

## Petermann Ranges and surrounds

### Location and Description

The Petermann Ranges rise to 1158 m above sea level and extend for some 320 km from east-central Western Australia into the south-west corner of the Northern Territory. The Site encompasses the portion of the ranges within the Northern Territory, and includes the greater Petermann Ranges and outlying hills, as well as intervening and adjacent sandplains. The ranges are mostly composed of granite, sandstone and quartzite and contain numerous sheltered gorges. Valleys containing alluvium deposits support acacia shrubland, and the ranges and dunes support spinifex grassland with an overstorey of low, sparse trees and shrubs.

### Tenure and Land Use

The Site is almost entirely Aboriginal freehold land within Petermann Aboriginal Land Trust lands, and there is a small portion of vacant Crown land. The main land use within the Site is Indigenous. Docker River community (population 355) is within the Site, and numerous other small communities occur throughout the Site. The Site is within the proposed Katiti-Petermann Indigenous Protected Area.

### Significance Rating

National Significance

### Ecological Values

The Petermann Ranges provide a significant refuge for many plants and animals, including threatened and restricted range species. Eight threatened vertebrate species have been reported from the Site, including the Black-footed Rock-wallaby, Brush-tailed Mulgara and the Great Desert Skink, the latter only recently discovered at the Site. One plant species (*Goodenia rupestris*) is known only from this Site, and many other plant species found within the Site are endemic to the Northern Territory or have a restricted range within the Northern Territory.

### Management Issues

The main management issues for the Site are uncontrolled summer wildfires, and feral horse and camel. The spread of buffel grass within the Site is likely to exacerbate the unfavourable fire regime.

