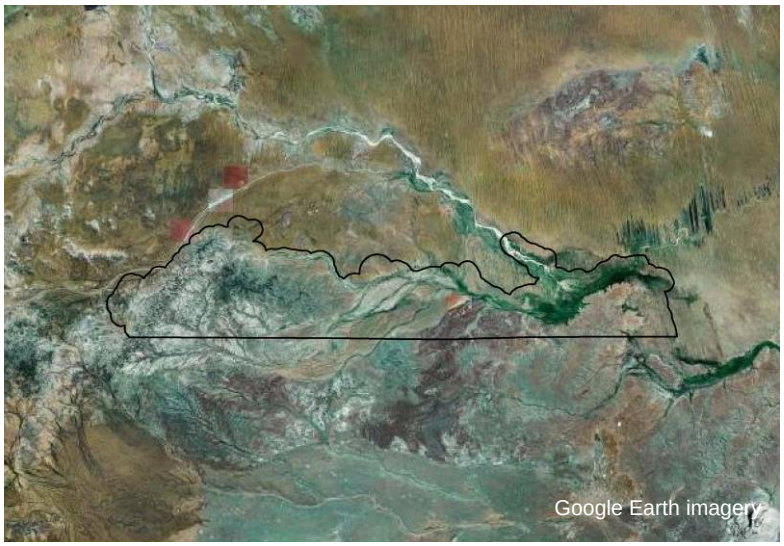
Beddome Range and Wilyunpa Tablelands

Location and Description

The Beddome Range is a low tableland rising 400 m above sea level on the western edge of the Simpson Desert. The Range is 250 km south of Alice Springs, and immediately north of the Northern Territory - South Australia border. East of the Range is the Wilyunpa Tablelands consisting of low, gravely hills. The Finke River skirts the east and north edge of the Tablelands and floods out into a large dense forest in the north-eastern portion of the Site.



Tenure and Land Use

The Site is almost entirely pastoral leasehold land, within three pastoral stations (New Crown, Andado and Umbeara). One small portion is Aboriginal freehold land on Apatula Aboriginal Land Trust lands and another is vacant Crown land. The main land use within the Site is pastoral operations. The nearest community is Finke (population 265), 25 km to the north of the Site.

Significance Rating

National Significance

Ecological Values

A total of 11 threatened species have been recorded from within this Site including one plant (Tjilpi Wattle) and ten vertebrate species. Some threatened species found in the Site have a restricted range within the Northern Territory (Plains Mouse, Thick-billed Grass-wren and Bronzeback Snake-lizard) and others such as Tjilpi Wattle are known only from the Finke bioregion. The Finke floodout forest is densely wooded and supports ephemeral waterholes and swamps. Numerous other plant species recorded from the Site have a restricted range within the Northern Territory.

