

Section 5 Managing Nitmiluk National Park

In this section

Nitmiluk is managed as a national park to preserve its natural and cultural values for future generations while providing visitors with opportunities to enjoy and learn about those values. This section outlines:

- management of Nitmiluk National Park
- concessionaire operations within the Park
- Park management issues.

Management of Nitmiluk National Park

Nitmiluk National Park is jointly managed by the Parks and Wildlife Service of the Northern Territory and the Jawoyn traditional owners through the Board of Management. The Park is managed under its own Act, the *Nitmiluk (Katherine Gorge) National Park Act*.

The Nitmiluk National Park Board of Management oversees the running of the Park by setting directions, making policy decisions and approving the Plan of Management.

Parks and Wildlife is responsible for the day to day running of the Park by implementing the Plan of Management.

Plan of Management

The Plan of Management is a legally binding document which is jointly prepared by the Parks and Wildlife Service and the Jawoyn people. The current Plan of Management began in October 2002 and is valid for 10 years, with a review after 5 years.

The Plan of Management provides direction for managing the Park to:

- guarantee its future
- ensure that Jawoyn people benefit from joint management of their land
- conserve flora and fauna
- meet the needs of people who come to visit.

What Nitmiluk tour guides need to know

What is the role of the Board of Management in Nitmiluk National Park?

What is the role of Parks and Wildlife in the management of Nitmiluk?

What is the Plan of Management?

Who are the joint managers of Nitmiluk National Park?

What role do concessionaires play in Nitmiluk National Park?

Who owns Nitmiluk Tours?

What are the main management issues in Nitmiluk National Park?

What is the purpose of fire management?

What are some of the feral animals in the Park?

What impacts do hard-hoofed animals have?

What are some of the weeds in the Park?

Where do weeds tend to be a greater problem?

Are Estuarine (Saltwater) Crocodiles found in the Katherine River?

How does PWSNT deal with the threat of Estuarine (Saltwater) Crocodiles in Katherine Gorge?

Interpreting joint management

Who does Nitmiluk National Park belong to?

What are the benefits of joint management to the Jawoyn people?

Interpreting Park management

What is the role of the Board of Management?

What is the role of Park staff?

The Board

Section 2 of this handbook contains more information about the Board of Management, including details of the thirteen positions on the Board.

Joint management

Nitmiluk National Park is Jawoyn Aboriginal land that is leased to the Northern Territory Government to manage as a national park in co-operation with the Jawoyn people. Under the Memorandum of Lease:

- Jawoyn cultural and economic interests are key considerations in the management of the Park
- Jawoyn people are consulted regularly on park management
- local Aboriginal enterprises participate in tourism endeavours, campground management and other commercial ventures in the Park
- Jawoyn people are employed as rangers and cultural advisers
- the Park provides opportunities for training, employment and commercial investment
- the Park enables Jawoyn people to share their culture and values with visitors.

Board of Management

Nitmiluk Board of Management meetings are the formal part of joint management. The Board meets at least two days every three months with Parks and Wildlife facilitating the meetings.

With a majority of Board positions, Jawoyn have a powerful say in all management decisions. Jawoyn are also consulted widely outside board meetings through:

- traditional owners employed as full-time Rangers
- consultation with individual Jawoyn Board members
- the Jawoyn Association
- direct employment of traditional owners on programs for their cultural knowledge and expertise.

Nitmiluk National Park staff

Park staff, including Jawoyn people employed as Rangers, are responsible for doing what is necessary to look after the Park according to the Plan of Management.

Day to day management of the Park includes:

- visitor management - maintaining tracks, conducting visitor surveys, responding to incidents, managing concessions and contracts, maintaining signage
- cultural management - maintaining and surveying art and other cultural sites
- monitoring biodiversity - surveying plants and animals and maintaining the Biological Records System
- managing weeds and feral animals - monitoring locations/spread, planning and implementing control programs, monitoring and maintaining fences
- fire monitoring and management - wet season patchwork burning, protecting threatened species from wildfire, maintaining firebreaks
- maintaining infrastructure and equipment, including dismantling fencing and infrastructure in flood zones prior to the wet and reassembling for the dry season.