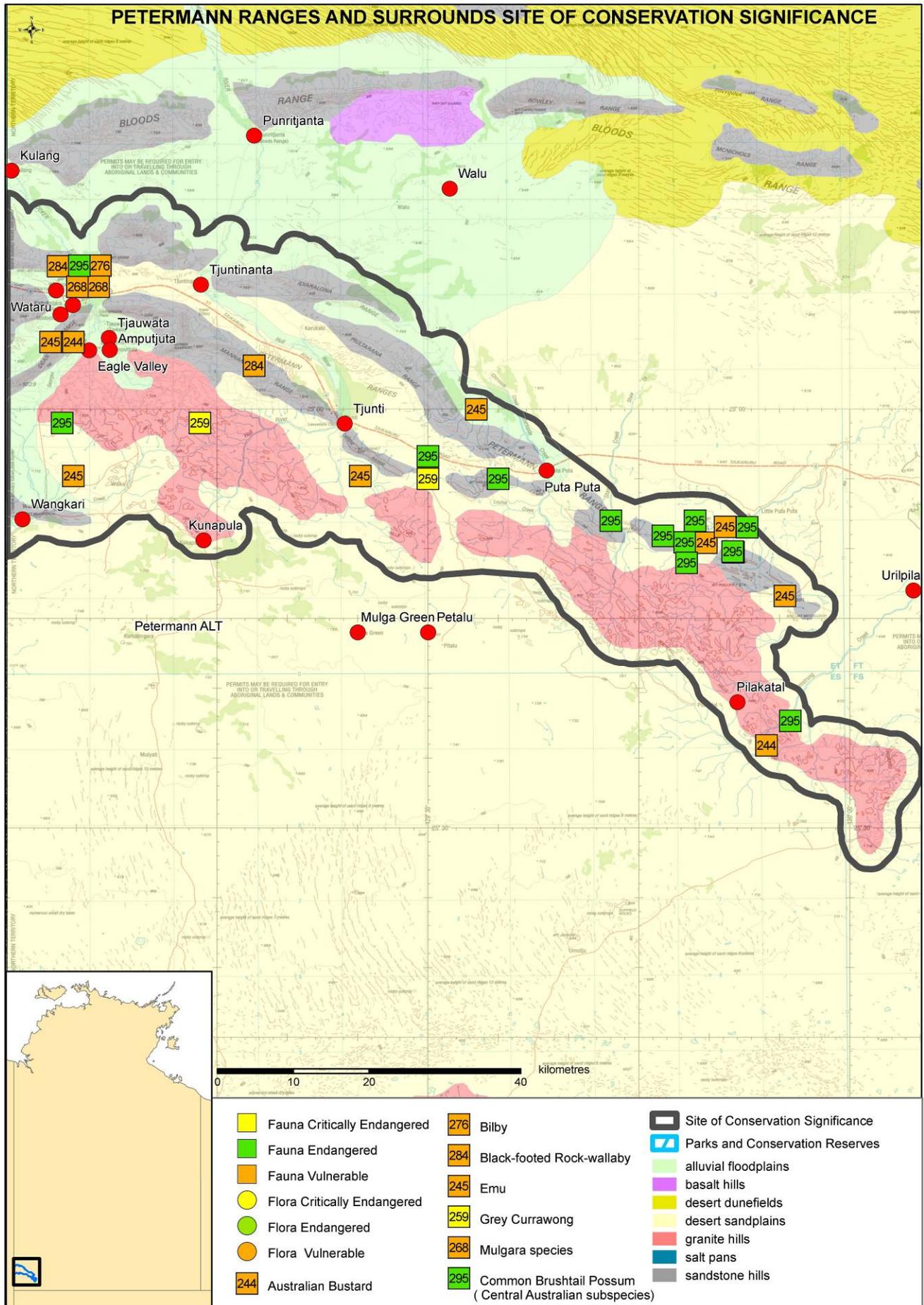
### Condition

Waterholes and wetlands have been degraded by feral camel and horse, and other areas have been negatively affected by extensive wildfires.



### Current Conservation Initiatives

The Petermann Ranges lie within the proposed Katiti-Petermann Indigenous Protected Area, which is currently being developed. The Kaltakatjarra rangers, based at Docker River Community, are controlling camel and horse populations, and fencing off waterholes to protect them from camels. They are also active in fire management, ecological surveys and management of wetland areas. A fire management plan is currently being prepared for the area.



