Mount Liebig and surrounds

Location and Description

Mount Liebig, Mount Palmer and Mount Crawford are outliers of Heavitree quartzite on the western edge of the Greater MacDonnell Ranges, about 250 km west of Alice Springs. The mountains rise up to 500 m above the surrounding plains and shelter a number of gorges, including Talipata Gorge and Mangeraka Gorge, and springs. Talipata Spring is a permanent spring in Talipata Gorge on the north side of Mount Palmer, which supports a mesic environment. The dominant vegetation communities within the Site include low-open eucalypt woodland and acacia shrubland with an understorey of hummock grassland.

Tenure and Land Use

The Site is entirely Aboriginal freehold land within the Haasts Bluff Aboriginal Land Trust. The major land use within the Site is Indigenous and part of the Site is used for cattle grazing. Mount Liebig community is located on Kintore Road in the north-west of the Site.

Significance Rating

National Significance

Ecological Values

Talipata Gorge and the permanent water associated with Talipata Spring support a significant wetland area that harbours a number of restricted range and relictual plant species. Two plant species are known only from the Site and a further four species are endemic to the Northern Territory. Four threatened species have been recorded from within the Site - Black-footed Rock-wallaby, Brush-tailed Mulgara, Southern Marsupial Mole and Great Desert Skink.

Management Issues

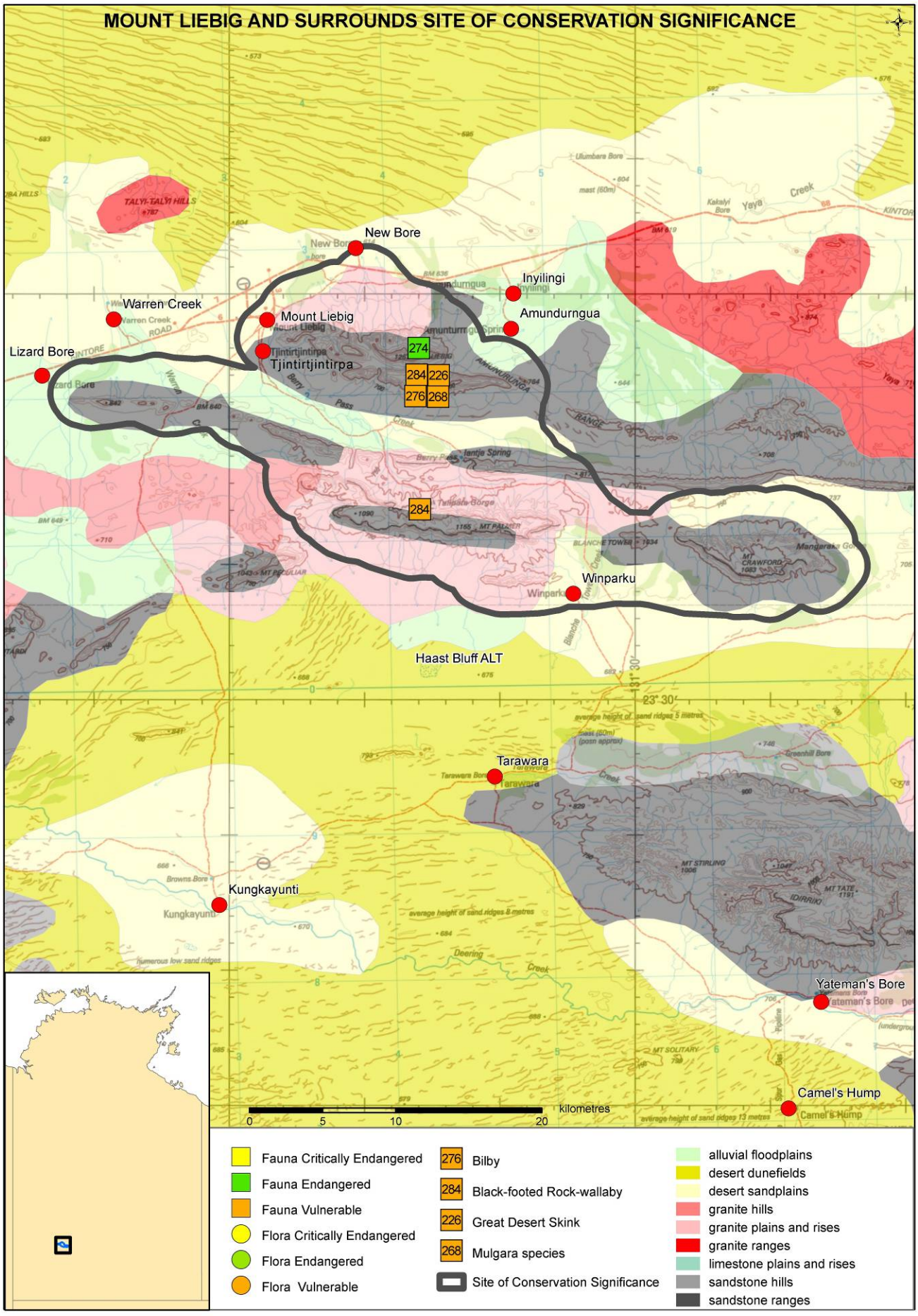
Fires are a management issue in the area, with frequent and extensive wildfires likely to have a negative impact on fire-sensitive vegetation communities. Buffel grass is widespread on the plains and run-on areas. Feral horses are relatively common and are degrading vegetation communities and significant waterholes.