Management Issues

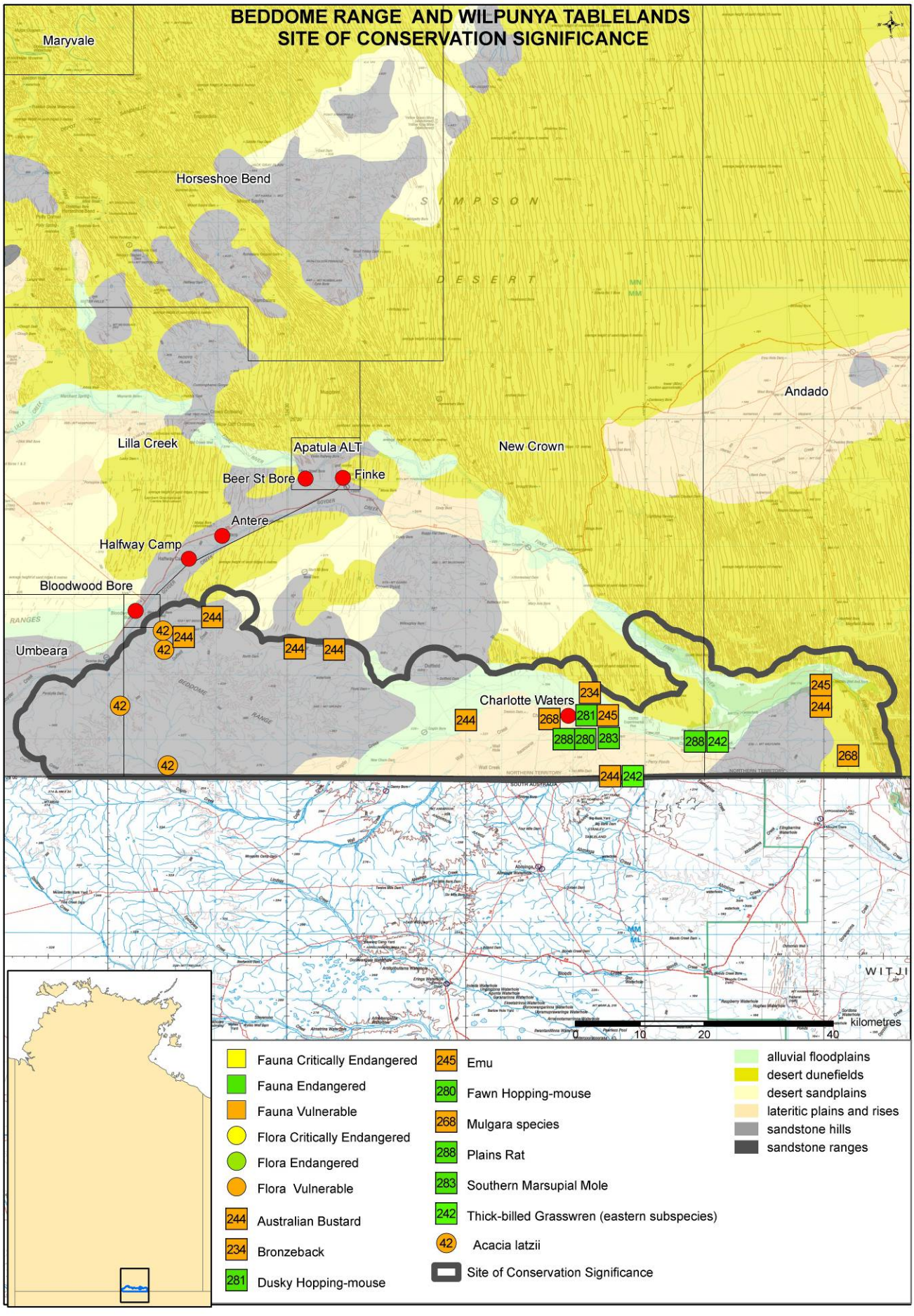
Feral animals, especially donkey and rabbit, and an unfavourable fire regime are the primary management issues for this Site. A range of significant weeds and invasive plants are also present in the Site, including buffel grass, couch grass and athel pine.

Condition

A lack of watering points in the Beddome Range has helped to preserve the condition of the Range, but rabbits have had a significant impact on the condition in some other parts of the Site.

Current Conservation Initiatives

A number of survey and monitoring projects addressing threatened species are being conducted by staff from the Threatened Species unit of the NT Department of Natural Resources, Environment, The Arts and Sport in Alice Springs. Surveys of flora and fauna on New Crown Station were conducted by Desert Discovery Inc in July 2008.


BEDDOME RANGE AND WILPUNYA TABLELANDS
SITE OF CONSERVATION SIGNIFICANCE
Maryvale
Horseshoe Bend
SIMPSON
DESERT
Andado
Lilla Creek
Apatula ALT
New Crown
Beer St Bore
Finke
Antere
Halfway Camp
Bloodwood Bore
Umbeara
Charlotte Waters
WITJI
kilometres
0
10
20
40
Fauna Critically Endangered
Fauna Endangered
Fauna Vulnerable
Flora Critically Endangered
Flora Endangered
Flora Vulnerable
244 Australian Bustard
234 Bronzeback
281 Dusky Hopping-mouse
245 Emu
280 Fawn Hopping-mouse
268 Mulgara species
288 Plains Rat
283 Southern Marsupial Mole
242 Thick-billed Grasswren (eastern subspecies)
42 Acacia latzii
Site of Conservation Significance
alluvial floodplains
desert dunefields
desert sandplains
lateritic plains and rises
sandstone hills
sandstone ranges