PETERMANN RANGES AND SURROUNDS - SITE OF CONSERVATION SIGNIFICANCE

<b>LOCATION</b>	<b>SOCS Number</b>	60 (NT Parks and Conservation Masterplan Map Number 101)
	<b>Latitude/Longitude</b>	25° 4' South, 129° 27' East (at centre)
	<b>Bioregion</b>	Central Ranges
	<b>Description</b>	<p>The site comprises the greater Petermann Ranges, and includes the Dean, Mannanana, Ilyaralona, Curdie and Piutarana Ranges, and Mount Skene, Mount Fagen and Mount Hastie, the Pottouy Hills and associated alluvial fans and intervening sandplain (White <i>et al.</i> 2000).</p> <p>The boundary of the site follows that delineated by White <i>et al.</i> (2000) in defining the Petermann Ranges Site of Botanical Significance, with additions of similar land units (based on land systems mapping) and a 2 km buffer added. The site encompasses an area of 3392 km<sup>2</sup>.</p> <p>Dominant vegetation communities include <i>Triodia basedowii</i> hard spinifex hummock grassland with <i>Allocasuarina decaisneana</i> desert oak over-storey between dunes; and <i>Triodia spicata</i> spike-flowered spinifex hummock grassland with <i>Grevillea wickhamii</i> holly grevillea and <i>Acacia</i> sparse-shrubland overstorey (White <i>et al.</i> 2000).</p> <p>Lakes Amadeus and Neale, 72 km to the north-east of this site, are also identified as a site of high conservation significance in the NT.</p>
<b>THREATENED SPECIES</b>	<b>Significance Rating</b>	<b>National Significance</b>
	<b>Threatened plants and animals</b> (Listings at National/NT level <b>CR</b> - Critically Endangered, <b>EN</b> - Endangered, <b>VU</b> - Vulnerable, <b>NT</b> - Near Threatened, <b>LC</b> - Least Concern, <b>DD</b> - Data Deficient)	<p>Eight threatened species are recently reported from this site.</p> <p><b>Vertebrates</b></p> <ul style="list-style-type: none"> <li>▪ Australian Bustard <i>Ardeotis australis</i> (-/VU)</li> <li>▪ Emu <i>Dromaius novaehollandiae</i> (-/VU)</li> <li>▪ Grey Currawong <i>Strepera versicolor plumbea</i> (-/EN)</li> <li>▪ Black-footed Rock-wallaby <i>Petrogale lateralis</i> (VU/NT)</li> <li>▪ Bilby <i>Macrotis lagotis</i> (VU/VU)</li> <li>▪ Brush-tailed Mulgara <i>Dasyercus blythi</i> (VU/VU)</li> <li>▪ Common Brushtail Possum <i>Trichosurus vulpecula vulpecula</i> (-/EN)</li> <li>▪ Great Desert Skink <i>Egernia kintorei</i> (VU/VU)</li> </ul> <p>It is estimated that fewer than 50 mature Grey Currawongs persist in the NT (Woinarski <i>et al.</i> 2007) and the species may have become extinct in the site.</p> <p>Great Desert Skink has only recently been discovered at the site by the Kaltukatjarra Rangers.</p> <p>A further six threatened species recorded in the site are believed to now be locally extinct (Brush-tailed Bettong <i>Bettongia penicillata</i>, Golden Bandicoot <i>Isodon auratus</i>, Mala <i>Lagorchestes hirsutus</i>, Numbat <i>Myrmecobius fasciatus</i>, Red-tailed Phascogale <i>Phascogale calura</i> and Western Quoll <i>Dasyurus geoffroi</i>). There are also no recent signs of Common Brushtail Possum in the area.</p>
<b>ENDEMIC SPECIES</b>	<b>Significance Rating</b>	<b>Regional Significance</b>
	<b>Notes</b>	<p><b>Endemic to the site:</b> One plant species (<i>Goodenia rupestris</i>) is known only from this site, and <i>Oldenlandia</i> sp. Central Ranges is also likely to be endemic to the site.</p> <p><b>Endemic to the bioregion:</b> Two plant species (<i>Goodenia rupestris</i> and <i>Oldenlandia</i> sp. Central Ranges) are known only from the Central Ranges bioregion.</p> <p><b>Endemic to the NT:</b> Four plant species recorded from this site are NT endemics (<i>Goodenia rupestris</i>, <i>Leucopogon sonderensis</i>, <i>Melaleuca faucicola</i>, <i>Oldenlandia</i> sp. Central Ranges).</p> <p><b>Other:</b> Two vertebrate species (Rusty Dragon <i>Ctenophorus rufescens</i> and Grey Currawong <i>Strepera versicolor</i>) are found only within the Central Ranges bioregion in the NT but also occur in other states.</p> <p>Nine plant species recorded from this site are found only in the Central Ranges bioregion within the NT but also occur in other states (<i>Dampiera dentata</i>, <i>Eremophila clarkei</i>, <i>Goodenia brunnea</i>, <i>Melaleuca fulgens</i> subsp. <i>corrugata</i>, <i>Ozothamnus</i> sp. <i>Petermann Ranges</i>, <i>Ptilotus royceanus</i>, <i>Sida</i> sp. <i>Petermann Ranges</i>, <i>Tietkensia corrickiae</i> and <i>Triodia helmsii</i>).</p>
<b>WILDLIFE AGGREGATIONS</b>	<b>Significance Rating</b>	<b>Not Significant</b>
	<b>Marine turtles</b>	Not applicable
	<b>Seabirds</b>	None known
	<b>Waterbirds</b>	None known
	<b>Shorebirds</b>	None known
	<b>Other aggregations</b>	None known

