

Keep River area

Location and Description

The Keep River area is located 410 km south-west of Darwin. Its diverse habitats include rugged sandstone ranges and gorges and the lowlands and floodplains of the Keep River. The Site lies near the southern limit of the tropical zone, and supports varied plant and animal species and associations in the transition zone from the flora and fauna communities of the Kimberley district of Western Australia to those of the Victoria River district of the Northern Territory. A long section of the Keep River passes through the Site, and permanent waterholes and springs help to sustain a rich biota. The Keep River area is dominated by eucalypt open savanna woodland, with an understorey of native grasses. Small isolated pockets of vine forest occur in protected gullies and tussock grasslands occur in the lower Keep River.

Tenure and Land Use

The Keep River area is predominantly pastoral leasehold land encompassing three pastoral properties (Spirit Hills, Newry and Legune). The remaining portions of the Site are Crown lease and special purpose lease (Keep River National Park). Approximately 45% of this Site is managed as conservation reserves and used for conservation and tourism, and pastoral operations are the major land use on the remainder of the Site.

Significance Rating

International Significance

Ecological Values

14 threatened species are known to occur in the varied upland and lowland habitats of the Keep River area, including three plants and six bird species. The sandstone ranges and hills support a breeding population of the threatened Gouldian Finch as well as sandstone specialists with restricted distributions, such as the Short-eared Rock-wallaby, White-quilled Rock-pigeon and Sandstone Shrike-thrush. The lower reaches of the Keep River support two threatened freshwater sawfish species, and the surrounding blacksoil plains support threatened and range-restricted species, including the VRD Blacksoil Ctenotus.

Management Issues

Numerous feral animal species, including Water Buffalo, donkey and horse, occur in the Site and populations need ongoing management. Several weed species are present, but *Mimosa pigra* and para grass are absent and vigilance is required to ensure they are not introduced. Large-scale expansion of the Ord River irrigation area on to the Keep River floodplain is proposed, and if it goes ahead, this could lead to considerable agricultural development within the Site.



