

Threatened Species of ML 29678



Best Practice Management for Threatened Species

Introduction

The plant and animal species found in an area can show whether the country is healthy for wildlife and being managed sustainably. We place particular value on some of these species because they are rare or threatened in the Northern Territory, Australia or worldwide, or are only found in a small area. Some are important because their presence shows that the special needs they share with a wide range of other species are being met.

Most land in the Northern Territory is already managed in a way that supports native wildlife, by avoiding clearing and loss of ground cover, and with few weeds or pest animals. However, a few native species can only flourish under active management, and these deserve special attention. Species that have become threatened usually depend on one or more elements of the environment that are sensitive to change. Restoring these elements will benefit a wide range of wildlife, and if the threatened species is present, their number should also recover. A diverse range of habitats is needed to support the diversity of wildlife. So a range of different management actions will be required to preserve all species.

Many of the management actions recommended can also improve the sustainability of pastoral production. Most adjustments needed are also considered best practice for pasture management, such as using moderate stocking rates and periodically spelling country, managing weeds and controlling feral animals. These practices help ensure healthy and productive native pastures. In very few cases, pastoral production is incompatible with the preservation of a particular threatened species. Management for these species necessitates removing stock and other grazing animals from key areas of habitat. Some species persist only under the lightest grazing pressure. This booklet explains how to manage grazing pressure across the property to make sure there is habitat for these species even on a production property.

Wetland and marine species face particular challenges associated with overfishing and pollution.

Using this booklet

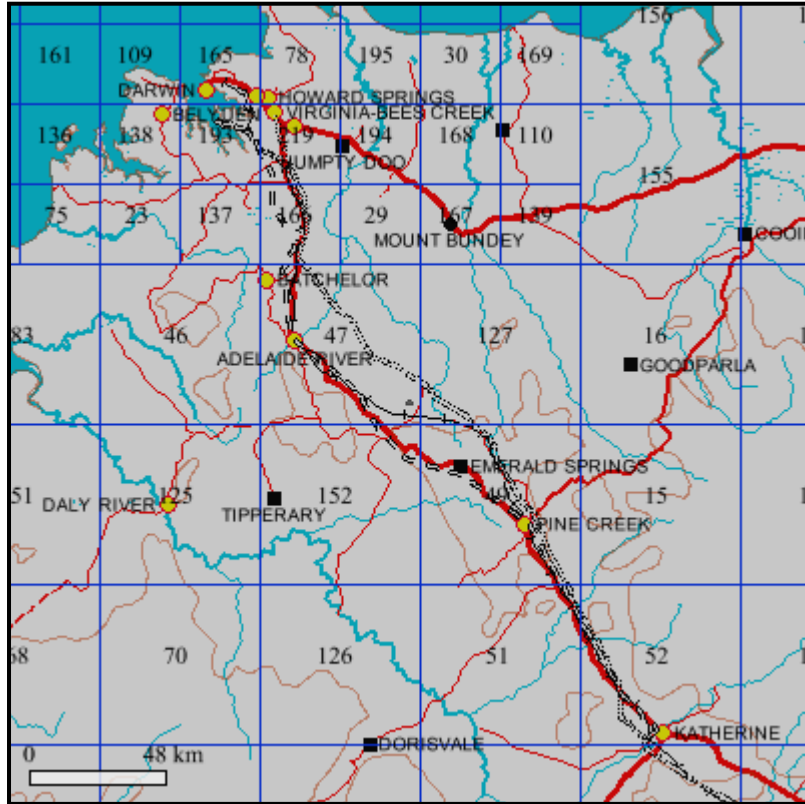
This booklet provides information to help land and sea managers protect threatened species and their habitats in the Northern Territory. Using the recommended management actions will also benefit a wider range of native plants and animals.

Databases kept by the Northern Territory Department of Land Resource Management (DLRM) were used to identify all threatened plants, frogs, reptiles, birds and mammals recorded in the selected area, or within grid cells that overlap the area. This list reflects the range of threatened species likely to be found in the selected area, and the range of habitats and management challenges faced. However, future booklets for this area may include additional species as databases are updated several times a year.