LOCATION	**SOCS Number**	67 (NT Parks and Conservation Masterplan Map Number 112)
	Latitude/Longitude	25º 55´ South, 134º 43´ East (at centre)
	Bioregion	Stony Plains (54%), Finke (44%), Simpson Strezlecki Dunefields (2%)
	Description	This site includes the Beddome Range, the Wilyunpa Tablelands, intervening areas, and the floodout and alluvial areas immediately north of Wilyunpa Tablelands (Finke floodout forest), and a small area of sandplains. The boundary of this site is defined by the Beddome Range and Wilyunpa Tablelands sites of Botanical Significance (White *et al.* 2000) plus inclusion of the Finke floodout forest and Duffield Swamp, and a 2 km buffer around the entire site. The site encompasses an area of 2322 km². Dominant vegetation communities in the uplands of the site include: gidyea *Acacia georginae* open-woodland with herbland understorey; bladder saltbush *Atriplex vesicaria* low sparse-shrubland with ephemeral open-herb/grassland; mulga *Acacia aneura* tall sparse-shrubland with low sparse-shrubland understorey; and chenopod open-herbland with ephemeral open-herb/grassland (White *et al.* 2000). The Finke floodout is an alluvial plain with multiple channels, which supports tall open woodland, with species such as river red-gums *Eucalyptus camaldulensis*, coolibah *Eucalyptus coolabah* ssp. *arida*, broughton willow *Acacia salicina* and whitewood *Atalalya hemiglauca* (Eldridge and Reid 1998). Andado and the Snake Creek floodout lakes immediately north of the site, is also identified as a site of high conservation significance in the NT.
THREATENED SPECIES	**Significance Rating**	**National 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)	11 threatened species are recorded from this site. **Plants** ▪ Tjilpi wattle (Latz's wattle) *Acacia latzii* (VU/VU) The site includes the largest and most vigorous stand of *A. latzii* and is therefore of major importance in the conservation of this species. **Vertebrates** ▪ Australian Bustard *Ardeotis australis* (-/VU) ▪ Emu *Dromaius novaehollandiae* (-/VU) ▪ Thick-billed Grass-wren *Amytornis textiles* (VU/EN) ▪ Brush-tailed Mulgara *Dasycercus blythi* (VU/VU) ▪ Crest-tailed Mulgara *Dasycercus cristicauda* (EN/VU) ▪ Dusky Hopping-mouse *Notomys fuscus* (VU/EN) ▪ Fawn Hopping-mouse *Notomys cervinus* (VU/EN) ▪ Plains Mouse *Pseudomys australis* (VU/EN) ▪ Southern Marsupial Mole *Notoryctes typhlops* (EN/VU) ▪ Bronzeback Snake Lizard *Ophidiocephalus taeniatus* (VU/DD) This site is highly important for the eastern subspecies of Thick-billed Grass-wren, to which the NT population belongs. In the NT the species is known only from four locations within a 25 km² area of chenopod vegetation near Charlotte Waters (Woinarski *et al.* 2007). The site is also important for the Plains Mouse, as it is one of only two locations where the species is recorded in the NT (Woinarski *et al.* 2007).
ENDEMIC SPECIES	**Significance Rating**	**Not Significant**
	Notes	**Endemic to the bioregion:** One reptile (Bronzeback Snake Lizard *Ophidiocephalus taeniatus)* recorded in the site is found only in the Stony Plains bioregion (Woinarski *et al.* 2007) and has recently been recorded in the NT for the first time in 111 years. One plant (*Acacia latzii*) recorded in the site is known only from the Finke bioregion. **Other:** Six plant species recorded at the site are restricted to the Finke bioregion within the NT but also occur in other states (*Acacia symonii, Atriplex quadrivalvata* var. *quadrivalvata, Atriplex quinii, Eremophila neglecta, Goodenia calcarata* and *Maireana ovata*). Six plant species found at the site are restricted to the Stony Plains bioregion within the NT, but are also found in other states (*Atriplex incrassata, Eremophila rotundifolia, Gunniopsis papillata, Maireana ciliata, Ptilotus aristatus* var. *aristatus* and *Rhodanthe uniflora*). The Thick-billed Grass-wren (*Amytornis textiles)* has a very restricted range in the NT and is currently known only from one population near Charlotte Waters, but the species also occurs in other states.
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	The Finke floodout forest is not listed as a Ramsar site, however Duguid *et al.* (2005) assessed the Swamp against criteria for listing as a wetland of international importance under the Ramsar convention, and concluded that the area possibly meets Criterion 1.

