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Kakadu National Park traditional owners
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Northern Territory Tourist Commission
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Tourism Top End
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Uluru Tourism Consultative Committee
Uluru traditional owners
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Wilderness Challenge

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Warning about offensive images

Images of people now deceased
Many Aboriginal people and Torres Strait Islanders are offended by the publishing of photographs or names of deceased members of their communities. While every effort has been made to ensure that only pictures of Aboriginal people and Torres Strait Islanders still living are used in this work, users are warned that it may inadvertently contain images or names of people now deceased.
This *Readings* book contains core readings to supplement Themes 2, 3 and 4 of the Kakadu Knowledge for Tour Guides training program.

### Theme 2: Background to the Park

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Reading 2.1.1: What is my culture?

WORK
- What are the particular codes of behaviour in your workplace?
- Do you feel you belong to a particular group in your workplace? If so, which group?

FAMILY
- What are the particular ways in which your family does things?
- What are the unwritten rules which exist about how different family members behave?
- What family traditions do you have?

FRIENDS
- What attitudes to life do you share with your friends?
- Do you dress in a particular way? If so, how? Or why?
- Do you do the same things for fun and recreation? If so, what are they?
- What traditions do you have with your friends?

RELIGION
- Are you part of a group because of shared religious beliefs? If so, what group?
- How do your religious beliefs affect the way you live your day-to-day life?

COUNTRY
- Do you feel a sense of allegiance to a particular country? If so, what country and why?
- What are some of the unique features of the way in which people do things in that country?

Source: ANTA 2002 Work in a socially diverse environment
Reading 2.1.2: Interactive Ochre – A workplace guide

Traditional aspects

- Australian Aboriginal Society has the longest continuous cultural history in the world. Its origins date back at least 50 000 years possibly 70 000 years or since the beginning of time in the Dreaming.

- The relationship to the land is considered fundamental to the well-being of Aboriginal people, individually and collectively. The relationship with the land is a spiritually connection.

- In Aboriginal communities there is a ‘need to accept customs and laws’.

- Aboriginal Elders are viewed by their communities with respect. They are the holders of information and knowledge. It is often expected by the community that staff members also respect these people and acknowledge their position.

- For many Aboriginal people it is considered impolite to make eye contact with people. Avoiding eye contact is polite behaviour and is regarded as a sign of respect by Aboriginal people

- For non-Aboriginal people avoiding eye contact can be difficult as it is not a natural response. In many situations sitting next to the person rather than opposite them can limit eye contact.

- There are differences between those with ‘traditional’ culture and ‘non-traditional’ — some Aboriginal people do not place significance on that aspect of culture and do use eye contact.

- Aboriginal Australia consists of approximately three hundred groups each with their own country, stories, languages or dialects, and traditions.


- Work teams need to be aware of inappropriate tasks for men and women where the community designates ‘men’s business’ or ‘women’s business’.

- Aboriginal people have a very strong sense of kinship. Family ties and connections are very important and families share resources and care for relatives. Decisions will often be made from a family or clan perspective.

- In Aboriginal communities take care what you ask about — be cautious and don’t pry.

- Be aware of the use of hand signals and other non-verbal cues commonly utilised.
Health and services issues

- Specialised medical, legal and educational services are needed for Aboriginal people to ensure the most appropriate and accessible service is provided.

- Due to gender-specific preferences—especially in regard to health issues—Aboriginal people may require treatment by same gender staff (e.g. some senior men may not find it appropriate to be treated by female practitioners).

- The need for Aboriginal services is also supported by statistics which indicate that Aboriginal people are worse off than any other identifiable group of Australians. Statistics from the Australian Bureau of Statistics include:
  1. Aboriginal people die on average 15-20 years earlier than non-Aboriginal people and are far more likely to suffer from infectious disease or chronic disease such as diabetes, renal failure, heart disease and hypertension, trachoma and ear disease.
  2. Only 2.6% of the Indigenous population is aged 65 years or over.
  3. Coronary heart disease—the risk of occurrence is 3–4 times higher for Indigenous males and females.
  4. Stroke—the risk of occurrence is 3–4 times higher for Indigenous males and 2.5–3.6 times higher for Indigenous females.
  5. Rheumatic heart disease—the risk of occurrence is 27 times higher for Indigenous males and 23 times higher for Indigenous females.
  6. Other cardiovascular disease—the risk of occurrence is 3–4.5 times higher for Indigenous males and females.
  7. Type 2 diabetes has been recognised as one of the most significant health problems for Indigenous populations across Australia, with the overall prevalence approximately four times that of the general population.


- Large proportions of Aboriginal people do not drink alcohol:
  1. Up to 35% of Aboriginal males do not drink alcohol at all compared with 12% of non-Aboriginal males.
  2. Between 40-80% of Aboriginal females do not drink compared to 19-25% of non-Aboriginal females.
  3. Surveys have shown however that Aboriginal people who do drink tend to do so in excess. This is often highlighted by the fact that many Aboriginal people drink in public places or in the open—not like their non-Aboriginal counterparts who drink behind closed doors.
  4. In many areas the communities have decided to have alcohol-free zones. They are called ‘Dry Communities’.

- The high prevalence of health risk factors found among the Indigenous population reflects the broader social and economic disadvantages faced by Aboriginal people.
• The health risk factors summarised briefly are smoking, physical inactivity, and psychological and sociological issues. Smoking heightens the risks by affecting the functioning of the arteries, physical inactivity contributes to increased weight gain, and psychological and sociological risk factors stem from social inequalities and influence the prevalence of other risk factors.

• Inadequate housing has been identified as a major factor affecting the health of Aboriginal and Torres Strait Islander people.

• Indigenous youth face extreme difficulties in Australia today. A vast divide in life opportunity exists between Indigenous Australians, and the general population in Australia. Statistics suggest:
  1. Indigenous youth are the most educationally disadvantaged.
  2. 63% of Aboriginal and Torres Strait Islander people over 15 years of age are overweight or obese.
  3. 49% of Aboriginal and Torres Strait Islander people aged 18 years and over were smokers.
  4. 59% of Indigenous Australians aged 13 years and above identify alcohol as ‘one of the main health problems’ faced by their communities and 30% identify ‘drugs’ as a problem.
  5. Unemployment rates were highest for Indigenous people aged 15–17 years (31.8%) and 18–24 years (27.3%).
  6. The number of Indigenous children on care and protection orders nationally on 30 June 2002 was 5.9 times the non-Indigenous rate.
  7. Indigenous juveniles (up to age 18) remain over-represented in criminal justice processes.


• Participation of Aboriginal children in early childhood and primary schooling has improved dramatically. Retention rates for Aboriginal children in Year 12 increased from under 10% to about 38% in 2000, and the participation rates of Aboriginal children aged 15–24 in vocational education and training have reached similar levels as other Australians. However, there is still a long way to go.

Impact of government policies
• The ‘Bringing them Home’ Report (1997) suggests that Aboriginal people removed from their families are:
  1. Less likely to have undertaken a post-secondary education
  2. Much less likely to have stable living conditions
  3. Likely to be geographically mobile
  4. Three times more likely to say they had no one to call on in a crisis
  5. Less likely to be in a stable, confiding relationship with a partner
  6. Twice as likely to report having been arrested by police and having been convicted of an offence
  7. Three times as likely to report having been in jail
  8. Less likely to have a strong sense of their Aboriginal cultural identity and more likely to have discovered their Aboriginality later in life
  9. Twice as likely to report current use of illicit substances
  10. Much more likely to report intravenous use of illicit substances.


• Indigenous Australians were completely overlooked as relevant parties in the formation of the Australian Federation. Many Australians believe that a treaty is an appropriate starting point towards reconciliation.

• Self determination is an ‘on-going process of choice’ to ensure that Indigenous communities are able to meet their social, cultural and economic needs. It is not about creating a separate Indigenous ‘state’.

• The right to self-determination is based on the simple acknowledgment that Aboriginal people are Australia’s first people, recognised by law in the historic Mabo judgement.

• The loss of this right to live according to a set of common values and beliefs, and to have that right respected by others, is at the heart of the current disadvantage experienced by Indigenous Australians.

• Without self-determination it is not possible for Indigenous Australians to fully overcome the legacy of colonisation and dispossession.


• Indigenous people have links to areas of land that date back thousands of years. The native title cases are about claims for ownership of property by Aboriginal people where they have maintained a physical association with their territory.

• The two landmark cases relating to native title are the Mabo case from the Mer (Murray) Islands (Torres Strait) and the Wik Case from Cape York Peninsula. To define the principle of native title the Government passed the Native Title Act 1993 and, after the
Wik decision, developed a controversial 10 point plan to resolve the ambiguities in native title legislation.


Reference List


Reading 2.1.3: A short guide for visitors to remote Indigenous communities

A SHORT GUIDE FOR VISITORS TO REMOTE INDIGENOUS COMMUNITIES

Australia’s Indigenous peoples are proud of their unique heritage and living cultures. This guide may help you to learn about the meanings which they attribute to the Australian landscape and to respect their practices, beliefs and values. Hopefully, it will enrich your experience of Indigenous Australia.
Australia’s Indigenous population includes Aboriginal and Torres Strait Islander peoples. The Aboriginal belief system stems from a period widely referred to as the Dreamtime.

The Dreamtime is the past, present and future, it reaches back to the deeds of creative ancestors, whose actions at various places filled the earth with the life forms we see today. They created languages and ceremonies, taught Aboriginal peoples the proper way to live with kin and attributed ongoing custodianship of the land to local groups sometimes called ‘tribes’ or ‘nations’. They also left rich traditions of ritual, dance, music, art and stories which continue to inform contemporary Indigenous expression in the visual and performing arts.

Torres Strait Islanders are indigenous to some of the 100 islands in the Torres Strait, between the northern tip of Cape York in Queensland and Papua New Guinea. The beliefs and custodial ties to the land and seas of Torres Strait Islanders are also based in myths and legends of ancient, heroic figures, such as those relating to the Stars of Tāngai, and live on, in what is today referred to as ‘Alarn Kastom’.

While there is a common theme in creation beliefs, dreamings and lifestyles, skin colours and cultural practices vary enormously across Australia whether Indigenous peoples live in remote Indigenous controlled communities or in urban settings. Around 300 Indigenous languages and over 700 dialects have been recorded, although some may no longer be spoken. Indigenous Australians have also experienced colonisation at different times and in different ways, giving rise to a range of influences which has shaped their lives.
Expressions of Indigenous identity are not only to be found in the hunter-gatherer lifestyles of the past. They are also to be found in contemporary evolving forms in the day-to-day lives of modern Indigenous Australians as they participate in all aspects of Australian society.

**Preparation**

Aboriginal and Torres Strait Islander communities have established peak bodies and community representative organisations to advocate and manage community affairs for Indigenous people and communities. These are good places to start when looking for information about Indigenous communities.

* Visit the Aboriginal and Torres Strait Islander Commission (ATSIC) website on www.atsic.gov.au

* Contact relevant bodies such as the Australian Tourist Commission, state and territory tourism offices and local shires.

* For information on Indigenous tourism operations, visit the Aboriginal Tourism Australia website on www.ataust.org.au

* Many Indigenous community organisations operate Cultural Centres which are open to the public, for the names of local community organisations contact ATSIC state offices.

* Always check for and respect local customs. On arrival seek local information and protocols from Indigenous community organisations.
* Visitor permits are required to enter some Aboriginal owned land, predominately those in northern and central Australia and some parts of South Australia and Western Australia.

* Permits are issued through Land Councils who act on behalf of traditional owners.

* The permit system is designed to help protect the privacy of Aboriginal communities, preserve Aboriginal culture, safeguard the natural environment and promote visitor safety. Intending visitors should submit applications for permits to the relevant Land Council well in advance.

* Be aware that in many Indigenous communities the consumption or possession of alcohol is banned. This rule is enforced and must be observed.

Communication

Complex kinship structures exist in traditional Aboriginal society. People belong to extended family clan groups which gives them responsibilities in addition to those of the nuclear family. Communities operate as a group rather than being individually oriented. In many areas there are customary ways of treating certain matters, for example some cultural lifestyles don’t allow men and women to mix freely.

* Be aware that Indigenous people communicate differently to non-Indigenous people. Their verbal and body language may have different patterns. Greetings such as ‘hello’ and ‘goodbye’ may not be used. You need to be prepared to wait until people want to speak to you. Understand that such behaviour is culturally influenced and is not intended to be impolite.
* Take your cues from Indigenous people, allow them to set the pace, let your presence be noticed before engaging in conversation.

* Be aware that access to Dreaming stories, ritual and cultural practices may be restricted to specific individuals or groups. Asking people about such things may cause offence.

* It is customary that images of recently deceased people are not displayed and that the name of the deceased person is not spoken.

* Be aware that many Indigenous people in remote communities speak English as a second language and may not read or write English.

* Be aware that the concept of time is different. In traditional society Indigenous people’s concept of time is not linear and time constraints are traditionally perceived differently.

**Privacy**

Visitors are asked to respect the privacy of the people living in the communities they travel through. Be conscious of Indigenous peoples wishes about their land.

* Always ask before photographing a person, group or residence or culturally significant places, practices, images and ceremonies - and other apparently less significant subjects. Offer to return copies of photographs, if requested.

* In some communities there may be areas you will be asked to avoid. Please observe community requests to avoid those areas.
* In traditional communities mortuary rites, often referred to as 'sorry business', are an obligation for the entire community. On the death of a senior person access to an area may be closed for a period of time. Please respect the communities' privacy in these matters.

Caring for country

Some land is more significant than other land usually because of its mythological significance, use as a burial ground or ceremonial site. These special places are often referred to as 'sacred sites'. Access to these sites is generally restricted.

* When visiting the wide variety of Indigenous cultural and heritage sites, including those of the more recent past, always ask about appropriate behaviour. Read signage carefully, keep to dedicated camping areas, stay on tracks and boardwalks, and comply with other requests; the significance of a site may not always be apparent.

* While many Aboriginal sites have been recorded and are protected under heritage legislation, many more are not recorded. Some sites of significance may have no apparent geographical features of importance, nevertheless they are of importance to local communities. Respect the local community's story associated with a particular site.
* Many sites may be accessed readily but there may be areas you will be asked to avoid, depending upon the nature of their significance, whether you are male or female, whether the influence of a site is considered to be dangerous or whether activities such as ceremonies are taking place. At some sites, it may be sufficient to observe respectful, quiet behaviour. At others there may be specific rules relating to the surrounding environment. Never remove materials from a site for souvenirs.

* Indigenous rock art and engravings are manifestations of belief. Be mindful that large numbers of visitors place enormous pressure on sites. Never interfere with rock surfaces and cultural artefacts. And be aware that by the touching of artworks and motifs, the skin’s natural oils can cause considerable deterioration. Dust is damaging, so move thoughtfully at rock art sites and leave your vehicle some distance away.

* Many sites will already have been photographed by professionals, so think about buying postcards instead.

**Cultural heritage and intellectual property**

Indigenous cultural and intellectual property refers to the expressions, products, knowledge and practices that make up the collective heritage and culture of Indigenous people.
*The activities of ancestral heroes and creator figures prescribe the peoples’ rights to and responsibilities for their lands and inform their rich traditions of ritual, dance, music, art and stories. A great wealth of Indigenous knowledge has been handed down from generation to generation and individuals or groups have authority over the ownership of such knowledge. Strict protocols usually determine who may narrate or paint particular stories or use associated designs.

*Copyright, patent and intellectual property laws apply throughout Australia, and it may be unlawful to copy, publish, sell or otherwise use Indigenous designs and images, languages, photographs, artefacts, crafts, general artworks, music, songs, dances, stories, interpretations, performances and presentations. Indigenous protocol suggests that such intellectual and cultural property should not be copied for private purposes either.

*When buying souvenirs look for Aboriginal authenticity labels rather than ‘Indigenous inspired’. In this way you will support Indigenous Australians in their efforts to preserve and protect their heritage.
CONTACT LIST

ATSIC CENTRAL OFFICE
Tel: (02) 6121 4000
www.atsic.gov.au

TORRES STRAIT REGIONAL AUTHORITY
Tel: (07) 4069 1247
www.tstra.gov.au

ABORIGINAL TOURISM AUSTRALIA
Tel: (03) 9620 4533
www.ataust.org.au

AUSTRALIAN TOURIST COMMISSION
Tel: (02) 9360 1111
www.atc.net.au

NORTHERN LAND COUNCIL
Tel: (08) 8920 5178
www.nlclc.org.au

CENTRAL LAND COUNCIL
Tel: (08) 8951 6211
www.clc.org.au

ANANGU PITJANTJATJARA
YANKUNY TJATJARA LAND COUNCIL
UMUWA
Tel: (08) 8950 1508

CAPE YORK LAND COUNCIL
Tel: (07) 4053 9222
www.cyclc.org.au
Reading 2.1.4: Welcome to country—Respecting Indigenous culture for travellers in Australia
Kakadu Knowledge for Tour Guides
Australia: a country of many ‘countries’

Australia has many different Indigenous language groups and cultures. Australian Indigenous peoples include Torres Strait Islanders who are culturally distinct from Aboriginal Australians. Each group has a vibrant culture of which they are immensely proud. The diversity of languages, cultural beliefs and customs add to the complexity and richness of Indigenous cultures.

Wherever you visit in Australia, you travel across and stay in country significant to Aboriginal or Torres Strait Islander people. From the remotest location in Tasmania or Australia’s north to our cosmopolitan cities, you are visiting the traditional lands of Indigenous Australians.

Groups often speak of the lands and waters they have traditional affiliation and responsibility for as ‘country’.

Throughout Australia, the responsibility to look after or ‘care for country’ is held by clan and family groups as well as individuals. Senior people in the community, who are responsible for their traditional land and waters, are often referred to as ‘traditional owners’.

"People talk about country in the same way that they would talk about a person: they speak to country, sing to country, visit country, worry about country, feel sorry for country and long for country…. country knows, hears, smells, takes notice, takes care, is sorry or happy….Because of this richness, country is home, and peace; nourishment for body, mind and spirit; heart’s ease."

Deborah Bird Rose, Nourishing Terrains

Spiritual connections

Aboriginal and Torres Strait Islander people have a unique relationship to the land and waters of their country. This relationship embraces a certain responsibility to look after the spiritual and environmental wellbeing of country. Responsibilities include acknowledging and paying respect to the spirit ancestors who created the land and introduced customs and languages. Responsibilities to care for country are defined through traditional law.

Although creation beliefs and customary practices vary greatly across Australia, they are all based on the journeys of ancestral beings and events which took place during the creation period. This is often referred to as the ‘Dreaming’ or ‘Dreamtime’.

“…Our story is in the land. It is written in those sacred places…”

Bill Neidjie, Gagadju Man
Welcoming visitors to country

Welcoming people to country is a traditional practice of special significance. When an Indigenous person visits places in their country they may talk to the spirit ancestors of that place to identify who they are, and who is accompanying them. In some areas welcoming visitors may take other forms – it could be a formal or informal welcome address or another type of ceremony. Such ceremonies typically involve the use of fire, smoke or water.

Local groups each have their own customs and protocols about welcoming visitors to their land.

Traditional owners and communities take the role and responsibility of welcoming visitors to their country very seriously. Aboriginal and Torres Strait Islander communities are generally very happy to welcome travellers to their traditional land. They do this with great pride, as gaining recognition and respect for country and their role as custodians is very important.

Being welcomed to country

At various places throughout Australia there are times when a welcome may be extended to visitors by traditional owners. The type of welcome offered will vary depending on the individual or group involved. You may be welcomed in the form of a sign or a brochure.

If you are invited onto Aboriginal land or into an Aboriginal community, a personal welcome may be extended by traditional owners.

Acknowledgement of traditional lands or a welcome from a representative of the local Indigenous group might also be included at the start of a major event or conference.

As a visitor, being welcomed is your chance to acknowledge and reflect on the particular community on whose ancestral lands you stand.

Respecting your hosts and the country you visit

Travelling in a responsible way includes respecting your hosts and their country. In the same way we act with courtesy when visiting someone’s home, we should respect the land and the people who have important connections to it.

You may not always be formally welcomed to country, and in some:
areas it may not be clear whose traditional lands you are visiting or travelling through. Checking with local tourism agencies, local governments, land and community councils, parks and wildlife agencies or local Aboriginal organisations may provide you with this information. This simple act of inquiring about whose traditional lands you are visiting, is itself, a mark of respect.

There may also be opportunities for you to personally acknowledge the privilege of visiting a group’s country or special places.

“Country got ears and country knows its people”
Nyapara Tarran 2004

Being a responsible traveller

The choices you make when travelling can and do make a difference. Respecting Indigenous culture and country is a matter of travelling thoughtfully. Use the following points as a guide.

Respecting people’s privacy

- Many Aboriginal communities or lands require permits to enter – this helps ensure people’s privacy. You may need to organise permits with land or community councils well in advance.
- If you are visiting an Aboriginal community, wait until you are invited to approach homes or groups of people.
- Funerals and cultural ceremonies are times of special privacy – use extra sensitivity in communities at these times.

Respecting restrictions

- There may be places that are closed to visitors because of their cultural significance – heed advice if you are asked not to enter an area.
- In some places it is culturally inappropriate to swim or fish in waterways, waterholes and/or sea country.
- Some places can only be visited by men or women – please respect these protocols where they apply to non-Indigenous people.
- When in doubt about where you can or cannot go, it is good practice to ‘ask first’.
- The possession or consumption of alcohol is restricted in some Indigenous communities – these restrictions also apply to visitors,
Talking to Indigenous people

- If you are talking to an Aboriginal or Torres Strait Islander, recognise that they may communicate differently to non-Indigenous people – English may be a second or third language.
- Access to specific cultural knowledge or stories may not be open to everyone – it is best to avoid direct questions about matters that could be sensitive, unless invited to do so.
- Dress etiquette applies when visiting some Indigenous communities – if in doubt avoid wearing short skirts, short shorts or other revealing clothes.

Taking photographs and filming

- Always ask before filming or taking photos of a person, a group of people or cultural activities.
- Photographing and filming some places and objects is restricted for cultural reasons – please respect this important request from traditional owners.
- If you intend to use your photographs in a publication or for other commercial purposes, you will need to seek copyright permission from the people featured in the photo.

Taking home a memento

- Locally produced Aboriginal art and craftworks make an excellent memory of your visit to a place – if possible choose items designed and made by Aboriginal people. Look and ask for items that have a label of cultural authenticity.
- Purchasing items from Aboriginal people through respected outlets helps to create economic support for people in communities where there may be limited opportunities for employment.
- Please do not remove rocks or other objects from Aboriginal land or waters without the permission of traditional owners. Disturbing cultural sites is also prohibited by Australian law.
Aboriginal Languages

Australia Wide

Contrary to popular belief that there was only one Aboriginal language in Australia, studies have shown that there were about two hundred Aboriginal languages in Australia at the time Europeans arrived. These were distinct languages as different from each other as English and Bengali. These languages have extensive vocabularies and complex grammars. Today about one hundred languages are still spoken to some extent with fifty languages having a significant number of speakers.

Language is the life blood of culture. The cultural identity and unique world view of each person is carried in their language. English versions of Aboriginal concepts such as the Dreamtime can only give a watered-down and somewhat misleading view of the original idea. For this reason Aboriginal communities are keen to see their languages survive in a living and dynamic form.

Languages in Kakadu National Park

The linguistic diversity of Aboriginal Australia is demonstrated locally in microcosm. The map on the back page shows the main languages of the Park.

Languages of the Escarpment

The languages still actively spoken in the Park are Gun-djeihmi (also called Mayali), Kun-winjku and Jawoyn. These languages were all spoken in or adjacent to the Arnhem Land escarpment. People talking Gun-djeihmi and Kun-winjku can understand one another and therefore they are regarded as dialects of the one language. Jawoyn is a separate language.

These languages share very similar structure and grammar. For this reason these languages, together with others in the region, are grouped together into a large language family called the Kunwinjku language family. The details of one of these languages, Gun-djeihmi, are outlined over the page.
Gun-djeihmi ... A Living Language

Gun-djeihmi is the language spoken in the central Park area and is used here to show some of the characteristics of Aboriginal languages.

Sounds and their nearest English equivalents.

Vowels
- a - as in father or the u in but
- e - as in bed or the ai in air
- i - as the ee in feet
- o - like or said quickly
- u - as in push

Diphthongs
- ai - like eye
- au - like house
- ayi - at the end of words, eye-ee
- ei - like they
- eu - like air-co said very quickly
- eyi - at the end of words, as in payee
- iu - like ee-yoo said quickly, or the eau in beau
- oi - as in poise
- ou - like low
- ui - like gooey said quickly

Long Consonants
- bb, dd, dj
  like long English pp, tt, tch

Consonants
- b - bank
- d - dog
- dj - jump
- g - gun
- h - like the Cockney tt in bottle - bo’le, or like oh-oh
- k - cage
- l - lift
- m - mad
- n - nose
- ng - sing
- nj - canyon, or like boyn if at the end of word, eg bonj
- r - rice, carry
- rd - as in harder with an American accent
- rl - as in curl with an American accent
- rr - as in burn with an American accent
- rr - like the tt in butter said very quickly so it is trilled
- w - wait
- y - yell

Ng at the start of words:
Say the word ‘singalong’, then practice dropping the start of the word, so it becomes ‘ingalong’ and then ‘ngalong’. The ‘ng’ sound is sometimes said very faintly in Gun-djeihmi so that the word would sound more like ‘along’ with just a hint of the ‘ng’ at the start.

Structure
Gun-djeihmi is a polysynthetic language. That is, it can express in a single complex word an idea that takes a whole sentence in English. For example abanmarineyawoihtuyiyrurrendeng can be broken into the following parts.

|      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|
| a    | I    |      |      |      |      |      |      |
| ban  | then |      |      |      |      |      |      |
| marne| for   |      |      |      |      |      |      |
| yawoih| again |      |      |      |      |      |      |
| yiuk | honey |      |      |      |      |      |      |
| yi   | with  |      |      |      |      |      |      |
| rrurnde | return |      |      |      |      |      |      |
| ng | non-past tense |      |      |      |      |      |      |

In English we would use eight words to express this as “I bring the honey back for them again”.
Verbs and Tenses

Gun-djeihmi has five tenses, each shown by a different suffix. Look at the different forms of the verb ginje, to cook.

<table>
<thead>
<tr>
<th>Imperative</th>
<th>yiginjemen</th>
<th>Cook it!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonpast</td>
<td>yiginje</td>
<td>You are cooking it.</td>
</tr>
<tr>
<td>Past complete</td>
<td>yiginjeng</td>
<td>You cooked it.</td>
</tr>
<tr>
<td>Past durative</td>
<td>yiginjeyi</td>
<td>You were cooking it.</td>
</tr>
<tr>
<td>Irreals (unreal)</td>
<td>yiginjemenini</td>
<td>You didn’t cook it.</td>
</tr>
</tbody>
</table>

Do you mean me?

Gun-djeihmi has a complex system for indicating exactly who is being referred to and who isn’t. Compare the following:

anire: “we two (excluding you) go”
arrire “we (more than two, excluding you) go”
ganire “we two (including you) go”
garrire “we (more than two, including you) go”

Nouns

There are four noun classes masculine, feminine, vegetable and neuter. These are indicated by prefixes to words.

<table>
<thead>
<tr>
<th>Masculine</th>
<th>Feminine</th>
<th>Neuter</th>
</tr>
</thead>
<tbody>
<tr>
<td>na- rangem</td>
<td>al- ngurrkmanj</td>
<td>an- mim</td>
</tr>
<tr>
<td>na- manget</td>
<td>al- gordou</td>
<td>an- djeuk</td>
</tr>
<tr>
<td>na- gobbanj</td>
<td>al- gahbanj</td>
<td>an- yiuk</td>
</tr>
<tr>
<td>boy</td>
<td>olive python</td>
<td>seed</td>
</tr>
<tr>
<td>barramundi</td>
<td>brolga</td>
<td>rain cloud</td>
</tr>
<tr>
<td>old man</td>
<td>old woman</td>
<td>honey</td>
</tr>
<tr>
<td></td>
<td></td>
<td>name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cooking stone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hand</td>
</tr>
</tbody>
</table>

Artwork from Exploring Aboriginal Kinship, D Williams (1981)
Languages in Kakadu National Park (Cont.)

Languages of the lowlands

Much less is known about the languages of the lowlands. These languages are either extinct, with little or nothing known about them, or are remembered by only a few elderly people. The disappearance of these languages is a result of the population collapse that followed the foundation of Darwin in 1869. It is estimated that by 1930 the Aboriginal population of this area was reduced to 5% of its original size due to the introduction of exotic diseases and to violence. The people of the sandstone plateau area, being relatively more distant from Darwin, survived the effects of contact better.

Gagadju, one of the floodplain languages that is still remembered, is a particularly complex language, which, at the turn of the century was the major language spoken in the northern Park area. This language gives its name to the Park. The slightly different spelling comes from Baldwin Spencer, the pioneering anthropologist who first recorded the language in 1912 before a standardised spelling system was adopted.

Multilingual Society

The large number of languages in a relatively small area is some indication of the great diversity and complexity of Aboriginal society. As a consequence, most Aboriginal people were at least bilingual and many spoke three or four languages. Today this is still the case. English is often a person’s second or third language.

Place Names

Place names vary in meaning.

Some relate to the presence of a spirit from the creation era. Namarrgon Djadhjam is the name of the place where the lightning man, Namarrgon was and is active.

Other names relate to an event in the creation era which caused the earth to take its present form. Badhong Bawardedjogeng which means ‘the short-eared rock wallaby cut the rock,’ is the name of a rock in the Noulangie area which has a large crack.

Other names such as Anbanbang or Mardugal are simply area names with no other meaning.
Reading 2.1.6: Kakadu place name pronunciation

Anbangbang (Arn-barng-barng) Billabong, Angbangbang is the name for the lower section of Nourlangie rock and surrounding area

Bardedjilidji (Bar-ded-jill-id-gee) Walk, a 2.5km circuit, taking visitors past spectacular sandstone outcrops weathered into pillars, and along part of the river

Bowali (Bor-warl-ee) Visitor Centre, named after the Bowali Creek which flows nearby, the Bowali Centre contains a wealth of information about Kakadu. Park staff are available to provide information to you. Videos, displays and a library are also available to assist you in planning your visit. Visitor Centre opens 8.00am to 5.00pm

Bubba (Boop-bar) Walk, a 3.5km circular walk through several wetland habitats

Budjmi (Bood-me) Lookout, a 1km return walk to the top of a rocky outcrop which provides great views of the escarpment cliffs

Burrunggui (Boor-oon-goy) is the Gun-djeihmi name for the upper section of Nourlangie Rock

Gubara (Goo-bar-rar) Pools, a 6km return walk past sandstone cliffs to shady monsoon forest pools

Gun-gardun (Goon-gar-don) Walk, a 2km walk through woodlands, Kakadu’s most widespread habitat

Gu-ngarre (Goon-narr-ee) Monsoon Rainforest Walk, a 3.6km circular walk through monsoonal vine forest along the edge of the Anggardabal billabong and through fringing woodland

Gungurul (Goong-or-ool) Picnic and camping area, picnic tables and basic toilet facilities

Gunlom (Goon-lom), a popular camping area located near a clear plunge pool and small waterfall. A steep climb takes you to the top of the waterfall providing great views over southern Kakadu

Iligadjarr (Illy-gar-jar) Floodplain Walk, a 4 kilometre circular walk across a small grassy floodplain and along Burdulba billabong

Maguk (Mar-gook) Plung Pool, a 2km return walk through monsoon forest leads to a small waterfall and clear plunge pool

Manngarre (Marn-narr-ay) Monsoon Rainforest Walk, a 500 metre or 1.5 kilometre walk through monsoon forest habitat following the banks of the East Alligator River

Mamukala (Mar-moo-car-lar) Wetlands, a 100 metre walk to a covered observation platform or a 1km and 3km walk to see more of these fascinating wetlands

Mardugal (Mar-doo-garl) Billabong Walk, a 1km return walk follows the edge of Mardugal Billabong

Mirrai (Mirr-eye) Lookout, a 3.6km return walk to a platform lookout on top of Mount Cahill. It is a steep climb.

Nawurlandja (Now-oo-larn-ja) Lookout Walk, a 600m climb up a moderately steep slope offers good views of the escarpment and Anbangbang Billabong
Nanguluwur (Narng-oo-loo-war) Artsite, an easy 3.4km return walk through woodlands leads to a quiet art site with some interesting Aboriginal rock art.

Ubirr (Oo-beerr) Artsite, a 1km circular track takes you past several fascinating Aboriginal rock art sites. An additional 250m moderately steep climb takes you to the top of a rocky lookout that provides superb views over the Nardab floodplain.

Warradjan (Warr-ar-jarn) Aboriginal Cultural Centre, the circular design of this cultural centre represents a Warradjan (pig-nosed turtle) and provides detailed information about Bininj/Mungguy culture in Kakadu.

Ngurrungurrudjba (Noor-roon-goo-rooj-bar) Yellow Water area, commercial boat cruises operate on Yellow Water throughout the year, a boardwalk provides good views of Yellow Water’s wildlife during early dry season, a 1km return walk takes you across the floodplains to a viewing platform on Home Billabong.

*From Kakadu Tour Operator Manual 2005*
Section 2: Park history

Reading 2.2.1: Social history since colonisation

Reading 2.2.2: Establishment of the park—a chronology

Reading 2.2.3: Reconciling competing interests
Reading 2.2.1: Social history since colonisation

The arrival of non-Aboriginal people

Social history since colonisation

Explorers

The Chinese, Malays and Portuguese all claim to have been the first non-Aboriginal explorers of Australia’s north coast. The first surviving written account comes, however, from the Dutch. In 1623 Jan Carstenzoon made his way west across the Gulf of Carpentaria to discover Arnhem’s or Speult’s Island (believed to be Groote Eylandt). One of the two vessels under his command was the Arnhem.

Abel Tasman was the next documented explorer to visit this part of the coast on his voyage from Cape York to Shark Bay in 1644. He mapped the eastern opening of Van Diemen’s Gulf and was the first person to record European contact with the Aboriginal people of the region.

The next explorer to venture into the region was Matthew Flinders. He surveyed the western shores of the Gulf of Carpentaria in 1802 and 1803. Flinders was not impressed with the country and he found the natives he encountered hostile. He does record more favourably his contact with Macassan fisherman.

The first English navigator to enter the Gulf of Carpentaria was Phillip Parker King. Between 1818 and 1822 he made a number of coastal voyages, during which he explored and named the three Alligator Rivers after the large numbers of crocodiles, which he mistook for alligators. He was generally unenthusiastic about the region, finding the country low, dreary and flat, although the mangroves supported vast numbers of waterbirds. He saw no Aboriginal people but noted their fires.

Ludwig Leichhardt was the first land-based European explorer to visit the Kakadu region, in 1845 on his route from Moreton Bay in Queensland to Port Essington in the Northern Territory. He followed a creek down from the Arnhem Land escarpment, then went down the South Alligator before crossing to the East Alligator and proceeding north. Leichhardt showed remarkable skill in finding his way through unknown country. On 26 November 1845 he recorded the return to camp by one of his party, accompanied by a ‘whole tribe of natives’. They were armed with small goose spears, and with flat wommalas; but, although they were extremely noisy, they did not show the slightest hostile intention. One of them had a shawl and neckerchief of English
manufacture; and another carried an iron tomahawk, which he said he got from north-west by north.

In 1862 John McDouall Stuart travelled along the south-western boundary of Kakadu but did not see any people.

In 1866 John McKinlay set out from Escape Cliffs on an expedition that lasted six months and is recorded as a complete fiasco. The party travelled south and east, possibly as far as the East Alligator River. Hampered by rising waters and boggy conditions caused by a severe wet season, they were forced to retreat. After killing and skinning their horses they built a raft using the skins and rafted along the river to the coast and on to Escape Cliffs.

**Visitors and settlers**

The first non-Aboriginal people to visit and have sustained contact with Aboriginal people in northern Australia were the Macassans from Sulawesi and other parts of the Indonesian archipelago. They travelled to northern Australia every wet season, probably from the last quarter of the seventeenth century, in sailing boats called praus. Their main aim was to harvest trepang (sea cucumber), but they also collected turtle shell, pearls, pearl shell, timber and buffalo horn for Asian markets (Press et al. 1995). Aboriginal people were involved in harvesting and processing the trepang, and in collecting and exchanging the other goods.

