard grass	-	
<i>Echinochloa sp.</i>	barnyard grass	-	<ul style="list-style-type: none"> <li>Emerging pest. Recently graded track sections. Invades wet habitats, potential to seriously degrade the lacustrine wetlands</li> </ul>
<i>Eragrostis pilosa</i>	soft lovegrass	-	
<i>Euphorbia hirta</i>			
<i>Hyptis suaveolens</i>	hyptis	-	<ul style="list-style-type: none"> <li>North-east lowlands and rhyolite hills. Common in places. Infestation should reduce with removal of cattle. Invasion focus around disturbed ground</li> </ul>
<i>Macrotyloma axillare</i> var. <i>axillare</i>	-	-	
<i>Melinis repens</i>	red natal grass	-	<ul style="list-style-type: none"> <li>Widespread. Low abundance and impact</li> </ul>
<i>Ricinus communis</i>	castor oil plant	-	<ul style="list-style-type: none"> <li>Invasive</li> </ul>
<i>Scoparia dulcis</i>	scoparia	-	
<i>Senna occidentalis</i>	coffee senna	-	<ul style="list-style-type: none"> <li>Around lick sites and alluvial flats in the metamorphic country. Around the primary stock dam (severe infestation). Occasional isolated dense stands. Readily spread by vehicles and cattle, has the ability to invade a wide range of environments</li> </ul>
<i>Sida acuta</i>	spinyhead sida	-	

Scientific name	Common name	Biosecurity Act 2014 status	Historic Notes
<i>Sida cordifolia</i>	-	-	
<i>Stylosanthes humilis</i>	Townsville stylo	-	
<i>Stylosanthes sp.</i>	seca	-	<ul style="list-style-type: none"> <li>Widespread. Low abundance and impact</li> </ul>
<i>Themeda quadrivalvis</i>	grader grass	-	
<i>Urena lobata</i>	urena weed	-	<ul style="list-style-type: none"> <li>North-east lowlands</li> </ul>
<i>Urochloa mosambicensis</i>	sabi grass	-	
-	high biomass grasses: various species	-	<ul style="list-style-type: none"> <li>Exotic grasses are capable of out-competing native grasses, significantly changing fuel loads and altering fire regimes</li> </ul>

### Animals

<i>Bos taurus / indicus</i>	European cattle/ zebu	Prohibited matter – invasive	<ul style="list-style-type: none"> <li>Prolonged selective grazing pressure may reduce density of native grasses and can alter fuel characteristics. Other impacts include ground compaction and weed dispersal</li> </ul>
<i>Equus caballus</i>	wild horse	Prohibited matter – invasive	<ul style="list-style-type: none"> <li>Focus in northern section and along banks of the Einasleigh River (east). Capable of changing ecosystem structure, threatening rare and endangered REs and plant and animal species, and affecting water quality. Damage infrastructure including fencing</li> </ul>
<i>Felis catus</i>	feral cat	Restricted invasive category 3, 4 & 6	<ul style="list-style-type: none"> <li>General (southern portion). Main predator of small mammals and birds in many ecosystems. Threatened fauna species at risk of predation</li> </ul>
<i>Oryctolagus cuniculus</i>	European rabbit	Restricted matter – invasive category 3, 4, 5 & 6	<ul style="list-style-type: none"> <li>Tableland/plateau ironbark woodlands</li> </ul>
<i>Rhinella marinus</i>	cane toad	Prohibited matter – invasive	
<i>Sus scrofa</i>	feral pig	Prohibited matter – invasive – feral pigs Restricted matter - invasive category 3, 4 & 6	<ul style="list-style-type: none"> <li>Use seeps around the plateau margins as a dry season refugia. Damage occurs at a low level in most areas. Dry season water quality impacts. Damage to dry season refugia by denuding and turning over the soil and direct foraging, reducing water quality and erosion</li> </ul>
<i>Canis lupus familiaris</i>	dog	Prohibited matter – invasive Restricted matter--invasive category 3, 4 & 6 – other than a domestic dog	

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