	DIWA criteria met	The Finke floodout forest is not listed in the Directory of Important Wetlands in Australia (DIWA), but assessments by Duguid *et al.* (2005) against DIWA criteria found that it meets Criterion 1.
	Notes	The Finke floodout forest supports a large area of densely wooded vegetation which is unusual in floodout areas in the southern NT. The floodout channels incorporate ephemeral waterholes and swamps, but the majority of the floodout area is believed to not hold water for long periods of time - in the order of week to a couple of months (Duguid 2005). Duffield Swamp, just to the north of the Beddome Range, is a large Northern Bluebush swamp which has good habitat for wetland birds (Duguid 2005). Various other smaller swamps and claypans add to total wetland value of the site (A. Duguid, NRETAS, pers. comm.).
	Rivers	The Finke River is the largest of the central Australian river systems (Griffin *et al.* 1989). It is an ephemeral river, which has its headwaters in the Western MacDonnell Ranges. From there, the river flows in a south-easterly direction for almost 400 km to the western edge of the Simpson Desert, where it opens out into an extensive floodout (Eldridge and Reid 1998).
FLORA	**Significance Rating**	**Regional Significance**
	Notes	**Restricted range species:** 13 plant species reported from the site have a restricted range in the Northern Territory (*Anemocarpa podolepidium, Arabidella nasturtium, Atriplex nummularia* subsp. *omissa*, *Cyperus alterniflorus, Eragrostis* sp. *Gibber, Gunniopsis zygophylloides, Lepidium strongylophyllum, Plagiobothrys plurisepalus, Ptilotus aristatus* var. *eichlerianus, Pycnosorus pleiocephalus, Sclerolaena longicuspis, Senecio glossanthus* and *Threlkeldia inchoata*). **Relictual species:** Two relictual species are known from the site (*Atriplex quadrivalvata* var. *quadrivalvata* and *Chenopodium pumilio*).
OTHER ENVIRONMENTAL VALUES		From a scientific perspective the area also has great historical value as many important specimens were collected in the area by the amateur naturalist Paddy Byrne when lived at the Telegraph Station at Charlotte Waters between 1877 and 1930. A variety of type specimens (for species such as the Kowari and Bronzeback Snake-lizard) were collected there and much of what we know about mammal extinctions in the area comes from the correspondence of Byrne with Baldwin Spencer, Professor of Zoology at University of Melbourne (Pavey 2005). The Finke floodout forest is identified as being significant for biodiversity conservation by Duguid *et al.* (2005). The Beddome Range and Wilyunpa Tablelands are identified as Sites of Botanical Significance in White *et al.* (2000). The Finke floodout forest supports hollow-bearing trees which provide habitat for hollow-dependent bats, such as the Inland Broad-nosed Bat *Scotorepens balstoni* and Gould's Wattled Bat *Chalinolobus gouldii* (Eldrige and Reid 1998). 13 waterbird species are recorded from this site.
MANAGEMENT ISSUES		**Fire:** No parts of the site were burnt more than twice in the period 1997-2005. Altered fire regimes, observed in the Finke Floodout forest by Eldridge and Reid (1998), have resulted in a higher proportion of fire-tolerant species and a lower plant species diversity. Unfavorable fire regimes are believed to have negative impacts on threatened plants (*Acacia latzii;* Nano *et al.* 2006) and vertebrates (Crest-tailed and Brush-tailed Mulgaras; Woinarski *et al.* 2007). **Feral animals:** The impacts of feral camel are most evident closer to the edge of the Simpson Desert. Donkeys are common in the rocky habitats, and rabbits are present although populations have decreased due to the Rabbit Calicivirus Disease (Eldridge and Reid 1998). Feral cats are also present in the site. **Weeds and invasive exotic plants:** Athel pine *Tamarix aphylla* (Weed of National Significance) is present in the Finke floodout forest in small isolated patches but is likely to become a greater problem in the site in the near future (Chris Brown, NRETAS, pers. comm.). Onion weed *Asphodelus fistulosus,* castor oil plant *Ricinus communis* (Category A and B weeds) and buffel grass *Cenchrus ciliaris* are also recorded from the site. Couch grass *Cynodon dactylon* is also likely to be present in the site (A. Duguid, NRETAS, pers. comm.). **Other:** The impacts of cattle are largely restricted to areas around bores and close to Charlotte Waters (Eldridge and Reid 1998).