There is no evidence that the Macassans spent time on the coast of Kakadu but there is evidence of some contact between Macassan culture and Aboriginal people of the Kakadu area. Among the artefacts from archaeological digs in the Park are glass and metal fragments that probably came from the Macassans, either directly or through trade with the Coburg Peninsula people.

The British attempted a number of settlements on the northern Australian coast in the early part of the nineteenth century: Fort Dundas on Melville Island in 1824; Fort Wellington at Raffles Bay in 1829; and Victoria Settlement (Port Essington) on the Coburg Peninsula in 1839. They were anxious to secure the north of Australia before the French or Dutch, who had colonised islands further north. The British settlements were all subsequently abandoned for a variety of reasons, such as lack of water and fresh food, sickness and isolation.

It is difficult to assess the impact of these settlements on the local Aboriginal people and the type of relationship that developed between them and the British. Certainly, some Aboriginal labour was used at the settlements. Exposure to new sickness was an ever-present danger. As in other parts of Australia, disease and the disruption to society it caused devastated the local
Aboriginal population. Accounts from settlers at Port Essington tell of an influenza outbreak among the Aboriginal population in 1847, which reduced them to such a state of destitution and wretchedness that it aroused the pity of all who came in contact with them. As the season passed, the disease spread until it reached epidemic proportions, with many dying and the others too sick and weak to help themselves.

Disease and other social consequences also took a huge toll on the population of the Alligator Rivers region. It is estimated that the area between the Adelaide and East Alligator Rivers supported an Aboriginal population of 2000 in pre-European times. There are now only about 500 Aboriginal people living in Kakadu.

**Buffalo hunters**

By the 1880s the number of buffaloes released from early settlements had increased to such an extent that commercial harvesting of hides and horns was economically viable. The industry began on the Adelaide River, close to Darwin, and moved east to the Mary River and Alligator Rivers regions.

The first buffalo hunter to operate in the Alligator Rivers region was Paddy Cahill, who came to the area in the 1880s intending to establish a cattle station and farm and to shoot buffalo for hides. He pioneered the practice of shooting buffalo from horseback.

Most of the hunting and tanning was done towards the end of the dry season, when buffaloes congregated around the remaining billabongs. During the wet season hunting ceased because the ground was too muddy to pursue buffalo and the harvested hides would rot. The buffalo-hunting industry became an important employer of Aboriginal people during the dry-season months.

Aboriginal men on foot were employed to stalk and flush the animals out of dense vegetation onto open floodplain, where shooters on horseback could run down the animals, shooting them in the spine. Hides were taken to local waterholes and cleaned before salting. Salting was primarily the task of Aboriginal women and was done repeatedly over a number of days. The hides were then dried, folded and transported to a river landing to await shipment by lugger to Darwin. Until World War II Aboriginal workers throughout the Northern Territory were paid in supplies, usually of the most basic kind—tobacco, flour and tea.

The fortunes of the buffalo industry fluctuated over the industry’s 70 years of operation for a number of reasons, but its final collapse is attributed to poor processing of the hides, the development of synthetic substitutes, and the disruption to shipping caused by the 1956 Suez crisis (Press et al. 1995).
Missionaries

Missionaries had a big influence on the Aboriginal people of the Alligator Rivers region, many of whom lived and were schooled at missions in their youth. Two missions were set up in the region in the early part of the century.

Kapalga Native Industrial Mission was established near the South Alligator River in 1899, but lasted only four years. The Oenpelli Mission began in 1925, when the Church of England Missionary Society accepted an offer from the Northern Territory Administration to take over the area, which had been operated as a dairy farm mostly under Paddy Cahill. During Cahill’s time the station became a focus for Aboriginal people in both Kakadu and eastern Arnhem Land. The Oenpelli Mission operated for 45 years, the last few of which were severely disrupted by the availability of alcohol from the Border Store near Cahills Crossing (Press et al, 1995). In 1975 responsibility for Oenpelli was transferred to an Aboriginal town council.

The extent to which missions have influenced Aboriginal society is the subject of debate. Some writers and anthropologists argue that missionaries, in seeking to ‘civilise and institutionalise’ Aboriginal people, forced them to abandon their lifestyle, language, religion and ceremonies—indeed, the whole fabric of their lives. Others argue that, although criticism can be levelled at the methods used to achieve their goal, the missionaries did care about the welfare of Aboriginal people at a time when wider Australian society did not and that without missions many more Aboriginal people would have perished (Cole 1988).
A number of Aboriginal people now living in the Kakadu area were sent to missions on Melville, Bathurst and Croker Islands. Their experiences were as different as the quotes below:

The priests were mongrels.  
They would call and if you didn't come  
they'd wait until you were in the classroom  
and strip you naked in front of the class.  
They used a fine belt from a Singer sewing machine  
to belt us over the backside, cutting us all up because we were late.  
The more I think about it,  
we were sent there to be changed,  
to get the Aboriginality out of us;  
there was no other reason.  
--Senior Murumburr Traditional Owner  
Warradjan Aboriginal Cultural Centre

I was nine when I reached Garden Point.  
All the nuns and girls were waiting for us.  
I didn’t speak English.  
I had to learn, and when I learned I became happy.  
I enjoyed my stay there, it was excellent.  
The nuns were really nice.  
I enjoyed going to school.  
We played games and they took us swimming on the weekends.  
When I finally came home I had to learn my language again.  
It took me ten years.  
I had to learn how to know my country and learn how to hunt.  
I had to learn about my relationships with all the people here.  
--Jessie Alderson, Murumburr clan  
Warradjan Aboriginal Cultural Centre

Miners

The first mineral discoveries in the Top End were associated with the construction of the Overland Telegraph line between 1870 and 1872, in the Pine Creek - Adelaide River area. A series of short mining booms followed.

The construction of the north Australian railway line gave more permanency to the mining camps, and places such as Kurrundie and Pine Creek became permanent settlements. The mining camps and new settlements drew many Aboriginal people away from southern Kakadu. Although no Aboriginal people are known to have worked in the mines, their sudden exposure to drugs (opium and alcohol) and disease at the camps proved devastating for the population of the entire Alligator Rivers region (Press et al. 1995).

Small-scale gold mining began at Imarlkba, near Barramundi Creek, in 1920 and at Moline, south of the Park, in the 1930s. The mines employed a few local Aboriginal people.
In 1953 uranium was discovered along the headwaters of the South Alligator River valley. Thirteen small but rich uranium mines operated in the following decade, at their peak in 1957 employing over 150 workers. The scars from the open-cut mine at Coronation Hill can still be seen. No Aboriginal people were employed at any of these mines.

Early in the 1970s large uranium deposits were discovered at Ranger, Jabiluka and Koongarra. Following receipt of a formal proposal to develop the Ranger site, the Australian Government initiated an inquiry into land use in the Alligator Rivers region. The Ranger Uranium Environmental Inquiry (known as the Fox inquiry) recommended, among other things, that mining begin at the Ranger site, that consideration be given to the future development of the Jabiluka and Koongarra sites, and that a service town be built (Fox et al. 1996, 1997). The impact of the Ranger mine and the service town (Jabiru) on Aboriginal people has been enormous. Traditional owners of the mine area negotiated royalty payments, to be paid as compensation for the loss of access to country.

Aboriginal people express varying opinions about mining.

I don't like him, it's a nuisance. I mean, mining worry me. It wrecks the place. Look at Jabiru.
– Bill Neidjie, Bunidj clan
Warradjan Aboriginal Cultural Centre

Mining brought good things, brought social problems too. It gave an income to us people. Bought and built things which our kids will benefit from.
– Senior Murumburr Traditional Owner
Warradjan Aboriginal Cultural Centre
Pastoralists

The pastoral industry made a cautious start in the Top End. The first pastoral lease was not taken up until 1876 and no stocking took place until 1879, when cattle arrived at Glencoe, near Gove Hill. Glencoe was owned by a Victorian pastoralist, C.B. Fisher, who leased an extensive area that included the Alligator Rivers region. Fisher and his partner, M. Lyon, first attempted to run cattle in the Beatrice Hill, Marrakai and Humpty Doo areas, subsequently extending east into what is now Kakadu. The Kakadu area was progressively abandoned from 1889, because Victoria River and the Barkly Tablelands proved to be better pastoral regions.

Paddy Cahill at Oenpelli and Fred Smith at Kapalga also attempted pastoralism in the Alligator Rivers region. Cahill was particularly successful. His Oenpelli station, established in 1906, was prospering by 1913 and was officially described as a model for what might be achieved in the Northern Territory.

In southern Kakadu much of Goodparla and Gimbat was claimed in the mid-1870s by two pastoralists, Roderick Travers and A. W. Sergison. The leases where subsequently passed on to a series of owners, all of whom were unable for one reason or another to make a go of it. Pastoralism in these areas first began to produce a meagre return in 1907, for George Cooke at Goodparla, and in 1937, for Joseph Callanan at Gimbat.

When Cooke died in 1937 Goodparla was sold and subsequently had a number of owners. In 1965 it was sold to two Americans, who brought stockmen from the United States to work with Aboriginal labour. A period of more intensive development followed and both cattle and buffalo were grazed. New Goodparla homestead and an outstation were established at Minglo and Shovel billabong. Despite the American owners’ optimism, the demise of Goodparla as a cattle station was complete by 1975, hastened by a slump in the beef market. Only a few Aboriginal men were ever employed as stockmen there. In 1987 the station was acquired by the Commonwealth and incorporated in Kakadu National Park. The outgoing owners were given until December 1988 to clear the area of buffalo and cattle.

Joseph Callanan established Gimbat in about 1937. He employed Aboriginal men as station hands, and some Aboriginal women were employed to look after ‘coachers’ (quiet cattle that on a muster were put with wild cattle to steady them down).
Callanan is described by some as a tough man who wanted hard work for little reward. As was the practice on many pastoral stations in northern Australia, Aboriginal people were paid in food rations. In 1964 Gimbat was bought by Sir William Gunn, but by the late 1960s Gunn’s ventures were in financial difficulty and Gimbat was virtually abandoned. In 1980 Helmut Schimmel bought Gimbat with the intention of exploiting the large number of buffaloes that were now on the station. The Commonwealth bought the station in 1987 and incorporated it in Kakadu National Park.

Other ventures

A sawmill at Nourlangie Camp was begun by Chinese operators, probably before World War 1, to mill stands of cypress pine in the area. After World War 2 a number of small-scale ventures, including dingo shooting and trapping, brumby shooting, crocodile shooting, tourism and forestry, began.

Nourlangie Camp was again the site of a sawmill in the 1950s, until the local stands of cypress pine were exhausted. In 1958 Allan Stewart converted the mill area into a safari camp for tourists. Soon after, Don McGregor started a similar camp at Patonga and Frank Muir and Max Ella began one at Muirella Park. Clients were flown in for recreational buffalo and crocodile hunting and fishing.

Crocodile hunters often used the bush skills of Aboriginal people. By imitating a wallaby’s tail hitting the ground, Aboriginal hunters could attract crocodiles, making it easier to shoot the animals. Using paperbark rafts, they would track the movement of a wounded crocodile and retrieve the carcass for skinning. The skins were then sold to make leather goods. Aboriginal people became less involved in commercial hunting of crocodiles once the technique of spotlight shooting at night developed.

Freshwater crocodiles have been protected by law since 1964 and estuarine crocodiles since 1971.

Note: The images shown in this page represent the history of the Northern Territory and may not necessarily have been taken in Kakadu National Park.
# Reading 2.2.2: Establishment of the park—a chronology

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1931</td>
<td>Arnhem Land Aboriginal Reserve proclaimed</td>
</tr>
<tr>
<td>1936</td>
<td>Woolwonga Aboriginal Reserve proclaimed</td>
</tr>
<tr>
<td>1965</td>
<td>First proposal for a national park</td>
</tr>
<tr>
<td>1969</td>
<td>Woolwonga Wildlife Sanctuary declared</td>
</tr>
<tr>
<td>Early 1970s</td>
<td>Significant uranium deposits discovered in the areas that became known as Ranger, Koongarra and Jabiluka</td>
</tr>
<tr>
<td>1972</td>
<td>Alligator Rivers Wildlife Sanctuary declared</td>
</tr>
<tr>
<td>1975</td>
<td>Formal proposal to develop the Ranger deposit submitted to the Commonwealth Government, which ordered an inquiry into land use in the region</td>
</tr>
<tr>
<td>1977</td>
<td>The Commonwealth Government accepted most of the recommendations of the Ranger Uranium Environmental Inquiry, including those relating to the granting of Aboriginal title and the establishment of a national park in stages. The first stage coincided almost entirely with the area proposed as Aboriginal land but excluded the three mineral leases of Ranger, Koongarra and Jabiluka.</td>
</tr>
<tr>
<td>1978</td>
<td>Title to some land in the Alligator Rivers region granted to traditional Aboriginal owners</td>
</tr>
<tr>
<td>1979</td>
<td>Kakadu National Park (Stage 1) proclaimed</td>
</tr>
<tr>
<td>1981</td>
<td>World Heritage listing of Kakadu National Park (Stage 1)</td>
</tr>
<tr>
<td>1984</td>
<td>Kakadu National Park (Stage 2) proclaimed</td>
</tr>
<tr>
<td>1987</td>
<td>Kakadu National Park (Stage 3) proclaimed</td>
</tr>
<tr>
<td>1987</td>
<td>World Heritage listing of Kakadu National Park (Stage 2)</td>
</tr>
<tr>
<td>1987</td>
<td>Conservation Zone proclaimed, containing several mineral leases, including Coronation Hill and El Sherana</td>
</tr>
<tr>
<td>1989</td>
<td>Conservation Zone reduced from 2253 to 48 square kilometres, the area removed being added to Kakadu National Park</td>
</tr>
<tr>
<td>1991</td>
<td>Commonwealth Government prohibited mining at Coronation Hill and incorporated the remaining 48 square kilometres in Kakadu National Park</td>
</tr>
<tr>
<td>1992</td>
<td>World Heritage listing of the entire Park</td>
</tr>
<tr>
<td>1996</td>
<td>Land claim successful for the Gunlom–Gimbat areas; formation of Gunlom Aboriginal Land Trust</td>
</tr>
</tbody>
</table>
Reading 2.2.3: “Reconciling competing interests:

Tony Press and David Lawrence

Establishment of Kakadu National Park

The earliest proposal for the establishment of a major national park in the Alligator Rivers Region of the Northern Territory was made by the Northern Territory Reserves Board in 1965. Over the next 10 years a succession of modified proposals were put forward by interested persons and agencies. These culminated with a formal proposal by the Commonwealth Government to declare under the National Parks and Wildlife Conservation Acts 1975 (NPWC Act) a major national park in the region. Stage One of Kakadu National Park was declared in 1979, Stage Two was added in 1984, and Stage Three proclaimed in 1987, with supplementary proclamations in 1989 and 1991. Kakadu National Park was born in controversy and the history of the development of the Park has been one of attempts to reconcile the concurrent and competing interests of conservation, mining and Aboriginal land rights. These issues continue today.

Aboriginal land rights

In the early 1970s Mr justice Woodward, commissioned to report on appropriate ways and means to establish Aboriginal land rights in the Northern Territory, addressed the issues of Aboriginal land rights and public reserves and crown land. He suggested that a scheme of Aboriginal title, combined with National Park status and joint management, might prove acceptable to all interest. In his second report, Woodward further developed the concept of Aboriginal land, national parks and joint management in the context of reconciling Aboriginal interest with conservation.

In the process he identified a number of principles which needed to be followed if Aboriginal interest were not to be subordinated unreasonably to those of conservation. These principles were: Aboriginal people should be consulted before any schemes for developments or management were adopted; Aboriginal people should be well represented on any board or committee responsible for the area in question; other people appointed to a board or committee should have sympathy with, and an understanding of, the relationship of Aboriginal people to their land; Aboriginal interests should not be overruled without reference to some form of arbitration; and development plans should make allowances for any Aboriginal people who may wish to live in the area, particularly those with traditional claims to the land.

Mining

In the early 1970s significant uranium deposits were discovered in the Alligator Rivers region at Ranger, Jabiluka and Koongarra. In 1975, following receipt of a formal proposal to develop the ranger deposit, the Commonwealth Government directed that an inquiry under the provisions of the Environment Protection (Impact of proposals) Act 1974, the Ranger Uranium Environmental Inquiry, be conducted. The recommendations of this inquiry had enormous influence on the nature and development of Kakadu National Park.

In 1976, after the Ranger Uranium Environmental Inquiry had commenced its work, the Aboriginal Land Rights (Northern Territory) Act 1976 was passed by Federal Parliament. This act granted title to certain areas in the Northern Territory to the traditional Aboriginal owners and established the processes whereby Aboriginal people could claim title to other areas of
unalienated crown land on the basis of traditional ownership of that land, or entitlement by tradition to its use or occupation. The first land claim in the Alligator Rivers region was subsequently dealt with as part of the Ranger Inquiry.

Justice Fox, the Commissioner appointed to head the Inquiry, concluded that the major land use interests in the region should be: the use and occupation of land by Aboriginal people; the establishment of a national park; uranium mining; tourism; and pastoral activities. The Commission’s principal recommendations were: grant of title to the area claimed to the Aboriginals claimants; allowance of uranium mining at Ranger and consideration of future uranium mining at Jabiluka and Koongarra; the establishment of a large regional national park to include the proposed Aboriginal land; the resumption of two pastoral leases to enable Aboriginal land claims to be made over the area and the future incorporation of these additional areas into the national park; inclusion in the park of a regional centre, to be established to service the uranium mining operations; prohibited (initially) of tourist developments in the regional centre; and preparation of a plan of management for the park, which should ensure that Aboriginal views were strongly represented.

In submitting the land claims to the Commission the traditional Aboriginal owners had instructed the Northern Land Council, which represented them, to propose that if the claim was successful they would lease the land to the Director of National Parks and Wildlife for the purpose of a national park.

The Commonwealth Government response to the recommendations of the Ranger Uranium Environmental Inquiry was announced in August 1977. Virtually all the recommendations were accepted including those relating to the granting of Aboriginal title and the establishment of a major national park. The Government decided to establish the national park in stages with the first stage to coincide generally with the area proposed as Aboriginal land.

Reference:

Section 3: International significance

Reading 2.3.1: ‘World Heritage Listing of Kakadu National Park’

Reading 2.3.2: Kakadu National Park World Heritage Values

Reading 2.3.3: Other international conventions, treaties and responsibilities
Reading 2.3.1: ‘World Heritage Listing of Kakadu National Park’

World Heritage listing
The cultural and natural values of Kakadu National Park were recognised internationally when the Park was placed on UNESCO’s World Heritage List. This is an international register of properties that are recognised as having outstanding cultural or natural values of international significance. Kakadu was listed in three stages: Stage 1 in 1981, Stage 2 in 1987, and the entire Park in 1992.

Under the World Heritage Convention, the Australian Government is required to ensure the ‘identification, protection, conservation, preservation and transmission to future generations’ of Kakadu’s cultural and natural heritage.

Kakadu National Park—an Australian World Heritage Property
Recognising its significance internationally, the Park and its natural and cultural heritage have been registered on, or are subject to, numerous international agreements and conventions, including those described below.

The Convention Concerning the Protection of the World Cultural and Natural Heritage is concerned with identifying, protecting and conserving cultural or natural features of outstanding universal value. Parties to the Convention undertake to identify, protect, conserve, present and transmit to future generations the World Heritage on their territory.

Kakadu has been listed on the World Heritage List for both its natural and cultural value. Stage one was inscribed in 1981 and Stage two in 1987. The whole of the park was listed in December 1992. The records of the 1992 meeting of the World Heritage Committee that considered the consolidated listing of Kakadu commended the Australian authorities ‘for concluding a 10 year programme to extend the park and for the exemplary management operation at the Park’.

Kakadu is listed as a World Heritage site against the following cultural and natural criteria:

Cultural Criteria: (i) represent a unique artistic achievement, a masterpiece of a creative genius; and (vi) be directly or tangibly associated with events or with ideas or beliefs of outstanding universal significance.

Natural Criteria: (ii) outstanding examples representing significant ongoing geological processes, biological evolution and man’s interaction with his natural environment (iii) unique, rare or superlative natural phenomena, formations or features or areas of exceptional natural beauty; and (iv) the most important and significant habitats where threatened species of plants and animals of outstanding universal value from the point of view of science and conservation still survive.
Reading 2.3.2: Kakadu National Park World Heritage Values

Kakadu National Park was first inscribed on the World Heritage List in 1981, and was subsequently expanded and re-inscribed in 1987, and again in 1992.

The World Heritage criteria current in 1992 and against which Kakadu National Park was most recently inscribed remain the formal criteria for this property. These criteria appear below. The World Heritage criteria are periodically revised and the criteria against which the property was listed in 1992 are not necessarily identical with the current criteria.

Examples of the World Heritage values for which Kakadu National Park was listed are described below for each criterion. It should be noted that while these examples are illustrative of the World Heritage values of the property, they do not necessarily constitute a comprehensive list of these values. Other sources including the Nomination of Kakadu National Park by the Government of Australia for Inscription in the World Heritage List and the publication Kakadu Natural and Cultural Heritage and Management are available and could be consulted for a more detailed understanding of the World Heritage values of Kakadu National Park.

Natural criterion

Natural criterion (ii)—outstanding example representing significant ongoing geological processes, biological evolution and man’s interaction with his natural environment.

Kakadu National Park is an outstanding example representing significant ongoing geological processes, particularly associated with the effects of sea-level change in northern Australia, biological evolution and people’s interaction with their natural environment. The World Heritage values include:

- the coastal riverine and estuarine flood plains of the South Alligator, West Alligator, East Alligator, and Wildman rivers, which include freshwater flood plains with tidal river channels
- the relatively undisturbed nature of the river systems and their associated catchments
- the mangrove swamps, including remnants of more extensive swamps which formed between 6500 and 7000 years ago on the coastal fringe and plains
- the spatial zonation of the coastal and floodplain vegetation which exemplifies a vegetation succession linked to processes of sea-level change and sedimentation and extends from lower intertidal mangroves to estuarine mangroves to floodplain vegetation
- the range of the environmental gradients and contiguous, diverse landscapes, extending from the sandstone plateaus and escarpments through lowland areas and wetlands to the coast, which have contributed to the evolution of high levels of endemism and species diversity
- the scale and integrity of the landscapes and environments with extensive and relatively unmodified vegetation cover and largely intact faunal composition which are important in relation to ongoing evolutionary processes in an intact landscape, the high spatial heterogeneity of habitats
• the high diversity and abundance of plant and animal species, many of which are adapted to low-nutrient conditions (including more than 1600 plant species, over one-quarter of Australia’s known terrestrial mammal, about one-third of the total bird fauna and freshwater fish species, about fifteen per cent of Australia reptile and amphibian species and a high diversity of insect species)

• the Aboriginal archaeological remains and rock art which represent an outstanding example of people’s interaction with the natural environment and bear remarkable and valuable witness to past environments in northern Australia and to the interaction of people with these environments

• the ongoing, active management of the landscapes by Aboriginal people through the use of fire, including fire-assisted hunting and the creation of environmental mosaics which contribute to species diversity, provide an important example of people’s interaction with the environment

• the diverse range of habitats and vegetation types including:
  – open forest and woodlands
  – lowland and sandstone (*Allosyncarpa ternata* closed forest) rainforests
  – shrubland and heath
  – wetland, riverine, and coastal environments
  – mangroves and floodplains.

**Natural criterion (iii) contain unique, rare or superlative natural phenomena, formations or features or areas of exceptional natural beauty.**

Kakadu National Park has features of exceptional natural beauty and aesthetic importance and contains superlative natural phenomena. The World Heritage values include:

• the expansive and varied natural landscapes which include coastal areas, lowlands, wetlands, floodplains, plateau complexes, escarpments and outliers

• the exceptional natural beauty of viewfields

• the relatively undisturbed nature of the landscape

• the unusual mix and diversity of habitats found in close proximity

• the large scale of undisturbed landscape.

**Natural criterion (iv) contain the most important and significant habitats where threatened species of plants and animals of outstanding universal value from the point of view of science and conservation still survive.**

Kakadu National Park’s large size, its diversity of habitats and its position in an area of northern Australia subjected to considerably less disturbance by European settlement than many other parts of the continent have resulted in the protection and conservation of many significant habitats, including those where threatened species of plants and animals of outstanding universal value from the point of view of science and conservation still survive. The World Heritage values include

• the wide range of natural habitats, including:
• open forest and woodlands
• monsoon rainforest areas
• heaths and shrublands
• freshwater wetlands
• mangrove and estuarine areas
• foreshore and beach areas.

• significant plant associations, including those associated with *Eucalyptus koolpinensis*, the heath vegetation on the margins of the Marrawal Plateau, and woodland containing *Terminalia platyptera* on Snake Plains

• plant species of conservation significance (including endemic species and relict species) such as *Arthrochilus byrnessii*, *Cycas conferta*, *Desmodium sp. 2*, *Eucalyptus koolpinensis*, *Hildegardia australiensis*, *Micaira spp.*, *Neobyrsia suberosa*, *Pityrodia spp.*, *Plectrachne aristiglumis*, *Triodia radonensis*, *Typhonium russell-smithii*

• animal species of conservation significance, including:
  
  – **mammals** (such as Calaby’s mouse *Pseudomys calabyi*, Kakadu dunnart *Sminthopsis* sp. Nov., nabarlek *Petrogale concinna*, false water-rat *Xeromys myoides*, golden-backed tree-rat *Mesembriomys macrurus*, and ghost bat *Macroderma gigas*)
  
  – **reptiles** (such as the pig-nosed turtle *Carettochelys insculpta*, Pacific or olive ridley turtle *Lepidochelys olivacea*, green turtle *Chelonia mydas*, loggerhead turtle *Caretta caretta*, saltwater crocodile *Crocodylus porosus* and freshwater crocodile *C. johnstoni*)
  
  – **birds** (such as the Gouldian finch *Erythrura gouldiae*, partridge pigeon *Geophaps smithii*, hooded parrot *Psephotus dissimilis*, little tern *Sterna albifrons*, masked owl – northern subspecies *Tyto novaehollandiae kimberli* and red goshawk *Erythrotriorchis radiatus*)
  
  – **invertebrates** (such as crustaceans of the plateau and escarpment streams, especially the families *Amphisopodidae*, *Atyidae* and *Palaemonidae*)
  
  – **fish** (such as two newly discovered taxa of goby, including the new genus *Cryptocentrus*, and a speartooth shark *Gyphis* sp)
  
  – **species which have experienced range reductions** (such as the magpie goose *Anseranas semipalmata*, Gouldian finch *Erythrura gouldiae*, partridge pigeon *Petrophassa smithii*, pale field rat *Rattus tunneyi* and Leichhardt’s grasshopper *Petasida ephippigera*)
  
  – **endemic species and relict species** (including the ghost bat *Macroderma gigas*, the orange horseshoe bat *Rhinoniceris aurantius*, saltwater crocodile *Crocodylus porosus*, freshwater crocodile *C. johnstoni*, and the pig-nosed turtle *Carettochelys insculpta*).
Cultural criterion

Cultural criterion (i) represent a unique artistic achievement and a masterpiece of the creative genius.

The rock art sites of Kakadu National Park represent a unique artistic achievement, spanning a continuum tens of thousands of years to the present and continuing to maintain an important function in the cultural and social aspects of contemporary indigenous communities. The World Heritage values include rock art sites which:

- in themselves represent a unique artistic achievement and which comprise one of the greatest concentrations of rock art in the world
- are of great antiquity and which represent a continuous temporal span from the Pleistocene Epoch to the present
- exhibit great diversity, both in space and through time, yet embody a continuous cultural development
- demonstrate in the record of the art sites a living cultural tradition which continues today.

Cultural criterion (vi) directly or tangibly associated with events or with ideas or beliefs of outstanding universal significance.

Kakadu National Park is associated with events, ideas and beliefs of outstanding universal significance. The World Heritage values include cultural sites which:

- form a rich collection of places imbued with strong spiritual associations relating to creator beings and are connected to the continuing practice of traditional beliefs and practices
- demonstrate in the art and the archaeological record a living cultural tradition that continues today
- are of great antiquity and represent a continuous temporal span from the Pleistocene Epoch to the present
- include archaeological sites which are currently some of the oldest dated within Australia
- exhibit great diversity, both in space and through time, yet embody a continuous cultural development
- preserve a record, not only in the form of archaeological sites but also through rock art, of human responses and adaptation to major environmental change including rising sea levels
- preserve fragile items of material culture not commonly found within other archaeological sites.
Reading 2.3.3: Other international conventions, treaties and responsibilities

Convention on Wetlands of International Importance (the Ramsar convention)

This convention aims to stop the world from losing wetlands and to conserve, through wise use and management, those that remain. More than ninety countries are contracting parties to the Convention.

Wetlands are selected as Ramsar sites for the list of Wetlands of International Importance because of ecological, botanical, zoological, limnological or hydrological criteria. Wetlands in Kakadu stage one were listed in June 1980. Wetlands in Kakadu stage two were listed in September 1987. In March 1996 wetlands in Kakadu stage three that are part of the South Alligator River catchment were added to the list. In total 683 000 ha of wetlands in Kakadu are listed as wetlands of international importance.

In March 1996 the contracting parties to the Ramsar Convention also agreed to establish an East Asian/Australasian Flyway to protect areas used by migratory shorebirds. The flyway provides for an East Asian/Australasian shorebird reserve network of sites that are critically important to migratory shorebirds. The wetlands of Kakadu National Park are part of this reserve network.

Other treaties

Kakadu is also subject to international treaties for the protection of other wildlife and habitats, including the:

- Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA). Forty-six of the seventy-six birds listed under this agreement are found in the Park.

- Agreement between the Government of Australia and the Government of the People’s Republic of China for the Protection of Migratory Birds and their Environment (CAMBA). Fifty of the eighty-one birds listed under this agreement are found in the Park.

- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention). Twenty-one of the species listed under this convention are found in Kakadu.


Parks Australia is also signatory to a Memorandum of Understanding with the South Pacific Regional Environment Programme (SPREP) to facilitate cooperative nature conservation programs in the South Pacific, which has particular ramifications for marine species that occur in the Park. Kakadu is involved in an international Tri-national Wetlands Conservation
Project being developed by the World Wide Fund for Nature (WWF) Australia. This project aims to exchange expert knowledge in managing wetlands with local Indigenous people.

Parties to the project agreement are the management authorities of:

• Kakadu National Park
• Wasur National Park in Irian Jaya (Indonesia)
• Tonda Wildlife Management Area in Papua New Guinea.

These three areas each have similar wetland habitats and are managed with the local Indigenous people. The project aims to develop a cooperative arrangement between the three areas to share experiences in wetland conservation, promote best management options and develop a training program. Wetlands in all three protected areas each form a significant stop-over point in the migration of birds on the East Asian/Australasian Flyway.
Section 4: Joint management

Reading 2.4.1:  Land ownership

Reading 2.4.2:  Aboriginal knowledge for sustainability

Reading 2.4.3:  The managing authority

Reading 2.4.4:  Vision and the guiding principles
Reading 2.4.1: Land ownership

Approximately half of the land in the Park is Aboriginal land under the Aboriginal Land Rights (Northern Territory) Act 1976 and most of the remaining land is currently under claim by Aboriginal people. The areas of the Park that are owned by Aboriginal people are leased by the traditional owners to the Director of National Parks and Wildlife to be managed as a national park. The remaining area is Commonwealth land vested in the Director of National Parks. All of Kakadu is declared a national Park under the Environment Protection and Biodiversity Conservation Act 1999.

Several lease areas are surrounded by the Park but not legally within the Park—the Border Store, Gagudju Lodge Cooinda, and the Ranger, Jabiluka and Koongarra mineral leases. The three mineral leases are on Aboriginal land. Energy Resources of Australia holds the Ranger and Jabiluka mineral leases; Cogema Ltd holds the Koongarra mineral lease.

There are also several lease areas legally within the Park, including the Kakadu Resort and the Jabiru town area. Jabiru is leased from the Director of National Parks to the Jabiru Town Development Authority.

Figure 3 - Aboriginal land and land claims in Kakadu National Park

From the Kakadu National Park Draft Management Plan
A powerful melding of traditional Aboriginal knowledge of land management and Western ecological science is producing outstanding results in a "Burning for Biodiversity" project in Kakadu National Park.

On a floodplain of the South Alligator River, traditional custodians together with Parks Australia, the Environmental Research Institute of the Supervising Scientist (ERISS) and CSIRO have combined their talents to enhance a Ramsar-listed wetland by returning to traditional fire management. Through the national Bushfire Cooperative Research Centre, the team is now evaluating the project’s environmental and cultural benefits. Results so far are very promising.

CSIRO research officers, Mr Peter Christophersen and partner Ms Sandra McGregor, who live in Kakadu with their four children, have applied their traditional know-how and scientific skills to initiate and lead implementation of the Boggy Plain burning project since 2002.

"This is not as easy as it sounds," says Christophersen. "We came up against both cultural and institutional difficulties. For a long time, Indigenous people have been marginalised when it comes to natural resource management and we think bureaucracies need to be more flexible to engage Aboriginal people in land management."

Dr Alan Andersen of CSIRO Sustainable Ecosystems says effective engagement of Aboriginal people in natural resource management is a key issue for the Northern Territory.

"Aboriginal people represent a large
The big advantage in central and northern Australia, compared to much of southern Australia, is that the traditional knowledge is still there to be tapped.

Boggy Plain is an important freshwater wetland that serves as habitat for species including the magpie goose (historically, up to 85% of the total Northern Territory’s magpie goose have gathered there to feed at times) and the long-necked turtle. These species, along with a range of water plants, are cherished food resources for Aboriginal people of the area. The problem is that, following removal of the introduced Asian water buffalo in recent decades, the native grass (Hymenachne acaulis) has spread and dominated the wetland – not only reducing habitat diversity, but also limiting access for hunting and food gathering.

Native water cheatgrass (Eleocharis), wild rice (Oryzia) and red ilies (Ner-ambul), which are food for the magpie goose, are also displaced by the rampant grass. It is believed that water buffalo controlled the Hymenachne in much the same way that Aboriginal fire management did prior to European settlement.

So how does traditional fire management work at Boggy Plain? Christophersen and McGregor explain that they have returned to a pattern of repeated burning over November and December when the wetland has limited standing water, and few birds are in residence. The Hymenachne is still green, so the fires just burn the drier grasses, causing the grass to fall over and die. This provides fuel for subsequent fires, which are all relatively low in intensity, and the surrounding woodland margins are burnt early in the dry season (April–May) to prevent the flames escaping into the broader landscape.

The breckstick is used in this way every year to keep on top of the fast growing Hymenachne that otherwise dominates the wetland.

With help from Parks Australia and ERSS we have used Western science to monitor changes in the vegetation after...
burning,' McGregor says. 'We have used both remote sensing and ground-based surveys.'

Specifically, they assessed changes in the wetland vegetation by means of historic aerial photos taken between 1950 and 1991, Landsat satellite imagery, real-time, high-resolution Quickbird satellite images, and ground-based surveys.

Results have been gratifying with a much more mixed species community structure and greater biodiversity in burnt areas than in unburnt controls. After traditional burning, much of the clogging *Hymanachne* has been replaced by other plant species and there is more open water, which is particularly beneficial for wetland birds.

Peter and Sandra are now working with their CSIRO colleagues to conduct an economic evaluation of enhanced wetland resources to traditional custodians.

Ultimately, there is great potential to extend the methods used at Boggy Plain to other parts of Kakadu, and the project could serve as an internationally significant model for integrating Indigenous and Western knowledge systems.

'The big advantage in central and northern Australia, compared to much of southern Australia, is that the traditional knowledge is still there to be tapped,' Anderson says.

This should lead to more widespread benefits in terms of both traditional resource use and conservation of biodiversity.  

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The spectacular red lily (*Melumbo*), an iconic Kakadu species and bush food for both humans and magpie geese.  

Views over Boggy Plain in 2003 (left) and 2005 (right), showing the progressive reduction of choking grasses and the return of open water, red lilies and water chestnuts.  

© Science Communication
All of Kakadu is jointly managed by traditional Aboriginal traditional owners and Parks Australia. Management is directed by the Kakadu Board of Management, which currently has 15 members:

- Ten (10) Aboriginal representatives of traditional owners;
- Two (2) representatives of Parks Australia (one being the Director of National Parks);
- A person prominent in the field of nature conservation;
- A person employed in the tourism industry in the Northern Territory; and
- A representative from the Northern Territory government.