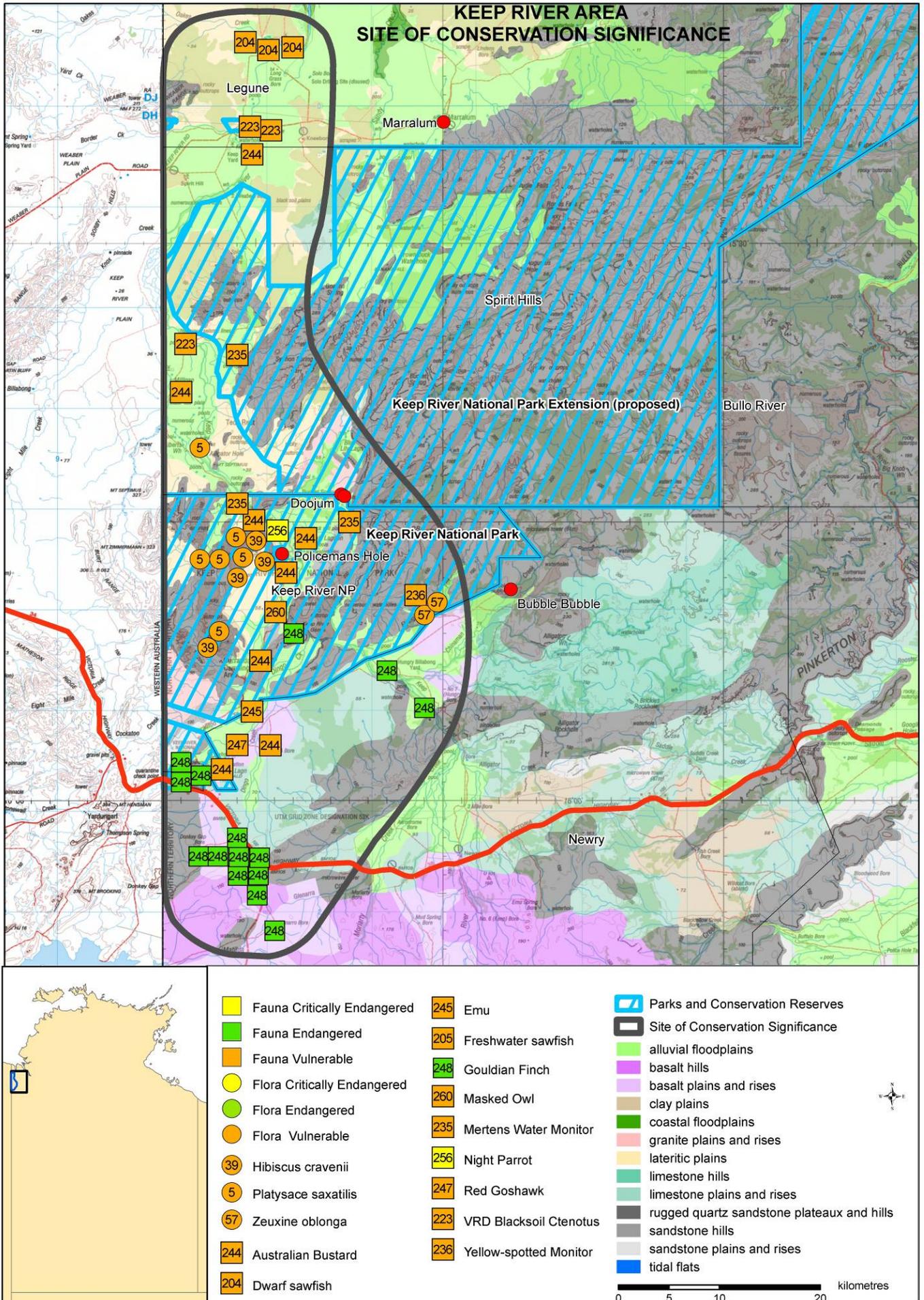
Condition

The Site is generally in good condition, but feral animals have degraded some habitats.

Current Conservation Initiatives

A plan of management has been produced for Keep River National Park and is currently being updated. Parks and Wildlife rangers are managing weeds, feral animals, erosion and fire in the park. Populations of Gouldian Finches are monitored at Newry Station and Keep River National Park and a formal off-reserve conservation agreement has been established on Newry Station to exclude livestock from an important Finch breeding colony. A natural resource plan has been developed for the Victoria River District, and identifies natural resource management priorities and actions. The Victoria River District Conservation Association is currently involved in a range of projects in the area, including fire management and feral animal control. Natural resource management issues in the Victoria-Bonaparte bioregion are also being considered systematically through the recently-established Ord-Bonaparte Project.