General maintenance of Park facilities is done by contract workers. Visitor services like the kiosk, shop and tours are provided by concessionaires, such as Nitmiluk Tours.

Interpreting Park management

What is a concession?

What services in Nitmiluk are provided by concessionaires?

Concessionaire operations

Concessions are granted by Government for businesses to use Government land for particular purposes. The concessions in Nitmiluk National Park are for providing services to the public.

The business holding a concession, the concessionaire, runs the business and keeps the profits, but pays a royalty to use the land. The operations of concessions in Nitmiluk are detailed in Operational Agreements under By-law 13 of the *Territory Parks and Wildlife Conservation Act*. Concessionaires must provide services in accordance with their agreements.

PWSNT conducts an annual induction for concessionaire employees to ensure that they are aware of Park rules and regulations for living and working on Park. This handbook, an induction handbook and information about the Park's natural and cultural values are also provided during the induction.

PWSNT holds weekly meetings with concessionaires to discuss issues and policy matters. Concessionaires report numbers of passengers on tours, people camping, canoes hired and other statistics to PWSNT. Among other things, these statistics are used to calculate payments due to Jawoyn for the use of their land.

Most visitor services in Nitmiluk National Park are managed by concessionaires, including:

- launch (boat) tours
- canoe hire
- helicopter flights
- kiosk and shop in the Nitmiluk Centre
- Gorge campground
- management of campground and kiosk at Leliyn.

Nitmiluk Tours

Nitmiluk Tours began as a joint venture in 1993, but is now owned entirely by the Jawoyn Association. In 2006 Aurora Resorts commenced management of Nitmiluk Tours for the Jawoyn Association.

Nitmiluk Tours holds concessions to operate the launch (boat) tours, canoe hire, gorge campground, and the kiosk and shop in the Nitmiluk Centre.



Nitmiluk Tours holds a concession to hire canoes.

Park management issues

Parks are managed to protect biodiversity - plants, animals and their habitats; and to provide opportunities for visitors to safely enjoy and learn about them. Looking after Nitmiluk and its visitors involves managing:

- fire
- native plants and animals, including crocodiles
- weeds
- feral animals
- visitors

Interpreting Park management

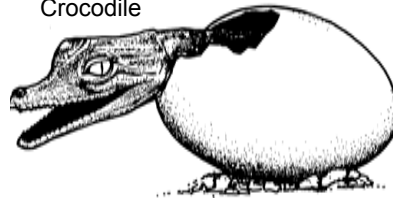
What are the potential threats to the values of Nitmiluk National Park?

Managing biodiversity involves looking after the plants and animals native to an area.

Barrakbarrak,
Darter



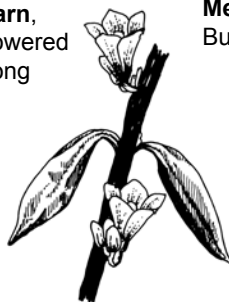
Goymarr,
Freshwater
Crocodile



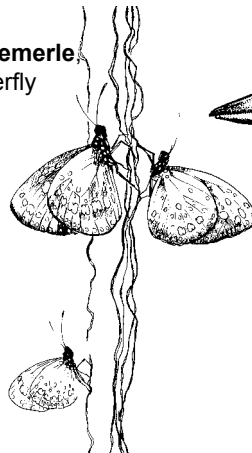
Marram,
Whistling Kite



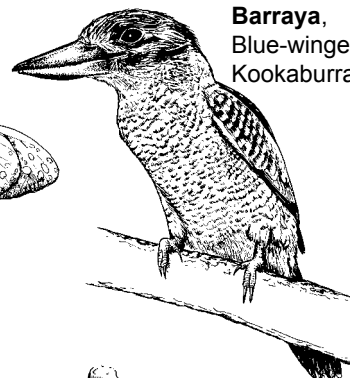
Jarmarn,
Red-flowered
Kurrajong



Merlemerle,
Butterfly



Barraya,
Blue-winged
Kookaburra



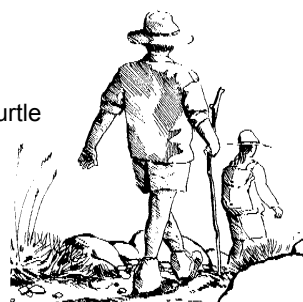
Jatete/Japepe,
Leichhardt's
Grasshopper



Pelkkang'mi,
Green Tree
Frog



Ngart, turtle



Bojjalk,
Archer Fish



Managing Nitmiluk involves providing opportunities for people to safely enjoy and learn about the Park.