The Board and the Director of National Parks prepare plans of management plans for the Park. Plans of management plans describe how the Director and the Board are to manage the Park for a set period, usually five years. Preparing the plans involves detailed consultation with traditional Aboriginal traditional owners, two rounds of public submissions, acceptance by the Minister for the Environment and Heritage, and tabling in Federal Parliament. The Board’s other main function is to make decisions about the management of the Park, consistent with the plan of management plan.

Day-to-day management of Kakadu is carried out by people employed by Parks Australia, which is a branch of the Commonwealth environment portfolio, the Department of the Environment and Heritage. Approximately one-third of the staff in Kakadu are Aboriginal people.
Reading 2.4.4: Vision and the guiding principles

Vision and Guiding Principles
The vision for Kakadu National Park is that it is a place where the traditional Aboriginal owners and Parks Australia manage the land together to the highest possible standard, to:

- respect the interests of traditional Aboriginal owners;
- conserve the natural and cultural heritage of the park, which is of regional, national and international significance; and
- encourage visitors to appreciate, enjoy and understand the park.

The guiding principles determine how the Park should be managed. They are based on the legal obligations of the Director of National Parks, as set out in the Environmental Protection and Biodiversity Conservation Act 1999 and the lease agreements for Aboriginal land in the Park.

Bininj/Mungguy interests
Over half of Kakadu is owned by Aboriginal people and most of the remaining area is under land claim. Parks Australia consults with Aboriginal people in relation to the management of the entire park area, not just those parts of the Park that are legally Aboriginal land. The Aboriginal people of Kakadu have legal rights, including the right to hunt and forage. They also have economic and community-development aspirations and need to honour obligations imposed on them by Aboriginal tradition. These rights and aspirations will be supported as much as possible.

Caring for country
Conserving the Park’s special natural and cultural heritage is fundamental. Any use of Kakadu’s natural resources should be ecologically sustainable and should not adversely affect biodiversity conservation in the Park.

Kakadu is a cultural landscape as well as a conservation area. It is a place where Aboriginal people have maintained a lifestyle that has been closely linked to the land for many generations—this long, continuing occupation has shaped the landscape as we know it today. Traditional owners maintain a customary responsibility to care for country and to continue their close association with the land.

The Australian Government has joint responsibility with the traditional Aboriginal owners to conserve and monitor the integrity of the Park’s World Heritage attributes and the internationally significant wetlands in the Park.

Research and monitoring play an important role in making sure country is cared for as well as possible.
Tourism
Kakadu is an important place for tourism and recreation. The traditional owners are proud to share parts of their country with visitors, particularly visitors who are interested in learning about their culture and the land. They are keen for visitors to appreciate and enjoy the Park and to develop a special sense of what Kakadu is and means to traditional owners. They are also keen for visitors to take that special understanding home with them. Although people will be encouraged to appreciate and enjoy the Park, tourism will not become a higher management priority than caring for country and supporting Aboriginal rights and aspirations.

Telling people about the Park
It is important that visitors to Kakadu can learn about the Park’s natural and cultural features. Traditional owners want visitors to learn about the Park and Aboriginal culture. Promoting a program to communicate the Park’s heritage and values to visitors and the broader community is integral to management.
Section 5: Park management

Reading 2.5.1: Managing Kakadu’s cultural heritage

Reading 2.5.2: Managing Kakadu’s natural heritage

Reading 2.5.3: Managing tourism in Kakadu

Reading 2.5.4: The role of the Kakadu Tourism Consultative Committee (KTCC)

Reading 2.5.5: Extract from Kakadu National Park Draft Management Plan

Reading 2.5.6: Telling people about the park
Reading 2.5.1: Managing Kakadu’s cultural heritage

The following are the aims of cultural heritage management in Kakadu:

• to make sure that the World Heritage attributes of the Park are protected and that traditional owners control the management of their cultural heritage and cultural material in the Park;

• to encourage and support the recording and management of Bininj/Mungguy oral cultural heritage material;

• to actively support the maintenance of Aboriginal oral cultural heritage, in keeping with the wishes of traditional owners;

• to record and protect areas of significance in line with the wishes of traditional owners and site custodians;

• to protect and conserve rock art and other archaeological sites in line with the wishes of traditional owners;

• when requested by traditional owners, to arrange for Aboriginal artifacts to be returned to Kakadu and to arrange appropriate access to such artifacts;

• to make sure the post-contact historical sites in Kakadu are adequately recorded and conserved.

More details about the management of cultural heritage in Kakadu can be found in:

Reading 2.5.2: Managing Kakadu’s natural heritage

The following are the aims of Natural Heritage Management in Kakadu:

• to protect and maintain the natural land and water systems of the Park and to rehabilitate eroded and disturbed areas

• to manage fire effectively and to
  – promote traditional Aboriginal ways of burning within the Park
  – protect life and property within and adjacent to the Park
  – restrict fire from spreading so that it does not enter or leave the Park
  – maintain biodiversity through effective fire management of species and habitats

• to maintain the natural abundance and distribution of native plans and habitats while providing for the rights and needs of traditional owners

• to minimise weed invasion and degradation of the environment in the Park

• to conserve the natural abundance and distribution of native animals while providing for the rights and interests of traditional owners

• to manage recreational fishing in the Park so that visitors can have access for recreational fishing and the impacts of this activity are kept to a minimum

• to limit, as far as possible, the adverse effects of feral animals on the Kakadu environment while taking into account the views and economic interests of traditional owners.

Important aspects of natural heritage management in Kakadu are:

• fire management
• weed management
• management of feral animals
• managing estuarine crocodiles in areas visited by the public.

Further details can be found in:


Reading 2.5.3: Managing tourism in Kakadu

The following are the aims of tourism management in Kakadu:

• to provide for visitors to use the Park appropriately and safely and to have an enriching experience, while ensuring that the Park environment is protected;
• to provide for Bininj to benefit from tourism.

A range of facilities and services is provided for visitors, including:

• the Bowali Visitor Centre, with habitat-based displays, an information counter that is staffed 365 days a year, videos, a café and a gallery shop;
• the Warradjan Aboriginal Cultural Centre, with displays, videos and a gallery shop;
• walkways, viewing platforms and information signs at three major art sites;
• five camping areas with solar powered showers and flushing toilets;
• fourteen bush camping areas;
• many walking tracks;
• boat launching ramps;
• picnic areas;
• lookout, wildlife viewing platforms and bird hides.

Maintaining visitor services and facilities is a large part of the work of rangers in Kakadu National Park and uses more than a third of the Park’s staff and financial resources.

An important aspect of tourism management in Kakadu is implementing site-hardening or visitor control measures at sensitive sites or sites where visitation is increasing, to prevent adverse environmental impacts. These measures are developed and implemented through the management plan, area plans and the Park’s Capital Works and Maintenance programs.

Visitor safety is a key concern and is managed by providing safety signs and information to visitors and tour guides, constructing visitor facilities to safe standards, and, when necessary, closing road access to areas where public safety would be endangered, such as areas that are flooded or inhabited by estuarine crocodiles.

Monitoring visitor numbers, experiences and impacts is necessary so that appropriate services and facilities can be provided in the future. Visitor surveys and environmental impact monitoring are conducted regularly for this purpose.
The management aim in relation to commercial tour operations is to encourage appropriate tourism activities of a high standard while taking into account the views and economic aspirations of traditional owners and protecting the natural and cultural heritage of the Park.

Measures taken to achieve this aim include regular liaison with tourism industry representatives through the Kakadu Board of Management and the Tourism Consultative Committee, maintaining and regularly reviewing the commercial tour permit system, and allocating some commercial tourism opportunities to enterprises that involve or directly benefit Bininj/Mununguy.

Tourism industry seminars are currently held twice a year to help tour operators provide high-quality information to clients on tours in the Park. There are plans to develop a training and accreditation system to further help the tourism industry conduct tourism activities of a high standard in the Park in the future.

Kakadu staff prepare a newsletter called ‘Gunwok’ three times per year to assist in keeping tour operators up to date with information about the Park.
Reading 2.5.4: Role of the Kakadu Tourism Consultative Committee (KTCC)

The Kakadu Tourism Consultative Committee (KTCC) was established by the Kakadu National Park Board of Management and meets every three months to:

**Our role**

The role of the Kakadu Tourism Consultative Committee can be described under the following six (6) broad subject areas:

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<td>Planning and Development</td>
<td>To provide advice for the BoM to consider regarding/about future planning and development for tourism in Kakadu National Park</td>
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<td>Land Use and Infrastructure</td>
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<td>Marketing and Research</td>
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<td>Management of Commercial Activities</td>
<td>To provide advice for the BoM to consider about the management of commercial tourism activities in the Park</td>
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<tr>
<td>Park Management and Operation</td>
<td>To provide advice for the BoM to consider regarding the effective management and operation of the Park in relation to tourism</td>
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(See more detailed functions within each strategy over page)
Board of Management (BoM) and Industry Communication – to provide a forum for communication between the Board of Management (BoM) and the tourism industry

- To understand traditional owners’ aspirations and responsibilities, and to provide support and advice to the BoM as to how tourism might help preserve and progress these interests
- To provide an advisory forum for the BoM on tourism issues relating to the Park
- To create greater understanding by the BoM and Parks Australia North (PAN) about tourism industry aspirations and responsibilities in the Park, and understanding within the tourism industry of traditional owners’ interests, and Park management objectives
- To help develop and maintain a sound working relationship between traditional owners, Parks Australia North, and the tourism industry.

Planning and Development – to provide advice for the BoM to consider regarding future planning and development for tourism in Kakadu National Park

- To ensure tourism industry interests are appropriately considered in Park planning and development
- To assist the BoM (and PAN) to effectively consult with the tourism industry on the Kakadu Plan of Management;
- To assist with the development of Area Plans & support implementation
- To act as a sounding board for tourism views regarding proposals put forward by the BoM and PAN

Land Use and Infrastructure – to provide advice for the BoM to consider in regard to appropriate land use and infrastructure for tourism

- To consider and provide advice to the BoM on existing and proposed land use and infrastructure development within the Park
- To consult with the tourism industry in relation to proposed capital works programs and priorities in the Park
- To assist PAN to effectively consult with the tourism industry on land use and infrastructure within the Park

Marketing and Research – to provide advice for the BoM to consider for appropriate marketing of the Park, and planning and coordination of research regarding tourism in the Park

- To encourage and support appropriate marketing and promotion of the Park considering the cultural and conservation values of the Park
- To assist PAN to effectively consult with the tourism industry on tourism research for the Park
- Share and evaluate tourism research results and advise the BoM on possible planning and marketing implications
Management of Commercial Activities – to provide advice for the BoM to consider on the management of commercial tourism activities in the Park

• To advise the BoM on the operation of the commercial tour operator permit system for the Park
• To advise the BoM on the development and implementation of the permit and licensing system for commercial tourism activities
• To consider and advise the BoM regarding training needs of tour operators and Park staff relating to sustainable tourism in protected areas
• To provide advice on simplifying the interaction between the permit and licensing system and tourism accreditation programs to reduce work required by PAN and operators

Park Management and Operation – to provide advice for the BoM to consider regarding the effective management and operation of the Park in relation to tourism

• To provide advice to the BoM on commercial aspects of Park management, including commercial opportunities and revenue potential
• To build understanding in the tourism industry and government for Park management objectives and arrangements
• To assist all parties to work cooperatively on relevant operational matters in the Park
• To suggest mechanisms for the management of tourism to maintain Park values
Reading 2.5.5: Extract from Kakadu National Park Draft Management Plan

6. Visitor management and Park use

Kakadu National Park is a World Heritage place and people from all over the world would like to visit Kakadu for its ancient cultural heritage, wildlife and magnificent landscapes. Bininj are happy and proud to share Kakadu, and would like to be more involved in tourism. However, it is important for Bininj that this doesn’t happen too quickly, and that tourism respects the wishes of Bininj and helps safeguard their culture, lifestyle and privacy. It is important that Kakadu is promoted in ways that are accurate and give people the right expectations about a visit to the Park. New ways will be looked at to help visitors enjoy Kakadu and all its seasons, look at ways that Bininj can benefit more from tourism, and also look at how tourism activities can be better managed and give more certainty to the tourism industry. This will be done by Bininj, Parks Australia and the tourism industry working together.

I want visitors to feel something they’ll never forget – and have in their heart and mind forever.

Bessie Coleman, Wurrkbarbar/Jawoyn clan

Our land has a big story. Sometimes we tell a little bit at a time. Come and hear our stories, see our land. A little bit might stay in your hearts. If you want more, you can come back.

Jacob Nayinggul, Manilagarr clan

6.1 Recreational opportunities and tourism directions

Our aim

Kakadu National Park is universally recognised as one of the great World Heritage parks, as a place with:

- a living Aboriginal culture – home to Bininj
- extraordinary natural landscapes and a rich variety of plants and animals
- enriching and memorable experiences for visitors
- a strong and successful partnership between traditional owners, governments and the tourism industry, providing world’s best practice in caring for country and sustainable tourism.

Measuring how well we are meeting our aim

- Level of Bininj satisfaction with the nature, scope and impact of recreational and tourism opportunities in the Park
- Level of visitor and tourism industry satisfaction with recreational and tourism opportunities in the Park
- Extent to which Bininj gain economic benefit from commercial tourism opportunities
Background

Bininj are proud to share their country with visitors and welcome tourism opportunities that help visitors to learn about, appreciate and experience Bininj culture and country in Kakadu.

In May 2004, the Director of National Parks, on behalf of the Kakadu Board and the Australian and Northern Territory Governments, commissioned the development of a shared tourism vision for the Park.

The following Shared Vision Principles were developed to enable the tourism industry to understand how the Board and Bininj want tourism to be managed in the Park while providing greater levels of certainty to the tourism industry:

1. Kakadu is first and foremost home to Bininj. They will influence, manage, encourage and participate in the development of tourism from which they gain economic and social benefits.
2. Bininj have leased their land to the Australian Government to be jointly managed as a national park to protect and manage its priceless natural and cultural heritage.
3. All parties recognise and will enhance the protection of Kakadu’s diverse landscapes, internationally important wetlands and spectacular plants and animals.
4. Tourism should not be boss of country. Aboriginal people will determine how and when they will be involved in tourism.
5. The pace and level of tourism development in Kakadu will be determined by the traditional owners.
6. Respect for customary law and traditions will underpin all tourism decisions.
7. All parties will respect the need for Bininj to retain their privacy, to use their land for hunting, fishing and ceremony and to protect and hold private their sacred stories and sites.
8. Aboriginal culture and the land on which it is based will be protected and promoted through well-managed tourism practices and appropriate interpretation.
9. The travel and tourism industry will have security of tenure, profitable investment and the opportunity to provide authentic and memorable visitor experiences, whilst respecting culture and country.
10. Kakadu National Park will be globally recognised as one of the world’s most significant natural and cultural World Heritage areas, offering visitors a range of enriching and memorable experiences.

The Board accepted these principles as a guide to balance the primary importance of Kakadu’s cultural values with the development of a strategic approach to tourism.

Issues

The management challenge for Kakadu is to strike a balance between providing opportunities for the appropriate use, appreciation and enjoyment of the Park by a diversity of visitors and protecting the rights and interests of Bininj and the natural and cultural values of the Park.
What we are going to do

Policy

6.1.1 Tourism and recreational opportunities in the Park will be managed in accordance with the Shared Vision Principles and a Tourism Master Plan designed to guide the development and management of all tourism and recreational opportunities in the Park.

Actions

6.1.2 The Board of Management will, as a high priority, develop a Tourism Master Plan consistent with the Shared Vision Principles in consultation with the traditional owners, the tourism industry and other stakeholders. The Tourism Master Plan will detail:

• development of visitor experiences (with an emphasis on memorable visitor experiences that incorporate local culture and are strongly associated with Kakadu)

• development of new facilities and modification to existing facilities related to experiences

• future access – a key consideration of access will be the visitor experience, for example in the wet season, and what infrastructure needs to be provided

• commercial opportunities, including the possible development of a new range of minimal impact accommodation including luxury camps, small lodges and quiet relaxation sites

• how the Park can be protected from adverse tourism impacts

• how tourism can support management of the Park

• how tourism can meet the aspirations of traditional owners.

6.1.3 Consistent with other provisions of this Plan, the Board and the Director may approve actions and activities, including new visitor infrastructure that are detailed in the Tourism Master Plan.
Reading 2.5.6: Telling people about the park

It is important that visitors to Kakadu can learn about the Park’s natural and cultural features. Traditional Aboriginal owners want visitors to learn about the Park and their culture and to come to understand why Kakadu is important to them. This can be encouraged through sensitive promotion, provision of information, and interpretation.

The Department of the Environment and Heritage provides the public with visitor guides, visitor centers, displays, signs, brochures, and ranger-guided walks, talks and slide shows and liaises with the tourism industry, in order to:

- promote and interpret Kakadu as a cultural landscape, an Aboriginal place
- promote and explain the joint management philosophy of the Park
- promote and interpret the natural and cultural heritage features of the Park and their conservation significance
- encourage the use of accurate information about the Park.

The Kakadu National Park Visitor Guide is available free of charge for all visitors. Copies are available at several locations on the major highways to the Park as well as at the Visitor Information Centres in Darwin and Katherine. Bulk quantities for tour operators can be collected in Darwin. The other distribution points have sufficient stocks for single tour groups. (This might not be the right location but would like the information included somewhere).

It is also important that tour operators and tourism organisations use accurate information about the Park when talking to clients, promoting tours, or promoting Kakadu as a tourism destination.

Promotion forms people’s expectations before they arrive, and affects their experience. If they are given unrealistic expectations—for example, through the use of photographs of Jim Jim Falls in the wet season for promoting dry season land-based tours—visitors will probably be disappointed and not go on to recommend the tour they used or Kakadu as a destination. Accurate promotion and information, on the other hand, can greatly increase visitors’ enjoyment of the Park, and increase the likelihood of return visits and favourable recommendations of tours and the Park.
Theme 3: Operating safely and responsibly

Section 1: Visitor safety

Section 2: Exploring the park

Section 3: Minimising environmental impact

Section 4: Compliance, regulations and permits
Section 1: Visitor safety

Reading 3.1.1: Visitor safety in Kakadu National Park

Reading 3.1.2: Crocodile safety in Kakadu

Reading 3.1.3: Extract from the Commercial Permit
Reading 3.1.1: Visitor safety in Kakadu National Park

There are a number of safety-related risks when traveling in Kakadu National Park: crocodiles, disease-carrying insects, large feral animals, dehydration, and what to do if a member of your group gets injured or lost.

Swimming in the plunge pools and gorge areas

Some visitors choose to swim (at their own risk) in selected natural plunge pools and gorge areas such as Gubara, Maguk, Jim Jim Falls, Gunlom, Jarrangbarnmi (Koolpin Gorge and in creeks on the plateau above Twin Falls and Gunlom. These areas are surveyed for estuarine crocodiles prior to opening each dry season. There is some risk that estuarine crocodiles may move into gorges and plunge pools during the dry season.

Please read the crocodile warning signs in each plunge pool and gorge area and consider their information carefully.

Disease-carrying insects

Insects such as mosquitoes can carry and transmit very debilitating viruses—the Ross River virus is an example—so always cover up and if necessary use repellent.

Large feral animals

Large animals such as buffaloes and pigs can be dangerous. If you see them, keep at a safe distance and do not approach them.

Dehydration

Throughout the year, daytime temperatures in Kakadu are consistently warm to hot. September to December is extremely hot and humid.

Prevention
Make sure you are suitably dressed in loose-fitting clothing that allows adequate ventilation but provides protection against sunburn.

Your must have plenty of drinking water with you wherever you go. In a climate such as Kakadu’s, most people need between four and eight litres of water a day. A minimum of two litres per person should be carried for short walks.
Dehydration symptoms
Among the symptoms of dehydration are feeling thirsty, headache, dizziness and nausea. If the symptoms continue, seizures, loss of consciousness and even death can be the result. Children are at particular risk.

First aid
- Lay the person in a cool, shaded area.
- Give them water gradually.
- If the person cannot keep the water down or does not recover quickly, seek medical assistance without delay.

Lost or injured group members
If a member of your group becomes lost or injured it is important to stay calm and pay attention to your own safety.
- If a member of your group becomes lost in an isolated area, gather together the rest of your group. Search the immediate area but do not get involved in a major search by yourself; this could lead to other members of your group becoming lost. Collect your group and walk out. Contact a ranger or make sure that a message is delivered to staff at park headquarters. Give the rangers or police detailed information about the person's last known location.
- If a member of your group becomes injured in an isolated area try, if possible, to leave at least two responsible group members with the injured person while you and the others seek help. If the injured person can walk, and the return route is straightforward, one or two people should remain behind to help the injured person walk out slowly while you and the others go for help. Don't take short cuts. Give the rangers or police detailed information about the injured person.

Reducing the risk of wildfires
Please help prevent wildfires. Make sure your cigarette butts and matches are out and put them in rubbish bins, not on the ground. Use the fireplaces provided and, especially where no fireplace facilities are provided, ensure that you clear the area around your campfire. Always put your fire out before you leave.

Flash Flooding
Frolicking in the rock pools above and below the waterfalls can be a highlight on a trip to Kakadu for many visitors. However, there is potential hazard here during the months of October to April. Flash flooding can happen suddenly and without warning in the gorges, creeks and streams in the stone country. It is possible for a flash flood to be generated by a heavy rainstorm that occurred many kilometres upstream and more than a day earlier.
Please be aware of possible sudden rises in the levels of waterways, which can quickly cut off the return route from the top of waterfalls such as Gunlom and Jim Jim Falls. Fast flowing water produced by a flash flood can be deceptively strong, causing strong currents when crossing waterways and dangerous swimming conditions.

When walking on trails or entering/swimming in rock pools above and below the waterfalls during these months, watch for rising water levels and flood debris. Be mindful of the possible dangers of sudden and unexpected flooding.
Reading 3.1.2: Crocodile safety in Kakadu

Two types of crocodiles inhabit Kakadu—estuarine (saltwater) crocodiles and freshwater crocodiles.

**Estuarine crocodiles**

Estuarine crocodiles live in fresh, estuarine or saltwater environments, such as floodplains, billabongs, rivers and coastal waters. They are aggressive and dangerous and have attacked and killed people in Kakadu.

Please make sure you are aware of the estuarine crocodile signs and obey the 'no swimming' warnings.

- Remove rubbish from around your campsite: it can attract crocodiles.
- You must scale and clean fish at least 50m away from the water’s edge.
- When camping in areas near water bodies, set up the tents at least 50 metres from the water’s edge.

**Freshwater crocodiles**

Freshwater crocodiles generally inhabit the upper reaches of freshwater creeks and rivers. They are usually shy animals but can become aggressive if disturbed, particularly during the breeding season (September and October).

Please do not approach freshwater crocodiles.

**Management programs**

Estuarine crocodile management in Kakadu is aimed at minimising the danger of crocodile attack while at the same time ensuring the protection of crocodile populations. Throughout the year Park staff carry out crocodile surveys in all the major waterways to obtain data on distribution, numbers and size.

If Park management considers a particular crocodile’s behaviour to be a potential threat to people, the crocodile is either captured, tagged and released (a process that makes crocodiles wary of people) or given to an Aboriginal community for food.

The emphasis of Kakadu’s crocodile management is to educate visitors about crocodiles and their dangers through brochures, signs and advice.
Reading 3.1.3: Extract from the commercial permit

CONDITIONS FOR A PERMIT TO CONDUCT COMMERCIAL LANDBASED TOURS IN KAKADU NATIONAL PARK

Interpretation
In these conditions, unless the contrary intention appears:

Act means the Environment Protection and Biodiversity Conservation Act 1999 and any Regulations, management plans and instruments made under it, and includes any Act that amends or replaces it.

agreement means the agreement at the end of these conditions.
captured for an image, means recorded or reproduced by artistic representation, or on film, videotape, disc or other electronic medium and includes recorded sound.

Director means the Director of National Parks, and includes any statutory successor to the Director and the Director’s delegates.

management plan means the management plan in operation from time to time for the park under the Act.

park means the named Commonwealth reserve(s) for which this permit is issued.
park staff means persons employed by the Director and performing duties in relation to the park.

permitted activity means the specified activity for which this permit is issued.

permittee means each person (individual, company or other commercial entity) to whom this permit is issued and includes, where the context permits, the permittee’s staff and the permittee’s clients.

permittee’s clients means all persons, other than the permittee or the permittee’s staff, who take part in the permitted activity.

permittee’s staff means the permittee’s employees, contractors and other agents who take part in the permitted activity.

permittee’s tour guides means the permittee’s employees, contractors and other agents who have primary responsibility for leading the permitted activity.

ranger means a person appointed as a ranger under s302 of the Act.

Regulations means the Environment Protection and Biodiversity Conservation Regulations 2000 and includes any Regulations that amend or replace them.

warden means a person appointed as a warden under s302 of the Act.

In these conditions:
The singular includes the plural and vice versa.

Where a word or phrase is defined, other grammatical forms of that word or phrase have a corresponding meaning.

Where one of the words ‘includes’, ‘including’ or ‘includes’ is used, the words ‘without limitation’ are taken to immediately follow.

Where the word ‘must’ imposes an obligation on a person to do or not do something, the obligation is taken to mean that the person must take all reasonable steps to do or not do the thing (i.e. steps that ought to be reasonable to a person who possesses the faculty of reason and engages in conduct in accordance with community standards).

A reference to the permittee includes, where the context permits, the permittee’s staff and the permittee’s clients involved in the permitted activity.

Note: The Director may vary or revoke these permit conditions, or impose new conditions, in accordance with r17.09 of the Regulations, and must do so where it is necessary to ensure that the matters or circumstances about which the Director is required to be satisfied when issuing the permit continue to apply.

General Permit Conditions (all activities)

1. The permittee must not conduct the permitted activity before the commencement date or after the expiry date shown on the permit.

2. The permittee must not conduct the permitted activity unless the permittee has signed and submitted the agreement with the park.

3. This permit cannot be transferred to another person, except in accordance with regulation 17.11 of the Regulations.

4. The permittee must comply with the EPBC Act, the EPBC Regulations, the management plan, these permit conditions, and any other signs, notices, information, guidelines, codes of conduct, protocols or directions issued by, or under the authority of, the Director relating to the park.

5. The permittee must comply with all Commonwealth, State or Territory laws relating to the permitted activity.

6. The permittee must hold all permits, licences and other authorities required by law for the conduct of the permitted activity.

7. The permittee must maintain relevant training, qualifications and experience to competently conduct the permitted activity.

8. The permittee must carry a copy of this permit and these conditions or keep a copy in the permittee’s transport (vehicle, vessel or aircraft) while conducting the permitted activity, and must produce it for inspection when requested by a ranger or warden.

9. The permittee must not, and must take all reasonable steps to ensure that the permittee’s clients do not, walk off track or use any road, track or area that is permanently, temporarily or seasonally closed or restricted by fences, gates or signs, unless specifically authorised by this or another permit.

10. The permittee must not, and must take all reasonable steps to ensure that the permittee’s clients do not:
   a) behave contrary to the Regulations or any warning or regulatory signs;
   b) pick fruits, flowers or branches, or otherwise damage any native plants;
   c) interfere with, feed, handle or disturb any native animal, or damage or disturb a nest or dwelling place of a native animal;
   d) touch or interfere with any rock art, sacred site or cultural artefact;
   e) impede public access to any part of the park.

Note: The permit does not give the permittee any rights to the exclusive use, enjoyment or occupancy of any area of the park unless specifically authorised by this permit.

11. The permittee must notify the Director, in writing, within 7 days if:
   a) the permittee sells any business to which the permit relates to another person or group, or for any other reason ceases to conduct the permitted activity, or
   b) the permittee is a company and there is a change in the owner(s) of the majority of issued shares in the company.

12. If the permittee is a company or other incorporated body, the permittee must not, without the approval of the Director, have as a director or office holder a person who has been convicted of an offence against the Act or the...
Regulations within the previous 10 years.

13. The permittee must not, without the approval of the Director, use directly in the conduct of the activity to which this permit relates (eg driver or tour guide) the services of any person who has within the previous 10 years been convicted of an offence against the Act or the Regulations prior to the grant of the permit.

Note: The Director may keep a register of persons who have been convicted of such an offence or who have been the subject of a request by the Director for a permittee to cease using their services within the park.

14. If any of the permittee’s staff contravene these permit conditions, the Director may:
   a) notify the permittee of the contravention, and
   b) direct the permittee to cease using the services of that person within the park for a specified time, and the permittee must forthwith comply with that request.

Note: In this situation and accordance with s14.16, the Director must give written notice to the member of the permittee’s staff of the decision, including a statement that the member of the permittee’s staff may apply to the Director to reconsider the decision and, subject to the Administrative Appeals Tribunal Act 1975, the member of the permittee’s staff may subsequently apply to the Administrative Appeals Tribunal for review of the reconsideration.

15. The permittee must ensure that the permittee’s staff are fully informed of and understand the permit conditions before they commence taking part in the permitted activity.

16. The permittee must ensure that the permittee’s staff are appropriately trained and/or accredited for any activity they conduct in the park.

17. The permittee must ensure that appropriate risk management systems, strategies and procedures are in place to minimise foreseeable risks to the permittee’s staff, the permittee’s clients, other members of the public and the environment and heritage values of the park, and must produce evidence of such systems, strategies and procedures as requested by the Director.

Note: Suitable templates for risk management systems are available from Parks Australia. They represent the minimum acceptable standard for a risk management system. Permittees are encouraged to develop more detailed risk management systems.

18. The permittee is responsible for the safety, well being and behaviour of the permittee’s staff and clients, and must take all reasonably practicable steps to ensure that no person is exposed to risks to their health or safety whilst in the park.

19. If the permittee or any of the permittee’s staff or clients is killed, injured, becomes ill, goes missing, or is involved in a dangerous incident while in the park, a member of park staff must be notified as soon as possible and the permittee and the permittee’s clients must comply with any requests or directions from a member of park staff in relation to the safety of that person or any other person.

Note: In this condition “dangerous incident” means an incident that exposes a person to a serious risk to their health or safety.

20. The permittee must ensure that its supervision of the permittee’s clients is reasonable in the circumstances of the permittee’s clients’ differing levels of fitness, experience and ability.

21. The permittee must carry, and must ensure that each of the permittee’s clients carries, sufficient potable water for the conduct of the permitted activity.

Note: The Director recommends that, in hot weather, people carry and drink one litre of water for every hour they will be active.

22. The permittee will make good any damage to the park, to the extent that the damage was caused or contributed to by the conduct of the permitted activity or a breach of the permit conditions by the permittee.

Commercial Activity Conditions

23. The permittee must not conduct the permitted activity unless the permittee holds a policy of public liability insurance sufficient to cover any liability the permittee may have to third parties or to the Director under the agreement, and in any case for an amount of not less than $20 million in respect of any single event, held by an insurer that is licensed by the Australian Prudential Regulation Authority or otherwise approved by the Director.

24. The permittee must provide to the Director a certificate of currency for the policy of public liability insurance, evidencing that the policy covers all activities in the park of the permittee and the permittee’s staff, contractors and other agents:
   a) before the permittee commences to conduct the permitted activity; and
   b) on each occasion when the policy is renewed or when a new policy is taken out; and
   c) at any other time as requested by the Director.

25. The permittee’s staff must not include a contractor or agent unless:
   a) the activities of that person are covered by the insurance required under condition 23; or
   b) the person holds a permit to conduct commercial activities in the park that authorises them to provide services to the permittee in connection with the permitted activity, and holds a policy of public liability insurance that satisfies the requirements of condition 23.

Land-based Tour Permit Conditions

26. The permittee must ensure that the permittee’s tour guides have knowledge of the safety information that appears in the park visitor guide, so they can be accurate in their answers to questions asked by the permittee’s clients.

27. The permittee must, before a tour commences in the park, explain to the permittee’s clients, in both oral and/or written form in a language understood by the clients, the standard safety information that appears in the park visitor guide and any additional hazard and conditions they may encounter during the permitted activity.

Note: Such hazards and conditions may include, but are not limited to: crocodiles and other dangerous animals; plants and insects; heights; unstable and slippery rocks; extreme weather conditions; high winds; and fast-flowing water.

28. The permittee must ensure that each of the permittee’s tour guides operating in the park holds a current first aid qualification, the minimum standard for which is “Provide First Aid HLTAID003” or equivalent.

29. The permittee must ensure that each of the vehicles used in the conduct of the permitted activity contains a comprehensive first aid kit that is suitable for the types of inclement that may occur during the permitted activity.

30. The permittee’s tour guides must carry a basic first aid kit while leading the permittee’s clients in activities away from the permittee’s vehicle.

31. The permittee must not use a vessel for four purposes on the park, unless authorised to do so by this or another permit issued by the Director.

32. The permittee must ensure that all vehicles used for the permitted activity are identified as being used by the permittee through signing, magnetic stickers or a signboard visible through the windscreen, and display a...
current Parks Australia Permitted Tour Operator vehicle sticker on the driver's side of the windscreen.

33. For the purpose of evaluating compliance with these permit conditions, the permittee must, subject to availability of space and the provision of reasonable notice, allow a member of park staff, a traditional owner or a tour guide training assessor to accompany tours from time to time at no cost to the Director.

34. Permittees who are issued with 2 year permits must hold tourism accreditation, and provide the Director with evidence of that accreditation annually.

**Kakadu National Park Conditions**

35. The permittee's clients must not include a person aged 16 years or over unless:
   a) the person is a Northern Territory resident, or
   b) the park entry fee has been paid by the person and they are in possession of a Park Pass that shows:
      i) the person's name and
      ii) the 'entry' and 'valid to' dates completed, with the 'valid to' date being no more than 14 days after the 'entry' date.

36. The permittee must provide the permittee's clients with accurate information in relation to the park to Bininj/Mungguy culture and sites.

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**Note:** The Kakadu Knowledge for Tour Guides e-learning program and the park’s Tour Operator Handbook are sources of accurate and appropriate information, including information about culture and crocodile safety.

37. The permittee must ensure that each of the permittee's tour guides (i.e. those who have primary responsibility for leading tour groups - see Interpretation section at the start of these conditions) has successfully completed the Kakadu Knowledge for Tour Guides e-learning program prior to leading a tour in the park.

38. The permittee must ensure that the permittee’s tour guides are educated and tested about crocodile safety.

39. The permittee must hold a current permit issued by the Director for the use for commercial gain of captured images of a Commonwealth reserve, for all the permittee’s promotional material relating to the permitted activity, including pamphlets, brochures and internet material such as web-pages.

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**Note:** Permits are required to capture and use images for commercial gain. A photography permit authorises the use of images included in promotional material submitted with the permit application and approved for use. You can obtain an application form at [www.environment.gov.au/resource/media-and-artists](http://www.environment.gov.au/resource/media-and-artists)

40. The permittee must only use the emergency call devices (ECDs or radio alarms) that are located in the park to request medical help or a search and rescue operation, or to notify a member of park staff of a death, injury, missing person or other incident.

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**Note:** Emergency call devices are located at the information bay on the Arnhem Highway, Nourlangie Rock carpark, Warradak Immbal (West Alligator Head), Ubirr, Jim Jim Falls carpark, Jim Jim Plunge Pool, Top of Jim Jim Falls, Twin Falls carpark, Twin Falls Gorge boat landing, Top of Twin Falls, Bilbiliklim (Graveside Gorge), Maguk (Barramundi Gorge), Gunlom (Waterfall Creek Falls), Motorcar Falls, Jarrangabarnmi (Kooljaman Gorge) and Yumurrminn carpark.

41. The permittee must keep the park’s Permits Officer updated within a reasonable time of any changes to the lists of permittee’s staff and vehicles used for the permitted activity in the park.

42. In conducting the permitted activity the permittee must only use the sites authorised by this or another permit.

43. The permittee must not enter the areas of Feryn Guily, Bilbiliklim (Graveside Gorge), Warradak Immbal (West Alligator Head) or the roads leading from the Kakadu Highway, Four Mile Hole or Gunlom Road, to them, unless authorised by this or another permit.