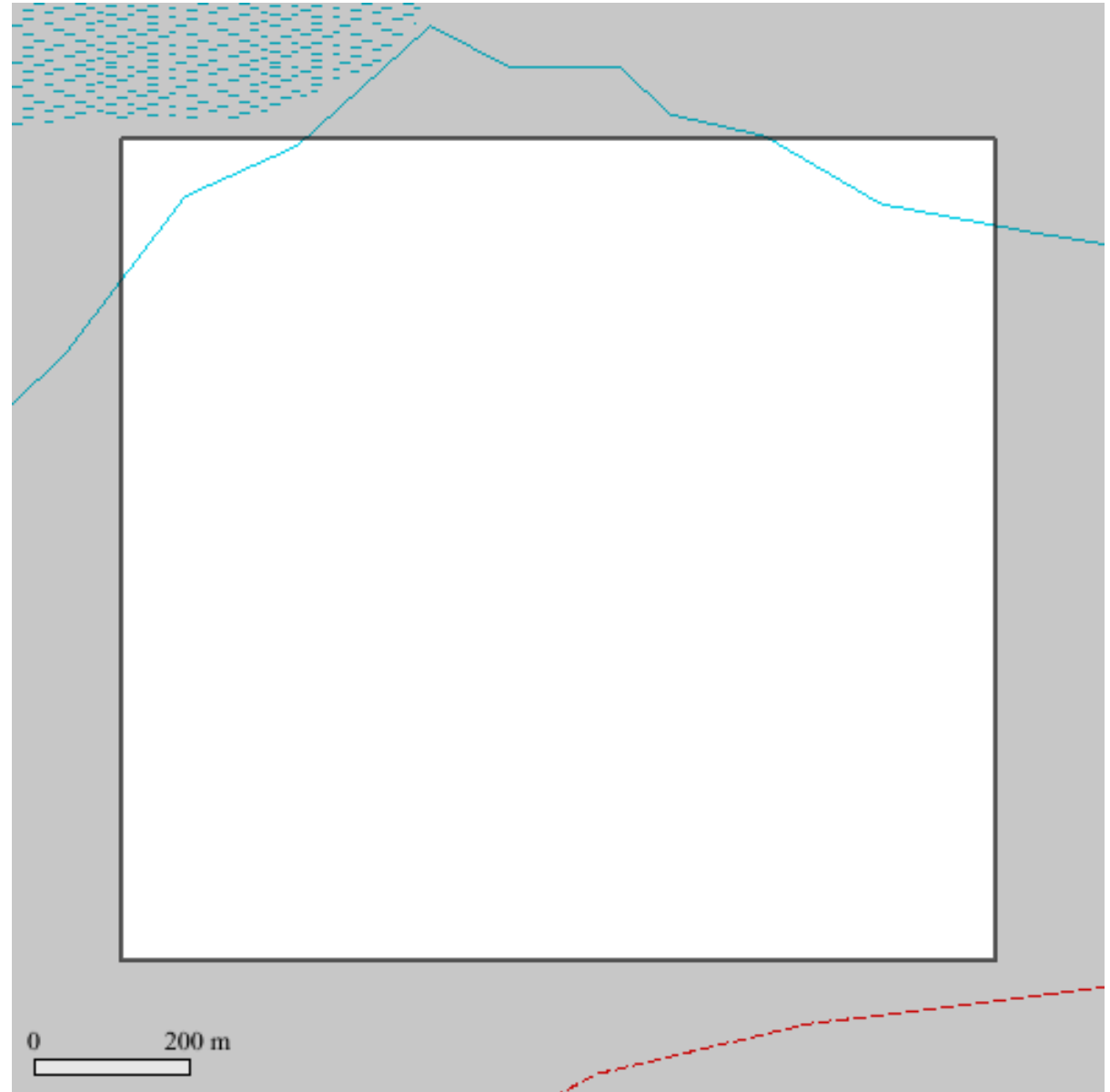
A more detailed explanation of the recommended management actions, listed at the bottom of each species page, can be found in the management guidelines for weeds, pest animals and practices for wildlife conservation booklets.

