

## Yinberrie Hills

### Location and Description

The Yinberrie Hills, an area of rolling hills about 40 km north of Katherine, are a key site in northern Australia for the nationally endangered Gouldian Finch. The hills are dominated by grassy open woodlands, but provide a combination of habitat attributes that are uncommon in the broader landscape, they have an understorey of annual and perennial native grasses, retain water in small, rocky pools through the dry season, and support smooth-barked gums with nesting hollows. The hills support grassy eucalypt woodland with a mixed overstorey of snappy or salmon gums (including *Eucalyptus tintinnans*, *Eucalyptus tectifera* and *Corymbia confertiflora*), and an understorey dominated by the tall annual spear-grasses.

### Tenure and Land Use

The Yinberrie Hills Site is predominantly Aboriginal freehold land managed by the Barnjarn Aboriginal Corporation. Some small portions of the Site are privately owned freehold land and Crown leasehold land. The main land use within the Site is Indigenous, about 8% of the Site is managed as conservation reserve (Nitmiluk National Park), and other land uses within the Site include tourism and mining.

### Significance Rating

National Significance

### Ecological Values

The Yinberrie Hills are persistently used by relatively large numbers of Gouldian Finches and support the largest known breeding population of the species. The ungrazed wooded hills have persistent waterholes and springs and provide a feeding ground for finches throughout the dry season, while hollow-bearing trees support nesting in the late wet season and early dry season. Lowlands adjacent to the hills comprise extensive areas of perennial grasses that are utilized as a feeding area during the wet season. A further seven threatened species are also reported from within the Site, including three birds, two reptiles, one mammal and one plant species.

### Management Issues

The current fire regime in the Yinberrie Hills is dominated by large-scale late-dry-season fires and these encourage more fire tolerant plant species and reduce the availability of grass seed favoured by Gouldian Finches. Other management issues within the Site include large populations of feral pig and cattle.