44. The permittee must not operate vehicles in excess of 6 tonnes Gross Vehicle mass on the following public roads and public access tracks:
   a) Jim Jim Falls Road & Twin Falls Track
   b) Maguk (Barramundi Gorge) Track
   c) Bilbiliklim (Graveside Gorge) Track
   d) 2 Mile Hole, 4 Mile Hole & Warradak Immbal (West Alligator Head) Track
   e) Gunlara (Baroalba Springs) Road

45. The permittee must not tow trailers on the Jim Jim Falls and Twin Falls Track anywhere south of the Gunlom Campground.

46. The permittee must not use facilities at Meri, Murella Park, Mardugal, Gunlom or Gunlom parking areas unless the applicable camping fees or shower fees have been paid prior to use.

47. Where a camping area has camping sites designated for tour groups, the permittee must use only those camping sites.

48. The permittee must not arrive at a camping area after 8:30pm, or make unreasonable noise or otherwise disturb other campers.
Section 2: Exploring the Park

Reading 3.2.1: Planning your itinerary
Reading 3.2.2: Facilities and accommodation
Reading 3.2.3: Suggested itineraries
Reading 3.2.4: East Alligator District
Reading 3.2.5: South Alligator District
Reading 3.2.6: Nourlangie District
Reading 3.2.7: Jim Jim District
Reading 3.2.8: Mary River District
Reading 3.2.9: Full map of Kakadu
Reading 3.2.1: Planning your itinerary

It is difficult to gain a reasonable appreciation of Kakadu National Park in a one-day visit. If time allows, it is advisable to stay in the Park for a few days, so that the major sites can be explored in a leisurely fashion. It is also important to consider the time of the year, the type of vehicle you have, and the road conditions. Staff at the Bowali Visitor Centre can help you plan your itinerary.

Permits for Activities within the Park

If you wish to conduct a commercial tour activity in Kakadu National Park, or carry out certain recreational or other activities, you will require a permit.

Map of the park
The Climate of the Kakadu Region

Kakadu is located in the tropics, 12 to 14° south of the Equator. The climate is monsoonal, characterised by two major seasons: the dry season and the wet season. The 'build up' describes the transition between these two seasons.

During the dry season (April/May to September), dry southerly and easterly trade winds predominate. Humidity is relatively low and rain is very unusual. At Jabiru the average maximum temperature for June–July is 32°C.

During the 'build up' (October to December) conditions can be extremely uncomfortable with high temperatures and high humidity. However 'build up' storms are impressive and lightning strikes are frequent. In fact the Top End of Australia records more lighting strikes per year than any other place on earth. At Jabiru the average maximum temperature for October is 37.5°C.

The wet season (January to March/April) is characterised by warm temperatures and, as one would expect, rain. Most of the rain is associated with monsoonal troughs formed over Southeast Asia, although occasionally tropical cyclones produce intense heavy rain over localised areas. At Jabiru the average maximum temperature for January is 33°C.

Annual rainfall in Kakadu National Park ranges from 1,565 mm in Jabiru to 1,300 mm in the Mary River region.

The following charts provide an indication of rainfall, temperatures and humidity within the Kakadu region. Data for the charts was sourced from the Bureau of Meteorology, Darwin.
Road conditions in Kakadu National Park

Road conditions in the Park vary according to the season. Widespread wet season flooding is considered to be normal, and you should inquire about road conditions before departure if you have any doubt.

There is sealed road access from Darwin to the Park via the Arnhem Highway or from Katherine to the Park via the Kakadu Highway. The Bowali Visitor Centre is located 253 km from Darwin via the Arnhem Highway entrance. See the tourist map for more information. Allow around 3 hours travelling time from Darwin to the Bowali Visitor Centre or Jabiru.

The road conditions and walking track access in Kakadu National Park are monitored daily and updates can be obtained by contacting the Bowali Visitor Centre on 08 89381121.

Access to the following roads may vary during the wet season:

- The **Arnhem and Kakadu Highways** are sealed and generally remain open throughout the year. Wet season flooding associated with prolonged heavy rains can cause temporary closures.

- The **Nourlangie road** is sealed and generally remains open throughout the year. Rare flooding associated with prolonged heavy rains may prevent access, sometimes for several days.

- The **Ubirr road** is sealed but subject to wet season flooding at Magela Creek. During the wet season, the Magela Creek crossing is often impassable or restricted to four-wheel drives.

- The **Jim Jim/Twin Falls road** is a four-wheel-drive track and is impassable during the wet season. Closure is dictated by the length of the wet season, road conditions and visitor safety related to estuarine crocodiles.

- The **Gunlom road** is unsealed and is subject to flooding. It is closed at times during the wet season.

- The **Gubara road** access is unsealed and is open to two-wheel-drive vehicles during the dry season. The road generally changes to four-wheel-drive access in the wet season. It is occasionally impassable.
Vehicles over 6000 kilograms (GVM) are NOT permitted on the following roads and tracks:

- Jim Jim Falls – Twin Falls
- Maguk (Barramundi Gorge)
- Graveside Gorge
- Jarrangbarnmi (Koolpin) Gorge
- Rockhole
- 4 Mile Hole - 2 Mile Hole
- Gubara

**Fuel**

Unleaded and leaded petrol and diesel fuel are available at the Kakadu Resort (South Alligator), Jabiru, Cooinda and the Wirnwirnmila Mary River Road House.

Refuel your vehicle as frequently as possible.

Please keep your vehicles on established roads and tracks. When using four-wheel drive tracks, put your vehicle into four-wheel drive. This is easier on your vehicle and on the track.

Reduce the risk of road accidents by driving carefully at a safe speed.

Look out for animals crossing the roads.

Try to avoid driving at night.

**Where can you access medical attention in Kakadu?**

- Jabiru Health Clinic—telephone 08 8979 2018

**Emergency contacts**

Emergency calls should be directed to:

- Park Headquarters—telephone 08 8938 1100 (during business hours)
- Jabiru Police—telephone 08 8979 2122

In the case of emergencies in remote localities, ranger staff may be able to help relay messages to the police and the health clinic. The following ranger stations are located in the Park, but remember that these stations are not always attended:

- South Alligator ranger station, near the Kakadu Resort—telephone 08 8979 0194
- East Alligator ranger station, near the Border Store—telephone 08 8979 2291
- Jim Jim ranger station, near the Yellow Water turn-off—telephone 08 8979 2038
- Mary River ranger station, 6km north of the Wirnwirnmila Mary River Roadhouse—telephone 08 8975 4578

Emergency call devices are located at the following locations: West Alligator Head; Jim Jim Falls; Twin Falls; Graveside Gorge; Maguk; Gunlom, Koolpin and on the Arnhem highway at the northern information bay. Follow the instructions located on the devices. These are to be used in an emergency.
Reading 3.2.2: Facilities and accommodation

Jabiru Township
Jabiru, a small town, is 5 kilometres from the Bowali Visitor Centre. Facilities include accommodation (see below) a service station, a supermarket, a newsagent and post office, a Westpac bank, a travel agency, a medical centre and chemist, police, public telephones, a bakery, a hairdresser, clothes shops, a restaurant and cafe and a swimming pool.

There is an airstrip 6.5 kilometres east of the town. Bookings for scenic flights can be made through Kakadu Air—telephone 08 8979 2411.

Accommodation
Kakadu National Park offers a range of accommodation types, from three-star hotels to camping areas with no facilities.

Commercial hotel or motel-style accommodation is available at the Kakadu Resort (South Alligator), Gagudju Crocodile Holiday Inn (Jabiru) and Gagudju Lodge Cooinda. See description of major resort facilities further down this page.

Budget accommodation is available at the Kakadu Lodge and Caravan Park (Jabiru) and the Gagudju Lodge Cooinda - affiliated with the Youth Hotel Association (YHA).

See also the tourist map of Kakadu which shows the location of various accommodation facilities within the park.

Camping in Kakadu
Commercially operated camping areas with power sites are available at the Kakadu Resort, Kakadu Lodge and Caravan Park and the Gagudju Lodge Cooinda.

Major park camping areas suitable for large groups are Merl, Muirella Park, Mardugal, Garnamarr (Jim Jim Falls area) and Gunlom. These camping areas all have solar heated showers, toilets and washing tub facilities. Ablution blocks have wheelchair access and railing in at least one toilet and shower alcove. At present, camping fees of $5.40 (GST inclusive) per adult per night are payable on site to the manager of the camping area or at the Bowali Visitor Centre. Camping areas are divided into ‘generator’ and ‘non-generator’ zones.

Free bush camping areas are located throughout the park. Facilities at these sites are basic or non existent.

See also the tourist map of Kakadu which shows the location of the numerous camping areas within the park.

Remember camping outside a designated camping area requires a permit. Contact the Permits Officer on (08) 8938 1140 for more information.
Bowali Visitor Centre

Named after the Bowali Creek which flows nearby, the centre's long lineal design was inspired by an Aboriginal Rock Shelter. The Bowali Visitor Centre contains a wealth of information about Kakadu National Park. Information staff, videos, displays and a library is all available to help your clients get the most from their visit to Kakadu.

Also at the Bowali Visitor Centre is Marrawuddi Gallery which stocks art and crafts, books and gifts. Refreshments are available from the Anmak An-me Café (open 9am to 5pm).

Allow a few hours to explore the centre and learn a little more about Kakadu.

Bowali Visitor Centre is open 8am to 5pm each day and can be contacted on (08) 8938 1121.

Warradjan Aboriginal Cultural Centre

The circular design of this cultural centre represents a Warradjan (pig-nosed turtle). The centre's large display, developed by Bininj/Mungguy, provides detailed information about Aboriginal culture in Kakadu. There is also a video room and gallery that sells arts and crafts, books, cards and light refreshments.

Warradjan is open from 9 am to 5 am everyday.
Major Resort Facilities

Aurora Kakadu—in the Kakadu Wetlands

Located in the South Alligator Area of Kakadu, the Aurora Kakadu is a 3 ½ star property, offering 138 units which include private patios or balconies, air-conditioning, colour television, refrigerator and tea and coffee making facilities. The resort also has conference and function facilities, catering for up to 130 delegates or guests theatre style. Conference facilities include an overhead projector, video, television, lectern and whiteboard. The 10 hectare property also provides sufficient room for outdoor team building activities. Other facilities at the resort include:

- Restaurant
- Coffee Shop
- Disabled facilities with assistance
- Child Minding Facilities
- Swimming Pool
- Baggage holding Room
- Spa
- Guest Laundry
- Pay Phone
- Day Tours/Tour Desk
- Full Size Tennis Court
- Barbeque Facilities
- Bushwalking
- Camping Facilities
- Car Parking
- Fuel at property

Telephone:
Within Australia: (08) 8979 0166
International: +61 8 8979 0166

Gagudju Crocodile Holiday Inn

Located in the Jabiru Area of Kakadu, the Gagudju Crocodile Holiday Inn is a 3 ½ star property built in the shape of a crocodile. It offers deluxe accommodation with 110 airconditioned rooms which include colour television, refrigerator and tea and coffee making facilities. This hotel is an innovative blend of natural and modern architecture, combining standard accommodation and conference facilities. The property is located close to the Bowali Visitor Centre and the Jabiru township and also includes the following additional facilities:

- Restaurant
- Disabled facilities with assistance
- Babysitting available
- Swimming Pool
- Baggage holding Room
- Guest Laundry
- Pay Phone
- Courtesy Transfers
- Day Tours/Tour Desk
- Room Service Available
- Barbeque Facilities
- In House Movies
- Car Parking

Telephone:
Within Australia: (08) 8979 2800
International: +61 8 8979 2800
Web Site: http://gagudju-crocodile.holiday-inn.com/
Kakadu Lodge

Also located in the Jabiru Area of Kakadu, Kakadu Lodge is situated on the fringe of the Jabiru township and is central to many of the attractions of the Park. The landscaped gardens provide shady grassed camping areas and comfortable accommodation in the Lodge or self-contained cabins.

There are 13 air-conditioned, Self-contained Cabins with kitchenette and ensuite bathrooms and 32 air-conditioned Lodge Rooms with communal bathroom and kitchen facilities located in a natural bush setting. Get back to nature and utilise one of 186 powered caravan sites or 100 non-powered caravan and camping sites ideal for a family getaway.

Kakadu Lodge also has a lagoon style pool with bar and bistro, a souvenir shop and kiosk and is within walking distance of the Jabiru shopping centre. The property includes the following facilities:

- Bar and bistro
- Swimming pool
- Laundry facilities
- Barbeque facilities
- Camping facilities
- Car parking
- Air conditioned rooms, dormitories and cabins equipped with refrigerators and tea and coffee facilities
- Communal kitchen and bathroom facilities for lodge rooms and dormitories
- Private kitchen and bathroom facilities in cabins

Telephone:
Within Australia: (08) 8979 2422
International: +61 8 8979 2422
Gagudju Lodge Cooinda

Located in the **Yellow Water Area of Kakadu**, the **Gagudju Cooinda Lodge** is a 2 ½ star property situated on the Yellow Waters Billabong. It offers 48 air-conditioned lodge units, 34 twin share budget rooms, a 357 site camping ground, petrol station, general store, airport and tour desk. Cooinda is well located within the park and the hotel's tour desk can arrange pick-up for many of the region's sightseeing tours, including scenic flights from Cooinda airport, the Yellow Waters Boat Cruise and guided fishing tours. The property is located within easy traveling distance to many local attractions and also includes the following additional facilities:

- Restaurant
- Babysitting available
- Swimming Pool
- Baggage holding Room
- Guest Laundry
- Day Tours/Tour Desk
- Barbeque Facilities
- Camping Facilities
- Car Parking

**Telephone:**
Within Australia: (08) 8979 0145
International: +61 8 8979 0145
Lakeview Park Kakadu

Located in the Jabiru Area of Kakadu, the Lakeview Park Kakadu offers unique accommodation designed by award winning Troppo Architects for the climate and experience of Kakadu. Lakeview Park Kakadu is ideal for families and groups as well as business people and backpackers. This facility offers 11 Cabins, 17 Bush Bungalows, 18 "6 Pack" rooms (groups of 6 rooms sharing common facilities) and Ensuite Van Sites. This property is located close to the Jabiru Petrol Station and the famous Jabiru bakery. On-site facilities include:

- Public Telephone
- Fully Equipped Laundromat
- Extensive lush tropical gardens and shady lawn areas
- Secure off-street parking for your car and boat (regardless of size)
- Gas BBQ areas with tables and umbrellas
- 5 Mins walk to Jabiru lake
- 5 Mins walk to the bakery
- 10 Mins walk to the supermarket

Telephone:  
Within Australia: (08) 8979 3144  
International: + 61 8 8979 3144  

Wirnwirnmila Mary River Road House

Located just outside Kakadu National Park in the Mary River Area, the Wirnwirnmila Mary River Road House offers motel standard rooms, backpacker accommodation, powered van sites and camping. The Wirnwirnmila Mary River Road House is now owned by Jawoyn, the Traditional Owners of the southern section of the park.

Disclaimer

This page provides information on accommodation facilities within Kakadu National Park for your convenience only. The Department of the Environment and Heritage and its contractors are not responsible for and make no representations concerning the condition of these properties or the quality of services provided. The inclusion of these properties in this site does not indicate, expressly or impliedly, that the Department of the Environment and Heritage or its contractors endorse the products or services offered there. Use of any products or services described in this page is at your own risk.
Reading 3.2.3: Suggested itineraries

If you are undecided about where to go, here are some itineraries that might help you plan your visit to the park:

**One day rush around**

<table>
<thead>
<tr>
<th>Dry season</th>
<th>Wet season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mamukala wetlands</td>
<td>Mamukala wetlands</td>
</tr>
<tr>
<td>Bowali Visitor Centre</td>
<td>Bowali Visitor Centre</td>
</tr>
<tr>
<td>Nourlangie Rock Art Site Walk</td>
<td>Nourlangie Rock Art Site Walk</td>
</tr>
<tr>
<td>Warradjan Aboriginal Cultural Centre</td>
<td>Warradjan Aboriginal Cultural Centre</td>
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<tr>
<td>Yellow Water Cruise or Walk (Sunset)</td>
<td>Yellow Water Cruise or Walk (Sunset)</td>
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**Two day glimpse**

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 1</th>
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<tbody>
<tr>
<td>Bowali Visitor Centre</td>
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<tr>
<td>Nourlangie Rock Art Site Walk</td>
<td>Nourlangie Rock Art Site Walk</td>
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<tr>
<td>Anbangbang Billabong walk</td>
<td>Nawurlandja Lookout walk</td>
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<tr>
<td>Warradjan Aboriginal Cultural Centre</td>
<td>Warradjan Aboriginal Cultural Centre</td>
</tr>
<tr>
<td>Yellow Water Cruise or walk (Sunset)</td>
<td>Yellow Water Cruise or walk (Sunset)</td>
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</tbody>
</table>

Overnight stay at Mardugal or Muirella Park campgrounds or Kakadu Frontier Lodge, Gagudju Cooinda Lodge or Gagadju Crocodile Hotel

<table>
<thead>
<tr>
<th>Day 2</th>
<th>Day 2</th>
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</thead>
<tbody>
<tr>
<td>East Alligator River Cruise</td>
<td>Scenic flight</td>
</tr>
<tr>
<td>Ubirr art site</td>
<td>*Gubara Springs Walk</td>
</tr>
<tr>
<td>Cahills Crossing picnic area</td>
<td>Nanguluwur Art Site Walk</td>
</tr>
<tr>
<td>Manggarre Monsoon Forest Walk</td>
<td>Mirrai Lookout Walk (sunset)</td>
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<tr>
<td>Scenic flight</td>
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</table>
### Three-day stay

<table>
<thead>
<tr>
<th>Dry season</th>
<th>Wet season</th>
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<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td><strong>Day 1</strong></td>
</tr>
<tr>
<td>Bowali Visitor Centre</td>
<td>Bowali Visitor Centre</td>
</tr>
<tr>
<td>Manngarre Monsoon Forest Walk</td>
<td>Scenic flight</td>
</tr>
<tr>
<td>Cahills Crossing picnic area</td>
<td>Nourlangie Rock Art Site Walk</td>
</tr>
<tr>
<td>East Alligator River Cruise</td>
<td>Nawurlandja Lookout walk</td>
</tr>
<tr>
<td>Ubirr art site and sunset lookout</td>
<td>Mirrai Lookout Walk (sunset)</td>
</tr>
<tr>
<td><strong>Overnight stay at Merl campground or Kakadu Frontier Lodge</strong></td>
<td><strong>Overnight stay at Mardugal or Muirella Park campgrounds or Gagudju Cooinda Lodge</strong></td>
</tr>
<tr>
<td><strong>Day 2</strong></td>
<td><strong>Day 2</strong></td>
</tr>
<tr>
<td>Scenic flight</td>
<td>Yellow Water Cruise (dawn)</td>
</tr>
<tr>
<td>Nourlangie Rock Art Site Walk</td>
<td>Warradjan Aboriginal Cultural Centre</td>
</tr>
<tr>
<td>Anbangbang Billabong Walk</td>
<td>*Gubara Springs Walk</td>
</tr>
<tr>
<td>Warradjan Aboriginal Cultural Centre</td>
<td>Nanguluwur Art Site Walk</td>
</tr>
<tr>
<td><strong>Overnight stay at Mardugal or Muirella Park Campgrounds or Gagudju Cooinda Lodge</strong></td>
<td><strong>Overnight stay at Mardugal or Muirella Park Campgrounds or Gagudju Cooinda Lodge</strong></td>
</tr>
<tr>
<td><strong>Day 3</strong></td>
<td><strong>Day 3</strong></td>
</tr>
<tr>
<td>Yellow Water Cruise or Walk (dawn)</td>
<td>Gun-gardun Woodlands Walk</td>
</tr>
<tr>
<td>*Maguk Waterfall</td>
<td>Gungurul Lookout</td>
</tr>
<tr>
<td>Gungurul Lookout</td>
<td>Yurmikmik walks</td>
</tr>
<tr>
<td>Gunlom Waterfall</td>
<td>* Access by 4WD ONLY. Check road conditions a day or two ahead of travel, especially during the wet season.</td>
</tr>
</tbody>
</table>

### Four-day visit
## Dry season

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Wet season</th>
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</thead>
<tbody>
<tr>
<td>Bowali Visitor Centre&lt;br&gt;Scenic Flight&lt;br&gt;Manngarre Monsoon Forest Walk&lt;br&gt;Cahills Crossing picnic area&lt;br&gt;East Alligator River Cruise&lt;br&gt;Ubirr art site and sunset lookout</td>
<td>Bowali Visitor Centre&lt;br&gt;Scenic Flight&lt;br&gt;Nourlangie Rock Art Site Walk&lt;br&gt;Nawurlandja Lookout walk</td>
</tr>
<tr>
<td>Overnight stay at Merl campground or Kakadu Frontier Lodge or Gagudju Crocodile Hotel</td>
<td>Overnight stay at Mardugal or Muirella Park campgrounds or Gagudju Cooinda Lodge</td>
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<table>
<thead>
<tr>
<th>Day 2</th>
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<tbody>
<tr>
<td>Nourlangie Rock Art Site Walk&lt;br&gt;Anbangbang Billabong Walk&lt;br&gt;*Jim Jim Falls (self drive or commercial tour)</td>
</tr>
<tr>
<td>Overnight Garnamarr campground</td>
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<table>
<thead>
<tr>
<th>Day 3</th>
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</thead>
<tbody>
<tr>
<td>*Twin Falls&lt;br&gt;Warradjian Aboriginal Cultural Centre</td>
</tr>
<tr>
<td>Overnight stay at Mardugal or Muirella Park Campgrounds or Gagudju Cooinda Lodge</td>
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<tr>
<th>Day 4</th>
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</thead>
<tbody>
<tr>
<td>Yellow Water Cruise or Walk (dawn)&lt;br&gt;*Maguk Waterfall&lt;br&gt;Gungurul Lookout&lt;br&gt;Gunlom Waterfall</td>
</tr>
</tbody>
</table>

* **Access by 4WD ONLY.** Commercial 4WD tours to Jim Jim and Twin Falls can be joined in the park. When driving in the park, always check road conditions a day or two ahead of travel, especially during the wet season.

## Five-Day Experience
<table>
<thead>
<tr>
<th><strong>Dry season</strong></th>
<th><strong>Wet season</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td><strong>Day 1</strong></td>
</tr>
<tr>
<td>Bowali Visitor Centre</td>
<td>Bowali Visitor Centre</td>
</tr>
<tr>
<td>Scenic Flight</td>
<td>Scenic Flight</td>
</tr>
<tr>
<td>Manngarre Monsoon Forest Walk</td>
<td>Nourlangie Rock Art Site Walk</td>
</tr>
<tr>
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<td>Nawurlandja Lookout walk</td>
</tr>
<tr>
<td>East Alligator River Cruise</td>
<td></td>
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<tr>
<td>Ubirr art site and sunset lookout</td>
<td></td>
</tr>
<tr>
<td><strong>Overnight stay at Merl campground or Kakadu Frontier Lodge or Gagudju Cooinda Lodge</strong></td>
<td><strong>Overnight stay at Mardugal or Muirella Park Campgrounds or Gagudju Cooinda Lodge</strong></td>
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<tr>
<td><strong>Day 2</strong></td>
<td><strong>Day 2</strong></td>
</tr>
<tr>
<td>Scenic Flight</td>
<td>Yellow Water Cruise (dawn)</td>
</tr>
<tr>
<td>Nourlangie Rock Art Site Walk</td>
<td>Warradjan Aboriginal Cultural Centre</td>
</tr>
<tr>
<td>Nawurlandja Lookout Walk</td>
<td>Gun-gardun Woodlands Walk</td>
</tr>
<tr>
<td>Anbangbang Billabong Walk</td>
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<tr>
<td>Bubba Walk (Dusk)</td>
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<tr>
<td><strong>Overnight stay at Muirella Park campground</strong></td>
<td><strong>Overnight stay at Mardugal or Muirella Park Campgrounds or Gagudju Cooinda Lodge</strong></td>
</tr>
<tr>
<td><strong>Day 3</strong></td>
<td><strong>Day 3</strong></td>
</tr>
<tr>
<td><em>Jim Jim Falls (self drive or commercial tour) Budjimii Walk</em></td>
<td><em>Gubara Springs Walk</em></td>
</tr>
<tr>
<td>Nanguluwur Art Site Walk</td>
<td>Nanguluwur Art Site Walk</td>
</tr>
<tr>
<td>Mirrai Lookout Walk</td>
<td>Mirrai Lookout Walk (sunset)</td>
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<tr>
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<td>Gunlom Waterfall</td>
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* **Access by 4WD ONLY.** Commercial 4WD tours to Jim Jim and Twin Falls can be joined in the park. When driving in the park, always check road conditions a day or two ahead of travel, especially during the wet season.*
Reading 3.2.4: East Alligator District

Most Aboriginal place names in this area are in the Gagudju (Gar-goo-dew) language.

Main Attractions

Ubirr Art Site

Ubirr (Oo-beerr)

Where: Turn north off the Arnhem Highway 1km west of the Kakadu Highway intersection and travel a further 39km.

Features: A 1km circular track takes you past several fascinating Aboriginal rock art sites. An additional 250m moderately steep climb takes you to the top of a rocky lookout that provides superb views over the Nardab floodplain. The views at sunset are particularly beautiful. Allow at least 1 hour.

Opening times: From 8.30am until sunset, April 1 to November 30. and from 2.00pm until sunset December 1 to March 31.

Talks: During the dry season, rangers provide informative talks about Aboriginal art and culture several times a day.
Note: Traditional Owners request that you don’t drink alcohol at Ubirr.

**East Alligator River (check wet season access)**

**Where:** Just east of the Merl Camping Area and the Border Store.

**Features:** An attractive tidal river which forms the boundary between Kakadu and Arnhem Land.

**Boat Tours:** A commercial boat cruise departs from the upstream boat ramp, its shuttle bus service leaves from the Border Store. Guides explain aspects of local Aboriginal culture while you travel slowly along the East Alligator River. Bookings are required.

Telephone: Within Australia: (08) 8979 2411
International: +61 8 8979 2411

**Boat ramps:** Are located upstream and downstream of Cahills Crossing. See also the [Boating Web Page](#) for more information.

*If you have more time*

![Bardedjildji Walk](image)

**Bardedjildji (Bar-ded-jill-id-gee) walk (Check wet season access)**

**Where:** Starts at a small carpark 500m from the upstream boat ramp.

**Features:** A 2.5km walk through layered sandstone outliers. This is one of Kakadu’s most interesting short walks. Allow 2 hours.

**Manngarre (Marn-narr-ay) rainforest walk (dry season only)**

**Where:** Starts at the carpark across the road from the border store.

**Features:** A 1.5km circular walk through a small monsoon rainforest. A raised platform provides a different view of the forest. Allow 1 hour.

**Cahills Crossing picnic area (check wet season access)**

**Where:** Near the carpark across the road from the border store.

**Features:** Riverside picnic tables and a viewing platform over the East Alligator River.

**Safety Note:** Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water

**Where to stay**

**Merl Camping Area** (check wet season access)
Access to showers, toilets and a generator area is available. Camping fees (adults only) are collected on site.
Commercial accommodation facilities including hotel rooms, cabins and camping facilities are available in the nearby Jabiru area.

**Services**

*The Border Store* sells food, fishing gear and souvenirs. The store also takes bookings for commercial tours.
Reading 3.2.5: South Alligator District

Main Attraction

Mamukala (Mar-moo-car-lar) wetlands

Where: Turn south off the Arnhem Highway 7 km east of the South Alligator River.

Features: Mamukala is beautiful all year but at its most dramatic in the late dry season (Sept–Oct) when thousands of magpie geese congregate to feed. An observation platform allows you to view birdlife while a mural illustrates the seasonal changes that occur during the year. Choose between a 1 km and 3 km walk to see more of these fascinating wetlands. Allow between 30 minutes and 2 hours.
If you have more time

Gu-ngarre (Goon-narr-ee) walk
Where: Starts at the large banyan fig tree near the Frontier Kakadu Village.
Features: A 3.6km circular walk through monsoon forecast and woodlands and along the margins of a billabong. Allow 2 hours

South Alligator River and picnic area
Where: Near the South Alligator Bridge on the Arnhem Highway.
Features: Picnic Tables and several places to view the river.
Boat ramps: At the northern end of the carpark (see the Boating Web Page for more information)

Off the highway (dry season only, 4WD)
Where: There are two major four wheel drive tracks in the area: The Waldak Irrmbal (West Alligator Head) track (which accesses Two Mile Hole and Four Mile Hole) and the Red Lily and Alligator Billabong track (see Tourist Map of Kakadu for locations)
Features: Both tracks take you to destinations suitable for boating or bird watching.
Safety Note: Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water

Where to stay

Kakadu Resort
The Kakadu Resort is equipped with motel standard rooms, tent sites, powered and unpowered van sites, restaurant, cafe and general store. A swimming pool is also available for use by guests only. Reservations are recommended.
Telephone: Within Australia: (08) 8979 0166
International: +61 8 8979 0166

Bush Camping Areas (check wet season access)
Free camping with basic or not toilet facilities is available at Two Mile Hole, Four Mile Hole, West Alligator Head (Waldak Irrmbal), Red Lily Billabong and Alligator Billabong (see Tourist Map of Kakadu for locations). Drinking water is not available at these sites.

Services
The Kakadu Resort general store sells petrol, LPG gas, diesel, food and souvenirs.
Reading 3.2.6: Nourlangie District

Jabiru Area

**Main Attraction**

**Bowali (Bor-warl-ee) Visitor Centre**

**Where:** Turn west off the Kakadu Highway, 5km west of Jabiru.

**Features:** Named after the Bowali Creek which flows nearby, the centre's long linear design was inspired by an Aboriginal Rock Shelter. The Bowali Visitor Centre contains a wealth of information about Kakadu.

Park staff are available to provide information to you. Videos, displays and a library are also available to assist you in planning your visit. Visitor Centre open 8.00am to 5.00pm.

The Marrawuddi Gallery stocks Aboriginal arts and crafts, books and gifts. Refreshments are available from the Anmak An-me Cafe. opening hours: 9.00am to 5.00pm.

Allow a few hours to explore the centre and learn a little more about Kakadu.
If you have more time

Bowali bike and walking track
Where: Starts opposite the Gagudju Crocodile Hotel in Jabiru.
Features: A 4km return walk on a rammed earth path winding its way through woodlands to the Bowali Visitor Centre. Allow 30 to 40 minutes each way.

Iligadjarr (Illy-gar-jar) walk (dry season only)
Where: Starts at the Malabanjbanjdju or Burdulba Camping Areas.
Features: A 3.8km circular walk across a small grassy floodplain and along Burdulba Billabong. Allow 2 hours.

Scenic Flights
Where: Available from Jabiru East and Cooinda Airstrips. Bookings can be organised through Kakadu Air, tel: (08) 8979 2411
International: +61 8 8979 2411
Features: Commercial flights provide a birds eye view of Kakadu and its many aried habitats.

Commercial Tours
Where: Tours can be booked at the Jabiru Travel Centre (Ph: (08) 8979 2548 Int: +61 8 8979 2548), at commercial accommodation centres, or by phoning the tour operators direct.
Features: Four Wheel Drive (4WD) and boat tours or Kakadu and neighbouring Arnhem Land.

Safety Note: Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water

Where to stay

Gagudju Crocodile Holiday Inn
The Gagudji Crocodile Holiday Inn is equipped with motel standard rooms, restaurant, gift shop and booking facilities for commercial tours of the park. A swimming pool is also available for use by guests only. Reservations are recommended.
Telephone: Within Australia: (08) 8979 2800
International: +61 8 8979 2800
Web Site: http://gagudju-crocodile.holiday-inn.com/

Kakadu Lodge and Caravan Park
The Kakadu Lodge and Caravan Park has available lodge rooms, tent sites, powered van sites, barbeque facilities and a bar/bistro. A swimming pool and eating area are available for use by guests only. Reservations are recommended.
Telephone: Within Australia: (08) 8979 2422
International: +61 8 8979 2422
Lakeview Park Kakadu
Lakeview Park Kakadu offers unique accommodation designed by award winning Troppo Architects for the climate and experience of Kakadu. Lakeview Park Kakadu is ideal for families and groups as well as business people and backpackers, offering Bush Bungalows, "6 Packs" (6 rooms sharing common facilities), Cabins and Ensuite Van Sites. Facilities include: public telephone; fully equipped laundromat, lush tropical gardens and shady lawn areas; secure off-street parking; and gas barbeque areas with tables and plenty of shade.

Telephone:  Within Australia: (08) 8979 3144 (facilities)
            International: + 61 8 8979 3144

Web Site: http://www.lakeviewkakadu.com.au

Bush Camping Areas (check wet season access)
Free camping with basic toilet facilities is available at Malabanjbanjdju and Burdulba. Drinking water is not available at these sites.

Services
In Jabiru there are many services including: service station, supermarket, newsagent and post office (Commowealth Bank agency), Westpac Bank, travel agent, medical centre and chemist, police, public telephones, swimming pool, library, hairdresser, restaurant and cafe.
Burrunggui (Boor-oong-goy) is the Gun-djeihmi name for the upper section of Nourlangie Rock. Anbangbang is the name for the lower section of the rock and surrounding area.

Main Attraction

Nourlangie

Where: Turn off the Kakadu Highway 19km south of the Bowali Visitor Centre and travel a further 12 km.

Features: A 1.5km circular walk takes you past an ancient Aboriginal shelter and several outstanding art sites. A moderately steep climb to Gunwarddehwardde lookout provides impressive views of Kakadu’s escarpment and Nourlangie Rock.

Talks: During the dry season, rangers provide informative talks about Aboriginal art and culture several times a day.
If you have more time

Anbangbang (Arn-barng-barng) Billabong (Check wet season access)
Where: After leaving the Nourlangie carpark, take the first road to the left.
Features: Several picnic tables and a 2.5km dry season circular walk. With Nourlangie Rock forming an impressive backdrop, this is one of Kakadu’s most attractive billabongs. Allow 1 hour.

Nawurlandja (Now-oo-larn-ja) Lookout walk
Where: After leaving Nourlangie carpark, take the second road to the left.
Features: A 600m climb up a moderately steep slope offers good views of the escarpment and Anbangbang Billabong. Allow 40 minutes.

Alyurr (Leichhardt’s grasshopper)

Nanguluwur (Narng-oo-loo-war) art site walk
Where: After leaving the Nourlangie carpark, take the first road to the right.
Features: An easy 3.4km return walk through woodlands leads to a quiet art site with some interesting Aboriginal rock art. Allow 2 hours.

Gubara (Goo-bar-rar) Pools walk (check wet season access)
Where: After leaving the Nourlangie carpark, take the first road to the right and travel a further 9km.
Features: A 6km return walk past sandstone cliffs to shady monsoon forest pools. A pleasant place to spend the heat of the day. Allow 4 hours.

Bubba (Boop-bar) walk (dry season only)
Where: Starts at the entrance of the Muirella Park Camping Area.
Features: A 3.5km circular walk through several wetland habitats. Allow 2 hours.

Mirrai (Mirr-eye) Lookout walk
Where: Turn south-east off the Kakadu Highway 30km south of the Bowali Visitor Centre.
Features: A moderately difficult 3.6km return walk to a platform lookout on top of Mount Cahill. It is a steep climb. Allow 1.5 hours.

Safety Note: Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water. See the Visitor Safety page for more information.
**Where to stay**

**Muirella Park Camping Area (check wet season access)**

Access to showers, toilets and a generator area is available. Camping fees (adults only) are collected on site during the dry season. Please pay at the Bowali Visitor Centre during the wet season.

**Bush Camping Area (Dry season only, 4WD recommended)**

A free camping area with composting toilet is available beyond Muirella Park at Sandy Billabong. Drinking water is not available. Five sites are reserved for tour groups of up to 12 people with a registration tag system at Muirella Park.
The local Aboriginal name for the Yellow Water Area is Ngurrungurrudjba (Noor-roon-goo-rooj-bar).

**Main Attraction**

**Yellow Water Wetlands** *(check wet season access)*

*Where:* Turn north-west off the Kakadu Highway 50km south of the Bowali Visitor Centre. **Features:** Yellow Water is part of the South Alligator River floodplain. During early dry season, a boardwalk provides good views of Yellow Water’s wildlife. When waters recede, a 1km return walk takes you across the floodplains to a viewing platform on Home Billabong.
Boat tours: Commercial boat cruises operate on Yellow Water throughout the year and provide a marvellous opportunity to see the varied birdlife of Kakadu's World Heritage wetlands. Bookings are required.

