

Davenport and Murchison Ranges

Location and Description

The northern limits of the Davenport and Murchison Ranges are about 55 km south-east of Tennant Creek, and their southern extent about 300 km to the north-east of Alice Springs. The ranges form a large system of low rugged rocky hills, covered in spinifex hummock grassland with an overstorey of low-open eucalypt woodland and acacia shrubland. Numerous creeks and rivers drain the ranges, and sheltered gorges support permanent and near-permanent waterholes. The ranges are bounded to the west and south by the Tanami bioregion, and are in stark contrast to it, both in relief and in the vegetation the area supports.

Tenure and Land Use

The Site is predominantly pastoral leasehold land within seven pastoral leases (Elkedra, Kurundi, Singleton, Murray Downs, Derry Downs, Epenarra and Ammaroo Stations). The remaining portions of the Site are Aboriginal freehold title within four Aboriginal land trusts (Mungkarta, Anurrete, Waramungu and Mungkarta 2), and a small portion is vacant Crown land. The main land use within the Site is pastoral operations. Other uses include Indigenous and approximately 10% of the Site is managed as conservation reserves (Davenport Range National Park (proposed) and Devil's Marbles Conservation Reserve). Canteen Creek Community (population 178) is within the Site, as well as a number of family outstations and station homesteads.

Significance Rating

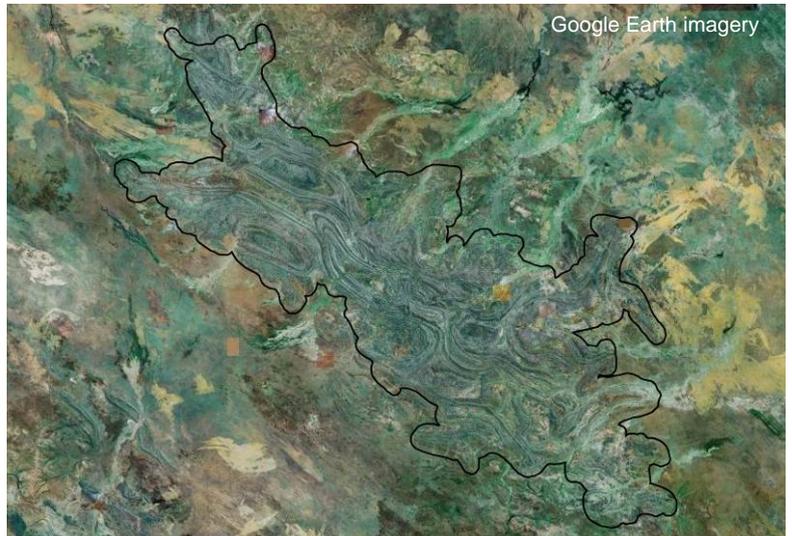
National Significance

Ecological Values

A total of seven threatened species have been recorded within the Site including two bird and five mammal species such as the Black-footed Rock-wallaby and Bilby. Long-lasting waterholes within the ranges support diverse terrestrial and aquatic fauna species, including a relatively high diversity of fish. Sheltered gorges provide refuge for populations of at least eleven plant species known only from the Northern Territory.

Management Issues

The fire regime in the area has changed from one of small scale mosaic fires to more frequent and widespread wildfires. Weeds, invasive plants and feral animals may affect native species in the Site through habitat degradation, predation and fouling of waterholes.



Condition

Weeds and invasive plants have degraded parts of the Site and grazing has reduced land condition in some areas.

Current Conservation Initiatives

The Muru-warinyi Ankkul rangers have been conducting surveys of the Black-footed Rock Wallaby within the ranges and are working on fire management and feral animal education programs within the broader area.