Additional threatened species booklets and information on natural resource values for this and other areas in the Northern Territory can be found on the Infonet (www.infonet.org.au), North Australian Land Manager (www.landmanager.org.au) and DLRM (<http://www.lrm.nt.gov.au/biodiversity-conservation/animals/home>) web pages.

Location Map for ML 29678



Species listed in the table below were recorded from all the grid cells shown above that overlap ML 29678



Species List

Threatened species of the ML 29678 in the Northern Territory

Group	Common Name	Scientific Name	NT Status	National Status	ID	Info
Cycads	Armstrong`s Cycad	<i>Cycas armstrongii</i>	VU	.	351085	Info
Cycads	Armstrong`s Cycad	<i>Cycas armstrongii x conferta</i>	VU	.	351085	Info
Flowering Plants	Ground Orchid	<i>Zeuxine oblonga</i>	VU	.	256282	Info
Flowering Plants	Helicteres	<i>Helicteres macrothrix</i>	EN	EN	256854	Info
Reptiles	Mertens` Water Monitor	<i>Varanus mertensi</i>	VU	.	347295	Info
Reptiles	Mitchell`s Water Monitor	<i>Varanus mitchelli</i>	VU	.	.	
Reptiles	Yellow-spotted Monitor	<i>Varanus panoptes</i>	VU	.	347307	Info
Birds	Partridge Pigeon	<i>Geophaps smithii</i>	VU	VU	176384	Info
Birds	Red Goshawk	<i>Erythroriorchis radiatus</i>	VU	VU	176391	Info
Birds	Masked Owl (northern mainland)	<i>Tyto novaehollandiae kimberli</i>	VU	VU	594609	Info
Birds	Gouldian Finch	<i>Erythrura gouldiae</i>	VU	EN	176370	Info
Mammals	Northern Quoll	<i>Dasyurus hallucatus</i>	CR	EN	176443	Info
Mammals	Fawn Antechinus	<i>Antechinus bellus</i>	EN	.	.	
Mammals	Northern Brush-tailed Phascogale	<i>Phascogale pirata</i>	EN	VU	177965	Info
Mammals	Nabarlek	<i>Petrogale concinna</i>	VU	.	.	
Mammals	Brush-tailed Rabbit-rat	<i>Conilurus penicillatus</i>	EN	VU	176414	Info
Mammals	Black-footed Tree-rat	<i>Mesembriomys gouldii</i>	VU	.	.	
Mammals	Pale Field-rat	<i>Rattus tunneyi</i>	VU	.	.	

* Click on the "Info" links on the right to go to the management related information on each species. Where the "Info" column is blank no management guidelines have been created, usually because the species is not a significant threat to wildlife.

CR = Critically Endangered

EN = Endangered

VU = Vulnerable

Armstrong's Cycad

Cycas armstrongii

What it looks like: Armstrong's Cycad is a slender single-trunk plant that grows up to 6 metres tall. On female plants large, round seeds cluster around the trunk in short broad chains below metre-long fronds. Male plants bear large cones. Most cycads are poisonous to stock.

Where it lives: This species occurs only in the Northern Territory. It is known from Gunn Point to Hayes Creek, west to within 50 km of the coast and east to the Wildman River catchment, and also occurs on the Tiwi Islands and Cobourg Peninsula. It grows mainly in open grassy woodland on yellow and red earths, limited in the area by drainage.

Importance as an indicator: Presence of Armstrong's Cycads indicates a healthy environment with limited disturbance by grazing animals or weeds, and a well-managed fire regime.

Look after Armstrong's Cycad by controlling pigs and their predation on seeds, and exclude stock to prevent them being poisoned. Use early dry season burning to break up the fuel layer and prevent repeated late dry season fires. Control weeds (particularly Gamba Grass) that may replace the cycads and alter fire regimes.