Telephone:  
Within Australia: (08) 8979 0111  
International: +61 8 8979 0111

A boat tour is a perfect way to view the birdlife of Kakadu's Wetlands.

Warradjan (Warr-ar-jarn) Aboriginal Cultural Centre  
Where: On the Yellow Water and Cooinda road  
Features: The circular design of this cultural centre represents a Warradjan (pig-nosed turtle). The Centre's large display, developed by Bininj/Mungguy, provides detailed information about Aboriginal culture in Kakadu. There is also a video room and a gallery that sells Aboriginal arts and crafts, books and cards.

Opening Hours: 9.00am to 5.00pm every day

If you have more time

Mardugal (Mar-doo-garl) Billabong walk  
Where: Starts at the caravan section of the Mardugal Camping Area.  
Features: A 1km return walk follows the edge of Mardugal Billabong. Allow 30 minutes.

Gun-gardun (Goon-gar-don) walk  
Where: Starts near the entrance of the Mardugal Camping Area.  
Features: A 2km walk through woodlands, Kakadu's most widespread habitat. Allow 1 hour.

Boating  
Where: Boat ramps are located at Jim Jim Billabong, Yellow Water and Mardugal Billabong. (see the Boating Web Page for more information)  
Features: During the wet season these billabongs join up and it is possible to boat between them.

Scenic Flights  
Where: Available from Jabiru East and Cooinda Airstrips, bookings are required.  
Telephone:  
Within Australia: (08) 8979 2411  
International: +61 8 8979 2411
Features: Flights provide the only means of seeing the spectacular Jim Jim and Twin Falls when they are in full flood during the wet season.

Safety Note: Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water.

Where to stay

Gagudju Cooinda Lodge
The Gagudju Cooinda Lodge is equipped with motel standard rooms, budget accommodation, tent sites, powered van sites, bistro, restaurant, store. A swimming pool is also available. Reservations are recommended.

Telephone: Within Australia: (08) 8979 0145
            International: +61 8 8979 0145

Mardugal Camping Area (check wet season access)
Access to showers, toilets and a generator area is available. Camping fees (adults only) are collected on site during the dry season. Please pay at the Bowali Visitor Centre during the wet season.

Bush Camping Area (check wet season access)
Free camping areas with basic or no toilet facilities are available at Jim Jim Billabong and Giyamungkurr (Black Jungle Spring) (see Tourist Map of Kakadu for locations). Drinking water is not available.

Services
The Gagudju Cooinda Lodge Store sells petrol, LPG gas, diesel, food and souvenirs, and takes bookings for commercial tours.
Jim Jim Falls Area

Road Access

Access to the Jim Jim Falls area is by **4WD only**. Turn east off the Kakadu Highway 43km south of the Bowali Centre. Engage 4WD and travel 50 km along the Jim Jim Falls access road to reach the **Garnamarr Campground**. Jim Jim Falls car park is an additional 15 km along the access road and Twin Falls car park is a further 10 km after crossing Jim Jim Creek. Your vehicle will require a snorkel to cross the Jim Jim Creek. **Check the road conditions** before attempting this journey.

A gate has been erected on the falls side of the Garnamarr Campground (**see map below**) which is **locked from 8.30pm to 6.30 am** for the safety of visitors. We ask that you ensure that you leave the falls area in time to reach the Garnamarr campground before the gates are locked at 8.30 pm.

Allow 2 hours driving time one way to reach Twin Falls. Caravans are not recommended. **Please take note of the speed limits and drive safely.**

**No rubbish bins are provided** in the area, including the campground. Please take all your rubbish to the rubbish and recycling bins at the start of the Jim Jim Falls access road, near the Kakadu Highway when leaving the area.

**Important to note:** During the dry season Jim Jim Falls ceases to flow.
Main Attractions

Jim Jim Falls during the wet season from the air

Jim Jim Falls Plunge Pool and Barrk Malam walk (dry season only, 4WD Only)

Where: Turn east off the Kakadu Highway 43km south of the Bowali Centre. Engage 4WD, travel 65km along the Jim Jim Falls access road. Allow 2 hours one way travelling time on the Jim Jim Falls access road, plus 1 to 2 hours to walk to the plunge pool and return to the car park.

Features: Jim Jim Falls Plunge Pool
- A 2km return walk through monsoon forest and over boulders will take you to a deep plunge pool surrounded by spectacular, 150-metre high cliffs.
- This walk is suitable for people who are fit and can manage uneven terrain (large boulders, often slippery).
- Allow 1 to 2 hours for this walk.
- Visitors who choose to swim at the Jim Jim Falls plunge pool do so at their own risk. Please note the advice on our visitor safety page regarding crocodiles and all crocodile warning signs on site.
- Do not enter the water downstream of the Jim Jim Falls plunge pool. Estuarine crocodiles may be present.

Plateau above Jim Jim Falls – Barrk Malam walk
- A very steep marked walking route leads to the plateau above Jim Jim Falls.
- This walk is suitable only for very fit people, who can manage a very steep climb in hot conditions.
- Allow 4 to 6 hours for this walk and carry plenty of water. It is advisable to start in the cooler hours of the morning. Wear good walking shoes and appropriate clothing.

Important to note: During the dry season Jim Jim Falls ceases to flow.

Twin Falls during the wet season from the air
Twin Falls Gorge (dry season only, 4WD with snorkel required)

Where: Access to Twin Falls is via the Jim Jim Falls Road. Turn east off the Kakadu Highway 43km south of the Bowali Centre. Engage 4WD and travel 65km along the Jim Jim Falls road. Turn right prior to reaching the Jim Jim Falls car park and travel a further 10km to Twin Falls, crossing Jim Jim creek on the way. A 4WD vehicle with a snorkel is required for this crossing. Allow 2.5 hours one way. Check the road conditions before attempting this journey.

Features:

Twin Falls Gorge

- Access up Twin Falls gorge is by boat shuttle service, a walking track over boulders and sand, and a boardwalk.
- This walk is suitable for people who are fit and can manage uneven terrain (large boulders, often slippery with sand).
- Allow about 2 hours return for the boat trip and walk.
- The boat shuttle service charges a fee of $12.50 per person, including the return journey (inclusive of GST). Children under 16 years travel free. The service departs at least every half hour (depending on demand) from 7.30am. The last boat service departs at 4.30pm and returns to the carpark end of the gorge at 6pm.
- DO NOT ENTER THE WATER IN TWIN FALLS GORGE. ESTUARINE CROCODILES MAY BE PRESENT.

Plateau above Twin Falls

- The track which leads to the plateau above the falls follows a steep, 6km return, marked walking route. There are good views on the way and pools can be found along the creek above the falls, where visitors may swim, at their own risk.
- This walk is suitable for fit people who can manage a steep climb in hot conditions.
- Allow 3 to 4 hours for this walk and carry plenty of water. It is advisable to start in the cooler hours of the morning. Wear good walking shoes and appropriate clothing.
- Please obey all warning signs along the way and keep a safe distance from the edge above the falls.

Note: Saltwater (estuarine) crocodiles are known to exist in Twin Falls Gorge from time to time. Please note the advice on swimming on our visitor safety page and do not enter the water in Twin Falls Gorge.

If you have more time

Picnic Area (dry season only)

Where: The picnic area is located along the Jim Jim falls access road on the way to Twin Falls, before the Jim Jim Creek crossing. See map below.

Features: This day use area provides picnic facilities under shady trees. Toilet facilities are also provided. Camping is not permitted in this area. This is also the starting point for the Budjmi Lookout walk.
Budjmi (Bood-me) Lookout (dry season only)
Where: Starts at the Day Use / Picnic Area near the Jim Jim Creek crossing.
Features: A 1km return walk to the top of a rocky outcrop which provides great views of the escarpment cliffs. Allow 45 minutes.

4WD Tours
Commercial 4WD tours are available to the Jim Jim area in the dry season only. Tours can be booked through your travel agent or at accommodation centres in the Park with commercial tour booking facilities.

Scenic Flights
Where: Fixed wing and helicopter flights are available from Jabiru East and Cooinda Airstrips. Bookings are required.
Kakadu Air: Telephone: Within Australia: (08) 8979 2411
International: +61 8 8979 2411
‘The Scenic Flight Company’ 8979 3432
North Australian Helicopters
www.northaustralianhelicopters.com.au
Telephone: Within Australia: (08) 8979 2444 or 1800 898 977
International: +61 8 8979 2444
Facsimile: +61 8 8979 2272
Features: Flights provide the only means of seeing the spectacular Jim Jim and Twin Falls when they are in full flood during the wet season.

Safety Note: Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water

Where to stay
Garnamarr Campground (dry season only, 4WD)
The Garnamarr Campground caters for about 200 people and is located beside the Jim Jim Falls access road about 50km from the Kakadu Highway. Caravans are not recommended and trailers must be left at a designated area near the campground and must not be taken to the falls. Showers, toilets and drinking water are available.

Camping fees
A campground manager will collect the camping fee of $5.40 per adult per night (over 16 years of age). Please have correct change as eftpos facilities are not available.

There is no booking system for the campsite. Places are allocated on a ‘first come, first served’ basis. It is advisable to contact the Bowali Visitor Centre to check on vacancies before driving there.

Communal concrete fire rings are provided at the campground. Firewood must be collected on the way to the campground, not within the immediate area of the campground. Parks Australia and traditional owners encourage minimal use of firewood and the use of gas stoves as an alternative energy source for cooking.

The former camping area at Jim Jim Creek has been converted into a day use area, providing picnic tables and basic toilet facilities. This area is also the starting point for the Budjmi Lookout walk. Please do not enter the areas that are being revegetated.
A gate has been erected on the falls side of the Garnamarr Campground which is locked from 8.30pm to 6.30 am for the safety of visitors. We ask that you ensure that you leave the falls area in time to be at Garnamarr before the gates are locked at 8.30 pm.

Rangers present regular free slide shows and talks at the campground. Please check your 'What's On' guide for details.
A large part of southern Kakadu is known by the Jawoyn people as 'sickness country'. Within it rest a number of powerful creation ancestors who must not be disturbed.
Main Attraction

Gunlom (Goon-lom) (gravel road, check wet season access)
Where: Turn east off the Kakadu Highway 2km north of the Mary River Ranger Station (8km south from the Bukbukluk turn-off). Travel 26km, turn left at the Gunlom Y junction and travel a further 11km.
Features: A popular camping area located near a clear plunge pool and small waterfall. A steep climb takes you to the top of the waterfall providing great views over southern Kakadu.

If you have more time

Yurmikmik Walks (gravel road, check wet season access)
Where: Turn east off Kakadu Highway onto the Gunlom road and travel 21km.
Features: An area of separate but interconnected walking tracks which is an excellent wet season experience. The individual walks are: Boulder Creek Walk (2km return); Yurmikmik Lookout Walk (5km return); Motor Car Falls (7.5km return) and Kurrundie Creek Walk (11km return).

Gimbat picnic area (dry season only, 4WD)
Where: Travel 26km east on the Gunlom Road, turn right at the Y junction and travel a further 19km.
Features: A shady picnic area situated near Guratba (Coronation Hill) and the South Alligator River.

Gungurul (Goong-or-ool) picnic area
Where: Turn west off the Kakadu Highway 37km north of the Mary River Ranger Station or 9km south from the Maguk turn-off.
Features: Picnic tables and basic toilet facilities.

Maguk (Mar-gook) Plunge Pool (gravel road, dry season only, 4WD recommended)
Where: Turn south off the Kakadu Highway 42km north of the Mary River Ranger Station or 92 km south of the Bowali Visitor Centre. Travel a further 12 km.
Features: A 2km return walk through monsoon forest leads to a small waterfall and clear plunge pool. Allow 1 to 2 hours. Please note the advice on swimming in plunge pools on our visitor safety page.

Bukbukluk Lookout
Where: Turn west off the Kakadu Highway 10km north of the Mary River Ranger Station or 124km south of the Bowali Visitor Centre. Travel a further 600m on an unsealed road.
Features: Picnic tables and a 400m return walk to a lookout with views over he old Goodparla Station.

Safety Note: Saltwater (estuarine) crocodiles occur in billabongs and at the sea; for your safety do not enter the water.
Where to stay

Wirnwirnmila Mary River Road House (just outside Kakadu National Park)

Under new management, the Wirnwirnmila Mary River Road House is equipped with motel standard rooms, backpacker accommodation, powered van sites and camping. The Wirnwirnmila Mary River Road House is now owned by Jawoyn, the Traditional Owners of the southern section of the park.

Telephone: Within Australia: (08) 8975 4564
            International: +61 8 8975 4564

Gunlom Camping Area (gravel road, check wet season access)

Access to showers, toilets and a generator is available. Camping fees (adults only) are collected on site.

Bush Camping Area (gravel roads, check wet season access)

Free camping with basic toilet facilities is available at Maguk and Gungurul. Basic camping facilities (BBQ areas, picnic tables, not toilets) are located at Kambolgie Campground. Drinking water is not available.

Services

The Wirnwirnmila Mary River Roadhouse provides meals / morning and afternoon teas, takeaway food, stores and fuel.
Reading 3.2.9: Full map of Kakadu
Section 3: Minimising environmental impact

Reading 3.3.1: Minimising your group's impact

Reading 3.3.2: Excerpt from the Commercial Tour Operators Permit

Reading 3.3.3: Notification of activities affecting listed species or ecological communities
Reading 3.3.1: Minimising your group’s impacts

There are a number of things you can do to minimise your groups’ impacts in Kakadu:

Roads and tracks:
- Stay on the roads. Driving off established roads is prohibited because it destroys plants and causes soil erosion. For the same reason, make sure your clients stay on walking tracks. Please keep your vehicles on established roads and tracks.
- When using four-wheel drive tracks, put your vehicle into four-wheel drive. This is easier on your vehicle and on the track.
- Reduce the risk of road accidents by driving carefully and at a safe speed. Look out for animals crossing the roads. Try to avoid driving at night.

Cultural sites:
- All cultural artefacts in the Park are protected. Make sure your clients leave artefacts where they find them — artefacts can tell us a lot more if left in their original location.
- If camping outside a designated camping area (with a permit), remember that you are not allowed to camp or light fires in rock shelters.

Protecting plants and animals:
- Everything in the Park is protected and should not be picked, disturbed or removed. This includes plants, flowers, animals, rocks and soil.
- Drawing your clients’ attention to animals is an important and rewarding part of interpreting the Park. This should be done by observing and must not involve handling or disturbing the wildlife.
- Feeding wildlife is not permitted. Feeding animals such as kites and dingoes encourages them to steal food from peoples’ hands — this can endanger your clients and other visitors, particularly children. Another problem is that many human foods, such as bread, can make animals sick or even kill them. Even feeding harmless animals such as fish poses risks to visitors by attracting crocodiles, and to the environment by polluting the water.
Controlling feral animals and weeds: Check your luggage and trailers before entering the Park to ensure that they are free of pests such as cane toads and house mice.

If you have been off-road in weed-infested areas, please wash down your vehicle before entering the Park.

Check for salvinia fragments on boats and boat trailers when entering and leaving waterways.

Avoiding congestion at art sites: Ranger-guided walks and talks are conducted during the dry season for visitors who are travelling without a tour guide. Please avoid art sites while rangers are giving their talks, which last about fifteen to twenty minutes, to allow visitors to listen without interruption. In non-busy times your group may be able to join the ranger’s audience, but only with the permission of the ranger.

Rubbish: Put your rubbish in the bins provided or, better still, take it away with you. Put recyclable materials (cans, glass and plastic bottles) in recycling bins where provided.

Campgrounds: Please remember the following.

– Camp only in designated camping areas.
– Gather firewood from roadsides rather than the camping areas and use it sparingly. Collect only fallen wood.
– Light fires only in the fireplaces provided.
– Extinguish fires when they are not attended.
– Water is solar heated and limited, so encourage your clients to shower briefly and turn taps off tightly. Do not wash cars or boats.
– Arrive at the camping area before 8.30 pm.
– Do not operate generators after 10.00 pm.

Ablutions: Ask your clients to wash well away from water bodies so that they do not pollute water with detergent, soap, shampoo or toothpaste. Where toilets are provided, make a point of directing clients to them at the start of a walk. Otherwise, ask clients to move at least 100 metres away from a creek line or camping area and to bury their solid waste and toilet paper in a hole at least 15 centimetres deep. Don’t bury other rubbish — it may be dug up by animals or washed into creek systems during the wet season.
Campfires: Fuel stoves are preferable to campfires, particularly during hot, windy weather. Keep fires small and don’t leave rings of stones when you leave the site, because this creates a visual scar. Be very sure your fire is out before you leave — a campfire can quickly become a wildfire.

Park management: An important aspect of visitor management in Kakadu is implementing site-hardening or visitor control measures at sensitive sites or sites where visitation is increasing, to prevent adverse environmental impacts. These measures are developed and implemented through the management plan, area plans and the Park’s capital works and maintenance programs.

Please ask your clients to respect others’ right to a peaceful visit.
Reading 3.3.2:
Excerpt from the commercial tour operator permit

9. The permittee must not, and must take all reasonable steps to ensure that the permittee’s clients do not, walk off track or use any road, track or area that is permanently, temporarily or seasonally closed or restricted by fences, gates or signs, unless specifically authorised by this or another permit.

10. The permittee must not, and must take all reasonable steps to ensure that the permittee’s clients do not:
   a) behave contrary to the Regulations or any warning or regulatory signs; or
   b) pick fruits, flowers or branches, or otherwise damage any native plants; or
   c) interfere with, feed, handle or disturb any native animal, or damage or disturb a nest or dwelling place of a native animal; or
   d) touch or interfere with any rock art, sacred site or cultural artefact; or
   e) impede public access to any part of the park.

Note: This permit does not give the permittee any rights to the exclusive use, enjoyment or occupancy of any area of the park unless specifically authorised by this permit.

43. The permittee must not enter the areas of Fenny Gully, Bilbilim (Graveside Gorge) Waldak Irmbai (West Alligator Head) or the roads leading from the Kakadu Highway, Four Mile Hole or Gunlom Road, to them, unless authorised by this or another permit.

45. The permittee must not tow trailers on the Jim Jim Falls and Twin Falls Track anywhere south of the Gamarra Campground.

46. The permittee must not use facilities at Merl, Muiressa Park, Marduagal, Gamarra or Gunlom camping areas unless the applicable camping fees or shower fees have been paid prior to use.

47. Where a camping area has camping sites designated for tour groups, the permittee must use only those camping sites.

48. The permittee must not arrive at a camping area after 8:30pm, or make unreasonable noise or otherwise disturb other campers.
Reading 3.3.3: Notification of activities affecting listed species or ecological communities

If you undertake an activity in or on a Commonwealth park or reserve that results in the unintentional death, injury, trading, taking, keeping or moving of:

- a member of a listed threatened species (except a conservation dependent species)
- a member of a listed threatened ecological community
- a member of a listed migratory species, or
- a member of a listed marine species

and your activity was not authorised by a permit, then you must notify the Secretary of the Department of the Environment and Heritage within seven days of becoming aware of the incident. This includes accidental injury to wildlife whilst driving in the Park. Failure to notify is an offence punishable by a fine.
Section 4: Compliance, regulations, and permits

Reading 3.4.1: Related sections of the EPBC Acts & Regulations

Reading 3.4.2: Code of conduct for tour guides and coach captains on Northern Territory parks and reserves

Reading 3.4.3: EPBC Act and Regulations (Kakadu)

Reading 3.4.4: Permits required for Kakadu

Reading 3.4.5: Commercial permit types

Reading 3.4.6: Commercial permit and conditions

Reading 3.4.7: About the EPBC Act

Reading 3.4.8: Rangers and Wardens
### Reading 3.4.1: Related sections of the EPBC Acts and Regulations

**Related sections of the Acts & Regulations for your reference**

<table>
<thead>
<tr>
<th>EPBC</th>
<th>Offence</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act s15A</td>
<td>related to World Heritage properties</td>
<td>Civil: $550,000; Criminal: $5,500,00 (individual); $5,500,00 (company)</td>
</tr>
<tr>
<td>Act s17</td>
<td>related to Ramsar Wetlands</td>
<td>Civil: $550,00; Criminal: $5,500,00 (individual); $5,500,00 (company)</td>
</tr>
<tr>
<td>Act s20</td>
<td>related to migratory species (Includes many animals and birds)</td>
<td>Civil: $550,00; Criminal: $5,500,00 (individual); $5,500,00 (company)</td>
</tr>
<tr>
<td>Act s354</td>
<td>interfere with animal or plant except in accordance with management plan; damage heritage except in accordance with management plan; excavate anything except in accordance with management plan; build anything or carry out any works except in accordance with management plan; take an action for commercial purposes except in accordance with management plan</td>
<td>Civil: $55,000</td>
</tr>
<tr>
<td>Act s402</td>
<td>threaten a Park Ranger or Warden</td>
<td>Criminal: 7 years gaol and $46,200</td>
</tr>
<tr>
<td>Act s402</td>
<td>obstruct, intimidate, resist or hinder a Park Ranger or Warden</td>
<td>Criminal: 7 years gaol and $13,200</td>
</tr>
<tr>
<td>Reg 12.10</td>
<td>carry out scientific research</td>
<td>Criminal: $2,200</td>
</tr>
<tr>
<td>Reg 12.11</td>
<td>excavate, building or carry out works</td>
<td>Criminal: $5,500</td>
</tr>
<tr>
<td>Reg 12.12</td>
<td>damage features</td>
<td>Criminal: $2,750</td>
</tr>
<tr>
<td>Reg 12.13</td>
<td>damage heritage</td>
<td>Criminal: $5,500</td>
</tr>
<tr>
<td>Reg 12.14</td>
<td>dump waste</td>
<td>Criminal: $5,500</td>
</tr>
<tr>
<td>Reg 12.14</td>
<td>litter</td>
<td>Criminal: $1,100</td>
</tr>
<tr>
<td>Reg 12.15</td>
<td>use a poisonous substance</td>
<td>Criminal: $3,300</td>
</tr>
<tr>
<td>Reg 12.16</td>
<td>fossick or remove earth materials</td>
<td>Criminal: $5,500</td>
</tr>
<tr>
<td>Reg 12.17</td>
<td>enter or interfere with anything in a cave</td>
<td>Criminal: $2,750</td>
</tr>
<tr>
<td>Reg 12.18</td>
<td>bring in firearm, spear, trap, hunting-bow, metal detector, explosives, fireworks or chainsaw</td>
<td>Criminal: $3,300</td>
</tr>
<tr>
<td>Reg 12.19</td>
<td>bring in animal</td>
<td>Criminal: $2,200</td>
</tr>
</tbody>
</table>
Reading 3.4.2: Code of conduct for tour guides and coach captains on Northern Territory parks and reserves

The NT Parks and Wildlife Service, Parks Australia and traditional Aboriginal owners of parks and reserves welcome responsible tour guides and coach captains bringing visitors into protected areas. By exercising the responsibilities listed below you can help maintain the natural and cultural values of parks and reserves, ensure the safety of your group and create quality visitor experiences so that parks and reserves can continue to contribute to the future of local communities and the Northern Territory.

- Know Territory-wide and site-specific risks and hazards, and procedures for avoiding and dealing with emergencies.
- Before entering a park or reserve, advise your group, in language they understand, of safety information, walking routes and distances, and risks and hazards they may encounter.
- Learn the safety and other information in visitor guides and official hand-books, and use it to answer any questions from your group.
- Know the location and content of park safety and warning signs at the sites you visit and explain them to your group.
- Assess the levels of fitness, abilities and experience of the individuals within your group, and supervise them accordingly.
- Notify park rangers of serious incidents or fatalities as soon as possible.
- Know the location of and procedures for using emergency call devices (radio alarms) in the parks and reserves you visit, and use them for serious incidents.
- Know the location and contents of your vehicle’s first aid kit. Keep its contents fully stocked and carry a small kit when away from your vehicle.
- Know the location and opening hours of the nearest medical clinic.
- Ensure your group carries enough water and drinks regularly, especially on long journeys and walks, and minimise activity in the heat of the day.
- Encourage your group to wear suitable clothing, footwear, hats and sunscreen.
- Use only designated roads, tracks and walking routes; don’t drive or walk off track.
- Advise your group to keep away from prohibited areas, roads and tracks.
- Discourage the use of glass bottles in parks and reserves, especially near swimming holes.
- Learn about the parks and reserves you will visit and convey accurate information to your group about their importance and their natural and cultural features and values.
- Interpret Aboriginal culture respectfully and accurately.
- Encourage your group to look at, listen for and photograph or video animals, plants, rocks, rock art, artefacts and other features, but do not allow them to touch or disturb them.
- Ensure your group does not enter, disturb, photograph, film, video or paint any sacred site.
- Advise your group not to photograph, video or film Aboriginal people without their permission.
- Advise your group of specific permit requirements if photography, video, film, sound or artworks of features of park or reserves are to be used for commercial purposes.
- Avoid disrupting other tour groups, including ranger-guided groups.
- Have fun, but do not disturb other visitors or residents of the park or reserve.
- Camp only in designated campsites, arrive before 8.30pm and use generators only where permitted.
- Observe all speed limits, parking and other laws relating to the parks and reserves you visit.
- Comply with opening and closing times of the parks and reserves you visit.
- Leave animals (other than guide dogs), plants (including firewood and parts or seeds of weeds), and firearms, spearguns, nets and other hunting and trapping devices outside parks and reserves.
- Gather firewood and light fires only where permitted, keep fires small and make sure they are properly extinguished before you leave.
- Dispose of rubbish in bins provided or take it out of the park or reserve.
- The use of chainsaws is not permitted in parks and reserves.
Reading 3.4.3: EPBC Act and Regulations (Kakadu)

The Director of National Parks considers that the definition of a commercial activity is: an activity that involves an interchange of goods, services and/or money.

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act) and Environment Protection and Biodiversity Conservation Regulations 2000, and the Park Management Plan, prohibit commercial activities unless they are conducted according to the conditions of a permit. Below is an extract from the EPBC Act showing the relevant parts of the legislation. For legal purposes please consult the EPBC Act.

The EPBC Act states:

S354(1)(a)
A person must not take an action for commercial purposes except in accordance with a Management Plan.

Civil Penalty
a) Individual 500 pu ($55,000)
b) Body corporate 5,000 pu ($550,000)

The EPBC Regulations state that:

EPBC Reg 12.36
A person must not conduct a commercial activity.
Penalty 30 pu ($3,300)

EPBC Reg 12.59
Obligation to produce permit when requested by ranger or warden
Penalty 10 pu ($1,100)

EPBC Reg 17.08
Contravene condition of permit
Penalty 50 pu ($5,500)

The current Plan of Management states:

Section 34 (p128 – 135)
Commercial Tour Operations
This section outlines the following in relation to commercial tour operations:

• Commercial activities are to be conducted only with a Permit
• Bininj/Mungguy aspirations
• Limits (competitive application process)
• Board of Management approval required for new or major activities
• Accreditation Plan
Reading 3.4.4: Permits required for Kakadu

If you wish to conduct research or any commercial activity in Kakadu National Park, or carry out certain recreational or other activities, you will require a permit to do so.

Activities must be consistent with the Kakadu National Park Management Plan.

Activities within the Park that require a permit under the EPBC Act include:

- Commercial tours
- Commercial filming and photography
- Other commercial activities
- Research
- Camping outside the designated camping areas
- Bushwalking (walking off a marked trail)
- Other activities listed under Part 12 of the Regulations.

Application forms for permits and a more detailed list of activities requiring a permit under Part 12 of the EPBC Regulations are available from the Parks and Reserves Permits Web page.

If you are uncertain as to whether you will require a permit, contact staff at the park headquarters.
Reading 3.4.5: Commercial permit types

Commercial Permits—Kakadu

Land based

- (up to 4 tours per year)
- (5 tours or more per year)

Since 1 January 2013, commercial land based tour operators can apply for permits that have a duration of either one year or three years.

A licence is required for the following exclusive and restricted use commercial tourism activities:

- sports fishing tours
- safari camps (semi-permanent at managed campgrounds)
- commercial bushwalking tours
- tours to Jarrangbarnmi (Koolpin gorge)(casual and regular access)
- tours to Ikoymarrwa (lower Moline rockhole), (casual and regular access)
- any new activities that require exclusive or restricted use of an area From 1 April 2014, licence agreements will replace special permits for exclusive and restricted activities.

Licences will generally be granted for a minimum period of five years and for longer terms where significant investment is required.

For more information visit: http://www.environment.gov.au/resource/tourism-operators#guidelines
Reading 3.4.6: Commercial permit and conditions

PERMIT APPLICATION FORM
Commercial land based tours in Kakadu National Park

Kakadu National Park is a Commonwealth reserve established under the Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act) to manage the environment of the region for the benefit of all people, present and future. The Director of National Parks uses a permit system to help regulate some activities. Permits may be issued subject to conditions that help to identify, protect, conserve and manage biodiversity, heritage and other values of national parks. This is a system through which industry and the public can share in the responsibilities of managing and protecting the park. Permits enable park managers and the Aboriginal traditional owners of Kakadu National Park to:

- maximise park visitor safety
- encourage responsible behaviour in the park
- ensure that commercial and other park users are accountable for their actions
- separate potentially conflicting activities
- manage impacts on high-use and sensitive areas
- monitor activities that could degrade biodiversity, heritage and other park values
- collect data for planning and management.

Individuals and other commercial entities (e.g. companies and associations) wishing to conduct commercial activities in the park, including commercial tours, need to have a permit issued by the Director. The Director may issue a permit only if:

- the activity is consistent with:
  - the management plan for the park, or (if there is no management plan) the purpose for which the park is declared
  - any lease of indigenous people’s land in the park
- the activity is not likely to:
  - endanger public safety
  - unduly damage the park
  - unduly interfere with the preservation or conservation of biodiversity or heritage in the park
  - unduly interfere with the protection of other features or facilities in the park
  - interfere with the privacy of a cultural event held in the reserve by the traditional owners of Aboriginal land in the park
  - interfere with the continuing cultural use of the park by the traditional owners of Aboriginal land in the park
  - interfere with the privacy of other persons in the park
- the activity benefits the public or persons using the park
- if all the permit holder’s tour guides who will lead tours in the park have successfully completed the Kakadu Knowledge for Tour Guides course.

In making a decision about whether to issue a permit, the Director may take into account whether a person to whom the permit is to be issued has, in the last 10 years, been convicted of or is subjected to proceedings for an environmental offence.

Duration of Permit

Since 1 January 2013, commercial land based tour operators can apply for permits that have a duration of either one year or three years. These permits are suitable for tour operators who meet the requirements (on page 1) to conduct standard land-based tourism activities.

One-year permits do not require tour operators, to hold tourism accreditation, however accreditation may be required.
in the future. Accreditation is needed for three-year permits. Tour operators accredited under Tourism Accreditation Australia Limited (TAAL) programs will be able to apply for three-year standard permits. A copy of the renewed accreditation certificate must be provided to the Permit Officer annually.

**TAAL Accreditation**

Accreditation aims to assist every tourism business to improve the way it operates. It provides consumers and the industry with an assurance that a tourism operator is committed to quality business practices, sustainability and professionalism in all aspects of the enterprise.

The following accreditation programs currently meet the Director of National Parks requirements under TAAL:

- Ecotourism EcoCertification Program (Ecotourism Australia)
- Advanced EcoCertification Program (Ecotourism Australia)
- Nature Tourism EcoCertification Program (Ecotourism Australia)
- Respecting Our Culture (Ecotourism Australia)
- ATAP (Australian Tourism Accreditation Program)

For assistance with and further information on tourism accreditation please refer to the Australian Tourism Accreditation Program [www.tourismaccreditation.org.au](http://www.tourismaccreditation.org.au) or Ecotourism Australia [www.ecotourism.org.au](http://www.ecotourism.org.au).

For operators in the Northern Territory (NT), information on programs licensed by TAAL, can be found on Tourism NT’s website: [www.tourismnt.com.au/industry-resources/tourism-accreditation.aspx](http://www.tourismnt.com.au/industry-resources/tourism-accreditation.aspx). Tourism NT’s Business Development team can help you identify the most suitable accreditation program for your business and help you achieve and maintain your tourism accreditation. In addition, accredited businesses will be able to access Tourism NT’s marketing and promotion services.

**Kakadu Knowledge for Tour Guide Course**

It is compulsory for all tour guides and drivers interpreting Kakadu National Park to have successfully completed the Kakadu Knowledge for Tour Guides course. This program provides entry-level training covering all the things a tour guide should know when working in Kakadu National Park – including key areas of visitor safety, understanding the park’s natural and cultural values and history, minimising environmental impact and legal compliance.

Completion of this course is mandatory for all persons interpreting Kakadu National Park and its values while they are in Kakadu National Park. This applies whether you visit Kakadu National park only once, or more frequently. Permits for who allow unaccredited guides to lead tours in Kakadu National Park will be in breach of their permit conditions.

Tour guides can study and complete the assessments whenever and wherever they want to. The flexible nature of this program lets the individual decide what is most appropriate for them. This is self-paced learning and all the tools needed to complete the course are supplied at the time of enrolment.


**To enrol in the program, contact:**

- Tourism, Hospitality, Sport and Recreation (Top End)
  - Charles Darwin University NT 0871
  - Phone: 08 8946 7954
  - Email: kakadu-online@cdu.edu.au

Since the course became compulsory, we’ve been educating people about the program and encouraging tour operators to get on board. The course was released in April 2008 and the tourism industry has embraced the program, with many operators now incorporating the course into their staff training and induction programs.

We are continuing to work with Charles Darwin University to track which guides have completed the course and which are yet to do so. **Only tour operators with accredited guides may be issued permits.** This acknowledges the many operators who have supported their guides to complete the training, and ensures the quality of tours in Kakadu National Park continues to increase.

**Apply well in advance**

Please allow a minimum of 14 days for application processing. If your first tour commences in less than 14 days time, please contact the Permits Officer on 08 8938 1140 (if calling from within Australia) or 61 8 8938 1140 (if calling from overseas), or email kakadu.permits@environment.gov.au.
How to Apply

This application can be used to apply for either the one-year permit or three-year permit. Copies of the application form can be posted, faxed or emailed to you, or downloaded from www.environment.gov.au/topics/national-parks/kakadu-national-park/permits-and-licences.

To apply for a permit, please:

- ensure you understand and are prepared to comply with the permit conditions
- answer all the questions in the application form—if you need more space than is available on the form, please attach a separate sheet
- attach a certificate of currency for a policy of public liability insurance covering all staff and agents to the value of at least $20 million for the proposed activity
- attach all promotional and advertising material to be used for the proposed activity
- attach a list with the names of drivers/guides who have completed the Kakadu Knowledge for Tour Guide program and the registration numbers of your vehicles
- complete the application checklist (see page 13)

Ensure you answer all the questions to the best of your knowledge; there are severe penalties for giving false or misleading information. By emailing, posting or faxing this application form to the Permits Officer, all proposed permit holders agree that if a permit is issued, they and their staff and agents will act in accordance with all of its permit conditions.

Need More Information?

The Permits Officer for Kakadu National Park can help with any queries regarding this permit – please call 08 8938 1140 or email kakadu.permits@environment.gov.au.


Privacy

The Director of National Parks ('the Director') is authorised to request personal information from permit applicants under Part 17 of the Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations). The personal information that you provide will be used by the Director to assess your permit application and manage activities within the park, including compliance with the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and EPBC Regulations. If you do not provide the requested information, your permit application cannot be assessed.

Disclosure

Information provided in this application form may be disclosed to the Board of Management for the park and any Consultative Committees established by the Board for the purpose of assessing your application.

Your personal information may be disclosed to other Commonwealth (and in some circumstances, state and territory) government departments and agencies where it is required or authorised by or under law or where it is reasonably necessary for law enforcement.