Interpreting fire management

What is fire regime?

How is fire a potential threat to Park values?

How is fire used as a management tool?

What is the benefit of creating a patchwork of burnt and unburnt areas?

What did Jawoyn people traditionally use fire for?

Fire

Fire has always been a part of the savanna landscape and for thousands of years Jawoyn and other Aboriginal people have used fire to manage habitats and to hunt.

Fire regime is the timing (season), intensity and frequency of fires. Research into fire regimes provides important information to help park managers understand how to use fire as a tool to protect park values.

Generally, late dry season fires have negative impacts on flora and fauna because they are more intense, burn hotter for longer durations and over extensive areas. Wet season fires and early dry season fires are less intense, are likely to go out overnight and generally burn smaller areas.

Fire management

The Park has a five year Fire Management Strategy that outlines the broad objectives and strategies for managing fire to protect human life, property and biodiversity on the Park. It also provides direction for fire management research and wildfire suppression.

Past fire management practices have involved prescribed burning in the Park throughout the year to create a patchwork of burnt and unburnt vegetation.

This patchwork burning approach broadly reflects traditional Aboriginal practices of burning country while moving across it through the seasons.

Patchwork burning:

- reduces large wildfires
- helps protect fire sensitive areas by reducing fuel loads and creating firebreaks
- promotes a diversity of habitats as different fire regimes affect the species growing and their stages of growth.



Fire is used to manage biodiversity.

Fire sensitive areas

Some vegetation communities and species are particularly sensitive to fire:

- heath communities of the sandstone plateau
- Cypress Pine, *Callitris intratropica*, communities
- monsoon rainforests are generally in areas naturally protected from fire and are dominated by species that cannot tolerate fire
- *Melaleuca* swamps and wetland areas such as Douglas Springs, Kekwick Springs and Dunlop Swamp are sensitive to intense fires
- riparian (creekline) communities including *Syzygium sp*, *Lophopetalum arnhemicum* and *Lophostemon sp*, are adversely affected by fire
- stands of lancewood, *Acacia shirleyi*, cannot tolerate frequent fires as they kill emerging saplings, reducing age diversity within the stands and eventually displacing the lancewood stands.

Fire monitoring

A long-term fire monitoring program started in 1995 to improve understanding of the seasonality, extent and frequency of fire and the consequences of fire regimes for conservation management. The program used satellite imagery and fire history records back to 1989 and was conducted in conjunction with Litchfield and Kakadu National Parks.

The project continues with the long-term vegetation monitoring of 45 sites for a better understanding of the effects of fire regimes on plants and animals. Once a year the sites are visited and photo's are taken to determine which fire plots have been burnt in the last 12 months and the intensity of the fire. Every five years, species presence and vegetation community structure data are recorded, satellite fire-mapping data is verified and fauna surveys are conducted.

This work provides an understanding of the influence of management-imposed fire regimes on different habitats.

Intense fires

Burn hot and high into the trees. They damage ecosystems from the soil up to the plants.

Intense fires are usually late dry season wildfires.

Interpreting crocodile management

Why do PWSNT conduct crocodile surveys?

Crocodiles

Section 4 contains more information about crocodiles.

Crocodiles

There are two types of crocodile in the Katherine River:

- Freshwater Crocodiles (*Crocodylus johnstonii*), considered harmless to people unless provoked
- Estuarine (Saltwater) Crocodiles (*Crocodylus porosus*), which are considered a threat to human life.

Parks and Wildlife must manage the potential impacts of crocodiles and people on each other. To this end the Katherine River Crocodile Management Strategy identifies potential problems and strategies for dealing with them.