KEEP RIVER AREA - SITE OF CONSERVATION SIGNIFICANCE



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LOCATION	SOCS Number	28 (NT Parks and Conservation Masterplan Map Number 36)
	Latitude/Longitude	15° 45' South, 129° 6' East (at centre)
	Bioregion	Victoria Bonaparte (93%), Ord-Victoria Plain (7%)
	Description	The western boundary of this site is the Western Australian border, and it sits mostly north of the Victoria Highway. The site is about 1860 km ² and comprises diverse habitats including rugged sandstone plateaus and hills and alluvial floodplains in the lower reaches of the Keep River. The boundary of this site has been delineated based on records of threatened species and their associated habitat. The Legune coastal floodplain, to the north of this site, is also recognised as a site of high conservation significance in the NT.
THREATENED SPECIES	Significance Rating	International 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)	14 threatened species are reported from this site. Plants <ul style="list-style-type: none"> ▪ <i>Hibiscus cravenii</i> (VU/VU) (Endemic to the site) ▪ <i>Platysace saxatilis</i> (-/VU) ▪ <i>Zeuxine oblonga</i> (-/VU) <i>Zeuxine oblonga</i> is recorded from 5 widely-spaced locations in the Top End (as well as Qld and NSW), searches in 2000 and 2001 did not relocate the Keep River population. <i>Platysace saxatilis</i> occurs within a very restricted area within the NT, but also occurs near Kununurra in WA. Vertebrates <ul style="list-style-type: none"> ▪ Australian Bustard <i>Ardeotis australis</i> (-/VU) ▪ Emu <i>Dromaius novaehollandiae</i> (-/VU) ▪ Gouldian Finch <i>Erythrura gouldiae</i> (EN/EN) ▪ Masked Owl <i>Tyto novaehollandiae kimberli</i> (VU/VU) ▪ Night Parrot <i>Pezoporus occidentalis</i> (EN/CR) ▪ Red Goshawk <i>Erythrotriorchis radiatus</i> (VU/VU) ▪ Merten's Water Monitor <i>Varanus mertensi</i> (-/VU) ▪ VRD Blacksoil Ctenotus <i>Ctenotus rimacola camptris</i> (-/VU) ▪ Yellow-spotted Monitor <i>Varanus panoptes</i> (-/VU) ▪ Dwarf Sawfish <i>Pristis clavata</i> (-/VU) ▪ Freshwater Sawfish <i>Pristis microdon</i> (VU/VU) The VRD Blacksoil Ctenotus is restricted to cracking-clay floodplains in the Ord / Keep river systems (Horner and Fisher 1998). A sighting of a Night Parrot in 1982, in sandstone breakaway country in the north of Keep River National Park, was claimed by McKean (1985). Newry Station and the Keep River National Park are identified as a key Gouldian Finch breeding site and support an estimated population of 50-100 adults (O'Malley 2006).
ENDEMIC SPECIES	Significance Rating	Regional Significance
	Notes	Endemic to the site: Two plant species (<i>Hibiscus cravenii</i> , <i>Triumfetta inermis</i>) are known only from this site. <i>Hibiscus cravenii</i> is known from only six localities in sandstone habitats in Keep River National Park. Endemic to the bioregion: Of the species recorded from the site, five plant species (<i>Hibiscus cravenii</i> , <i>Triumfetta inermis</i> , <i>Oldenlandia delicata</i> , <i>Ficus lilliputiana</i> , <i>Lindernia cleistandra</i> , <i>Tacca maculata</i>), the skink <i>Cryptoblepharus exochus</i> and the <i>camptris</i> subspecies of the skink <i>Ctenotus rimacola</i> are endemic to the Victoria Bonaparte bioregion. Endemic to the NT: Nine plant and two vertebrate species recorded from the site are endemic to the NT. Other: This site is near the eastern margin of the broad Kimberley biogeographic region and has a high proportion of the NT records of a number of species characteristic of that region (such as <i>Strophorus robinsoni</i> , <i>Ctenotus tantillus</i> , <i>Petrophassa albipennis</i> , <i>Pseudantechinus ningbing</i> , <i>Litoria splendida</i>). Ten plant taxa have been recorded within the NT only from this site (but also occur in other states). A total of 14 plant and two vertebrate species occurring in the site have been recorded within the NT only from the Victoria Bonaparte bioregion, but occur in other bioregions in other states.
WILDLIFE AGGREGATIONS	Significance Rating	Not Significant
	Marine turtles	Not applicable
	Seabirds	No major aggregations recorded
	Waterbirds	No major aggregations recorded
	Shorebirds	No major aggregations recorded
	Other aggregations	None known