Privacy Policy

The collection, storage, use and disclosure of personal information by the Director is governed by the Privacy Act 1988 (Cth) and, in particular, by the Australian Privacy Principles. The Director’s Privacy Policy is available at www.environment.gov.au/node/35979. The Privacy Policy details how you can access and correct your personal information held by the Director and who to contact if you have a concern about your personal information.
CONDITIONS FOR A PERMIT TO CONDUCT COMMERCIAL LANDBASED TOURS IN KAKADU NATIONAL PARK

Interpretation

In these conditions, unless the contrary intention appears:

- **Act** means the Environment Protection and Biodiversity Conservation Act 1999 and any Regulations, management plans and instruments made under it, and includes any Act that amends or replaces it.
- **agreement** means the agreement at the end of these conditions;
- **captured** for an image, means recorded or reproduced by artistic representation, or on film, videotape, disc or other electronic medium and includes recorded sound;
- **Director** means the Director of National Parks, and includes any statutory successor to the Director and the Director’s delegates;
- **management plan** means the management plan in operation from time to time for the park under the Act;
- **park** means the named Commonwealth reserve(s) for which this permit is issued;
- **park staff** means persons employed by the Director and performing duties in relation to the park;
- **permitted activity** means the specified activity for which this permit is issued;
- **permittee** means each person (individual, company or other commercial entity) to whom this permit is issued and includes, where the context permits, the permittee’s staff and the permittee’s clients;
- **permittee’s clients** means all persons, other than the permittee or the permittee’s staff, who take part in the permitted activity;
- **permittee’s staff** means the permittee’s employees, contractors and other agents who take part in the permitted activity;
- **permittee’s tour guides** means the permittee’s employees, contractors and other agents who have primary responsibility for leading the permitted activity;
- **ranger** means a person appointed as a ranger under s392 of the Act;
- **Regulations** means the Environment Protection and Biodiversity Conservation Regulations 2000 and includes any Regulations that amend or replace them;
- **warden** means a person appointed as a warden under s392 of the Act.

In these conditions:

The singular includes the plural and vice versa.

Where a word or phrase is defined, other grammatical forms of that word or phrase have a corresponding meaning.

Where one of the words ‘includes’, ‘including’ or ‘includes’ is used, the words ‘without limitation’ are taken to immediately follow.

Where the word ‘must’ imposes an obligation on a person to do or not do something, the obligation is taken to mean that the person must take all reasonable steps to do or not do the thing (i.e. steps that ought to be reasonable to a person who possesses the faculty of reason and engages in conduct in accordance with community standards).

A reference to the permittee includes, where the context permits, the permittee’s staff and the permittee’s clients involved in the permitted activity.

**Note:** The Director may vary or revoke these permit conditions, or impose new conditions, in accordance with r17.00 of any Regulation, and must do so where it is necessary to ensure that the matters or circumstances about which the Director is required to be satisfied when issuing the permit continue to apply.

General Permit Conditions (all activities)

1. The permittee must not conduct the permitted activity before the commencement date or after the expiry date shown on the permit.

2. The permittee must not conduct the permitted activity unless the permittee has signed and submitted the agreement with the park.

3. This permit cannot be transferred to another person, except in accordance with regulation 17.11 of the Regulations.

Note: If the permittee sells the business to which the permit relates, the permittee may apply to transfer the permit to the purchaser, in accordance with r17.11 of the Regulations, or the purchaser may apply for a new permit.

4. The permittee must comply with the EPBC Act, the EPBC Regulations, the management plan, these permit conditions, and any other signs, notices, information, guidelines, codes of conduct, protocols or directions issued by, or under the authority of, the Director relating to the park.

5. The permittee must comply with all Commonwealth, State or Territory laws relating to the permitted activity.

6. The permittee must hold all permits, licences and other authorities required by law for the conduct of the permitted activity.

7. The permittee must maintain relevant training, qualifications and experience to competently conduct the permitted activity.

8. The permittee must carry a copy of this permit and these conditions or keep a copy in the permittee’s transport (vehicle, vessel or aircraft) while conducting the permitted activity, and must produce it for inspection when requested by a ranger or warden.

9. The permittee must not, and must take all reasonable steps to ensure that the permittee’s clients do not, walk off track or use any road, track or area that is permanently, temporarily or seasonally closed or restricted by fences, gates or signs, unless specifically authorised by this or another permit.

10. The permittee must not, and must take all reasonable steps to ensure that the permittee’s clients do not:
   a. behave contrary to the Regulations or any warning or regulatory signs;
   b. pick fruits, flowers or branches, or otherwise damage any native plants;
   c. interfere with, feed, handle or disturb any native animal, or damage or disturb a nest or dwelling place of a native animal;
   d. touch or interfere with any rock art, sacred site or cultural artefact;
   e. impede public access to any part of the park.

**Note:** This permit does not give the permittee any rights to the exclusive use, enjoyment or occupancy of any area of the park unless specifically authorised by this permit.

11. The permittee must notify the Director, in writing, within 7 days if:
   a. the permittee sells any business to which the permit relates to another person or group, or for any other reason ceases to conduct the permitted activity; or
   b. the permittee is a company and there is a change in the owner(s) or the majority of issued shares in the company.

12. If the permittee is a company or any incorporated body the permittee must not, without the approval of the Director, have as a director or officer holder a person who has been convicted of an offence.

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1. A person is taken to have been convicted of an offence if, within 5 years, the person has been charged with and found guilty of the offence but discharged without conviction or has not been found guilty of the offence, but a court has taken the offence into account in passing sentence on the person for another offence. Part VICT of the Crimes Act 1914 includes provisions that, in certain circumstances, relieve persons from the requirement to disclose spent convictions and require persons aware of such convictions to disregard them. Such an offence includes, for an offence under s17 of the Permit and Management (Commonwealth Reserve) Act 1991 or sections 11.1, 11.4 or 11.5 of the Criminal Code (which deal with being an
13. The permittee must not, without the approval of the Director, use directly in the conduct of the activity to which this permit relates (eg driver or tour guide) the services of any person who has within the previous 10 years been convicted of an offence against the Act or the Regulations prior to the grant of the permit.

Note: The Director may keep a register of persons who have been convicted of such an offence or who have been the subject of a request by the Director for a permittee to cease using their services within the park.

14. If any of the permittee's staff contravene these permit conditions, the Director may:
   a) notify the permittee of the contravention;
   b) direct the permittee to cease using the services of that person within the park for a specified time, and the permittee must forthwith comply with that request.

Note: In this situation and accordance with r14.16, the Director must give written notice to the member of the permittee's staff of the decision, including a statement that the member of the permittee's staff may appeal to the Director to reconsider the decision and, subject to the Administrative Appeals Tribunal Act 1975, the member of the permittee's staff may subsequently apply to the Administrative Appeals Tribunal for review of the reconsideration.

15. The permittee must ensure that the permittee's staff are fully informed of and understand these permit conditions before they commence taking part in the permit activity.

16. The permittee must ensure that the permittee's staff are appropriately trained and/or accredited for any activity they conduct in the park.

17. The permittee must ensure that appropriate risk management systems, strategies and procedures are in place to minimise foreseeable risks to the permittee's staff, the permittee’s clients, other members of the public and the environment and heritage values of the park, and must produce evidence of such systems, strategies and procedures as requested by the Director.

Note: Suitable templates for risk management systems are available from Parks Australia. They represent the minimum acceptable standard for a risk management system. Permittees are encouraged to develop more detailed risk management systems.

18. The permittee is responsible for the safety, well being and behaviour of the permittee's staff and clients, and must take all reasonably practicable steps to ensure that no person is exposed to risks to their health or safety whilst in the park.

19. If any employee or any of the permittee's staff or clients is killed, injured, becomes ill, goes missing, or is involved in a dangerous incident while in the park, a member of park staff must be notified as soon as possible and the permittee and the permittee’s clients must comply with any requests or directions from a member of park staff in relation to the safety of that person or any other person.

Note: In this condition “dangerous incident” means an incident that exposes a person to a serious risk to their health or safety.

20. The permittee must ensure that its supervision of the permittee’s clients is reasonable in the circumstances of the permittee’s clients differing levels of fitness, experience and abilities.

21. The permittee must carry, and must ensure that each of the permittee’s clients carries, sufficient potable water for the conduct of the permitted activity.

Note: The Director recommends that, in hot weather, people carry and drink one litre of water for every hour they will be active.

22. The permittee will make good any damage to the park, to the extent that the damage was caused or contributed to by the conduct of the permitted activity or a breach of the permit conditions by the permittee.

Commercial Activity Conditions

23. The permittee must not conduct the permitted activity unless the permittee holds a policy of public liability insurance sufficient to cover any liability the permittee may have to third parties or to the Director under the agreement, and in any case for an amount of not less than $20 million in respect of any single event, with an insurer that is licensed by the Australian Prudential Regulation Authority or otherwise approved by the Director.

24. The permittee must provide to the Director a certificate of currency for the policy of public liability insurance, evidencing that the policy covers all activities in the park of the permittee and the permittee’s staff, contractors and other agents:
   a) before the permittee commences to conduct the permitted activity, and
   b) on each occasion when the policy is renewed or when a new policy is taken out; and
   c) at any other time as requested by the Director.

25. The permittee's staff must not include a contractor or agent unless:
   a) the activities of that person are covered by the insurance required under condition 23; or
   b) the person holds a permit to conduct commercial activities in the park that authorises them to provide services to the permittee in connection with the permitted activity, and holds a policy of public liability insurance that satisfies the requirements of condition 23.

Land-based Tour Permit Conditions

26. The permittee must ensure that the permittee’s tour guides have knowledge of the safety information that appears in the park visitor guide, so they can be accurate in their answers to questions asked by the permittee’s clients.

27. The permittee must, before a tour commences in the park, explain to the permittee’s clients, in both oral and/or written form in a language understood by the clients, the standard safety information that appears in the park visitor guide and all foreseeable hazards and conditions they may encounter during the permitted activity.

Note: Such hazards and conditions may include: crocodiles and other dangerous animals, plants and insects; heights; unstable and slippery rocks; extreme weather conditions; high winds; and fast-flowing water.

28. The permittee must ensure that each of the permittee’s tour guides operating in the park holds a current first aid qualification, the minimum standard for which is "Provide First Aid HLTAID003" or equivalent.

29. The permittee must ensure that each of the vehicles used in the conduct of the permitted activity contains a comprehensive first aid kit that is suitable for the types of incidents that may occur during the permitted activity.

30. The permittee’s tour guides must carry a basic first aid kit while leading the permittee’s clients in activities away from the permittee’s vehicle.

31. The permittee must not use a vessel for tour purposes on waters in the park, unless authorised to do so by this or another permit issued by the Director.

32. The permittee must ensure that all vehicles used for the permitted activity are identified as being used by the permittee through signwriting, magnetic stickers or a signboard visible through the window, and display a
current Parks Australia Permitted Tour Operator vehicle sticker on the driver's side of the windscreens.

33. For the purpose of evaluating compliance with these permit conditions, the permittee must, subject to availability of space and the provision of reasonable notice, allow a member of park staff, a traditional owner or a tour guide training assessor to accompany tours from time to time at no cost to the Director.

34. Permittees who are issued with 3 year permits must hold tourism accreditation, and provide the Director with evidence of that accreditation annually.

Kakadu National Park Conditions

35. The permittee’s clients must not include a person aged 16 years or over unless:
   a) the person is a Northern Territory resident; or
   b) the park entry fee has been paid by the person and they are in possession of a Park Pass that shows:
      (i) the person’s name and
      (ii) the ‘entry’ and ‘valid to’ dates completed, with the ‘valid to’ date being no more than 14 days after the ‘entry’ date.

36. The permittee must provide the permittee’s clients with accurate information in relation to the park and to Bininj/Mungguy culture and sites.

Note: The Kakadu Knowledge for Tour Guides e-learning program and the park’s Tour Operator Handbook are sources of accurate and appropriate information, including information about culture and crocodile safety.

37. The permittee must ensure that each of the permittee’s tour guides (i.e. those who have primary responsibility for leading tour groups - see Interpretation section at the start of these conditions) has successfully completed the Kakadu Knowledge for Tour Guides e-learning program prior to leading a tour in the park.

38. The permittee must ensure that the permittee’s tour guides are educated and tested about crocodile safety.

39. The permittee must hold a current permit issued by the Director for the use for commercial gain of captured images of a Commonwealth reserve, for all the permittee’s promotional material relating to the permitted activity, including pamphlets, brochures and internet material such as web-pages.

Note: Permits are required to capture and use images for commercial gain. A photography permit authorises the use of images included in promotional material submitted with the permit application and approved for use. You can obtain an application form at www.environment.gov.au/resource/media-and-artists

40. The permittee must only use the emergency call devices (ECDs or radio alarms) that are located in the park to request medical help or a search and rescue operation, or to notify a member of park staff of a death, injury, missing person or other incident.

Note: Emergency call devices are located at the information bay on the Arnhem Highway, Nourlangie Rock carpark, Wulungarrij (West Alligator Head), Jim Jim Falls carpark; Jim Jim Plunge Pool; Top of Jim Jim Falls, Twin Falls carpark; Twin Falls Gorge boat landing. Top of Twin Falls, Billbullim (Graveside Gorge), Maguk (Barramundi Gorge), Gunlom (Waterfall Creek Falls), Motocar Falls, Jarrangbarnmi (Koolpin Gorge) and Yumurrmin carpark.

41. The permittee must keep the park’s Permits Officer updated within a reasonable time of any changes to the lists of permittee’s staff and vehicles used for the permitted activity in the park.

42. In conducting the permitted activity the permittee must only use the sites authorised by this or another permit.

43. The permittee must not enter the areas of Finny Gully, Billbullim (Graveside Gorge) Wulungarrij (West Alligator Head) or the roads leading from the Kakadu Highway, Four Mile Hole or Gunlom Road, to them, unless authorised by this or another permit.

44. The permittee must not operate vehicles in excess of 6 tonnes Gross Vehicle mass on the following public roads and public access tracks:
   a) Jim Jim Falls Road & Twin Falls Track
   b) Maguk (Barramundi Gorge) Track
   c) Billbullim (Graveside Gorge) Track
   d) 2 Mile Hole, 4 Mile Hole & Wulungarrij (West Alligator Head) Track
   e) Gubera (Barolliba Springs) Road

45. The permittee must not tow trailers on the Jim Jim Falls and Twin Falls Track anywhere south of the Gunlom Campground.

46. The permittee must not use facilities at Merl, Mureillah Park, Mandagul, Gunlom or Gunlom camping areas unless the applicable camping fees or shower fees have been paid prior to use.

47. Where a camping area has camping sites designated for tour groups, the permittee must use only those camping sites.

48. The permittee must not arrive at a camping area after 8:30pm, or make unreasonable noise or otherwise disturb other campers.

Reading 3.4.7: About the EPBC Act

EPBC Regulations; New rules for tour operators in national parks

New laws are in place to better protect the natural environment and cultural heritage sites in Commonwealth national parks. This fact sheet explains the main changes that affect tour operators and how to obtain further information.


As with earlier legislation, a permit is required for all commercial activities undertaken within a Commonwealth national park. A commercial activity includes any action or activity that involves the purchase, sale, hire or exchange of goods or services. This includes any commercial tour operation, including sub-contracting and charters, and any activity undertaken with the intention of receiving future financial reward, for example, filming, recording and photography.

Permits for commercial tour operators issued under the National Parks and Wildlife Regulations 1975 continue to apply unless they have expired or have been suspended or cancelled. Part 12 of the EPBC Regulations relates specifically to activities in Commonwealth reserves and Parts 17 and 18 relate to permits. The following are the main changes under the EPBC Regulations that may affect commercial tour operators.

Walking Tracks

Walking or riding is allowed only on public roads or tracks, or roads or tracks that are specifically designated for walking or riding. Tour operators can obtain details of any changes to public access in particular national parks from park visitor centres.

Adventurous activities

Adventurous activities such as climbing, abseiling, jumping from rock faces, bungee or BASE-jumping, hang gliding or paragliding are generally not allowed unless in designated areas. Park visitor centres can advise whether there are designated areas for these activities in each national park.

Photographing cultural sites

To help protect the privacy of traditional owners and to ensure appropriate protection of cultural sites and stories, photography, filming and recording are not allowed in some areas, including living areas, sacred sites and other cultural sites. You will need to check restrictions in individual parks.
Equipment

Consistent with earlier legislation, the EPBC Act prohibits bringing firearms, spears, snares, traps, hunting bows, spear guns, metal detectors, explosives and fireworks into a Commonwealth national park. Chainsaws may not be used in a national park without a permit but may be carried through a park if they are not taken out of the vehicle, vessel or aircraft in which they are being transported. Recreational fishing is allowed in some areas in some parks, and hooks, rods, lines and landing nets are the only types of equipment allowed for fishing in any Commonwealth reserve.

Public nuisance

Actions such as offensive, indecent or disorderly behaviour, throwing rocks or stones, playing loud music or using remote control aircraft are not allowed as these activities disturb visitors and residents. Generators may be used only in designated areas.

Permits

Permit fees for commercial operators remain unchanged under the EPBC Act and Regulations. However, there are changes to the management of permits. Intending applicants for permits are now required to provide additional information in their application forms, including whether they have been subject to any conviction or proceeding for an offence against any Commonwealth, State or Territory law covering the protection, conservation or management of native species or ecological communities. This will be taken into account when permit applications are assessed.

Permit holders and their staff operating tours in a Commonwealth national park must be familiar with the permit conditions. A copy of the permit and conditions should be carried at all times when operating in a national park as they must be presented when a ranger or warden asks to see them.

Permit application forms are available on the Department of Environment and Heritage web site.

Enforcement of regulations

Rangers and wardens help to enforce these and other EPBC Regulations to ensure proper protection of a park’s values, its people and the visitor experience.

Further information

For more information about the EPBC Act visit the Department of the Environment and Heritage’s web site at www.deh.gov.au/epbc or call the Community Information Unit on 1800 803 772. For more information about regulations affecting tour operators, contact the relevant national park:

Kakadu National Park 08 8938 1100
Uluru-Kata Tjuta National Park 08 8956 2299

Reading 3.4.8: Ranger and Warden powers

Most rangers are appointed as rangers or wardens:

- They carry an identity card.
- They have special powers conferred by the EPBC Act.

Under the EPBC Act, rangers can:

- request your name and address
- ask you to leave the Park
- give you a safety direction

Wardens have additional powers, and can:

- arrest suspected offenders
- search vehicles, vessels and aircraft and seize goods
- execute search warrants.
Determination – Ubirr Art site

COMMONWEALTH OF AUSTRALIA

Environment Protection and Biodiversity Conservation Regulations 2000

Subregulation 12.23(3)

PROHIBITION OF ENTRY
UBIRR - KAKADU NATIONAL PARK

I, Julian Titus Barry, Parks Australia North, Department of the Environment and Heritage, delegate of the Director of National Parks, under subregulation 12.23(3) of the Environment Protection and Biodiversity Conservation Regulations 2000, having taken into account that entry to the area described in the Schedule at the times specified below might interfere with the protection or conservation of heritage, HEREBY PROHIBIT entry to the area by all persons at those times:

(a) From 1 December each year to 31 March of the following year (dates inclusive) - between sunset of each day and 2.00pm on the following day.

(b) From 1 April to 30 November of each year (dates inclusive) - between sunset of each day and 8.30am on the following day.

AND I hereby revoke all previous prohibitions of entry to the area.

Dated 11/2/2003

Julian Barry
delegate of the Director of National Parks
Determination – Twin Falls Gorge

Australian Government
Director of National Parks

Environment Protection and Biodiversity Conservation Regulations 2000

Subregulation 12.23(3)

PROHIBITION OF ENTRY TO TWIN FALLS CREEK NORTH OF TWIN FALLS KAKADU NATIONAL PARK

I, Peter Charles Wellings, Assistant Secretary, Parks Australia North, Department of the Environment and Heritage, delegate of the power of the Director of National Parks under regulation 12.23 of the Environment Protection and Biodiversity Conservation Regulations 2000, having taken into account that entry to that part of the Commonwealth reserve named Kakadu National Park that is the area of the waters of Twin Falls Creek north of Twin Falls, described and shown in the Schedule hereto, might endanger public safety, HEREBY PROHIBIT entry to that area by all persons except those on a boat of the Twin Falls Gorge boat shuttle service, or the boardwalk that forms part of the walking track provided by the Director.

Dated 18 June 2005

Peter Wellings
delegate of the Director of National Parks
Theme 4: Understanding cultural and natural values

Section 1: Indigenous cultural values

Section 2: Natural values

Section 3: Recreational issues
Section 1: Indigenous cultural values

Reading 4.1.1: A cultural landscape
Reading 4.1.2: Fire management
Reading 4.1.3: Seasonal changes
Reading 4.1.4: Jawoyn seasons
Reading 4.1.5: Rock art of Kakadu
Reading 4.1.6: Ubirr art site
Reading 4.1.7: Nourlangie art site
Reading 4.1.8: Nanguluwur art site
Reading 4.1.9: Suggested styles of the ages of rock art in the Kakadu region
Reading 4.1.1: A cultural landscape

The creation time

The creation time, or dreamtime, is the time when the creation ancestors were travelling across the landscape. The tracks left by the ancestors are known as dreaming tracks.

Creation ancestors (first people) came in many and sometimes different forms. They were Rainbow snakes, Bula (Jawoyn ancestor), Namarrgon (Lightning man), Warramurrungundji (Earth mother) and others.

All things in the landscape were left by the creation ancestors. They left ceremonies, rules to live by, laws, plants, animals and people, then they turned into djang (dreaming places). They taught Aboriginal people how to live with the land. From then on Aboriginal people became keepers of their country.

Warradjan Aboriginal Cultural Centre.

One of the main creation ancestors in the Kakadu area is Warramurrungundji (Mother of the earth), who travelled to Kakadu with her husband from the islands to the north-east. She sent out spirit children, telling them which languages to speak and teaching them how to hunt and gather food from their land. She created river systems, billabongs and much of the wildlife in the region. When her journey was completed, she sat down and rested, changing into a large rock, which marks her dreaming site.

Dreaming and ceremonial sites

Aboriginal people recognise three types of significant sites:

- **djang** (dreaming places)
- **djang andjamun** (dangerous sacred dreaming places)
- ceremonial sites.

Djang and djang andjamun sites relate to the activities of the creation ancestors. The sites mark the ancestors' passage through the land and their change into other forms or they signify where the ancestors entered or departed the earth. Ceremonial sites are places created by human action.

Djang andjamun sites are associated with the creation ancestor Bula and his wives. If djang andjamun sites are disturbed the results will be catastrophic for all.

The Jawoyn people, who look after this area, have strict laws and protocols for access to these sites.

Djang sites are often some unusual feature in the landscape that marks the journey of a creation ancestor. These sites are not dangerous and access to them is not necessarily restricted.
Ceremonial sites are used for the performance of rituals. Among the common ceremonies are the 'rite of passage' ceremony, which marks a person's progress from one stage of their social and religious life to another, and ceremonies connected with primary and secondary burial.

Clans, kinship and language
The Kakadu region is culturally diverse. The Aboriginal people in the region are from a number of different clans, often speaking different languages and in some cases upholding different traditions. The structure of Aboriginal society was given to Aboriginal people by their ancestors during the creation time.

Clans
A clan usually consists of two or more family groups that share an area of land over which they have ownership. Clan boundaries are passed from one generation to the next, generally through the father. Before the arrival of non-Aboriginal people there were over twenty clan groups in the Kakadu area; now about nineteen remain.

Kinship
The kinship system of the Aboriginal people in the Kakadu area is very complex. All people, plants, animals, songs, dances, ceremonies and land are divided into two groups, or 'moieties': Dhuwa or Yirritja. Each moiety is subdivided into eight 'skin' groups. A child's skin group is determined by their mother's skin group but they inherit their moiety from their father.

In simple terms, kinship can be described as a system that defines how people relate to each other. Through the use of 'skin names' people identify others around them as mothers, fathers, uncles, aunts, cousins, potential marriage partners, and so on, and modify their behaviour accordingly. Almost every aspect of day-to-day communication with other Aboriginal people is governed by kinship ties.

The Warradjan Aboriginal Cultural Centre houses a very good display and interactive game that will help you understand kinship.

Language
At the time of non-Aboriginal settlement twelve languages were spoken in the Kakadu area. Today only three are spoken on a regular basis: Gun-djeihmi, Kunwinjku and Jawoyn. Many Aboriginal people still, however, speak two or more languages, often a consequence of spending time with relatives who belong to a different clan and language group. Aboriginal English, with its own grammatical rules, is a recognised dialect of English and is also widely spoken. Most of the quotes from Aboriginal people in this website are in Aboriginal English.

Only recently have Aboriginal people from the Kakadu region compiled written versions of their languages. Unlike English, the spelling system used to record local languages is very consistent, so once you have learnt the rules it is quite easy to work out how to pronounce words. The Aboriginal Language Park Note, which gives details on how to pronounce the Gun-djeihmi alphabet, is available from the Bowali Visitor Centre.

An ancient heritage
Non-Aboriginal people have come to this country and found used pieces of ochre, stone tools and charcoal from cooking fires. They say that Aboriginal people first lived here 20,000 years ago. More recently, this date was changed to 50,000 years ago ... and it may change again. However, Aboriginal people know that they have lived in this country since it was created.

**Warradjan Aboriginal Cultural Centre**

Many of the rock paintings in Kakadu depict animals that are now extinct on the Australian mainland. For example, the long-beaked echidna is thought to have disappeared about 15,000 years ago, while the thylacine (Tasmanian tiger) and the Tasmanian devil are thought to have disappeared from the mainland about 2,000 to 3,000 years ago (Chaloupka 1993).

Archaeologists have found an extensive range of Aboriginal artefacts at old camping sites throughout the Park, particularly in the escarpment and floodplain country. Radiocarbon dating of material from some of these sites has revealed an occupation date of between 20,000 and 25,000 years. There were, however, artefacts below the last layer of carbon-bearing sands, indicating that humans were in Kakadu earlier than this.

Thermoluminescence dating of sand associated with artefacts from lower levels, puts the occupation date of Kakadu at 50,000 to 60,000 years before the present, making these the oldest occupation sites discovered in Australia. Among the artefacts associated with the sites are flaked-stone tools, ground ochre and grindstones.

**Changing landscapes**

Aboriginal people have probably occupied the Kakadu area for at least 50,000 years, during which time they have had to adapt their lifestyle and technology to survive some major changes in environmental conditions.

Scientists believe that between 120,000 and 6,000 years ago the earth experienced a series of ice ages that caused rises and falls in the sea level as the polar ice caps thawed and froze. The sea level was at its lowest at around 110,000, 90,000, 70,000 and 19,000 years ago. At these times Australia and New Guinea were one continent, separated from the Indonesian chain of islands by only 60-100 kilometres of water (Press et al. 1995). It is widely thought that it was during these periods that people using water craft first entered Australia. Incontrovertible evidence to support this theory will probably never be found because the coastline where people would have first landed is now covered by the sea.

Between 9,000 to 7,000 years ago sea-level rises caused flooding of river valleys. In time, the river valleys silted up and huge mangrove swamps were formed over much of northern Kakadu. A completely new range of food resources—such as barramundi, estuarine crocodile, catfish, mullet and shellfish—moved into the region and were used by Aboriginal people. The sea level stabilised and reached its present position about 6000 years ago.

Between about 4,000 and 1,500 years ago estuarine conditions began to be replaced by freshwater conditions. Continued siltation and levee formations restricted the incursion of saltwater tides, and freshwater began to cover areas of mangrove swamps. This process
formed the wetlands of Kakadu, which continue to provide Aboriginal people with turtles, file snakes, edible reeds and water lilies, and large numbers of waterbirds.

**Changing lifestyles**

Whilst Aboriginal people belong to a particular clan territory, they also travelled through and used other territories. Use of other clan territories was generally arranged through relationships established by marriage, kinship and ceremonial cooperation. In this way groups who observed the appropriate protocols could gain access to the full range of resources available in the region (Press et al 1995).

Aboriginal people were traditionally hunter-gatherers and moved regularly to places where resources were plentiful. There were no permanent settlements, but favoured camping areas were used for many, many generations. Among the temporary dwellings the people used were stringybark and paperbark shelters near billabongs, wet-season huts built on stilts on the floodplains, and rock shelters in the stone country.

When non-Aboriginal people arrived in the Kakadu area the Aboriginal population decreased markedly as many people died of disease or moved off their land to towns and settlements. The reduced population and the introduction of vehicles and shops have changed traditional seasonal movements: people are able to base themselves in an outstation or town and use vehicles to shop, to visit different outstations, to attend ceremonies and to move about the country on hunting trips.

It is thought that about 2,000 people lived in the Kakadu area before the arrival of non-Aboriginal people; there are now about 5,000 Aboriginal people living in eighteen outstations dotted throughout the Park.
**Reading 4.1.2: Fire management**

The role of fire has a major influence on the Australian environment and has shaped many of the plant communities we see today.

Before the arrival of non-Aboriginal people, Bininj managed their country with fire. Fires were lit all year round, although mostly in the early dry season. They were lit for many reasons: to make travelling easier; to flush out animals when hunting; to protect food resources such as yams from later fires; to clear around camp sites; to signal to others; and to fulfil spiritual and cultural obligations. These burning practices had the effect of promoting suitable habitats for a range of different plants and animals.

> This earth, I never damage. 
> I look after. Fire is nothing, just clean up.
> When you burn, new grass coming up.
> That means good animal soon, 
> might be goanna, possum, wallaby.
> Burn him off, new grass coming up, new life all over.
>
> Bill Neidjie, Aboriginal traditional owner

Fires lit by Bininj as they travelled to different parts of the country created a patchwork of burnt and unburnt areas.

With the arrival of non-Aboriginal people, the Bininj population decreased. Many people died of disease, others moved off their land to towns and settlements. With fewer people on the land, less burning was carried out so hot, late dry season wildfires became more common. These hot fires were often large and destructive, changing the distribution of plants and animals.

Each wet season monsoonal rains prompt rapid plant growth. During the dry season the vegetation dries out and large quantities of fuel accumulate. Since proclamation of the Park, Bininj and Park managers have worked together to reduce the number of hot fires at the end of the dry season.

In the fire-sensitive stone country burning is used to reduce the amount of fuel along creeks. Firebreaks burnt around fire-sensitive communities such as monsoon forest, sandstone heath and mature paperbark forest help to protect the communities from later, hot wildfires.

Early in the dry season firebreaks are also burnt around art sites, buildings, camping areas and other permanent structures. parts of the Park boundary are burnt to reduce the risk of fires entering or leaving the Park.

In the woodland areas traditional owners and Park staff light many cool fires from the ground and the air in the early dry season. This creates a patchwork of burnt and unburnt areas, which breaks up the country, helping to prevent large, destructive wildfires later in the season.

As the floodplains dry out burning is done to reduce fuel loads. Bininj hunting goannas and turtles also light fires on the floodplains late in the dry season.
Research and monitoring are integral to fire management in Kakadu. Much research has already been done at Munmarlary and Kapalga; future research will look at the effects of burning in fire-sensitive communities and in the wet season. Continuing monitoring of the Park’s fire-management program and its effectiveness involves ground observation, photographic points that show the effect of burning over time, and satellite mapping of fire scars.

**Reducing the risk of wildfires**

Please help prevent wildfires by:

- making sure your cigarette butts and matches are out and putting them in rubbish bins, not on the ground;
- using the fireplaces provided and, if none are provided, clearing the area around your campfire of any flammable material; always putting your fire out before you leave.
Reading 4.1.3: Seasonal changes

Bininj (local Aboriginal people) recognise six seasons in the Kakadu region:

- **Gunumeleng** — Pre-Monsoon Storm Season
- **Gudjewg** — Monsoon Season
- **Banggerreng** — Knock ’em down storm Season
- **Yegge** — Cooler but still humid Season
- **Wurrgeng** — Cold Weather Season
- **Gurrung** — Hot Dry Weather
Gunumeleng

Gunumeleng, from mid-October to late December, may in fact last from a few weeks to several months. It is the pre-monsoon season of hot weather that becomes more and more humid. Thunderstorms build in the afternoons and scattered showers bring a tinge of green to the dry land. As the streams begin to run, acidic water that washes from the floodplains can cause fish to die in billabongs with low oxygen levels. Waterbirds spread out as surface water and new growth become more widespread. Barramundi move from the waterholes downstream to the estuaries to breed. This was when Bininj moved camp from the floodplains to the stone country, to shelter from the violent storms of the coming wet season.

Gudjewg

Gudjewg, from January to March, can be described as the 'true' wet season. It is a time of thunderstorms, heavy rain and flooding. The heat and humidity generate an explosion of plant and animal life. Spear grass grows to over 2 metres tall and creates a silvery-green hue throughout the woodlands. Magpie geese nest in the sedgelands. Flooding may cause goannas, snakes and rats to seek refuge in the trees. Eggs and stranded animals are a good food source for Bininj during this time.

Banggerreng

Banggerreng, in April, is the season when the rain clouds have dispersed and clear skies prevail. The vast expanses of floodwater recede and streams start to run clear. Most plants are fruiting and animals are caring for their young. Violent, windy storms early in this season flatten the spear grass; they are called 'knock 'em down' storms.

Yegge

Yegge, from May to mid-June, is relatively cool with low humidity. Early morning mists hang low over the plains and waterholes. The shallow wetlands and billabongs are carpeted with water lilies. Drying winds and flowering Darwin woollybutt tell Bininj that it is time to start burning the woodlands in patches to 'clean the country' and encourage new growth for grazing animals.
Wurrgeng

Wurrgeng, from mid-June to mid-August, is the 'cold weather' time; humidity is low, daytime temperatures are around 30°C and night-time temperatures are around 17°C. Most creeks stop flowing and the floodplains quickly dry out. Burning continues, extinguished by the dew at night. By day, birds of prey patrol the fire lines as insects and small animals try to escape the flames. Magpie geese, fat and heavy after weeks of abundant food, and a myriad of other waterbirds crowd the shrinking billabongs.

Gurrung

Gurrung, from mid-August to mid-October, is hot and dry. It is still 'goose time' but also time for Bininj to hunt file snakes and long-necked turtles. Sea turtles lay their eggs on the sandy beaches of Field Island and West Alligator Head and goannas rob their nests sometimes. White-breasted wood swallows arrive as thunderclouds build, signalling the return of Gunumeleng.
Reading 4.1.4: Jawoyn seasons

Jawoyn Association Aboriginal Corporation

Upcoming events
- Barunga festival
- Banatjarl events
Tourist attractions
- Katherine Gorge
- Edith Falls
- Cultural tours/walks
- Manyallaluk tours
- Lelyn guided walks
- Helicopter tours
- Manyallaluk
- Wugularr

Communities
- Jodetluk
- Werenbun
- Manyallaluk
- Barunga
- Wugularr

Community services
- Banatjarl family centre
- Sunrise health

Jawoyn tradition
- History
- People
- Law & ceremony
- Rock art
- Owners / custodians
- Kinship & language

Jawoyn land
- Location & map
- Seasons
- Wildlife
- Flora
- Fauna

Achievements
- Current partnerships
- Future opportunities

About us
- Organisational structure
- Executive board
- Robert Lee
- Lisa Mumbin

Contact info

Seasons

Five seasons
Jawoyn people recognise five major seasons in each annual cycle. These seasons are defined by particular weather patterns and environmental events such as plants flowering or fruiting or animals displaying annual behavioural patterns.

Season of heavy rains
Creeks and billabongs are full and grass along the river banks grows tall. Goannas, water monitors and flying foxes are sleek and healthy.

Plant foods available: Black and white currants, white bush apples, and fruit from the nut tree.

Rains decrease and stop
Rains decrease then stop and the dry season begins. Snakes are aggressive and dangerous and it is the time for frill neck lizards to bury their eggs to incubate. Magpie geese are fat and ready to hunt.

Plant foods available: Billy goat plum, wild grape, river pandanus, bush banana and sugar cane grass

Cold weather period of the dry season
Emus and kangaroo are ready to be hunted and the native beehives are producing sweet honey. The yellow kapok flowers signal that the freshwater crocodiles and turtles are carrying eggs.

Plant foods available: Wollybutt, cheeky yam, waterlilies

Start of cloud buildup
The ground is hot and the sun burns. Weather patterns are changing from wet season to dry season. Freshwater crocodile eggs are hatching.

Plant foods available: Red flowered Kurrajong fruit and green plums

Hot weather, cloud buildup and rains
Goannas are hunted for food.

Plant foods available: Black plum, white currant, cocky apple and northern Kurrajong fruit
Reading 4.1.5: Rock art of Kakadu

Rock art shows our life

Rock art is an important part of Aboriginal people’s lives. Mimi spirits were the first of the creation ancestors to paint on rock. They taught some Aboriginal people how to paint and other Aboriginal people learned by copying Mimi art.