DAVENPORT AND MURCHISON RANGES - SITE OF CONSERVATION SIGNIFICANCE

LOCATION	SOCS Number	48 (NT Parks and Conservation Masterplan Map Number 67)
	Latitude/Longitude	20° 51' South, 134° 59' East (at centre)
	Bioregion	Davenport Murchison Ranges (99.7%) Tanami (0.3%)
	Description	<p>This Site includes the Davenport Range and the Murchison Range and associated alluvial plains. The boundary of the Site is delineated following the Site of Botanical Significance boundaries described by White <i>et al.</i> (2000), with additions of similar land units (based on land systems mapping) and a 2 km buffer applied to the whole site. The Site encompasses an area of 10 885 km².</p> <p>Major vegetation communities within the Site include low open eucalypt or acacia woodland with an understorey of hummock grassland (NRETA 2005). Vegetation around waterholes is dominated by river red gum <i>Eucalyptus camaldulensis</i>, with areas of <i>Melaleuca dissitiflora</i> and <i>Ludwigia octovalvis</i> (Duguid 2005).</p> <p>The Site shares part of its eastern boundary with the Elkedra River floodout swamps, which is also identified as a site of high conservation significance in the NT.</p>
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)	<p>Seven threatened species are reported from this site.</p> <p>Vertebrates</p> <ul style="list-style-type: none"> ▪ Australian Bustard <i>Ardeotis australis</i> (-/VU) ▪ Emu <i>Dromaius novaehollandiae</i> (-/VU) ▪ Black-footed Rock-wallaby <i>Petrogale lateralis</i> (VU/NT) ▪ Central rock-rat <i>Zyzomys pedunculatus</i> (EN/EN) ▪ Common Brushtail Possum <i>Trichosurus vulpecula vulpecular</i> (-/EN) ▪ Dusky Hopping-mouse <i>Notomys fuscus</i> (VU/EN) ▪ Greater Bilby <i>Macrotis lagotis</i> (VU/VU) <p>Four of these species have not been recorded in the site since 1970 and may be locally extinct (Greater Bilby, Central Rock-rat, Common Brushtail Possum, Dusky Hopping-mouse).</p>
ENDEMIC SPECIES	Significance Rating	Not Significant
	Notes	<p>Endemic to the NT: One reptile species (Dwarf Dtella <i>Gehyra minuta</i>) and 11 plant species recorded from the site are endemic to the NT (<i>Bonamia deserticola</i>, <i>Corymbia deserticola</i> subsp. <i>mesogeotica</i>, <i>Corymbia sphaerica</i>, <i>Cullen walkingtonii</i>, <i>Euphorbia petala</i>, <i>Goodenia larapinta</i>, <i>Heliotropium subreniforme</i>, <i>Macropteranthes kekwickii</i>, <i>Sedopsis filsonii</i>, <i>Trachymene inflata</i> and <i>Triodia hubbardii</i>). Most records of the NT endemic plant <i>Trachymene inflata</i> occur within this site.</p> <p>Other: One plant species (<i>Cyperus cunninghamii</i> subsp. <i>cheradicus</i>) is only found in the Davenport Murchison Ranges bioregion within the NT but also occurs in other states.</p>
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 (possible International)
	Ramsar criteria met	Duguid <i>et al.</i> (2005) conducted an assessment of permanent waterholes within the Davenport Range against criteria for listing as a wetland of international importance under the Ramsar Convention and found that they satisfy Criteria 2 and 3, and possibly Criterion 1.
	DIWA criteria met	Duguid <i>et al.</i> (2005) assessed waterholes within the Davenport Range against criteria for listing in the Directory of Important Wetlands in Australia, and concluded they satisfy Criteria 1, 2 and 3, and possibly Criterion 4.
	Notes	Permanent and near-permanent waterholes occur within the Davenport Range. Their longevity is attributed to their depth and shaded aspects and some are supported by springs (Duguid 2005).
	Rivers	Numerous creeks and rivers have their headwaters in the ranges including Whistleduck, Lennee and Kurundi creeks, and the Elkedra, Frew and Gosse rivers (Duguid <i>et al.</i> 2005). All major rivers that drain the ranges flood out rather than feeding into other major drainage features (Duguid, NRETAS, pers. comm.).
FLORA	Significance Rating	Not Significant
	Notes	Restricted range species: The site includes the southern range limits and disjunct southerly populations of various plant species (D. Albrecht, NRETAS, pers. comm.).