Photo: © Dave Liddle

Northern Territory Status: Vulnerable

Text compiled by Gabriel Crowley & Mark Ziembicki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. Lost from our Landscape - Threatened Species of the Northern Territory. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

<http://www.landmanager.org.au/view/index.aspx?id=351085>

Last updated June 2009

Best practice management for Armstrong's Cycad in the Northern Territory

▪ Do not clear habitat ▪ Maintain tree cover ▪ Maintain shrub layer ▪ Control pest animals ▪ Control weeds ▪ Fence key habitat ▪ Manage fire

Ground Orchid

Zeuxine oblonga

What it looks like: This small Ground Orchid has fleshy, creeping stems, each with three to seven oval leaves. Its dull green and white flowers barely open to display themselves. A perennial plant, it is adapted to extremes of wet and dry conditions. As the soil dries and hardens at the start of the dry season, resources are transferred from above ground parts to underground tubers.

Where it lives: This Ground Orchid grows in colonies in dark, moist places on the rainforest floor, or in wet peaty areas near streams. In the Northern Territory, it is known from five, widely spaced localities between Keep River and Adelaide River. It is also found in New South Wales and Queensland.

Importance as an indicator: Presence of Ground Orchids indicates a healthy rainforest ground layer, undisturbed by pigs. The wet conditions it requires are particularly sensitive to changes in hydrology caused by unseasonably dry weather, vegetation clearance or water extraction, which in turn, may allow fire incursions. This unusual species may gain the attention of horticultural collectors.

Look after Ground Orchid by protecting rainforest from clearance and disturbance. Make sure decisions about developments in the catchments consider impacts on groundwater availability. Commercial availability of this easy to propagate species may relieve any harvesting pressure on wild populations, but may also increase demand.



Photo: © David Jones CSIRO

Northern Territory Status: Vulnerable

Text compiled by Gabriel Crowley & Mark Ziembicki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

www.landmanager.org.au/view/index.aspx?id=256282

Last updated June 2009

Best practice management for Ground Orchid in the Northern Territory

- Protect rainforest habitat
- Maintain tree cover
- Maintain ground layer
- Control pest animals
- Do not collect from the wild
- Manage water extraction sustainably
- More information is needed about this species

Helicteres

Helicteres macrothrix

What it looks like: This *Helicteres* is a small, semi-woody shrub that dies back to perennial rootstock as dry conditions set in. It has grey-green woolly foliage and produces small clusters of pink flowers in the leaf axils that develop into green furry fruit.

Where it lives: This species of *Helicteres* grows in woodlands dominated by Darwin Box (*Eucalyptus tectifica*) or Darwin Woollybutt (*Eucalyptus miniata*), on sandy loam over rocky siltstone slopes or granite. It is only known from three places in the Top End of the Northern Territory.

Importance as an indicator: Persistence of this *Helicteres* will increasingly depend on good environmental management. Clearing for subdivision and maintenance of infrastructure threaten two of the known populations. Disturbance associated with these activities is likely to expose the habitat of this rare plant to invasion by transformer weeds, with an increased incidence of intense fires. If developments for subdivision proceed, other disturbance factors, such as clearance, conversion of native vegetation to domestic gardens and yarding of horses are all potential threats.

Look after *Helicteres* by controlling Gamba Grass and Mission Grass, which can totally replace this and all other ground cover plants and increase fire hazard. Weed hygiene measures will be particularly important, and all vehicles and other equipment used in or near the habitat should be thoroughly cleaned to remove weed seeds. Maintain native species in preference to exotic garden plants in any rural subdivision, and consider native plant values before introducing livestock to rural blocks. If all else fails, representative areas of habitat could be fenced and managed primarily for this species, and new populations established in secure locations, including botanical gardens.



Photo: © NRETAS

Northern Territory Status: Endangered
Australian Status: Endangered

Text compiled by Gabriel Crowley & Mark Ziembecki
based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. Lost from our Landscape - Threatened Species of the Northern Territory. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

<http://www.landmanager.org.au/view/index.aspx?id=256854>

Last updated May 2013

Best practice management for *Helicteres* in the Northern Territory

- Do not clear habitat
- Maintain shrub layer
- Control pest animals
- Control weeds
- Fence key habitat
- Manage fire
- Establish additional populations
- More information is needed about this species

Mertens' Water Monitor

Varanus mertensi

What it looks like: Mertens' Water Monitor is a medium to large goanna that can grow up to 1 metre long. It has a dark brown to black back and numerous small dark-edged cream or yellow spots. Its sideways flattened tail is well-adapted for swimming.