At the end of their journeys, some creation ancestors put themselves on rock walls as paintings and became djang (Dreaming places). Some of these paintings are andjamun (sacred and dangerous) and can be seen only by senior men or women; others can be seen by all people.

Warradjan Aboriginal Cultural Centre

Aboriginal people in the Kakadu area paint rock images rarely now. Among the reasons for this is the fact that Aboriginal people no longer live in rock shelters and there are fewer people with the necessary knowledge to allow them to paint at certain sites. Nevertheless, Aboriginal artists continue to paint on bark, paper and other materials. In recent years printing traditional designs onto fabric has become a popular art form, particularly among women.

In spite of this, rock art remains relevant to Bininj: the works depict objects still used, animals still hunted, and activities people still do.

The rock art in Kakadu was painted for a number of reasons:

• hunting — animals were often painted to increase their abundance and to ensure a successful hunt by placing people in touch with the spirit of the animal

• religious significance — at some sites paintings depict aspects of particular ceremonies

• stories and learning — stories associated with the creation ancestors, who gave shape to the world were painted

• sorcery and magic — paintings could be used to manipulate events and influence people’s lives; fun-for play and practice.

Some sites and paintings could be painted only by people with the requisite knowledge. For example, sorcery paintings could be painted only by the holder of magic knowledge. Other paintings, particularly at sites depicting stories of creation ancestors, were often repainted. Again, only people with knowledge of the stories could repaint them. The act of painting put artists in touch with their creation ancestors—a powerful experience.
Generally, the act of painting was more important than the painting itself. At many sites in Kakadu images have been painted over each other: the artist was not concerned about preserving an image for posterity but simply wanted to paint to tell a story.

The stories and knowledge associated with many paintings often have a number of levels of meaning. Younger people and non-Aboriginal people are told the first level, known as the 'public story'. Access to the 'full story' depends on an individual's progression through ceremonial life, their interest, and their willingness to take on the responsibilities that go with that knowledge.

Mineral paints
Several naturally occurring minerals are used to make the basic colours common in rock paintings:

- haematite — an iron-rich rock used to make red pigment
- limonite and goethite — used to make yellow/orange pigment
- ochre — an iron-stained clay that is used to make red, orange and yellow and can be made darker by baking it in a fire before grinding
- kaolin, or pipeclay, and huntite — used to make white pigment
- manganese oxide and charcoal — used to make black colour, although charcoal is not a mineral and does not last long.

Of all the pigments, haematite lasts longest. Over time it penetrates and bonds with the rock surface. As a result, the majority of old paintings visible today are completely red. The other white and yellow pigments commonly used in X-ray paintings form a layer on the surface of the rock; they are very vulnerable to damage by wind, water, animals and humans, so many recent paintings are deteriorating rapidly.

Pigments are crushed on a stone palette and mixed with water to form a paste. Paint is applied using brushes made from human hair, chewed sticks, reeds and feathers. Wet pigments are also blown from the mouth around objects to create stencils, the hand stencil being the most common; examples of hand stencils can be seen at Ubirr and Nanguluwur.
It is difficult to accurately assess the age of rock art. The thermoluminescence dating technique has been used in Kakadu to date the sand surrounding pieces of ground ochre to 50,000 years ago. Used pieces of ochre provide good evidence that there was artistic expression of some sort at this early date, although not necessarily rock art. Carbon-dating techniques require the presence of carbon-bearing organic materials, which are generally not used in the mineral paints of the Kakadu region. Carbon dating has, however, been used to date bees-wax paintings, the oldest of which was found to be about 4,000 years old.

By studying the subjects and art styles and then comparing them with climatic, geological and archaeological evidence, researchers have been able to estimate the age of a number of paintings. Paintings of animals now extinct on the Australian mainland can be assumed to have been done before, or shortly after, these animals disappeared: the long-beaked echidna is thought to have become extinct 15,000 years ago; the thylacine and Tasmanian devil became extinct more recently, probably about 2,000 to 3,000 years ago. Paintings of other animals are linked to specific environmental conditions: estuarine conditions are thought to have begun about 6,000 years ago, so paintings of estuarine fish are probably less than 6,000 years old; the freshwater floodplains developed more recently, so paintings of freshwater birds such as magpie geese are probably less than 1,500 years old.

**Conservation of rock art**

Rock art is extremely important to the Aboriginal owners of Kakadu. Some old people remember watching their relatives paint while telling stories about their country. Rock paintings are generally found in sheltered areas away from the direct effects of the elements, but even the most protected sites can be damaged by the actions of water, animals, insects, plants and people. Park management has researched the causes of rock art deterioration, the chemical composition of the pigments, and the nature of the bonds between the rock surface and the pigments.

Water flowing over or seeping through the rocks is a common problem. Apart from the water’s dissolving action, salts deposited on the rock surface can cover some of the art. An effective management solution is to install silicon drip lines to divert the water away from the paintings. Drip lines can be seen at the Ubirr, Nourlangie and Nanguluwur art sites.

Feral animals such as buffalo and pigs like to camp in the shade of ground-level shelters and often rub themselves against rock faces. The reduction in the number of these animals has helped limit their damage to rock art. Wasps and termites also damage rock art by building nests and tunnels over it.
Kakadu Park Management has erected a number of viewing platforms to reduce damage to precious rock art. Where practicable, Park staff carefully remove old nests and tunnels. People pose a serious threat to rock art, especially at much-visited sites such as Ubirr and Nourlangie. Generally, the damage is unintentional, caused by raising dust or touching the paintings. An individual visitor might not pose a problem, but the presence of thousands of people each week can cause serious damage very quickly. Boardwalks have been installed to minimise the amount of dust settling on the paintings and to prevent visitors from touching the art. Major rock art restoration work in the Park is uncommon; during the 1990s the deteriorating layer of white paint used in the X-ray figures at the Lightning Man art site was cleaned and consolidated.

**Reading 4.1.6: Ubirr Art Site**

**Ubirr (Oo-beerr)**

There are three main art sites at Ubirr:

- the Main Gallery
- the Namarrgarn Sisters
- the Rainbow Serpent.
The sites can be reached by following a one kilometre circular walking track from the car park. The walk takes about an hour. The lower sections of the track provide wheelchair access. For fitter visitors it’s worth allowing another thirty minutes to climb to the lookout. Ubirr is open from 8.30 am until sunset in the dry season (1 April–30 November) and from 2.00 pm until sunset in the wet season (1 December–31 March).

The main gallery of rock art

Groups of Aboriginal people camped in rock shelters around Ubirr to take advantage of the enormous variety of foods available from the East Alligator River, the Nadab floodplain, the woodlands, and the surrounding stone country. The rock overhang of the main gallery provided an area where a family could set up camp. Food items were regularly painted on the back wall, one on top of the other, to pay respect to the particular animal, to ensure future hunting success, or to illustrate a noteworthy catch. Among the animals painted in the main gallery are barramundi, catfish, mullet, goannas, long-necked turtles, pig-nosed turtles, rock ringtail possums, and wallabies. Although Aboriginal people no longer live in the shelter, the animals depicted are still hunted for food today.

Most of the X-ray art in the main gallery is from the freshwater period, so it is less than 1,500 years old. There are also some interesting examples of contact art. One ‘white fella’ is depicted in trousers, shirt and boots and with his hands in his pockets; another, with a pipe in his mouth and his hands on his hips, is ‘bossing us Aboriginal people around’. These figures are probably early buffalo hunters painted around the 1880s. Buffalo hunters employed Aboriginal people to help them hunt and run buffalo camps—they paid them with ‘a little bit of tucker and some tobacco’.

A painting by Mimi spirits can be seen high up on the ceiling of the overhang. Aboriginal people describe how the Mimi spirits came out of the cracks in the rocks, pulled the ceiling rock down, painted the yellow and red sorcery image, and then pushed the rock back into place.

Close to the main gallery is a painting of a thylacine (Tasmanian tiger). As noted, archaeological evidence suggests that thylacines became extinct on the mainland about 2,000 to 3,000 years ago.

The Namarrgarn Sisters

The Namarrgarn (pronounced nar-marr-garn) sisters are depicted at Ubirr pulling string apart. They live in the stars, from where they can throw down pieces of string, attach them to people’s organs, quickly
travel down the string, and make people very sick. The story of the Namarrgarn sisters told at Ubirr goes like this.

The two sisters spent a great deal of time playing and talking together—they were good friends. One day, while they were sitting and chatting by a billabong, one of the sisters decided to go for a walk. When she got to the end of the billabong she jumped into the water and changed into a crocodile. She swam back under the water to where her sister was sitting and leapt out, Terrifying her.

Out of sight, she changed back to herself and returned to where her sister sat. She was so amused when her sister told of being frightened by a crocodile that she played the trick over and over again. One day the sister who had been tricked so many times realised the truth and decided to retaliate by playing the same trick on her sister.

Over and over the Namarrgarn sisters played the trick on each other, until one day they realised that if they changed into crocodiles permanently they could eat anything or anybody they liked. They went to a freshwater spring near the mouth of the East Alligator River. An old man heard of their intention to become crocodiles and chased after them to stop them, but it was too late. The palms that are found around the spring grew from the teeth the sisters pulled from their mouths and planted in the earth.

**Ubirr**

The Namarrgarn sisters are represented as crocodiles, evident by the lumps behind their eyes and their cunning ability to detect prey above and below the water. The story of the sisters is told to children to warn them about crocodiles and explain why they are so dangerous. It is part of longer series of stories that take a lifetime to learn. As an individual passes through ceremonial life they are told more and eventually may be given responsibility for the stories, songs and ceremonies. Spiritual life and the Law are inseparable. It is very important that Aboriginal people obey the Law these stories embody and that the stories are not told to the wrong people.

**The rainbow serpent**

Rainbow serpents, or rainbow snakes, are powerful creation ancestors that are known to many Aboriginal people throughout Australia. They are believed to be one of the oldest artistic symbols used in the world and seem to hold value and power wherever they are depicted. Rainbow serpents have different names in different languages throughout Australia. Here are a few names from the Kakadu region:

- *In Gun-djeihmi it's known as Almudj*;
- *in Kunwinjku it's known as Ngalyod*;
- *in Gagudju it's known as Nama’rdeedjurr or Garranga’rrel*;
- *in Jawoyn it's known as Bolung*.

---Warradjan Aboriginal Cultural Centre

As is common with oral traditions, stories about the rainbow serpent vary from place to place, to reflect differences in environmental and social conditions. In Kakadu, Aboriginal people describe the rainbow serpent as the ‘boss lady’, all powerful, ever present and usually resting in
quiet waterways unless disturbed. Common features of rainbow serpents in this area are that they are generally female, they are associated with water, they will eat anything except flying foxes, and they dislike loud noises. If irritated, they are capable of causing serious natural disasters such as floods or earthquakes.

At Ubirr the rainbow serpent is known as **Garranga’rreli** (pronounced garr-rarn-gar-ree-lee). In her human form, she was called **Birriwilk** and travelled through this area with another woman looking for sweet lily roots. As she passed through Ubirr she painted her image on the rock to remind people of her presence. She rested in the forest at Manngarre, digging a hole in the cool sand. The heap of sand from the hole became a rock where a huge banyan tree now grows: the raised walkway on the Manngarre rainforest walk passes over the rock. Birriwilk stopped to rest in the East Alligator River; the round rocks in the middle of the river near Cahill’s Crossing mark the place where she rested. From here she crossed the river into Arnhem Land, where she remains in a quiet water hole. Her visit to Ubirr is part of a creation pathway that links Ubirr with Manngarre, the East Alligator River, and other places in Arnhem Land.

One story Aboriginal children are told about the rainbow serpent at Ubirr concerns caring for children. It goes like this.

A child was crying for sweet lily root. That evening the mother gave the child sour lily root because she could not find any sweet ones. This caused the child to cry even more, all night. In the morning there was a sudden gust of wind and the people felt cold, a sign that the rainbow serpent was near. The rainbow serpent rushed into the camp, trapping everyone with her huge coiled body and eating most of them, including the crying child.

The moral of the story is that crying children should be cared for and comforted. Generally, in an extended family there is always a mother, father, brother or sister to comfort a crying child. As children grow older they may be taught about the path the rainbow serpent took, her connection to the land, her spirituality, and the ceremonies, dances and songs that relate to her. The stories, paintings and features in the landscape are interlinked and are reminders of the moral and ethical codes of Aboriginal culture.
Reading 4.1.7: Nourlangie art site

The name 'Nourlangie' is an anglicised version of Nawurlandja, the name of a larger area that includes an outlier to the west of Nourlangie. The upper part of Nourlangie Rock is known as Burrungguy; the lower areas are known as Anbangbang.

The area was formed when two creation ancestors in the form of short-eared rock wallabies travelled through from east to west. They moved past Nourlangie Rock, across Anbangbang billabong, and up into the rocks at Nawurlandja, where they cut two crevices in the rock as they passed. These crevices are visible today and rock wallabies are often seen there in the early morning and at dusk.

There are three main sites at Burrungguy: a rock shelter (Anbangbang shelter); several rock art sites, including the Lightning Man rock art site (Anbangbang gallery); and Gun-warddehwardde lookout. These sites can be reached by following a 1.5-kilometre circular walking track from the car park. The walk takes about an hour. The Lightning Man art site can be reached by wheelchair.

Nourlangie is open from 7.00 am until sunset all year.

Anbangbang rock shelter

*That’s a place where people sheltered from the rain in Gudjewg (monsoon season).*
*A place for making tools, telling stories, doing string games while the tucker is cooking.*
*Go hunting down the river, when the water goes down a bit.*
*Hunting yams, kangaroos, sugar bag.*
*Waiting around until the dry season comes.*
*Today we got house and cook galawan (sand goanna) in the oven, but tastes better cooked on the coals of an open fire.*

**Violet Lawson, Murumburr clan**  
**Warradjan Aboriginal Cultural Centre**

An archaeological dig at Anbangbang rock shelter in the early 1980s revealed that Aboriginal people have been using the shelter for at least 20,000 years. Excavated layers of soil contained a variety of stone artefacts and implements that had been discarded over time. By examining the number of artefacts in each layer, researchers concluded that the shelter was used occasionally from about 20,000 to 6,000 years ago. It appears to have been used more frequently after this, probably as the area became estuarine and more food was available.

Organic materials, such as bones, string, shells and plant material were found only in the top layers of soil. Generally, organic material deteriorates quickly in tropical climates, but the organic materials found here were relatively well preserved. The materials found suggest that
the shelter was probably used by a family group as a base camp in the wet and early dry seasons. The large rock overhang would have provided protection against both rain and sun. Animal and plant remains such as fish, magpie geese, freshwater mussels, water lilies, fruits, wallabies, goannas, flying foxes, echidnas and crocodile eggs illustrate the range of past meals. Pieces of string and spear-points of wood, bone and stone cast light on the manufacturing methods used at the time.

According to Aboriginal people, Anbangbang rock shelter was used primarily by the Warramal clan, who were traditional owners of the area, and by the neighbouring Badmardi clan, who moved down from the stone country to take advantage of lowland foods from the surrounding woodlands, creeks and billabongs. The Warramal clan has since died out and responsibility for the area has passed to Aboriginal traditional owners from surrounding areas.

The Main Gallery (Anbangbang)

An understanding of art usually comes from interpreting it through things we are familiar with. For example, when we look at a painting of a western-style wedding such things as the minister, the church doorway, the church windows, the guests and the wedding dress help us to identify it as a wedding. Much of the information in the painting is specific to a western-style culture. Someone from a different culture would perhaps not realise they were looking at a depiction of a religious ceremony because they would be unfamiliar with the symbols used.

Similarly, Aboriginal art makes sense only to those with sufficient knowledge of the culture to recognise the information the art conveys. Although there are explanations of the paintings at the Lightning Man rock art site, the explanations are incomplete: non-Aboriginal people are not entitled to know the full story.

A number of figures at the Lightning Man rock art site were repainted by Nayambolmi (sometimes spelt Najombolmi), in 1963 and 1964. Repainting was part of the rock art tradition, although not all rock art was repainted. Only people who were 'authorised' or recognised as artists were allowed to repaint. Nayambolmi, probably born around 1895, was from the Badmardi clan and was highly respected as an artist. He was also a good hunter and angler, hence his 'white fella' name, 'Barramundi Charlie'. Nayambolmi worked for non-Aboriginal people for many years, but he visited his country and painted in shelters throughout his life. One of the last prolific rock art painters in the area, he died around 1967.

Namondjok

Aboriginal people from different clan groups have different stories associated with Namondjok (pronounced nar-mon-jock).
For some, he is a creation ancestor who now lives in the sky and can be seen only at night, when he appears as a dark spot in the milky way. For others, he is a creation ancestor who broke the kinship laws.

The story goes that Namondjok travelled through the Burrungguy (Nourlangie Rock) area and broke the kinship laws with his 'sister'. (Some Aboriginal people attribute this story to Nabilil rather than Namondjok.)

[Kinship laws dictate who Aboriginal people may and may not marry. Aboriginal people have a much broader and more complex kinship system than do people of European descent. An Aboriginal person’s ‘sister’ also includes their mother’s sisters’ children and their father’s brothers’ children (cousins). Just as marriage between brother and sister is unacceptable in non-Aboriginal society, so it is in Aboriginal society].

A solitary boulder on Burrungguy is a feather taken from Namondjok’s head-dress by his ‘sister’, after they had broken the kinship laws. The boulder is visible from Gunwarddehwardde lookout.

**Namarrgon**

To the right of Namondjok is Namarrgon, the Lightning Man. Namarrgon (pronounced narm-arr-gon) is an important creation ancestor who is still active today. He is responsible for the violent lightning storms that occur every wet season. The band around him from his left ankle, joining his hands and head, and down to his right ankle represents the lightning he creates. He uses the axes on his head, elbows and feet to split the dark clouds and make lightning and thunder.

Namarrgon’s story in this area is part of a longer story, covering a journey beginning on the coastline of the Coburg Peninsula and ending in a rock shelter in the sandstone country of the Arnhem Land plateau, where he remains today. During his travels he left his power behind at many places. On his last journey, when he approached the escarpment from the east, he looked over the sheer wall, then took out an eye and placed it high on the cliff at Namarrgondjahdjam (Lightning Dreaming), where it sits, waiting for the storm season. Lightning Dreaming can be seen from Gun-warddehwardde lookout.
Barrginj, Namarrgon's wife

The female figure is Barrginj (pronounced barr-jeen), Namarrgon's wife. Their children are the Alyurr (Leichhardt’s grasshoppers), who are very important to local Aboriginal people because they gave them their language, beliefs, values and the structure of their society during the creation time.

Alyurr, striking blue and orange grasshoppers that live on a particular plant, *Pityrodia jamesii*, that grows in the stoney country, are quite rare. The first specimens were collected by J. E. Dring, purser on HMS Beagle during surveys of the northern Australian coast, probably around 1839. The next specimens were collected by Ludwig Leichhardt on his journey through the region in 1845. Alyurr were not rediscovered by non-Aboriginal people until the 1970s. They are generally seen just before the wet season, when they come out and call to their father to bring on the wet-season storms.

Family group

Beneath these three creation ancestors is a large group of men and women. Their elaborate dress suggests they are probably on their way to a ceremony. You may notice that a couple of the women have dashes painted on their breasts; this shows that they are breast feeding.

Nabulwinjbulwinj

The single male figure on the side gallery to the left of the main frieze is Nabulwinjbulwinj (pronounced nar-bull-win-bull-win). He is a dangerous spirit who eats females after killing them by striking them with a yam.
Reading 4.1.8: Nanguluwur art site

(Narng-oo-loo-war)

The Nanguluwur art site, near Nourlangie Rock, is reached via the Gubara road. It is a fairly small gallery suited to people who can handle the 1.7 kilometre one way walk.

Many rock art styles are represented at Nanguluwur. There are hand stencils, dynamic figures in large head-dresses carrying spears and boomerangs, representations of Namandi spirits and mythical figures, including Alkajko, a female spirit with four arms and horn-like protuberances. Among the more recent art is a frieze of fish and a short-necked turtle painted by Old Nym Djimongurr, a Wardjag man and a friend of Nayambolmi, who repainted some of the figures at nearby Nourlangie Rock. In the middle of the shelter is an example of contact art, a painting of a two-masted sailing ship with anchor chain and a dinghy trailing behind.
Reading 4.1.9: Suggested styles and the ages of rock art in the Kakadu region

The 11 main art styles are spread across three environmental periods. The table below shows a suggested chronology of these art styles, based on the work of George Chaloupka.

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<td>300 years</td>
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The pre-estuarine period

During the pre-estuarine period, from about 50,000 to 8,000 years ago, the sea level was much lower and the climate was much drier. This early art is represented by a number of styles: object prints; large naturalistic animals and humans; dynamic figures; post-dynamic figures; simple figures with boomerangs; Mountford figures (northern running figures); and yam figures.

Object prints are made as positive imprints. A hand or object can be placed in wet paint and pressed directly onto the rock or paint-covered items such as grass and string can be thrown against a rock. Imprints of thrown objects are generally found on ceilings or overhangs or on out-of-reach walls. These object prints are probably the earliest style of rock art found in Kakadu.

Large naturalistic animals and humans are the earliest drawn images found in the region. The animals are usually drawn in outline and filled in with contour lines, stipples, patches, and occasionally an ochre wash. They are often larger than life. Wallabies and kangaroos are the most common images, but other animals such as freshwater crocodiles and extinct mainland species such as the long-beaked echidna, thylacine and Tasmanian devil are also painted in this style. An example of a thylacine can be seen at Ubirr.
The dynamic figures are small, exquisitely drawn humans, animals and part-humans. The human figures are drawn in action, with their legs widespread and their bodies thrust forward. Generally the male figures wear an elaborate head-dress and a belt from which one or two skirts are suspended. Necklaces, pendants and armlets are also worn. Weapons such as barbed spears, boomerangs, clubs, stone axes and sticks are also shown. Figures with the head of an animal and the body of a human are usually depicted with the humans and are involved in a variety of hunting activities. The animals portrayed are usually kangaroos or wallabies, although some birds and freshwater fish are also painted in this style.

The post-dynamic figures are similar to the dynamic figures but are usually drawn in silhouette, appear static, and lack the animation of the dynamic figures. They are somewhat stylised.

The simple figures with boomerangs are highly stylised figures drawn in one thick line. They appear similar to stick figures and commonly wear head-dresses and skirts and carry boomerangs and hooked sticks.

Mountford figures (northern running figures) are found in the north of the Park and often appear to be running at full speed. The paintings generally portray human figures with sensuously curved, elongated S-shaped bodies.

The yam figures consist of yam images transposed onto human and animal forms. Usually, the head is depicted as a yam and the body is that of a human or animal. The yams painted are mainly identified as the water yam, although other species such as the long yam are also painted. The rainbow serpent first appears in paintings of this style.

**The estuarine period**
The estuarine period, from about 8,000 to 1,500 years ago, began with the flooding of river valleys and the formation of mangrove swamps. Animals such as barramundi, mullet and estuarine crocodiles migrated into the newly formed estuaries and appear for the first time in rock art. This period is represented by three art styles: early estuarine paintings; bees-wax art; and the X-ray descriptive style.

The early estuarine paintings feature fish such as barramundi, mullet and catfish, estuarine crocodiles, and human figures with a variety of spear throwers. The paintings are naturalistic in style. Bees-wax art features simple designs and human figures applied in bees-wax obtained from native bees. The X-ray descriptive style depicts the external shape and internal structures of humans, animals and objects.

**The freshwater period**

During the freshwater period, less than 1,500 years ago, freshwater billabongs and paperbark swamps replaced saltwater systems. The freshwater wetlands brought new food resources to the area and the paintings reflect these changes, showing waterlilies and magpie geese, humans carrying goose spears, goose-wing fans, complex spear throwers and didgeridoos. There are two art styles: the X-ray decorative style and contact art.

The X-ray decorative style developed from the X-ray descriptive style. Some artists lost interest in the anatomical detail of internal organs and subdivided the body for purely decorative purposes. Both the descriptive and decorative forms of X-ray art continue to be used today in contemporary bark and paper paintings. The Lightning Man begins to occur in paintings during this phase.
Contact art records the arrival and activities of people from Macassan, Chinese and European cultures. The two-masted boat depicted at the Nanguluwur Gallery and the rifles at Nourlangie and Ubirr are good examples of contact art.
Section 2: Natural values

Reading 4.2.1: Conceptual timeline for Kakadu
Reading 4.2.2: Geology of the Kakadu region
Reading 4.2.3: Landforms of the Kakadu region
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Reading 4.2.1: Conceptual timeline for Kakadu

Readings 4.2.2: Geology of the Kakadu region

Geologists consider that Kakadu's landscape reflects the geological history of the region. Rocks of different types and ages determine topographical and soil characteristics.

**Northern Kakadu**

The oldest rock formations in the Park are a mixture of sedimentary rock, laid down in a large geological depression called the Pine Creek Geosyncline, and igneous or volcanic rocks. They date from about 2500 million years ago, about half the age of the earth. The layered sequence of sedimentary and volcanic rock was changed under conditions of extreme heat and pressure into schist, gneiss, quartzite and marble. This was part of a major mountain building event, the Top End Orogeny, about 1800 million years ago. These ancient rocks contain the uranium-bearing bed referred to as the Cahill Formation, source of the Ranger, Koongarra and Jabiluka deposits.

2,500 million years ago:
The oldest known rocks of Kakadu are formed as granite intrusions in the earth’s crust.

2,000 million years ago:
Erosion of crust exposes granite. Faulting forms wide shallow depression or ‘geosyncline’.

1,870 - 2,000 million years ago:
The oxygenated atmosphere evolves. High areas erode and are deposited as sediments in geosyncline. Faults sag and basin receives 10km thickness of sediments.

1,860 million years ago:
Weight of sediments destabilises the earth's lower crust and mantle, leading to mountain building — pressure and heat fold and metamorphose sediments to gneiss and schist. New granite intrusions occur.
1,800 million years ago:
Long erosion period in arid climate produces flat desert-like landscapes with scattered low ridges and hills. Rocks are deeply leached.

The mountains formed during the Top End Orogeny would have once been several thousand metres high but were eroded over 100 million years to form a wide plain. The ancient rocks can be seen near the base of the escarpment. In the dry, monsoonal climate of that time, the rocks and soil were deeply leached as rainwater percolated down and evaporated from the ground surface, leaving behind iron and other minerals dissolved in the water to form a hard brown crust, or laterite. These deeply weathered rocks underlie the lowlands of Kakadu and are now covered by geologically recent deposits of sand and gravel. They can be seen in road cuttings along the Kakadu Highway, between Cooinda and the Bowali Visitor Centre. They look like blocks of dark brown laterite, usually with worm-like tubes on the surface. The colour of the laterite varies from brown on the surface to orange-brown and mottled orange-white lower down. The changing colours reflect the greater degree of leaching, or loss of iron and other minerals, during weathering.

About 1,650 million years ago a huge river system, perhaps associated with a climatic change, spread over the plain, eroding much of the weak, crumbly rock on the surface. Life had not yet evolved on earth, so there was no vegetation to hold the soil and rocks together, which may be why the sediments deposited during this time were in very thick layers. Quartz sandstone up to 1,000 metres thick was deposited across the entire region.

1,650 million years ago: Large braided rivers spread 1,000m thickness of sand during flash floods from unknown source to northwest.

Ripple marks in the rock show that these sediments came from the north-west and tell scientists about the environment when the sediments were deposited. Flash floods caused beds of sand up to 10 metres thick and several kilometres across to be dumped very suddenly; in the long, quiet periods between these floods thinly bedded sections of the sandstone were deposited.

Ripple marks are commonly preserved in the Kombolgie Formation sandstone and are further evidence of its fluvial and shallow-water deposition. This sandstone is called the Kombolgie Formation; it forms the escarpment and outlier country and can be easily seen at Nourlangie. Look for polished pebbles set in the smaller sandstone matrix and imagine the force of the river that carried them there.

The next 1,500 million years were geologically stable and the sandstone layers consolidated. During this time the first land plants appeared.

About 140 million years ago, during the Mesozoic era, a shallow sea spread across most of Kakadu from the north. The escarpment and outliers were sea cliffs at the edge of a vast, shallow sea. About 100 million years ago the seas receded.
140 million years ago:

Mesozoic seas spread across the area, eroding older sandstone, into sea cliffs (Arnhem Lands escarpment) and islands (outliers). Fossiliferous sandstone and siltstone deposited over lowlands.

100 Million years ago:

Mesozoic Seas recede and most of their fossiliferous sediments are eroded away. The major escarpments of today's landscape are now apparent.

The rate of retreat of the escarpment at its weakest points has been estimated at about 1 metre every 1,000 years. At places such as Jim Jim Falls the face of the sandstone is strongly armoured by a layer of iron and silica. As water seeps through the rock the water 'takes' these minerals with it and then deposits them on the surface of the rock, forming a tougher rock face. Where this occurs the rate of retreat of the escarpment is much slower.

50 Million Years ago:

Ancient Faults in southern Kakadu move once more to form local depressions. Swampy sediments with fossil tree palm spores are laid down and preserved.

The landscape as it appears today.

The Kombolgie Formation is remarkable in that it has remained relatively stable over such an extraordinary length of time. There has been no significant folding of the sediments since formation and exposed faces can be viewed in almost the same condition as they were when deposited. Countless gorges in the plateau have formed along joints and cracks and have eroded into a criss-cross pattern of deep cracks that look like knife cuts from the air.

In an area to the west of West Alligator Head it is possible to see beach ridges dating from about 8,000 years ago, when sea levels were about 10 metres higher than they are today. Also during this period mud deposits containing many marine animals accumulated on the estuarine plains. As the sea retreated, rivers cut down into the mud deposits and in some places fossils of mud lobsters, snails, bivalve shellfish and wood fragments were preserved in the mud.
Southern Kakadu

The geological history of Southern Kakadu is very different from that of northern Kakadu. The overall geological evolution is the same, but the period between the deep weathering of the ancient land surface (the Pine Creek Geosyncline) and the deposition of the Kombolgie Formation sandstone was marked by intense faulting, granite intrusion and volcanic activity.

1,860 million years ago a rift valley was formed by faulting along a major fracture in the earth’s crust. This valley was about 25 km wide and at least 120 km long and ran parallel to the current South Alligator River valley. The faults allowed lava to reach the surface and erupt as a chain of volcanoes. Rivers running through this newly evolving terrain eroded the volcanic rocks and redeposited them as gravel. They also eroded much older rocks brought to the surface by the faulting, to form unusual conglomerates with a pebbly mixture of many different types of rocks. Eventually the valley filled up with sediments, which were subsequently folded, and the ‘softer’ rocks eroded into a low but fairly rugged landscape with jagged upturned ridges. Later, the Kombolgie Formation sandstone was deposited over them, forming a huge sedimentary plain.

1,800–1,860 million years ago:
Faults open up rift valleys in southern Kakadu and volcanoes fill them with lava. Very rapid erosion occurs by high energy rivers.

Sediments deposited under the Mesozoic sea, 140 million years ago, are well preserved in the south of the Park as densely wooded tablelands. They are easily seen south of the Kakadu Highway near the Mary River ranger station. In some places the eroded cliffs are up to 30 metres high and composed of white or brown sandstone or siltstone. They are strongly weathered and commonly capped with laterite. The rocks contain rare fossils mixed with wood and plant fragments.

50 million years ago, during the Eocene epoch, further movement along the ancient faults in southern Kakadu formed local depressions and shallow freshwater swamps. Rocks developed under these conditions formed outcrops near the headwaters of the South Alligator River. Rocks of this age are uncommon in northern Australia, and this small area is of some scientific interest. Drilling has revealed the siltstone sediments to be about 70 m deep and to contain fossilised spores from the palm trees that once grew there.
Reading 4.2.3: Landforms of the Kakadu region

There are six main landforms in Kakadu National Park:

- **the stone country** which includes the Arnhemland plateau and escarpment complex
- **the outliers**
- **the lowlands**, known as the Koolpinyah surface
- **the southern hills and basins**
- **the floodplains**
- **the tidal flats.**

Each landform has its own characteristic habitats. Kakadu’s varied landscapes and the habitats they contain are features that contributed to its listing as a World Heritage Area.

**The stone country**

It is believed that 140 million years ago much of Kakadu was under a shallow sea. The prominent escarpment wall formed sea cliffs and the Arnhem Land plateau formed a flat land above the sea. Today the escarpment, which rises to 330 metres above the plains, extends over 500 kilometres along the eastern boundary of the Park. It varies from vertical cliffs in the Jim Jim Falls area to stepped cliffs and isolated outliers in the north.

The rock platforms of the plateau are dissected by a network of chasms and gorges. The top of the plateau is a harsh, dry place. Water drains away quickly. In most areas soil is scarce. The small patches of soil that are to be found consist mostly of coarse sand and leaf litter trapped in rock fissures or shallow depressions. Sparsely distributed pockets of woodland and open forest have developed on these coarse soils.

Along the escarpment, creeks have etched deep incisions to form gorges in which tall monsoon forests have developed. Water seeping from rock walls and the deep alluvial soils provide an important micro-environment for plants and animals. Many animals rely on these areas for refuge during the drier months. The dominant plant species is *Allosyncarpia ternata*, a large, spreading, shady tree that is found only in the Kakadu and Arnhemland region.

Typical examples of Kakadu’s stone country can be seen from the Gunlom lookout walk and at Maguk and Jim Jim and Twin Falls.
The outliers

The outliers are essentially pieces of the Arnhemland plateau that have, through past erosive action, become separated from the plateau complex. They were islands in the ancient seas that once covered much of Kakadu. Nourlangie Rock and Ubirr are good examples of outliers.

The lowlands

The gently undulating lowland plains—the Koolpinyah surface-stretch over much of the Top End. The soils are shallow and often overlie extensive sheets of laterite (ironstone) and a thick profile of strongly leached rocks.

These mottled yellow-brown rocks can be seen in road cuttings north of Cooinda on the Kakadu Highway. Resistant ancient rocks remain as low strike ridges or hills in various places.

The floodplains

During the wet season, water carried down from the Arnhemland plateau often overflows from creeks and rivers onto nearby floodplains. Alluvial soils carried in the floodwaters add nutrients to the floodplains.

Nutrient-rich soils along with an abundance of water and sunlight make the floodplains an area of prolific plant and animal life. During the dry season the water recedes into rivers, creeks and isolated waterholes or billabongs. Kakadu’s wetlands are listed under the Convention on Wetlands of International Importance (the Ramsar convention) for their outstanding ecological, botanical, zoological and hydrological features.

The most accessible places to view the floodplains are Yellow Water, Mamukala, Iligadjarr, Ubirr and Bubba wetland.

The southern hills and basins

The southern hills and basins cover a large area in the south of the Park, including the headwaters of the South Alligator River. Rocks here have been exposed from beneath the retreating Arnhem escarpment; they are of volcanic origin and are extremely old (2,500 million years).

This landform is characterised by rugged strike ridges separated by alluvial flats. Its features can be easily observed from the top of Gunlom Falls and on the Yurmikmik walking tracks.

The estuaries and tidal flats
Kakadu’s coast and the creeks and river systems under tidal influence (extending about 100 kilometres inland) make up this landform. The shape of the estuaries and tidal flats varies considerably from the dry season to the wet season. During the dry season tidal action deposits silt along the river beds and banks. During the wet season the river beds are eroded by the floodwaters and large quantities of fresh and saline water flow out across the tidal flats, where silt is deposited. Large silt loads are also carried out to sea, some of the silt being deposited as a nutrient-rich layer on the sea floor, contributing to the muddy waters that characterise Kakadu’s coastline.

The estuaries and tidal flats are home to an array of plants and animals adapted to living in the oxygen-deficient saline mud. The dominant habitats are mangrove swamps and samphire flats. Where freshwater springs occur along the coasts and river banks, isolated pockets of coastal monsoon rainforests form, as at Manngarre.

Estuaries and tidal flats can be seen at West Alligator Head and in the lower sections of the South and East Alligator Rivers.
Reading 4.2.4: Plants of the Kakadu region

Kakadu’s flora is among the richest in northern Australia—more than 1700 plant species are recorded. This richness is a result of the Park’s geological, landform and habitat diversity. Kakadu is also considered to be one of the most weed free national parks in the world — only 5.7 per cent of recorded species are weeds (Press et al 1995).