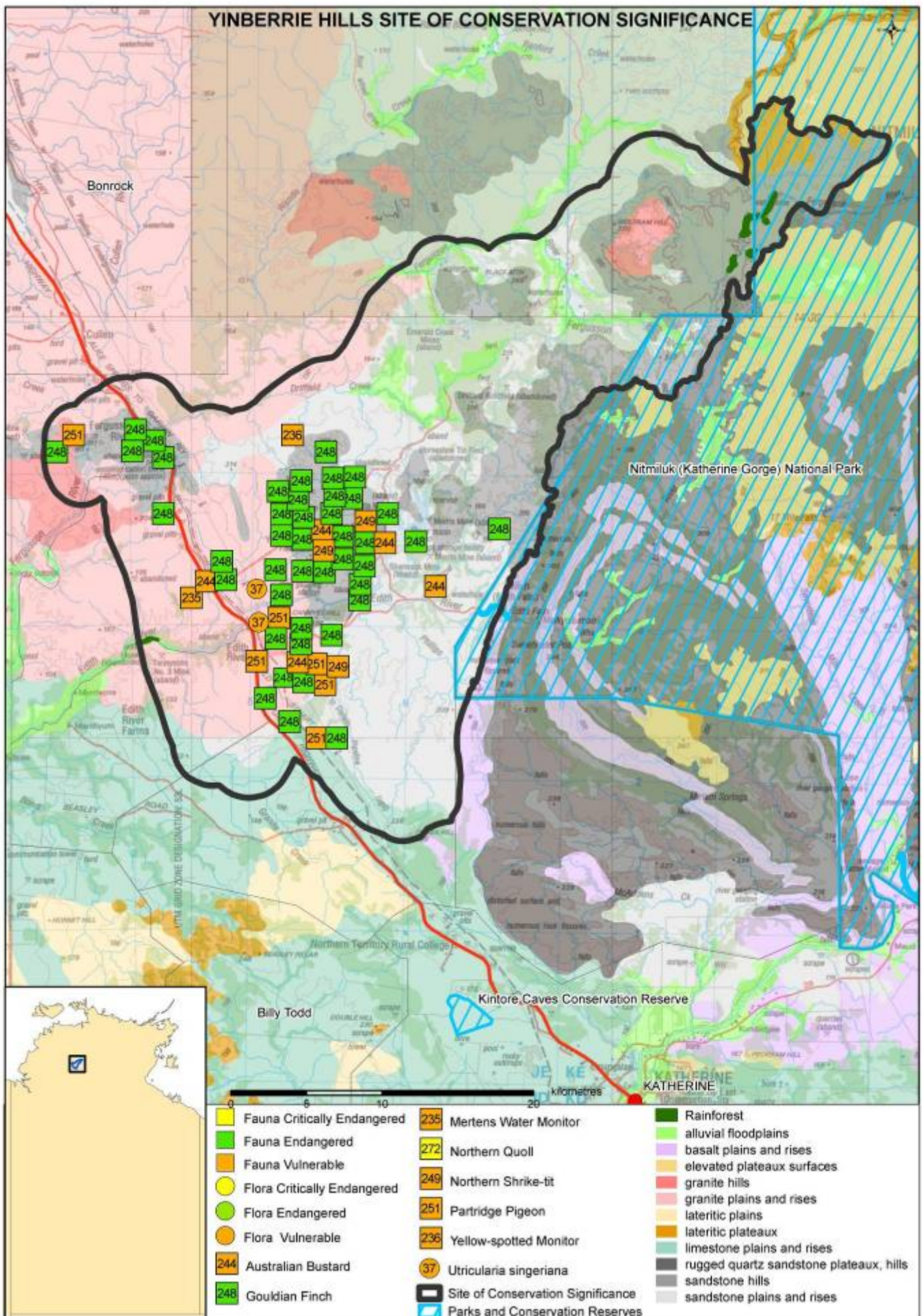
Google Earth imagery

### Condition

The steep slopes, rocky ground, and paucity of water within the hills have precluded pastoral activity, and damage by feral animals is confined to the lower slopes in the western portion of the Site. Overall the hills are relatively undisturbed and less than 2% of the known flora is composed of introduced species.

### Current Conservation Initiatives

The Jawoyn Aboriginal Corporation in collaboration with Parks and Wildlife Service NT (PWSNT), conduct an annual program of fire management in the hills and intermittent feral pig control in the lowland areas fringing the hills. PWSNT conduct annual surveys of the Gouldian Finch population around waterholes within the hills.



## YINBERRIE HILLS - SITE OF CONSERVATION SIGNIFICANCE

LOCATION	<b>SOCS Number</b>	30 (NT Parks and Conservation Masterplan Map Number 22)
	<b>Latitude/Longitude</b>	14° 6' South, 132° 8' East (at centre)
	<b>Bioregion</b>	Pine Creek (79%), Daly Basin (21%)
	<b>Description</b>	<p>The Yinberrie Hills rise from extensive plains to the north, east and south and are distinct from the Arnhem Land escarpment to the west.</p> <p>The site encompasses an area of about 1025 km<sup>2</sup> and is dominated by sandstone hills and rises. Lowland areas associated with the Fergusson and Edith rivers occur to the west of the hills and are also part of the site.</p> <p>This site abuts the much larger Western Arnhem Plateau, which is also recognised as a site of high conservation significance in the NT.</p>
THREATENED SPECIES	<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)	Eight threatened species are reported from this site. <b>Plants</b> <ul style="list-style-type: none"> <li>▪ <i>Utricularia singeriana</i> (-/VU)</li> </ul> <b>Vertebrates</b> <ul style="list-style-type: none"> <li>▪ Australian Bustard <i>Ardeotis australis</i> (-/VU)</li> <li>▪ Gouldian Finch <i>Erythrura gouldiae</i> (EN/EN)</li> <li>▪ Northern (crested) Shrike-tit <i>Falcunculus whitei</i> (VU/VU)</li> <li>▪ Partridge Pigeon <i>Geophaps smithii</i> (VU/VU)</li> <li>▪ Northern Quoll <i>Dasyurus hallucatus</i> (EN/CR)</li> <li>▪ Merten's Water Monitor <i>Varanus mertensi</i> (-/VU)</li> <li>▪ Yellow-spotted Monitor <i>Varanus panoptes</i> (-/VU)</li> </ul> The Yinberrie Hills provide habitat for the largest known population of Gouldian Finches with an estimated count of 150-250 adults (O'Malley 2006). The hills are also a major breeding site for the species and juvenile birds are frequently recorded (O'Malley 2006).
ENDEMIC SPECIES	<b>Significance Rating</b>	<b>Not Significant</b>
	<b>Notes</b>	<p><b>Endemic to the bioregion:</b> One plant species recorded in this site is an NT endemic restricted to the Pine Creek bioregion (<i>Clausospicula extensa</i>)</p> <p><b>Endemic to the NT:</b> 82 plant and six vertebrate species recorded in this site are endemic to the NT.</p> <p><b>Other:</b> Two plant species recorded in this site only occur in the Pine Creek bioregion within the NT but are also found in other states.</p>
WILDLIFE AGGREGATIONS	<b>Significance Rating</b>	<b>Not Significant</b>
	<b>Marine turtles</b>	Not applicable
	<b>Seabirds</b>	No major aggregations recorded
	<b>Waterbirds</b>	No major aggregations recorded
	<b>Shorebirds</b>	No major aggregations recorded
	<b>Other aggregations</b>	None known
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>	The site is traversed by two rivers, but these do not form any significant wetland areas within the site.
	<b>Rivers</b>	The Fergusson and Edith rivers traverse the site, rising in the Arnhem Plateau to the east and flowing west to the Daly River.
FLORA	<b>Significance Rating</b>	<b>Regional Significance</b>
	<b>Notes</b>	<p><b>Rainforest:</b> Four patches of monsoon vine forest comprising almost 160 ha are located along the Fergusson River in the north of this site. Each patch is dominated by <i>Allosyncarpia ternata</i>, a tree endemic to the rugged sandstone escarpments on the western edge of the Arnhem Land Plateau. The rainforest patches are mostly small but one patch is &gt;100 ha (Russell-Smith <i>et al.</i> 1991).</p> <p><b>Restricted range species:</b> At least 11 plant species reported from the site have a restricted range within the NT.</p>