DAVENPORT AND MURCHISON RANGES - SITE OF CONSERVATION SIGNIFICANCE

OTHER ENVIRONMENTAL VALUES		<p>The Devils Marbles Conservation Reserve, and the Davenport and Murchison Ranges are listed on the Register of the National Estate for natural values (Australian Heritage Council).</p> <p>Four Sites of Botanical Significance (White <i>et al.</i> 2000) are identified within the Davenport and Murchison Ranges including Gosse River and Edinburgh Creek, Kurundi Creek, Upper Frew and Elkedra Rivers.</p> <p>Permanent waterholes within the Davenport Range are an important drought refuge for seven species of native fish including the Davenport Morgunda <i>Morgunda</i> sp. which may be a distinct species or subspecies (Duguid 2005). The waterholes are considered to be moderately diverse in fish species in the context of arid inland Australia, and significantly diverse for an isolated arid drainage system.</p> <p>Permanent waterholes within the site support waterbirds and terrestrial fauna.</p> <p>A disjunct population of Striped Burrowing Frog <i>Cyclorana alboguttata</i> is recorded from the site (J. Barnetson, NRETAS, pers comm.), while other populations of this species occur in QLD, NSW and the Top End of the NT. The Inland Crab <i>Holthusiana transversa</i> also occurs within the ranges (Duguid 2005).</p> <p>Eight migratory species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.</p>
MANAGEMENT ISSUES		<p>Fire: In the period 1997-2005, most parts of the site (97%) were burnt fewer than two times and no parts were burnt more than four times. The change from a regime of small-scale mosaic fires to more extensive wildfires has potential to affect the site's conservation values (NRETA 2005).</p> <p>Feral animals: Donkeys are numerous; feral cat and fox prey on native species. Introduced crustaceans (<i>Cherax quadricarinatus</i>) and introduced fish (<i>Maquaria</i> spp., <i>Bidyanus bidyanus</i>, <i>Maccullochella peelii</i>) are present (Duguid 2005).</p> <p>Weeds and invasive exotic plants: <i>Parkinsonia Parkinsonia aculeata</i> (Weed of National Significance) is present in the site. <i>Acanthospermum hispidum</i>, <i>Alternanthera pungens</i>, <i>Sida acuta</i>, <i>Sida cordifolia</i> (Category A and B weeds) and buffel grass <i>Cenchrus ciliaris</i> also occur in the site. Couch grass <i>Cynodon dactylon</i> is also likely to be present and spreading in the site (A. Duguid, NRETAS, pers. comm.). Buffel grass is probably the most significant invasive plant present in the site and control of it within conservation reserves has proved to be difficult, as there are relatively few access tracks and these tracks take time to dry after the wet season (D. Albrecht, NRETAS pers. comm.).</p> <p>Other: Over-grazing may reduce vegetation condition in some areas (NRETA 2005).</p>
MANAGEMENT INFORMATION	NRM groups	Muru-warinyi Ankkul Ranger Group.
	Protected areas	Davenport Range National Park (proposed) (1139 km ² /11% of site); Devil's Marbles Conservation Reserve (18 km ² /0.2% of site).
	Current management plans	<p>Site-specific plans: Devil's Marbles Conservation Reserve Draft Joint Management Plan (NRETA 2007); Proposed Davenport Range National Park Draft Management Plan (PWCNT 1998).</p> <p>National recovery plans for threatened species: Greater Bilby (Pavey 2006); Black-footed Rock Wallaby (WA Department of Environment and Conservation, in prep.).</p> <p>Other management plans: Australian Weeds Strategy (NRMMC 2007); Threat Abatement Plan for Predation by Feral Cats (Biodiversity Group Environment Australia, 1999); Threat Abatement Plan for Predation by the European Red Fox (Biodiversity Group Environment Australia, 1999).</p>
	Monitoring programs and research projects	<p>The Muru-warinyi Ankkul rangers and relevant Traditional Owners have been surveying for Black-footed Rock Wallaby within the site (K. Webeck, CLC, pers. comm.).</p> <p>There are nine Tier 1 rangeland monitoring points within this site (Karfs and Bastin 2001).</p> <p>Across the NT, fire is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp</p>
	Management recommendations	<p>Investigate with landholders options for conservation management and provide support and assistance in implementing agreed conservation management programs (NRETA 2005)</p> <p>Develop and support Tennant Creek community ranger group to include land management activities in the Devil's marbles to Davenport Range area (NRETA 2005).</p> <p>Undertake systematic and comprehensive wildlife survey of the bioregion and resultant conservation planning (NRETA 2005).</p> <p>Undertake capacity building in fire management with Tennant Creek community ranger group through the Bush Fires Council (NRETA 2005).</p>
KEY REFERENCES	Papers and reports	<p>NRETA (2007). <i>Devils Marbles Conservation Reserve Joint Management Plan 2007</i>. Parks and Wildlife Service of the Northern Territory, Department of Natural Resources, Environment and the Arts, Alice Springs NT. http://www.nt.gov.au/nreta/parks/manage/pdf/00dm_forward.pdf</p> <p>PWCNT (1998). Proposed Davenport Range National Park Draft Management Plan. Parks and Wildlife Commission of the Northern Territory, Alice Springs NT.</p>
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