Where it lives: Mertens' Water Monitor has a broad geographic range, occupying coastal and inland waters across the far north of Australia from the Kimberley to the west side of Cape York Peninsula. In the Northern Territory it has been recorded across most of the Top End and the Gulf Region. This semi-aquatic monitor is seldom seen far from water.

Importance as an indicator: This species is found where it has access to abundant food - fish, frogs, carrion, insects and small terrestrial vertebrates - and can lay its eggs in a burrow in the ground, away from predators. It appears to have declined with the spread of cane toads, being particularly sensitive to the toad's toxin. Recovery of Mertens' Water Monitor populations from areas where it has declined indicates local adaptation to this exotic pest.

Look after Mertens' Water Monitor by controlling introduced pests. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range. Prevent degradation of riparian areas to maintain habitat for prey.



Photo: © Simon Ward

Northern Territory Status: Vulnerable

Text compiled by Gabriel Crowley & Mark Ziembicki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

www.landmanager.org.au/view/index.aspx?id=347295

Last updated September 2008

Best practice management for Mertens' Water Monitor in the Northern Territory

- Control pest animals
- Protect wetland habitat

Yellow-spotted Monitor

Varanus panoptes

What it looks like: The Yellow-spotted, or Floodplain, Monitor is a large goanna that can grow nearly one and a half metres long. It is dark brown with alternating bands of large black spots and smaller dark-edged yellow spots. It is paler underneath, often with lines of spots. Its tail is flattened sideways, narrow bands at the end making it appear lighter.

Where it lives: Yellow-spotted Monitors are found across the far north of Australia from the Kimberley to Cape York Peninsula, and southward through most of Queensland. In the Northern Territory, they have been recorded across most of the Top End and in the Gulf Region.

Importance as an indicator: This species is a generalist, occupying a variety of habitats, including coastal beaches, floodplains, grasslands and woodlands. It is found where there is an abundance of food, particularly small terrestrial vertebrates and insects, and it can lay its eggs in a burrow away from predators. It appears to have declined with the spread of cane toads, being particularly sensitive to the toad's toxin. Recovery of Yellow-spotted Monitor populations in some areas where it has declined indicates local adaptation to this exotic pest.

Look after Yellow-spotted Monitor by controlling introduced pests. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range.



Photo: © Alaric Fisher

Northern Territory Status: Vulnerable

Text compiled by Gabriel Crowley & Mark Ziembecki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

www.landmanager.org.au/view/index.aspx?id=347307

Last updated September 2008

Best practice management for Yellow-spotted Monitor in the Northern Territory

- Control pest animals
- Protect wetland habitat

Partridge Pigeon

Geophaps smithii

What it looks like: The Partridge Pigeon is a ground-dwelling bird, more likely to scurry away than fly when disturbed, but will sometimes eject from the grass in alarm. Mostly greyish-brown, they sport distinctive red eye rings and white cheeks, and their wings have both an iridescent green speculum and a white shoulder.

Where it lives: Partridge Pigeons live in lowland eucalypt open forests and woodlands that have grassy understoreys, where they nest on the ground, and feed on fallen seeds between grass tussocks. Partridge Pigeons are found across the Top End of the Northern Territory and in Western Australia's Kimberley region. Unfortunately, they have declined or disappeared from much of the lower rainfall parts of this range over the last century, and are rarely seen in eastern and central Arnhem Land.

Importance as an indicator: These ground-dwelling birds are highly susceptible to predation by feral cats. Reliant on ground cover for protection and food production, they are also affected by overgrazing or fires that reduce ground cover or seed availability. These largely sedentary birds therefore only persist where fire, grazing and feral animals are well managed.

Look after Partridge Pigeon by developing a patchy fire mosaic that prevents too large an area being burnt in any one year. Control introduced grasses, such as Gamba Grass and Mission Grass, which overcrowd the species' feeding habitat and increase the risk of extensive, high intensity fires. Control feral animals, particularly cats. On grazing lands, make sure some areas are free from stock at all times, and allow significant areas of grasses to seed in the early wet.