Rangers conduct regular patrols of the first three gorges to survey Freshwater Crocodile numbers and check for the presence Estuarine (Saltwater) Crocodiles. A trap is also maintained in the First Gorge to catch any Estuarine (Saltwater) Crocodile that may enter the Gorge.

The Gorge is poor habitat for Estuarine (Saltwater) Crocodiles. However, they can make their way up into the gorge system during the wet season when river levels are high. Once river levels rise at the beginning of the wet season, the river is closed to swimming. It is only open again after three weeks of intensive day, night and aerial surveys at the end of the wet season when the river level has dropped and steadied.

The only confirmed record of an Estuarine (Saltwater) Crocodile within the Park was in 1999. The crocodile was removed.



Ginga, Estuarine (Saltwater) Crocodiles, can move into the Gorge when river levels are high.

Weeds

A weed is an introduced plant growing in competition with the plants that belong in an area. This competition can lead to the disappearance of native species and have consequences such as loss of food and habitat for native wildlife.

Weeds are quick to establish on disturbed sites and in riverine and wetland areas. Intensively used places like picnic and camping areas are especially prone to weeds as vehicles and people inadvertently spread seeds. Animals also play a major role in the spread of weeds.

Feral animals may be responsible for the spread of some species such as Khaki Burr, *Hyptis*, *Sida spp.* and *Senna spp.* through the Park. Reducing feral animals may therefore help reduce these weeds.

Annual Mission Grass is currently a weed given high control priority in the Park. It is invasive and aggressive, competes with native grasses and has the potential to drastically alter the fire regime because of its high fuel load.

Weeds are controlled using fire, chemicals and physical removal. There are over forty introduced plant species within Nitmiluk National Park and most effort goes into controlling:

- Goat's Head Burr, *Acanthospermum hispidum*
- Caltrop, *Tribulus terrestris*
- Khaki Burr, *Alternanthera pungens*
- Annual Mission Grass, *Pennisetum pedicellatum*
- Wild Passionfruit, *Passiflora foetida*
- Hyptis, *Hyptis suaveolens*
- Snakeweed, *Stachytarpheta jamaicensis*
- *Sida spp.*
- *Senna spp.*

Introduced species of less concern are those planted in gardens in residential areas, or for shade around intensive use areas, including Pawpaw, Carrambola, Cavalcade, Mulberry, Yellow Oleander, Custard Apple, Cactus and African Mahogany.

Some plants in the Nitmiluk intensive use area, like mangoes, have been removed in recent years to eliminate their potential to spread through the Park. A long term weed strategy for Nitmiluk aims to eventually remove all exotic plants and replace them with endemic natives.

Concessionaires are responsible for familiarising themselves with the main weed species and removing them from their areas of operation (campground, visitor centre gardens and lawn) and from residential yards, especially prior to seeding.

Interpreting weeds

What is a weed?

What problems can weeds cause?

What places do weeds most easily invade?

How are weeds spread?

Plants

Section 4 contains information about native plants and their habitats.

Interpreting feral animals

What is a feral animal?

What problems can feral animals cause?

What problems do hard-hoofed animals cause?

Animals

Section 4 contains information about native animals and their habitats.

Feral animals

Feral animals are animals that were introduced from other places and have gone wild. They are considered pests because of their negative impact on native species through one or more of the following:

- competition for food and habitat
- destroying or altering natural habitats
- hunting native animals
- poisoning native animals.

The ten introduced vertebrate species known to inhabit Nitmiluk National Park are:

- buffalo, *Bubalis bubalis*
- feral cattle, *Bos taurus*
- feral horse, *Equus caballus*
- donkey, *Equus asinus*
- feral pig, *Sus scrofa*
- feral cat, *Felis catus*
- feral dog, *Canis familiaris*
- mouse, *Mus domesticus*
- black rat, *Rattus rattus*
- cane toad, *Bufo marinus*

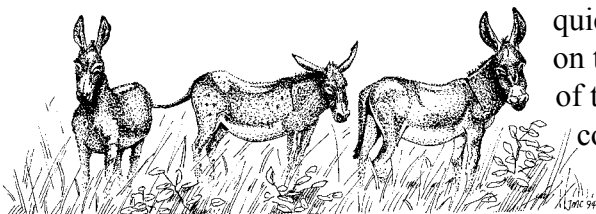
Hoofed animals and pigs

The most extensive and obvious environmental impacts are caused by large hard-hoofed animals and pigs. Their activities can change habitats over large areas and they compete for water and grazing with native animals.