Condition

Some vegetation communities and springs within the Site are degraded from grazing and trampling by cattle and feral horse.

Current Conservation Initiatives

Limited surveys of threatened species within the Site were conducted by the Central Land Council and Traditional Owners in 2003. The Central Land Council has plans to monitor grazing impacts within the Site and to establish an Indigenous ranger group in the area.


MOUNT LIEBIG AND SURROUNDS SITE OF CONSERVATION SIGNIFICANCE
New Bore
Inyilingi
Warren Creek
Mount Liebig
Amundurngua
Lizard Bore
Tjintirtjintirpa
274
284
226
276
268
Winparku
Haast Bluff ALT
Tarawara
Kungkayunti
Yateman's Bore
Camel's Hump
kilometres
0
5
10
20
Fauna Critically Endangered
Fauna Endangered
Fauna Vulnerable
Flora Critically Endangered
Flora Endangered
Flora Vulnerable
276 Bilby
284 Black-footed Rock-wallaby
226 Great Desert Skink
268 Mulgara species
Site of Conservation Significance
alluvial floodplains
desert dunefields
desert sandplains
granite hills
granite plains and rises
granite ranges
limestone plains and rises
sandstone hills
sandstone ranges

LOCATION	**SOCS Number**	56 (NT Parks and Conservation Masterplan Map Number 86)
	Latitude/Longitude	23º 21´ South, 131º 23´ East (at centre)
	Bioregion	MacDonnell Ranges (95%) Great Sandy Desert (5%)
	Description	The boundary of this site follows the boundary defined for the Talipata/Mount Liebig Site of Botanical Significance (White *et al.* 2000) with additions to join two separate areas into one, plus a 2 km buffer around the whole site. The site has an area of 574 km². Major landforms include granite and sandstone ranges, with small areas of alluvial plains and sandplains between the ranges. Major vegetation communities present within the site include: low-open eucalypt woodland and sparse acacia shrubland with spike flower spinifex *Triodia spicata* and soft spinifex *T. Pungens* hummock grassland understorey; and mulga *Acacia aneura* tall open-shrubland with woolybutt *Eragrostis eriopoda* open-grassland understorey (White *et al.* 2000). The Greater MacDonnell Ranges, situated east of this site, are also identified as a site of high conservation significance in the NT.
THREATENED SPECIES	**Significance Rating**	**Regional Significance**
	Threatened plants and animals (Listings at National/NT level **CR** - Critically Endangered, **EN** - Endangered, **VU** - Vulnerable, **NT** - Near Threatened, **LC** - Least Concern, **DD** - Data Deficient)	Four threatened species are recorded from this site. **Vertebrates** ▪ Black-footed Rock-wallaby *Petrogale lateralis* (VU/NT) ▪ Brush-tailed Mulgara *Dasycercus blythi* (VU/VU) ▪ Southern Marsupial Mole *Notoryctes typhlops* (EN/VU) ▪ Great Desert Skink *Egernia kintorei* (VU/VU) There is also a record from the 1960's of the nationally endangered Central Rock-rat *Zyzomys pedunculatus*, from 'somewhere near Mt Liebig'. Two threatened species reported from the site are believed to now be locally extinct (Greater Bilby *Macrotis lagotis* and Golden Bandicoot *Isoodon auratus*).
ENDEMIC SPECIES	**Significance Rating**	**Regional Significance**
	Notes	**Endemic to the site:** Two plant species (*Goodenia faucium and Scaevola* sp. Mt Liebig*)* are only known from this site. **Endemic to the bioregion:** Three plant species *(Neurachne tenuifolia, Goodenia faucium and Scaevola* sp. *Mt Liebig)* recorded from this site are endemic to the MacDonnell Ranges bioregion. **Endemic to the NT:** Six plant species (*Goodenia faucium, Hakea grammatophylla, Melaleuca faucicola, Neurachne tenuifolia, Scaevola* sp. *Mt Liebig* and *Triodia hubbardii*) and two vertebrate species (Centralian Tree Frog *Litoria gilleni* and Frost's Lerista *Lerista frostii)* recorded from this site are found only in the NT. **Other:** One plant species recorded in this site is found only within the MacDonnell Ranges bioregion in the NT but also occurs in other states (*Scaevola humilis*).
WILDLIFE AGGREGATIONS	**Significance Rating**	**Not Significant**
	Marine turtles	Not applicable
	Seabirds	None known
	Waterbirds	None known
	Shorebirds	None known
	Other aggregations	None known
WETLANDS	**Significance Rating**	**National Significance**
	Ramsar criteria met	Talipata Spring is not listed as a Ramsar site, however Duguid *et al.* (2005) assessed the area against the criteria for listing as an internationally significant wetland under the Ramsar Convention and concluded that Talipata Spring meets Criterion 3.
	DIWA criteria met	Talipata Spring is not listed in the Directory of Important Wetlands in Australia (DIWA), however Duguid *et al.* (2005) assessed the spring against DIWA criteria and concluded that it meets Criteria 1 and 3.
	Notes	Talipata Spring is a permanent freshwater spring within the relatively sheltered Talipata Gorge on the north side of Mount Palmer. The rate of discharge from Talipata Spring is estimated to be about 1 litre per second, which is similar to Mount Giles Yard Spring (Duguid 2005). The spring supports a small stream and a mesic environment within the gorge.
	Rivers	There are a number of small ephemeral creeks within the site including Warren, Berry Pass and Blanche Tower creeks.
FLORA	**Significance Rating**	**Not Significant**
	Notes	**Restricted range species:** Nine species recorded from this site have restricted ranges within the NT (*Baeckea polystemonea, Eucalyptus gillenii, Gastrolobium brevipes, Hibbertia glaberrima, Histiopteris incisa, Juncus continuus, Ptilotus incanus* var. *incanus, Schoenus centralis* and *Swainsona disjuncta*). **Relictual species:** Five relictual species are known from the site (*Adiantaum hispidulum* var. *hispidulum, Histiopteris incisa, Juncus continuus, Lindsaea ensifolia and Schoenus centralis*).