Photo: © Martin Armstrong

Northern Territory Status: Vulnerable

Australian Status: Vulnerable

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www.landmanager.org.au/view/index.aspx?id=176384

Last updated June 2009

Best practice management for Partridge Pigeon in the Northern Territory

- Do not clear habitat
- Maintain ground layer
- Control pest animals
- Control weeds
- Graze moderately & wet season spell
- Exclude stock from at least part of pastoral properties
- Manage fire
- More information is needed about this species

Red Goshawk

Erythrotriorchis radiatus

What it looks like: Red Goshawks are streaky reddish-brown birds, with yellow legs. They are slightly smaller but heavier-looking than Black Kites. A Red Goshawk looks six-fingered as it flies over the canopy with a mixture of flapping and gliding.

Where it lives: Red Goshawks live in tall forests and woodlands from northern NSW to Cape York, and across the north to the Kimberley. They are particularly abundant on the Tiwi Islands. They build large stick nests in tall trees, often along rivers, and hunt for birds, including kookaburras and cockatoos, in nearby open forests or wetlands.

Importance as an indicator: Presence of Red Goshawks shows that high quality vegetation has been retained along river corridors, and the open-structure of adjoining forests and woodlands has been maintained. Vegetation clearance has almost eliminated Red Goshawks from the southeast of their range, and so clearance of native vegetation on the Tiwi Islands is a concern, particularly if this disrupts fire management. Egg-collection and shooting have also been identified as problems in the Northern Territory.

Look after Red Goshawk by protecting nesting habitat with fire breaks burnt early in the dry season. Control weeds that invade the riparian zone and increase fire hazard. Avoid clearing native vegetation, but, where this is not possible, make sure adequate habitat is retained, especially around known nest sites.



Photo: © Ian Morris

Northern Territory Status: Vulnerable
Australian Status: Vulnerable

Text compiled by Gabriel Crowley & Mark Ziembicki
based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

www.landmanager.org.au/view/index.aspx?id=176391

Last updated September 2008

Best practice management for Red Goshawk in the Northern Territory

- Do not clear habitat
- Maintain tree cover
- Control weeds
- Manage fire

Masked Owl (northern mainland)

Tyto novaehollandiae kimberli

What it looks like: The Masked Owl is a large, speckled bird with big, dark eyes and a narrow pointed bill set in a pale, flat, heart-shaped face. Its chest and belly are white or chestnut, and its back and wings are dark grey to brown. It has strong-clawed, well-feathered legs. It calls with a combination of loud shrieks and whistles.

Where it lives: Masked Owls are forest birds. They roost by day in large trees or tree hollows, and emerge on dusk to feed on small mammals and birds. They prefer to feed on the edges of open areas. The northern mainland subspecies of Masked Owl is found at scattered, sub-coastal locations between Broome and Townsville. Reporting rates of this subspecies have declined over the last decade or more.

Importance as an indicator: Persistence of the northern mainland subspecies of Masked Owl indicates a diverse environment, with both intact forests and nearby open areas, as well as an abundance of suitable prey. The owl is less common than its apparently suitable habitat, suggesting prey abundance and or competition with other large owls may be a limiting factor.

Look after Masked Owl (northern mainland) by not clearing the forests in which it is found. Good fire management is also required to maintain both the open habitat in which owls prefer to hunt, and healthy populations of small animals on which it feeds. Establish a network of recently burnt and long unburnt areas to reduce the incidence of extensive late dry season fires. Light fires early in the dry season when moist fuels minimise the risk of fires spreading beyond target areas. Fires lit after the first wet season storms can be used to maintain a grassy understorey. Control weeds (such as Mission Grass), which both increase fire hazard and obstruct feeding. Control cats which are likely to compete with the Masked Owl for prey.



Photo: © Deane P Lewis

Northern Territory Status: Vulnerable
Australian Status: Vulnerable

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based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

www.landmanager.org.au/view/index.aspx?id=594609

Last updated June 2009

Best practice management for Masked Owl (northern mainland) in the Northern Territory

- Do not clear habitat
- Maintain tree cover
- Maintain tree hollows
- Control pest animals
- Control weeds
- Manage fire
- Report new populations
- More information is needed about this species

Gouldian Finch

Erythrura gouldiae

What it looks like: Male Gouldian Finches are small multi-coloured birds with black or red heads, violet breasts and yellow bellies. Females and young birds are mostly green. Gouldian Finches are found in small or large flocks, often with other finch species, and can most easily be seen at waterholes.