Hard-hoofed animals and pigs pollute water and cause soil erosion. Erosion occurs along the tracks they create, where they dig and where they access water. Feral animals also spread weeds. Many plants that were introduced to feed cattle have become serious weeds.

Methods for controlling these animals in Nitmiluk National Park have included mustering and removal by pet meat operators, aerial and ground shooting and trapping.

Complete eradication of feral animals over extensive areas is not feasible as populations can increase quickly. However, the impact of feral animals on the Park has been reduced through fencing of the Park's southern and eastern boundaries combined with trapping and culling operations.



Tongki, donkeys, are a hard-hoofed feral animal.

Cats

Feral cats, *Felis catus*, are widespread across Australia. They are efficient, highly mobile predators that prey upon insects, birds, small reptiles and mammals. They can have a significant impact on populations of their prey.

Cat numbers are difficult to determine in an area and there are no effective long-term methods for controlling cat populations.

Cane Toads

The Cane Toad, *Bufo marinus*, arrived in the Park late in 2000. So far there is no known way to control this species. They have a noticeable impact on native animals through predation, competition for resources and poisoning of predators, particularly goannas, snakes and quolls.



Jatti, Cane Toad

Visitors

Visitors to the Park have the potential to impact on the values of the Park through their activities. Walking, driving, camping, washing, swimming and collecting rocks and wildlife have the potential to:

- erode tracks
- spread weeds
- pollute waterways.

These potential impacts are managed by:

- providing and maintaining suitable access to parks and their facilities
- restricting access to maintained roads and tracks
- providing camping and picnic areas
- providing facilities such as toilets and fire places.

Visitor management

What management problems can people cause?

How are visitor impacts minimised?



Designated camping areas are designed to minimise human impacts.

Visitor safety

Section 6 contains information about visitor safety.

Section 7 outlines the facilities and services available to visitors in the Park.

Further reading about Park management

Nitmiluk National Park Plan of Management, October 2002.

Northern Territory Parks and Conservation Masterplan.

Nitmiluk (Katherine Gorge) National Park Act.

Rebuilding the Jawoyn nation: approaching economic independence. Prepared for the Jawoyn Association by Green Ant Research Arts and Publishing, 1994.

The Jawoyn Association: towards best practice. The Jawoyn Association, Katherine, 1996.

Nitmiluk (Katherine Gorge) National Park Lease.

Jawoyn Constitution.

By-law agreements for each concession operation (held by each concessionaire).

Katherine River Crocodile Management Strategy.

Section 5 Assessment questions

You must answer all of the questions at the end of each section of this handbook and complete a practical assessment to conduct launch (boat) tours on Katherine Gorge.

Following are the questions that you must answer as part of your assessment for this section.

Please write your answers on the Assessment Form in Section 9 of this handbook.

1. What is the role of the Board of Management in Nitmiluk National Park?
2. What is the role of Parks and Wildlife in the management of Nitmiluk?
3. What is the Plan of Management?
4. Who are the joint managers of Nitmiluk National Park?
5. What role do concessionaires play in Nitmiluk National Park?
6. Who owns Nitmiluk Tours?
7. What are the main management issues in Nitmiluk National Park?
8. What is the purpose of fire management?
9. What are some of the feral animals in the Park?
10. What impacts do hard-hoofed animals have?
11. What are some of the weeds in the Park?
12. Where do weeds tend to be a greater problem?
13. Are Estuarine (Saltwater) Crocodiles found in the Katherine River?
14. How does PWSNT deal with the threat of Estuarine (Saltwater) Crocodiles in Katherine Gorge?