MANAGEMENT INFORMATION	**NRM groups**	No information located.
	Protected areas	The site is not within the formal network of protected areas within the NT.
	Current management plans	**Site-specific plans:** A Resource Assessment Towards a Conservation Strategy for the Finke Bioregion, NT (Neave *et al.* 2004) http://www.nt.gov.au/nreta/wildlife/nature/finke.html **National recovery plans for threatened species:** *Acacia pickardii* (Nano *et al.* 2006); Marsupial Moles (Benshemesh 2004); Brush-tailed Mulgara, Crest-tailed Mulgara, and Plains Mouse (SA Department of the Environment and Heritage in prep.) **Other management plans:** Australian Weeds Strategy (NRMMC 2007); Threat Abatement Plan for Predation by the European Red Fox (Environment Australia 1999); Threat Abatement Plan for Predation by Feral Cats (Environment Australia, 1999).
	Monitoring programs and research projects	Survey and monitoring of *Acacia latzii* on New Crown and Umbeara Stations (Threatened Species unit, NRETAS, Alice Springs). Survey of threatened and near-threatened small mammals in the southern NT (Threatened Species unit, NRETAS, Alice Springs). Survey and habitat assessment for the Bronzeback Snake-lizard in the southern NT (Threatened Species unit, NRETAS, Alice Springs). Survey and population assessment of the Thick-billed Grasswren on New Crown Station (Threatened Species unit and Alice Springs Desert Park, NRETAS, Alice Springs). A fauna and flora survey of Horseshoe Bend and New Crown Station was undertaken in July 2008 by Desert Discovery Inc. with the support and guidance of staff from Biodiversity Conservation, NRETAS. Investigating Indigenous Ecological Knowledge of threatened Acacias (Threatened Species unit, NRETAS, Alice Springs in collaboration with the CLC). Implementation of the recovery plan for marsupial moles (Threatened Species unit, NRETAS, Alice Springs). There are five Tier 1 rangeland monitoring points within this site (Karfs and Bastin 2001). 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	Investigate conservation management options for the Finke floodout with the landowners, including acquisition for inclusion within the NT Reserves System (NRETA 2005) or inclusion within the new NTG conservation covenants scheme.
KEY REFERENCES	**Papers and reports**	Eldridge S. and Reid J. (1998). *A Biological Survey of the Finke Floodout Region, Northern Territory*. Arid Lands Environment Centre and the National Estate Grants Program. Neave, H. Nano, C., Pavey, C., Moyses, M., Clifford, B., Cole, J., Harris, M. and Albrecht, D. (2004). *A Resource Assessment Towards a Conservation Strategy for the Finke Bioregion, NT*. Northern Territory Government Department of Infrastructure, Planning and the Environment. Alice Springs. Pavey, C. R. (2005). Ghosts of diversity past: threatened species conservation in the arid and semi-arid Northern Territory. *Wildlife Australia* Spring 2005 42 (3): 30-33. 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, NT.
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Beddome Range area (Photo: Peter McDonald)