Where it lives: Gouldian Finches nest in hollows in white gum trees, and feed on grass seeds, relying on perennial grasses through the early wet season and annual grasses the rest of the year. Though once more common throughout northern Australia, they are now known to nest at a small number of isolated locations, mostly within the Northern Territory and the Kimberley. The largest known population is in the Yinberrie Hills.

Importance as an indicator: Presence of nesting Gouldian Finches indicates a healthy environment with an abundance of seeding perennial grasses that have not been overgrazed by cattle or feral pigs, and where fire has been well-managed. Airsac mite has been identified as a threat to this species in the past, but its current incidence is unknown. Trapping is also a threat that was more significant before the species was well established in captivity.

Look after Gouldian Finch by patch-burning in the early dry season to break up the fuel load and prevent extensive late dry season fires. Storm-burn small patches of perennial grasses to extend the availability of high quality seeds in the wet season. Control weeds, such as Gamba Grass, that modify feeding habitat and increase fire hazard. Control pigs, which dig up and destroy clumps of Cockatoo Grass, and spell areas of perennial grasses periodically in the wet season to allow them to recover vigour and produce seed.



Photo: © Steve Murphy & AWC

Northern Territory Status: Vulnerable
Australian Status: Endangered

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based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. Lost from our Landscape - Threatened Species of the Northern Territory. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

<http://www.landmanager.org.au/view/index.aspx?id=176370>

Last updated January 2013

Best practice management for Gouldian Finch in the Northern Territory

- Maintain tree cover
- Maintain tree hollows
- Maintain ground layer
- Control pest animals
- Control weeds
- Graze moderately & wet season spell
- Manage fire
- Do not collect from the wild
- Investigate/manage disease
- More information is needed about this species

Northern Quoll

Dasyurus hallucatus

What it looks like: Northern Quolls are grey brown with white spots on the body. The long black tail is sparsely furred with no spots. The size of a possum, a Northern Quoll has a pointed face, sharp teeth and a clawless big toe.

Where it lives: Northern Quolls live at scattered locations across northern Australia, from south-eastern Queensland to the south-west Kimberley, with a disjunct population in the Pilbara. In the Northern Territory, they are found only in the Top End. They live in near-coastal forests and woodlands, most commonly in rocky country.

Importance as an indicator: Northern Quolls are an indicator of well-managed fire regimes, as they seem unable to persist after extensive late dry season fires, except where they can retreat to rock crevices and caves. They also show that there is a healthy population of small animals for them to eat. However, poisoning by Cane Toads may have eliminated them even from well-managed country. Disease may also be a factor in their rapid decline.

Look after Northern Quoll by managing fire. Create an effective network of early dry season fires to prevent large scale fires later in the year, particularly where quolls have been recorded. Control feral cat numbers, with baiting or shooting. Keep pet cats inside at night. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range.



Photo: © Martin Armstrong

Northern Territory Status: Critically Endangered
Australian Status: Endangered

Text compiled by Gabriel Crowley & Mark Ziembecki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. *Lost from our Landscape - Threatened Species of the Northern Territory*. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

www.landmanager.org.au/view/index.aspx?id=176443

Last updated September 2008

Best practice management for Northern Quoll in the Northern Territory

▪ Maintain tree cover ▪ Maintain tree hollows ▪ Keep logs and litter ▪ Control pest animals ▪ Manage fire ▪ Investigate/manage disease

Northern Brush-tailed Phascogale

Phascogale pirata

What it looks like: The Northern Brush-tailed Phascogale is the size of a small Common Brushtail Possum. It has speckled grey fur, a long, brush-tipped tail, large eyes and a pointed snout.

Where it lives: This species lives in tall open Darwin Woollybutt (*Eucalyptus miniata*) and Darwin Stringybark (*Eucalyptus tetradonta*) forests. It shelters in tree hollows during the day, and feeds in trees or on the ground by night, taking insects and other small animals. It is known only from offshore islands and a few parts of the mainland of the Top End of the Northern Territory, having declined since the late nineteenth century.