## PETERMANN RANGES AND SURROUNDS - SITE OF CONSERVATION SIGNIFICANCE

WETLANDS	<b>Significance Rating</b>	<b>Not Significant</b>
	<b>Ramsar criteria met</b>	Not assessed
	<b>DIWA criteria met</b>	Not assessed
	<b>Notes</b>	There are no significant wetland values reported for this site but small and isolated rockholes are noted to occur in granite outcrops within the ranges (Duguid 2005).
	<b>Rivers</b>	No information located
FLORA	<b>Significance Rating</b>	<b>Regional Significance</b>
	<b>Notes</b>	<b>Restricted range species:</b> Ten species recorded at the site have a restricted range within the NT ( <i>Solanum lasiophyllum</i> , <i>Eucalyptus sparsa</i> , <i>Dampiera roycei</i> , <i>Hakea rhombales</i> , <i>Prostanthera centralis</i> , <i>Acacia auricoma</i> , <i>Acacia pachyacra</i> , <i>Halgania glabra</i> , <i>Eremophila hughesii</i> subsp. <i>hughesii</i> , and <i>Swainsona disjuncta</i> ). <b>Relictual species:</b> One relictual species is reported for the site ( <i>Arthropodium strictum</i> ).
OTHER ENVIRONMENTAL VALUES		The Petermann Ranges are included within the proposed Katiti-Petermann Indigenous Protected Area, which is currently in the feasibility phase. The Petermann Ranges are identified as a Site of Botanical Significance in White <i>et al.</i> (2000) and Wankarily Waterhole, within the Ranges, is also considered botanically significant. Three migratory species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.
MANAGEMENT ISSUES		<b>Fire:</b> In the period 1997-2005, most parts of the site (86%) were burnt fewer than two times and no parts of the site were burnt more than four times. However, large-scale and hot wildfires are believed to be affecting some vertebrates such as Great Desert Skink <i>Egernia kintorei</i> (McAlpin 2001), and fire-sensitive plant species such as <i>Acacia helmsiana</i> . <b>Feral animals:</b> Camel and horse are causing major damage in the site, particularly around waterholes (R. Brittingham, Central Land Council, pers. comm.). <b>Weeds and invasive exotic plants:</b> Mesquite <i>Prosopis pallida</i> (Weed of National Significance) and Mossman River grass <i>Cenchrus echinatus</i> , castor oil plant <i>Ricinus communis</i> , caltrop <i>Tribulus terrestris</i> (category A and B weeds) occur within the site. Buffel grass <i>Cenchrus ciliaris</i> also occurs within the site and is encroaching on native vegetation (R. Brittingham, Central Land Council, pers. comm.). Couch grass <i>Cynodon dactylon</i> is likely to be spreading in the site. <b>Other:</b> No information located.
MANAGEMENT INFORMATION	<b>NRM groups</b>	Kaltakatjarra rangers (Docker River).
	<b>Protected areas</b>	The entire site is within the proposed Katiti-Petermann Indigenous Protected Area.
	<b>Current management plans</b>	<b>Site-specific plans:</b> A strategic fire management plan for the Petermann and Katiti Land Trusts is currently being prepared (R. Brittingham, Central Land Council, pers. comm.). <b>National recovery plans for threatened species:</b> Greater Bilby (Pavey 2006); Southern Marsupial Moles (Benshemesh 2004); Tjakura/ Great Desert Skink (McAlpin 2001). <b>Other management plans:</b> Australian Weeds Strategy (NRMMC 2007) <a href="http://www.weeds.gov.au/publications/strategies/weed-strategy.html">http://www.weeds.gov.au/publications/strategies/weed-strategy.html</a>
	<b>Monitoring programs and research projects</b>	The Kaltakatjarra rangers conduct some ecological surveys within the site (R. Brittingham, Central Land Council, pers. comm.). Across the NT, fire is mapped continuously under the North Australia Fire Information Project <a href="http://www.firenorth.org.au/nafi/app/init.jsp">http://www.firenorth.org.au/nafi/app/init.jsp</a>
	<b>Management recommendations</b>	Support further development of the community ranger group at Kaltukatjara with tri-state involvement (NRETA 2005). Survey the distribution of buffel grass to determine the most strategic control program (D. Albrecht, NRETAS, pers. comm.).
KEY REFERENCES	<b>Papers and reports</b>	White, M., Albrecht, D., Duguid, A., Latz, P. and Hamilton, M. (2000). <i>Plant species and sites of botanical significance in the southern bioregions of the Northern Territory; volume 2: significant sites</i> . A report to the Australian Heritage Commission from the Arid Lands Environment Centre. Alice Springs, NT.
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