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WETLANDS	Significance Rating	Not Significant
	Ramsar criteria met	Not assessed
	DIWA criteria met	Not assessed
	Notes	There is permanent water at a number of waterholes and spring fed soaks in this site but surface waters are mostly scarce.
	Rivers	The headwaters of the Keep River lie in the Pinkerton Range to the south-east of the site but the river traverses the site from the south-east to the north and small ephemeral tributaries drain the ranges and feed into the Keep River.
FLORA	Significance Rating	Not significant
		Rainforest: Approximately 72 ha of dry rainforest occurs as small patches (<10 ha) in protected areas within the rocky hills around Keep River Gorge and adjacent to small creeks in the southern portion of the site (Russell-Smith 1991).
OTHER ENVIRONMENTAL VALUES		<p>Two sites in the Keep River area are listed on the Register of the National Estate for their natural values including: Keep River National Park and Adjacent Areas, and the Newry Station Gouldian Finch Site (Australian Heritage Council).</p> <p>The Keep River area is potentially significant for threatened land snails with restricted distribution, such as the endangered Desmond's Land Snail <i>Mesodontrachia desmonda</i>, known in the NT only from the Pinkerton Range south-west of this site (Woinarski <i>et al.</i> 2007). A survey of land snails and their habitat in the Victoria River area in 2008 should provide more information about the distribution of these animals (M. Braby, NRETAS, pers. comm.).</p> <p>Small and geographically isolated populations of Leichhardt's Grasshopper <i>Petasida ehippiger</i> (-/NT) are reported from rugged sandstone habitat in the Keep River National Park (Wilson <i>et al.</i> 2003).</p> <p>Permanent water in the Keep River area supports 35 species of fish including 25 freshwater species and ten estuarine species (Larson 1999).</p> <p>Over 25 species of bats, including tree-roosting and cave-dwelling species, have been recorded in the Keep River National Park (CCNT undated).</p> <p>18 species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.</p> <p>The Keep River area is proposed to be nominated by Birds Australia as an internationally-recognised <i>Important Bird Area</i> (G. Dutton in prep.).</p>
MANAGEMENT ISSUES		<p>Fire: In the period 1993-2004, 41% of the site was burnt in fewer than three years, and 9% was burnt in more than six years.</p> <p>Feral animals: Feral donkey, horse, pig, Water Buffalo, cat and Cane Toad occur in the site. Buffalo, in particular, trample vegetation and degrade waterholes, and donkeys are abundant in the hills of the region (NRETAS unpublished data). Cats potentially prey on many of the small threatened animal species in the site.</p> <p>Weeds: One Weed of National Significance (<i>Parkinsonia aculeata</i>) and three undeclared but problematic environmental weeds (high priority weeds: Smith 2001) are reported from this site (<i>Cenchrus ciliaris</i>, <i>Hyptis suaveolens</i>, <i>Sida acuta</i>). There is potential for other invasive species such as <i>Mimosa pigra</i> and para grass <i>Urochloa mutica</i> to establish on the Keep River floodplain.</p> <p>Other: The Keep River plain remains a site for potential agricultural development as part of the proposed large-scale expansion of the Ord River irrigation area into the Northern Territory (Kinhill 2000), and this would substantially affect the Keep River and its floodplain area.</p>
MANAGEMENT INFORMATION	NRM groups	Victoria River District Conservation Association.
	Protected areas	Keep River National Park (522 km ² / 28% of site), Keep River National Park Extension (proposed) (325 km ² / 18% of site).
	Current management plans	<p>Site-specific plans: Keep River National Park Plan of Management (CCNT undated); Victoria River District Natural Resource Plan (Sample 2004).</p> <p>Recovery plans for threatened species: Gouldian Finch (O'Malley 2006); Masked Owl (Woinarski 2004a), Red Goshawk (Baker-Gabb in prep.).</p> <p>Other management plans: Australian Weeds Strategy (NRMMC 2007); Threat Abatement Plan for Predation by Feral Cats (Environment Australia, 1999); 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>
	Monitoring programs and research projects	<p>Fire in the tropical savannas is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp</p> <p>Newry Station has been a study site for research on the Gouldian Finch for some time (Tidemann <i>et al.</i> 1999 and references therein), and populations of Gouldian Finches are monitored at Keep River National Park and Newry Station (O'Malley 2006)</p> <p>A survey of Land Snails is planned for the wider Victoria River region, including the Keep River area, in 2007/08 to establish an inventory of species and further information on their distribution and threats (M. Braby, NRETAS pers. comm.).</p> <p>Insectivorous bats have been sampled in sandstone escarpment habitat in Keep River National Park as part of a survey of bat assemblages in the Top End (Milne <i>et al.</i> 2005).</p> <p>There are seven Tier 1 rangeland monitoring points within this site (Karfs and Bastin 2001).</p>

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	Management recommendations	Review current Gouldian Finch conservation programs in conjunction with landholders and community-based ranger groups to clarify conservation needs and adjust conservation management programs if required (NRETA 2005). Develop concept plan for new park in Spirit Hills in conjunction with stakeholders including options for joint management (NRETA 2005).
KEY REFERENCES	Papers and reports	CCNT (undated). <i>Keep River National Park Plan of Management</i> . Conservation Commission of the Northern Territory, Palmerston. 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. Horner, P. and Fisher, A. (1998). <i>Ctenotus rimacola</i> sp. nov. (Scincidae), a new species of lizard with two allopatric subspecies, from the Ord-Victoria region of northwestern Australia. <i>Records of the Western Australian Museum</i> 19: 187-200.
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Keep River National Park (Photo: Kym Brennan)