OTHER ENVIRONMENTAL VALUES		Talipata Spring is identified as being significant for biodiversity conservation by Duguid *et al.* (2005). Talipata/Mount Liebig is identified as a Site of Botanical Significance in White *et al.* (2000). Talipata Spring supports a distinct assemblage of aquatic invertebrates (Davis 1997). One species of particular importance is the Water Penny *Sclerocyphon fuscus*, which is the aquatic larvae of a terrestrial beetle that needs fresh water, and is considered to be a relict of a moister climate (Duguid 2005). It is known only from a few locations in the West MacDonnell and George Gill ranges (Davis 1995).
MANAGEMENT ISSUES		**Fire:** In the period 1997-2005, most parts of the site (95%) were burnt fewer than two times and no parts were burnt more than four times. The fire regime in the site has changed from one of small-scale fires to more frequent and widespread wildfires and this is having a negative impact on fire-sensitive vegetation, while promoting fire-tolerant species. **Feral animals:** Wild horses are relatively common within the site and are degrading springs (P. Donohoe, Central Land Council, pers. comm.). **Weeds and invasive exotic plants:** Caltrop *Tribulus terrestris* (category B weed) occurs in this site, and buffel grass *Cenchrus ciliaris* is widespread on the plains and run-on areas. Couch grass *Cynodon dactylon* is also likely to be present and spreading in the site. **Other:** Grazing or trampling by cattle has damaged waterholes (NRETA 2005). The site is poorly surveyed, the status of threatened species within the site is mostly unknown, and the extent and nature of threats to the conservation values of the site cannot be clearly defined.
MANAGEMENT INFORMATION	**NRM groups**	Conservation Volunteers Australia, Haasts Bluff Aboriginal Land Trust.
	Protected areas	The site is not included within the NT system of protected areas.
	Current management plans	**Site-specific plans:** No information located. **National recovery plans for threatened species:** Southern Marsupial Moles (Benshemesh 2004); Great Desert Skink/Tjakura (McAlpin 2001); Brush-tailed Mulgara and Crest-tailed Mulgara (SA Department of Environment and Heritage in prep.); Black-footed Rock-wallaby (WA Department of Environment and Conservation in prep.). **Other management plans:** Australian Weeds Strategy (NRMMC 2007) http://www.weeds.gov.au/publications/strategies/weed-strategy.html
	Monitoring programs and research projects	Limited surveys for the Central Rock-rat were conducted on Mt Liebig by the Central Land Council and Traditional Owners during 2003. This survey included some searches for Brush-tailed Mulgara and Great Desert Skink on the surrounding plain country, but none of these species were recorded during the surveys. Long-term monitoring of grazing impacts within this site is being planned by staff from the Central Land Council. Across the NT, fire is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp
	Management recommendations	In consultation with the landowners, investigate inclusion of the site in the proposed nomination for World Heritage listing of the West MacDonnell Range area (NRETA 2005). In consultation with the Central Land Council and Haasts Bluff Aboriginal Land Trust, investigate the options for land management and conservation initiatives (NRETA 2005).
KEY REFERENCES	**Papers and reports**	Duguid, A., Barnetson, J., Clifford, B., Pavey, C., Albrecht, D., Risler, J. and McNellie, M. (2005) *Wetlands in the arid Northern Territory. A report to the Australian Government Department of the Environment and Heritage on the inventory and significance of wetlands in the arid NT.* Northern Territory Government Department of Natural Resources, Environment and the Arts. Alice Springs. White, M., Albrecht, D., Duguid, A., Latz, P. and Hamilton, M. (2000) *Plant species and sites of botanical significance in the southern bioregions of the Northern Territory; volume 2: significant sites*. A report to the Australian Heritage Commission from the Arid Lands Environment Centre. Alice Springs, N.T.
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