YINBERRIE HILLS - SITE OF CONSERVATION SIGNIFICANCE

OTHER ENVIRONMENTAL VALUES		<p>The Yinberrie Hills are proposed to be nominated by Birds Australia as an internationally-recognised <i>Important Bird Area</i> (G. Dutson in prep.).</p> <p>A number of sites within the Yinberrie Hills are included on the Register of the National Estate for their natural values including: the Fergusson River Grevillea Benthamiana site, Marrawal Plateau, Nitmiluk National Park (1978 boundary), Edith Falls Reserve (former), the Calytrix Faucicla and Calytrix Verticillata Sites, and the Yinberrie Hills themselves (Australian Heritage Council).</p> <p>12 species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.</p>
MANAGEMENT ISSUES		<p><b>Fire:</b> In the period 1993-2004, none of the site was burnt in fewer than three years, and 73% was burnt in more than six years. The current fire regime is one characterised by frequent, extensive, hot, late dry season wildfires and this affects grass seed availability and availability of tree hollows for nesting finches (O'Malley 2006).</p> <p><b>Feral animals:</b> Populations of feral pig, buffalo and horse occur in low densities in lowland areas fringing the Yinberrie Hills (Dostine <i>et al.</i> 2001).</p> <p><b>Weeds:</b> Two Category B weeds (<i>Sida acuta</i>, <i>Hyptis suaveolens</i>) and one undeclared but problematic environmental weed (high priority weeds: Smith 2001) (<i>Hibiscus sabdariffa</i>) are recorded from this site.</p> <p><b>Other:</b> Steep slopes, rocky ground and a paucity of water have precluded pastoral activity in the site while pastoral properties surrounding the hills are grazed more intensively (P. Dostine, NRETAS pers. comm.).</p> <p>The Mt Todd gold mine operated within the site for a number of years (Collins and McNee 1992) and further mining is currently being considered.</p>
MANAGEMENT INFORMATION	<b>NRM groups</b>	Jawoyn Rangers (Katherine).
	<b>Protected areas</b>	Nitmiluk (Katherine Gorge) National Park (83 km <sup>2</sup> / 8% of site).
	<b>Current management plans</b>	<p><b>Site-specific plans:</b> No information located.</p> <p><b>National recovery plans for threatened species:</b> Gouldian Finch (O'Malley 2006); Northern Quoll (Hill and Ward in prep.); Northern Shrike-tit and Partridge Pigeon (Woinarski 2004).</p> <p><b>Other management plans:</b> Australian Weeds Strategy (NRMCC 2007); Threat Abatement Plan for Predation, habitat degradation, competition and disease transmission by feral pigs (DEH 2005); FIREPLAN: Fire management for the savanna community (Russell-Smith <i>et al.</i> in prep.).</p>
	<b>Monitoring programs and research projects</b>	<p>The Yinberrie Hills have been a major focus for ecological research on the threatened Gouldian Finch since the late 1980's (Dostine and Franklin 2002).</p> <p>Systematic counts of Gouldian Finches are conducted annually at waterholes within the Yinberrie Hills (Woinarski <i>et al.</i> 2007).</p> <p>Fire in the tropical savannas 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></p>
	<b>Management recommendations</b>	<p>Review current conservation programs and develop formal conservation agreement with landholder for Yinberrie Hills in accordance with the Gouldian Finch Recovery Plan (NRETA 2005)</p> <p>Review possible inclusion of significant areas in Nitmiluk National Park. (NRETA 2005)</p>
KEY REFERENCES	<b>Papers and reports</b>	<p>Dostine, P. L. and Franklin, D. C. (2002). A comparison of the diet of three finch species in the Yinberrie Hills area, Northern Territory. <i>Emu</i>, 102, 159-164.</p> <p>Dostine, P. L., Johnson, G. C., Franklin, D. C., Zhang, Y. and Hempel, C. (2001). Seasonal use of savanna landscapes by the Gouldian finch, <i>Erythrura gouldiae</i>, in the Yinberrie Hills area, Northern Territory. <i>Wildlife Research</i>, 28, 445-458.</p> <p>O'Malley, C. (2006). <i>National Recovery Plan for the Gouldian Finch (Erythrura gouldiae)</i>. WWF-Australia, Sydney and Parks and Wildlife NT, Department of Natural Resources, Environment and the Arts, NT Government, Palmerston.</p>
	<b>Contributors</b>	

YINBERRIE HILLS - SITE OF CONSERVATION SIGNIFICANCE



Northern outliers of the Western Arnhem Plateau (Photo: Kym Brennan)



Five Ways, Jabiru, Western Arnhem Plateau (Photo: Kym Brennan)



Camel Creek, Woollogorang and China Wall sandstone ranges (Photo: Kym Brennan)