Importance as an indicator: Persistence of the Northern Brush-tailed Phascogale indicates good environmental management – where fires are neither too frequent nor too extensive, and country is neither overgrazed nor over-run by predators. However, even under these conditions, disease and cane toads may be significant problems for this species.

Look after Northern Brush-tailed Phascogale by not clearing forests where it occurs, as it is unlikely to survive the loss of habitat. Control cats, which are significant predators of native mammals. When travelling, check your load to make sure you do not transport toads to islands or beyond their current range. On pastoral properties, ensure a moderate grazing pressure, and periodically spell country from grazing. Light fires only under mild weather conditions, when their extent can be controlled. Burn small areas every year to break up the fuel load and ensure a mosaic of post fire ages. This will also reduce severe late dry season fires, the death of animals in tree hollows, and loss of tree hollows themselves. Control Gamba Grass, which increases fire hazard and intensity.



Photo: © Kym Brennan

Northern Territory Status: Endangered

Australian Status: Vulnerable

Text compiled by Gabriel Crowley & Mark Ziembicki

based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. Lost from our Landscape - Threatened Species of the Northern Territory. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

<http://www.landmanager.org.au/view/index.aspx?id=177965>

Last updated January 2013

Best practice management for Northern Brush-tailed Phascogale in the Northern Territory

- Do not clear habitat
- Maintain tree cover
- Maintain tree hollows
- Keep logs and litter
- Control pest animals
- Control weeds
- Graze moderately & wet season spell
- Manage fire
- Investigate/manage disease
- Report new populations

Brush-tailed Rabbit-rat

Conilurus penicillatus

What it looks like: The Brush-tailed Rabbit-rat is a chubby brown rat with a white belly. It has long ears and a long black or white-tipped furry tail.

Where it lives: Brush-tailed Rabbit-rats live in tall eucalypt forest. Mostly arboreal, they shelter in hollows or the crowns of palms. They eat a range of foods, but prefer grass seeds. Once widespread across the Top End, they are now restricted to Cobourg Peninsula, Kakadu National Park and a few islands.

Importance as an indicator: Rabbit-rats only persist where their habitat remains uncleared and intact. Having a small home range, they probably don't move far if their habitat is burnt, when they are at risk of starvation, as food is less abundant in burnt areas. Overgrazing of their preferred grasses by cattle may prevent seeding, again leading to food shortages. Cats are likely predators, especially after fires, when Rabbit-rats must forage away from cover. Presence of Brush-tailed Rabbit-rats therefore indicates an intact environment in which fire is well managed, grazing is moderate, and predators are controlled. The rapid decline of this species may be indicative of disease.

Look after Brush-tailed Rabbit-rat by managing for a fine-grained patchwork of burnt and unburnt areas. This can best be achieved by lighting some small fires early in the dry season or after the first wet season rains, and forming links with natural fire breaks, such as rivers or roads. This will also help to prevent severe late dry season fires, the death of animals in tree hollows, and loss of tree hollows themselves. However, even early dry season fires can be severe where fuel loads are dominated by Gamba Grass, so control of this exotic weed is essential in and around Rabbit-rat habitat. Control cats using baits and/or traps.



Photo: © Kym Brennan

Northern Territory Status: Endangered

Australian Status: Vulnerable

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based on Woinarski J.C.Z., Pavey C., Kerrigan R., Cowie I. & Ward S. 2007. Lost from our Landscape - Threatened Species of the Northern Territory. Northern Territory Department of Natural Resources, Environment and the Arts, Darwin.

<http://www.landmanager.org.au/view/index.aspx?id=176414>

Last updated January 2013

Best practice management for Brush-tailed Rabbit-rat in the Northern Territory

- Do not clear habitat
- Maintain tree cover
- Maintain tree hollows
- Maintain ground layer
- Keep logs and litter
- Control pest animals
- Control weeds
- Graze moderately & wet season spell
- Manage fire
- Investigate/manage disease
- More information is needed about this species