The 1995 edition of Rare and Threatened Australian Plants (Briggs & Leigh 1995) identifies ninety-seven rare, vulnerable or poorly known plant species that occur in Kakadu.

The stone country and outliers

Plants growing in the stone country and on the outliers must survive extremely hot, waterless conditions for many months each year. Among the best examples of plants well adapted to these harsh conditions are the resurrection grasses, which dehydrate in the absence of moisture and spring back to life within twenty-four hours of rain.

Monsoon forests often develop in the cool, moist gorges that dissect the stone country. They are generally dominated by *Allosyncarpia ternata*, a large, spreading, shady tree restricted to the Kakadu and Arnhemland plateau.

More widespread and easily recognisable stone country and outlier plants are spinifex and the sandstone pandanus; both can be found at Nawurlandja.

The southern hills and basins

The habitats of the southern hills and basins support several endemic plants—plants not found anywhere else in the world. One example is the untidy *Eucalyptus koolpinensis*, known from only two populations near Jarrangbarnmi (Koolpin Gorge).

Perhaps the most noticeable plant in the woodlands of the south of the Park is the salmon gum (*Eucalyptus tintinnans*). When this tree sheds its old white bark it exposes a beautiful salmon-coloured bark, which gradually fades to white and is shed the following year.

The greater part of Kakadu is covered by eucalypt-dominated open forest and woodland. These tracts are among the last expanses of virgin eucalypt forest in Australia. The lowland plants are heavily influenced by seasonal factors. The wet season is a period of growth, when plants make the most of the abundant water. The dry season is a more stressful time, and the plants have a variety of mechanisms for coping with this long waterless period. Some, such as the kapok bush, are deciduous. Others, such as the green plum, are semi-deciduous and have a waxy film on their leaves to help reduce water loss. Eucalypts generally have a deep root system, enabling them to reach the available ground water.
The lowlands are a mosaic of vegetation communities. Local differences in slope, soil composition and the flooding regime combine to favour either open forest, woodland or grassland.

Open forest is dominated by the Darwin stringybark, Darwin woollybutt and Cooktown ironwood. Late in the dry season the Cooktown ironwood, with its dark, chunky bark and lime-green leaves, stands out from the surrounding vegetation. Woodlands contain many types of eucalypts, including bloodwoods and boxes. The understorey of both open forest and woodland is generally made up of smaller trees such as pandanus and green plums, shrubs, and tall grasses such as spear grass. The greatest species diversity occurs, however, in the ground layer, where there is a large range of grasses, sedges and wildflowers.

The floodplains

Where floodplains are inundated for two to six months a year grasses and sedges such as spike rush occur. Clumps of freshwater mangroves (itchy tree), pandanus and paperbarks are found on slightly higher ground. Herbaceous swamp vegetation dominates areas covered by water for six to nine months a year. A variety of waterlilies, such as the blue, yellow and white snowflake, are commonly found in these areas.

Tall, dense stands of paperbark trees grow on the margins of Magela Creek, Yellow Water, Anbangbang Billabong and other floodplains and permanent waterholes. The dominant species are the broad-leaved and weeping paperbarks. Freshwater mangroves and water pandanus are also common.

The estuaries and tidal flats

Mangroves are common along the banks of tidal creeks and rivers. Thirty-nine of the forty-seven Northern Territory species of mangrove occur in Kakadu. Mangroves are important for stabilising the coastline and serve as feeding and breeding grounds for many animals, including fish such as barramundi.

Like other plants growing in estuaries and tidal flats, mangroves must be able to cope with oxygen-deficient soils and periodic inundation by salt water. Mangroves use a range of mechanisms to cope with these conditions. Some species, such as the grey mangrove, have roots projecting through the soil (pneumatophores); others, such as the spider mangrove, have an amazing raised root system—like the legs of a spider—to help with oxygen intake. A number of mangroves are able to exclude salt through specialised filters in their roots or through salt glands in their leaves.
On the tidal flats behind the mangroves, hardy succulents (samphire), grasses and sedges grow. Isolated pockets of monsoon forest grow along the coast and river banks. These forests contain several impressive trees, among them the banyan fig, which can be recognised by its large, spreading aerial roots, and the kapok tree, which has a spiny trunk, large, waxy red flowers and pods full of cotton-like material.

**Plants that are common in Kakadu**

A number of publications describe Kakadu's flora: John Brock's *Native Plants of Northern Australia* and Kym Brennan's *Wildflowers of Kakadu* are examples. Following is a summary of some of the plants often seen in Kakadu. The descriptions are taken from the work of Brock and Brennan. The name in bold type is the plant's common name, then name in italics is its scientific name and the underlined name is its Gun-djehmi name.

**The Sandstone Country**

*Allosyncarpia* *Allosyncarpia ternata* **An-binik** — is a large, hardy evergreen that is restricted to the stone country of Kakadu and Arnhemland.

*Native ginger* *Curcuma australasica* — is an attractive leafy annual that grows from a tuber. Its hot pink flowers can be seen at Ubirr and Nourlangie in the wet season. It is also related to the turmeric plant, a native of Asia.

*Pityrodia jamesii* — is a shrub that grows on rocky areas in pockets of sandy soil. Pink-white flowers appear in September to December. The shrub’s sticky, fragrant leaves are the main food of Leichhardt’s grasshopper.

*Sandstone pandanus* *Pandanus basedowii* **An-more** — grows only in the sandstone areas of Kakadu and Arnhem Land.

**The Lowlands**

*Billy goat plum* *Terminalia ferdinandiana* **An-morlak** — is harvested commercially outside of Kakadu and marketed as the Kakadu plum. It is a medium-sized tree with large broad leaves. It is deciduous in the dry season and between March and June and bears edible fruits known to have exceptionally high levels of vitamin C.

*Cooktown ironwood* *Erythrophleum chlorostachys* **An-dubang** — is a tall, spreading tree with distinctive rounded dark-green leaves. Late in the dry season it puts out new leaves that are a bright lime-green. The tree’s timber is extremely hard and termite resistant. All parts of the tree are highly poisonous to mammals.

*Darwin woollybutt* *Eucalyptus miniata* **An-djalen** — grows to 10-20 m; it has dark, rough bark on the lower half of its trunk and smooth, white bark on the upper half. Bright-orange flowers appear between May and August.
**Fern-leafed grevillea** *Grevillea pteridifolia* **An-dadjek** — is a medium-sized slender tree with long, narrow silver foliage. The flowers are bright orange and appear from May to August. The nectar from the flowers attracts many birds.

**Green plum** *Buchanania obovata* **An-dudjimi** — is a medium-sized tree with large, thick leathery leaves. Bunches of green grape-sized plums appear in October to December; they are considered to be some of the best bush tucker around.

**Kapok bush** *Cochloprerum fraseri* **An-djedj** — is deciduous in the dry season, from May to August, and has distinctive bright-yellow flowers. Its large, fragile pods are filled with a dense, soft cotton-like material.

The **red-flowered kurrajong** *Brachychiton paradoxum* **An-marrenarnak** — is a small, often straggly tree that is widespread on the lowlands. It is deciduous in the dry season, when bright-red bell-shaped flowers appear on short stems from the branches.

**Sand palm** *Livistonia humilis* **An-gulalurrudj** — is a slender fan palm with small yellow flowers on long spikes. Aboriginal people use it for medicines, fibre, dye and food.

**Spear grass** *Sorghum spp.* **An-ngulubu** — grows to over 2 metres and becomes the dominant understorey plant towards the end of the wet season.

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**Spiral pandanus** *Pandanus spiralis* **An-yakngarra** — grows in a broad range of habitats, often in dense stands. Aboriginal people use it for medicines, fibre and food.

The **swamp banksia** *Banksia dentata* **Guibuk** — is the only banksia found in the Top End. It has distinctive serrated leaves and the characteristic banksia flower, which appears between January and April.

**Turkey bush** *Calytrix exstipulata* **Anbarndarr** — is common throughout the lowlands. It bears masses of pink-purple flowers between May and August.

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**The Rivers**
The **freshwater mangrove** *Barringtonia actuanuala* An-galnggi — is a small, spreading tree that grows on the banks of freshwater creeks, rivers and swamps. It develops hanging, bright-red flowers between September and December. It is also known as the ‘itchy tree’: small caterpillars feed on the leaves during the wet season and cause localised skin irritation if touched.

**Silver-leafed paperbark** *Melaleuca argentea* Gun-god — is a large, spreading tree commonly seen along the waterways. Its pale-yellow flower spikes appear mainly between June and October and produce a sickly sweet fragrance that attracts many animals.

**Water pandanus** *Pandanus aquaticus* An-djimjim — commonly grows along the banks of permanent freshwater streams. Its fruit is inedible.

**Yellow bladderwort** *Utricularia vulva* - is a small orchid-like plant that grows along sandy creek banks.

**The Wetlands**

The **blue lily** *Nymphaea violacea* Barradjungga — is commonly seen along the margins of billabongs. Its violet-tipped white flowers appear between January and July. The seeds and stems can be eaten raw; the tuberous underground bulbs can be eaten after cooking.

The **red lily** *Nelumbo nucifera* Wurrmarninj — grows in lowland wetlands. Its leaves are very large and stand erect above the water. Large, fragrant deep-pink flowers appear between March and November.

**Coastal Monsoon Areas**

**Banyan** *Ficus virens* An-borndi — is a large spreading tree with aerial roots and large prop roots from the major branches. It is a strangler fig with edible fruits and makes a great shade tree.

**Beach hibiscus** *Hibiscus tiliaceus* — is a small tree, 5 to 8 metres high, commonly found in monsoon pockets along the coast and river banks. It has a large yellow flower with a dark maroon centre.
Reading 4.2.5: Weed management in Kakadu

For Park management purposes, a weed is defined as any naturalised (established and reproducing in the wild) plant that is not native to Kakadu.

Weeds compete with native plants for light, moisture and nutrients and often do not provide appropriate food and shelter for native wildlife. Particularly invasive weeds reduce plant and animal diversity, change burning regimes, and alter the structure, function and species composition of natural ecosystems.

Kakadu remains one of the most weed free conservation areas in Australia. Only a small number of weeds found in the Park are considered invasive: mimosa, salvinia, para grass, mission grass, gamba grass, candle bush, calopo, Gambia pea, golden shower, poinciana and coffee bush. Of these, mimosa, salvinia and para grass are given priority for control because of their potential to spread over large areas.

You can play an important part in preventing the introduction of weeds and minimising their spread-check your vehicles, trailers and equipment before entering the Park, keep to established roads and tracks, and don’t enter quarantine areas.

*Mimosa* (*Mimosa pigra*) is a Central American woody shrub that under ideal conditions grows up to four metres tall and is highly invasive. Large infestations are on the Adelaide River floodplain, the Daly, Finniss and Mary Rivers and on the East Alligator floodplain near Oenpelli.

Factors that contribute to mimosa’s success are a lack of natural enemies, a rapid growth rate, production of large quantities of easily transported viable seed, and a tolerance of drought and flood. Unchecked, mimosa forms impenetrable thickets across floodplains.

In Kakadu the threat posed by mimosa was identified early, and prompt action has meant that the Park is free of large mimosa infestations-it remains virtually an ‘island in a sea of mimosa’. Controlling the plant takes considerable resources: since the 1980s four people have been employed full time in the Park to locate and destroy mimosa by pulling out or mattocking small plants and applying herbicides to larger ones.
Salvinia (Salvinia molesta) and another noxious weed, the water hyacinth (Eichornia crassipes), were discovered in the Magela Creek system in 1983. The water hyacinth was successfully eradicated but salvinia spread rapidly into other tributaries of the East Alligator River and onto the Magela floodplain. Despite quarantining of the area and cooperation from the public, a new infestation was found in Nourlangie Creek in 1990. During the wet season salvinia is flushed out of Nourlangie Creek into the South Alligator River. A biological control agent, the weevil Cyrtobagous salviniae, was introduced soon after salvinia’s discovery. It effectively controls the weed most years. Towards the end of the dry season the weevil population rapidly decreases because most of the salvinia has been eaten. During a poor wet season, high nutrient levels cause the salvinia to grow faster than the weevil population can regenerate. This results in a blanket of salvinia over the water, but as the weevil numbers increase the salvinia is reduced later in the year.

With the help of the CSIRO division of entomology, a management plan has been developed to closely monitor the weevil’s effect. Floating booms are also used to contain salvinia, and occasionally a low-impact herbicide is used to prevent excessive build-up of the weed and reduce the chance of it spreading further.

Para grass (Brachiaria mutica) was introduced to the area as pasture grass in the 1930s. Like mimosa, para grass can take over huge areas of floodplain, growing vigorously when grazing pressure is reduced and after burning. The grass is quickly filling in a number of Kakadu’s wetlands and threatening wildlife habitats. Biological control is not an option at the moment since para grass is still being promoted as a valuable pasture grass for cattle outside the Park. Control involves pulling out small infestations and using herbicides in larger areas.
The diverse environments of Kakadu National Park support an astonishing array of animals, a number of which have adapted to particular habitats. Some animals in the Park are considered rare, endangered or endemic (not found anywhere else in the world). Responding to the extreme weather conditions experienced in the Park, many animals change their behaviour and are seen only at particular times of the day or night or at particular times of the year.

**Mammals**

About 60 mammal species—marsupials and placental mammals—have been recorded in the Park. Most of them inhabit the open forest and woodlands and are nocturnal, making it difficult to see them. Others, such as wallabies and kangaroos (macropods), restrict their activities to the cooler parts of the day and are easier to see.

Marsupials are born in a very immature state, minute, blind and hairless. As soon as a marsupial is born, it works its way up its mother’s abdomen, usually to a pouch, and attaches itself firmly to a nipple, where it stays until it is fully developed. Although the name for this group of mammals derives from the Latin marsupium, meaning pouch, not every marsupial has a pouch, and some have only temporary pouches. Among the marsupials found in Kakadu are eight species of macropods, and various species of possum, bandicoot, quoll, phascogale and antechinus.

Unlike marsupials, placental mammals develop wholly within the mother’s body and are more developed at birth. Among the placental mammals found in Kakadu are 26 species of bats, 15 native rodent species, one dog species and one dugong species.

**Birds**

Kakadu’s many habitats support more than 280 species of birds, or about one-third of Australia’s bird species. Some birds range over a number of habitats, but many are found in only one environment.

Peaceful doves and red-collared lorikeets are examples of widespread and common species; black-banded pigeons, white-lined honeyeaters and yellow chats are examples of species that occupy special, localised habitats; crested pigeons and pictorella mannikins are examples of species for which Kakadu is the northern limit of their range, so they are seen only occasionally. Two notable species found in Kakadu are the endangered Gouldian finch and the vulnerable red goshawk. A bird checklist is available from the Murrawuddi Gallery at the Bowali Visitor Centre. Tour operators and visitors are encouraged to report any unusual bird sightings, such as the Gouldian finch and the yellow chat.

**Reptiles**
To date, 117 species of reptiles have been recorded in Kakadu. Being poikilothermic (cold-blooded), these animals rely on heat from an external source such as the sun to regulate their body temperature. This is not to say that reptiles are active only during the day; in fact, few snakes can withstand Kakadu’s midday heat and most are active at night. Always encourage use a torch and wear covered shoes at night.

A variety of reptile species inhabit the Park, among them eleven types of turtle and tortoise, eleven goanna or monitor species, thirty-seven skink species and thirty-six species of land snakes. Only four of the snakes are considered potentially lethal to humans—the taipan, the death adder, the king brown and the western brown.

The crocodile is perhaps the reptile of most interest to visitors. Two species of crocodile occur in Kakadu: the freshwater crocodile (Crocodylus johnstonii) and the estuarine, or saltwater, crocodile (C. porosus). Freshwater crocodiles are easily identified by their narrow snout and a single row of four large ‘scutes’ (dermal plates) immediately behind the head. Estuarine crocodiles do not have these scutes and their snout is broader. The maximum size for a 'freshie' is three metres, whereas a 'saltie' can exceed six metres.

**Amphibians**

Kakadu’s frogs are extremely well adapted to the region’s climatic extremes. Many remain dormant during rainless times. With the onset of the wet season, when the billabongs and swamps start to fill with water, the night air is filled with the sounds of frogs such as the northern bullfrog and the marbled frog.

As the water builds up frogs and tadpoles have an abundance of food, such as algae, vegetation, insects, dragonfly nymphs, and other tadpoles.

Not all of Kakadu’s frogs are found in the wetlands: many, such as the green tree frog and the spadefoot toad, live in the lowland forests.

**Fish**

Fifty-three species of freshwater fish have been recorded in Kakadu’s waterways; eight of them have a restricted distribution. In the Magela Creek system alone, thirty-two species have been found. In comparison, the Murray-Darling river system, the most extensive in Australia, supports only twenty-seven native fish species.

Some species, such as the primitive archer fish, the sooty grunter, or black bream, and the toothless catfish, live mainly in clear water near the escarpment. In the billabongs and creeks, some of the more common fish are barramundi, freshwater long-toms, salmon-tailed catfish, chequered rainbow fish, and the saratoga. The last two also appear in waters near the escarpment.
Although introduced fish have been found in most Australian waterways, none have been recorded in the Park.

Recreational fishing (with lures) is generally permitted in waters west of the Kakadu Highway except in the West Alligator River System. To provide refuge areas, fishing is not permitted in waters east of the Kakadu Highway except at the camping areas of Muirella Park (Djarradjin and Sandy Billabongs) and Jim Jim Billabong. Cast nets, traps, spear guns and crab pots are not permitted but can be left at the Bowali Visitor Centre during your stay. Bag limits apply to barramundi and other species. Contact the Bowali Visitor Centre, telephone (08) 8938 1120 for up-to-date information.

**Invertebrates**

Despite the fact that Kakadu supports more than 10,000 types of insect, these creatures are often overlooked by visitors. Among the insect groups are grasshoppers, beetles, flies, termites, butterflies and moths, bees, wasps, ants, dragonflies and damselflies, caddis flies, non-biting midges and mayflies. The great variety of insects is a result of the varied habitats and relatively high temperatures throughout the year.

Perhaps the most striking insect-created features in the Park are the termite mounds. The huge mounds in the southern part of the Park are storehouses of harvested grass.

Leichhardt's grasshopper, in colours of orange, blue and black, is perhaps the most spectacular insect found in Kakadu. It is also found on the Arnhem Land plateau and in Gregory National Park.
Reading 4.2.7: Management of feral animals in Kakadu

Feral animals in Kakadu are animals introduced by non-Aboriginal people, that were once either domesticated or native to another country and that now lives and breeds in the Park. Among the feral animals in Kakadu are Asian water buffaloes, cattle, pigs, horses, donkeys, cats, dogs, rats, mice, house geckos and European bees. Cane toads were recorded in Kakadu for the first time on 12 March 2001.

The management objective for feral animals in Kakadu is to limit, as far as possible, their adverse effects on the environment while taking into account the views and economic interests of traditional owners.

Buffalos in Kakadu

Asian water buffaloes were introduced into northern Australian settlements between the 1820s and the 1840s, as work animals and for meat. As these settlements were abandoned, the buffaloes were released and quickly spread across the lowlands of the Alligator Rivers region.

By the 1960s buffalo numbers had reached enormous proportions and the damage they were causing was obvious. Buffalos cause damage in a number of ways. Their sheer size, weight and hard hooves compact the soil and inhibit plant growth, causing erosion. Their habit of wallowing erodes river banks and muddies the water, making it unsuitable for many aquatic plants and animals. They eat large volumes of grasses and other plants, competing directly with native wildlife. And as they move from one wetland area to another they create ‘swim channels’: where these channels intersect with tidal creeks, saltwater is able to move into freshwater swamps, often killing a number of plants and animals intolerant to saltwater.

Buffaloes carry tuberculosis, which can be spread to domestic cattle. Because of the severe implications for the export meat industry, the Brucellosis and Tuberculosis Eradication Campaign was established nationwide to eradicate feral cattle and buffaloes from all areas. The Campaign provided funding to reduce buffalo numbers in the Park. The removal of buffaloes from Kakadu National Park began in 1979. Of an estimated population of 20 000 buffaloes, it is thought that only a few hundred remain (Press et al. 1995).

The difficult nature of the country and the consequent costs make total eradication almost impossible. The Brucellosis and Tuberculosis Eradication Campaign ceased at the end of 1997. As a result Park staff have taken over responsibility for monitoring and controlling the buffalo numbers. Since the reduction in buffalo numbers degraded areas have recovered dramatically. There are fewer buffalo wallows, there is clear water in billabongs, there is less salt intrusion, and plants such as red water lilies, grasses and sedge plants—valuable food for native animals—are reappearing.

Buffalo has become an important part of the diet of Aboriginal people in the region. A small herd of domesticated buffaloes is retained in the Park to provide meat for Aboriginal traditional owners.

Other feral animals
Pigs cause damage to a broad range of Kakadu's habitats. They degrade the environment around springs and small rainforest patches, especially in the wet season. They also dig up areas in their search for food and compete directly with magpie geese and Aboriginal people for bulbs that grow along the wetland shores. The ground they expose is vulnerable to weed infestation—pigs are thought to be the main agents of spreading the weed mimosa through the Park. Park staff control pigs close to known mimosa infestations on an opportunistic basis and feral pig control work is conducted regularly.

Horses are particularly common in the southern woodlands of the Park. They spread weeds and damage waterholes by eroding soil and fouling the water. Recent control measures have reduced the number of horses along the Kakadu Highway.

Cats are present in low numbers throughout the Park. Casual observations and research from southern Australia suggest that cats' hunting activity is having a detrimental effect on native wildlife. Cats are not allowed to be kept as pets in the township of Jabiru. They are shot by Park staff each wet season along floodplain and creek margins. Again, this is done on an opportunistic basis.

Dogs that have become feral have some impact in that they interbreed with the dingo population in the Park, changing the dingo gene pool. Jabiru residents are allowed to keep up to two dogs within the confines of the township and Park residents can keep dogs at the discretion of the Director of National Parks.

Cane toads were found in Kakadu National Park on 12 March 2001. Cane toads are poisonous throughout most of their life cycle and current information suggests that they will have an initial impact on animals such as snakes, goannas and quolls, who will try to eat them. Evidence from other areas affected by Cane toads suggest numbers will stabilise after an initial period. No effective control measures are available. Cane toads in the Park are likely to be one of the most pressing management problems facing Kakadu in the coming decade.
## Reading 4.2.8: Photo Gallery - The fauna of Kakadu

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<td><strong>Western brown snake</strong></td>
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<td><strong>Giant cave gecko</strong></td>
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Section 3: Recreational Issues

Reading 4.3.1: Boating and fishing in Kakadu

Reading 4.3.2: Kakadu National Park Plan of Management, 6.10—Boating and fishing

Reading 4.3.3: Bushwalking in Kakadu

Reading 4.3.4: Extract from the Kakadu National Park Draft Management Plan—Day walks and overnight bushwalking
Reading 4.3.1: Boating and fishing in Kakadu

Boating

In 1958 Allan Stewart converted the sawmill area at Nourlangie Camp into a safari camp for tourists. Soon after, Don McGregor started a similar camp at Patonga and Frank Muir and Max Ella began one at Muirella Park. Clients were flown in for recreational buffalo and crocodile hunting, and fishing. This passion for fishing access has continued today. There are commercial fishing tour operators in Kakadu and many amateur fishers who try their hand.

Boating on Kakadu's waterways can be dangerous due to strong currents, sand bars, submerged logs and crocodiles. Please let someone know where you are going and what time you expect to be back. In tidal areas always carry life jackets, water, oars, flares, torch, tool kit, extra fuel and any other safety gear required for by the Marine Act (NT) and relevant Regulations.

Recreational boating activities such as parasailing and the use of jet skis, airboats and hovercrafts is not permitted. Due to safety hazards, non-motorised recreational boating is by permit only.

Motorised boats for recreational use are only permitted on the following water bodies:

- South Alligator River and associated billabongs including Red Lily, Alligator and Leichhardt Billabongs on the South Alligator River
- Ngurrungurrudjba (Yellow Water)
- Four Mile Hole
- Two Mile Hole
- East Alligator River (except near the egret rookery near the mouth of the East Alligator River)
- Jim Jim, Mardugal and Home Billabongs on the Jim Jim Creek system
- Djarradjin and Sandy Billabongs on the Nourlangie Creek system
- Wildman River.

Boating on the West Alligator River requires a permit. Contact the Permits Officer on (08) 8938 1140 for more information.

See also the notes below on where you are permitted to fish within the Park. If you have any doubts about where you can use your boat for fishing or other recreational activities, contact the Bowali Visitor Centre, telephone (08) 8938 1120.
Boat ramps

Concrete boat ramps are located at the South Alligator River near the Arnhem Highway, the East Alligator River, Yellow Water, Mardugal and Jim Jim Billabong. An unsealed boat ramp is located at Muirella Park.

Beware of salvinia

*Salvinia molesta* is a free floating aquatic fern native to South America. It was originally imported as an aquarium plant. It reproduces by growing from small fragments. Please help stop this weed from choking Kakadu’s wetland areas by checking and removing any salvinia from your boat, trailer and car before moving on.

Fishing

Recreational fishing is permitted in the following areas:

- Waters west of the Kakadu Highway except in the West Alligator River system.
- The camping areas of Muirella Park (Djaradjin Billbong).
- Sandy Billabong and Jim Jim Billabong.

To provide refuge areas, recreational **fishing is not permitted in the following areas:**

- Waters east of the Kakadu Highway except for the areas described above.
- Waters in the West Alligator River system.

Live bait is prohibited. Cast nets, traps, spears and crab pots are not permitted, but can be left at the Bowali Visitor Centre during your stay. Northern Territory bag and size limits apply to barramundi and other species. Contact the Bowali Visitor Centre, telephone (08) 8938 1120 for up to date information.
6.10 Boating and fishing

OUR AIM
Visitors enjoy a range of recreational fishing and boating opportunities in a manner that protects Park values and Bininj interests, and minimises risks to public safety.

MEASURING HOW WELL WE ARE MEETING OUR AIM
• Level of visitor satisfaction with fishing and boating opportunities
• Level of Bininj satisfaction with management of and involvement in planning and management of fishing and boating activities
• Extent to which impacts from fishing and boating activities are within acceptable levels
• Number and seriousness of compliance and safety related incidents

BACKGROUND
Fishing is a major recreational activity in the Top End of the Northern Territory and Kakadu includes some of the prime recreational fishing areas. Most fishing in the Park is undertaken by boat, though opportunities are also taken to fish from river and creek banks. The catch and release method of fishing is commonly practised in the Park.

Fishing competitions that involved catching, measuring, photographing and releasing each fish were provided for in the 4th Plan. The management of recreational fishing tours is addressed in Section 6.14, Commercial tour activities.

Under s.354(1) of the EPBC Act fishing and commercial activities are actions that can only be carried on in accordance with this Plan.

Commercial fishing and crabbing have not been allowed in the Park since 1990. Limited transport through the Park of crabs caught by commercial crabbers outside the Park was allowed during the life of the 4th Plan.

Regulation 12.35 of the EPBC Regulations (which operates subject to s.354(1) of the Act and this Plan) allows the Director to make determinations regulating recreational fishing in the Park. In addition, other parts of r.12.35 and other Regulations prohibit certain fishing practices. EPBC Regulation 12.35(4) prohibits taking fish by any method other than with a hook or a lure. As a result, it is not legal to catch small fish for bait with a net in Kakadu.

Regulation 12.35 prohibits the cleaning of fish within 50 metres of any waterway within the Park. Fish cleaning facilities are provided at a safe distance from the water’s edge at the South Alligator River and East Alligator River boat ramps, mainly to reduce the risk of crocodiles being attracted to these boat ramp areas.

Northern Territory laws, including laws regulating fishing, apply in the Park in so far as they can operate consistently with the EPBC Act and Regulations and this Plan.

Regulation 12.56 enables the Director to control the use of vessels in the Park including where vessels can and cannot be used, speed of vessels, number of vessels, and where vessels may be launched, anchored or moored.

For environmental reasons, a number of waterways within the Park have been closed to recreational boating and fishing under the Regulations (see Figure 8 page 91). These are:
• areas that provide important dry season breeding and refuge sites required for the long-term maintenance of fish stocks
• the West Alligator River catchment which provides an important long-term reference area that has not been subjected to recreational fishing activity
• a section of the Magela Creek system downstream of the Ubirr Road to boating only, and upstream of the Ubirr Road to boating and fishing
• downstream of Yellow Water to The Forks on the South Alligator River; this closure is designed to help minimise the risk of further spread of the weed Salvinia molesta
• Barramundi Creek between the Old Darwin Road and the Kakadu Highway
• areas upstream of the Kakadu Highway (except Djarradjin–Muirella Park, Sandy Billabong and Jim Jim Billabong).

In the interests of visitor safety, the use of non-motorised boats will not be allowed under this Plan (see Section 6.9, Other recreational activities and public gatherings).

ISSUES
• The Park is popular for recreational fishing and boating and there are potential conflicts with wildlife protection, Bininj use of waterways and other management practices.
• Visitors need to be aware of the potential risks associated with boating and fishing. These include the possibility of interactions with crocodiles and encountering unfavourable weather and tidal conditions.
• Boating has the potential to spread aquatic weeds such as Salvinia.
• Appropriate measures are needed to ensure maximum survival rates of fish caught and released.
• To provide clarity and consistency with respect to the management of recreational fishing, bag limits for barramundi and other fish species should be consistent with the Northern Territory bag limits. To protect breeding stock, an upper size limit for barramundi has been suggested.
• During the life of the 4th Plan, there were requests for commercial fishermen to travel through the Park to Coopers Creek, which flows into the East Alligator River, and to transport live crabs and crab-catching equipment through the Park
• There is limited information available on the level and extent of potential environmental impacts of boating and fishing in the Park.

WHAT WE ARE GOING TO DO

Policies
6.10.1 The Director and Board will work with Bininj and the fishing peak body, the Amateur Fishermen’s Association of the Northern Territory (AFANT) to improve management of fishing and boating to ensure protection of Park values, visitor safety and visitor satisfaction, and respect interests of traditional owners.
6.10.2 Existing closures of areas to boating and fishing in place at the commencement of this Plan (see Background above and Figure 8) will be maintained.
6.10.3 Recreational fishing will be managed in the following way:
- The Northern Territory fisheries laws (at the time of preparation of this Plan the Fisheries Act) will only apply to possession and size limits unless the Director makes a differing determination under the EPBC Regulations; and any licensing system that may be introduced to manage recreational fishing subject to Board approval. Otherwise, recreational fishing may be carried on in accordance with other policies in this Plan and the EPBC Regulations applying to recreational fishing, including determinations made under r.12.35.
- In accordance with the Regulations, the only bait that may be used in the Park is fish caught in the Park. The Board may approve the use of processed bait in some areas of the Park.
- Crabs must not be taken in the Park.
- The use of barbless hooks by recreational fishers will be encouraged.
- Recreational fishing competitions may be permitted subject to guidelines approved by the Board.
6.10.4 The Board may withdraw approval under Policy 6.10.3 if it is considered necessary to more closely manage the impact of recreational fishing. If approval is withdrawn, recreational fishing will require a permit or other authorisation from the Director.
6.10.5 Recreational boating will be managed in the following way:
- Use of non-motorised boats and crafts will not be permitted in the Park.
- The Director may make determinations in relation to the use of vessels, vessel speed limits, limits on vessel numbers and class of vessel, including the size and type of motor.
6.10.6 Further determinations may be made under r.12.56 of the EPBC Regulations to prohibit or regulate use of vessels in areas of the Park including closing areas to vessels and regulating vessel speed limits, vessel numbers, and class of vessel.
6.10.7 Subject to Policies 6.10.8 and 6.10.9, commercial fishing operations, including crabbing, must not be carried on in the Park, including the transport through the Park of crabs and fish, nets, traps and other equipment used for the purposes of commercial fishing.
6.10.8 Commercial fishing vessels (motherships only) may enter the Park for emergency anchoring provided all nets, traps and other catching equipment are stowed and not ready for use, and tenders (dinghies) used for commercial fishing and crabbing are not operated in the Park.
6.10.9 Commercial fishing vessels licensed to operate in Coopers Creek (Arnhem Land) may travel on the East Alligator River between the mouth of the river and the mouth of Coopers Creek in accordance with a permit issued by the Director. Permit conditions will include:
- fish, crabs, nets, traps, dinghies and other equipment may be transported provided they are securely stowed in the mothership at all times while in the Park
- tenders must be towed behind motherships and not be used for the transport of fish products, nets and other equipment.

Figure 8 – Areas closed to recreational fishing
Actions
6.10.10 Develop and implement monitoring programs to assess the level and extent of environmental impacts in waterways subject to high levels of boating and fishing activities.
6.10.11 In consultation with Bininj, develop guidelines for the conduct of fishing competitions. These will cover, but not be limited to:
- location and duration of fishing competitions
- requirements for limits on the number of fishing competitions that may be permitted per year in the Park as a whole and/or in a particular area of the Park
- number of participants permitted
- recording requirements
- safety provisions.
6.10.12 Undertake regular patrols of waterways and fishing activity with Bininj, Northern Territory Fisheries and Northern Territory Police when feasible.
6.10.13 In conjunction with AFANT, the tourism industry and government agencies as appropriate, investigate options for safer fishing locations on waterways.
6.10.14 Provide information to boat users and anglers about safe boating and fishing practices.
6.10.15 Advise boat users on the East Alligator River about the need for a permit before entering Arnhem Land.
Reading 4.3.3: Bushwalking in Kakadu

‘Walking is good. You follow track...
you sleep, wake in morning to birds,
maybe kookaburra. You feel country.’

Bill Neidjie - Bunitj clan, Aboriginal traditional owner.

If you’re well prepared and physically fit, then bushwalking is a great way to experience Kakadu. The Bushwalking in Kakadu booklet provides important information on safe bushwalking. It is available from the Bowali Visitor Centre.

Try to time your walks to the cooler times of the day. Early morning is generally the best time to see wildlife and enjoy the chorus of the birds. Late in the afternoon is also a good time to go walking and enjoy the sunset.

On all walks—even short ones—you should always carry and drink water. Allow at least one litre per hour when walking. Remember that the feeling of thirst means that you are already dehydrated.

The use of sunscreen, a long-sleeved cotton shirt, a broad-brimmed hat, and comfortable protective footwear will make your walk safer and more comfortable.

Stay on the marked walking tracks.

Day walks

There are a number of short walks that require little effort within Kakadu. The rewards of these walks include Aboriginal art sites, billabongs and panoramic landscapes.

If you’re looking for something a little more challenging than the short walks listed in the What to See and Do guide, here are some interesting longer walks. These walks offer a heightened sense of discovery and require you to more diligent when following the track.

*Remember always carry and drink plenty of water.*

Sandstone and river bushwalk (dry season only)

Where: Starts off the Bardedjilidji walk located in the Ubirr Area

Features: An easy 6.5 km marked circular walk which takes you past Catfish Creek, floodplains, billabongs, sandstone outliers and the East Alligator River. Allow 4 hours.

Barrk bushwalk

Where: This marked walk branches off the Nourlangie Rock lookout track, just past the Main Gallery.

Features: A 12 km difficult walk through the sandstone country of Nourlangie, past the Nanguluwur art gallery and back to the car park. See the Barrk Walk Park. Note. Allow 6 to 8 hours.

Barrk Marlam bushwalk (dry season only)
Where: This marked day walk branches off the Jim Jim Falls Plunge Pool track

Features: A difficult 6 km return through the rugged stone country typical of the Arnhem Land Plateau. Allow 4 to 6 hours.

**Overnight bushwalking**

If you plan to camp overnight on a bushwalk you will need a permit. Please fill out a permit form and provide a copy of a topographic map showing your proposed route and camping sites for approval.

Application forms for permits can be organised

- through the Permits Officer Kakadu National Park telephone: 08 8938 1140;
- through the EPBC Permits website; or
- through the Bowali Visitor Centre in Kakadu.

**Please note:** Commercial bushwalking tours require a separate commercial tour operator’s permit. You will need to allow at least two weeks for processing. Make sure you read and understand all of the permit conditions.

**Please note:** As a safety precaution, there must be a minimum of two people on any overnight bushwalk in Kakadu National Park.

- Very good navigation skills are essential when bushwalking away from the designated marked trails.
- Your proposed bushwalking route and camping sites must be approved by park management and clearly indicated on a 1:50,000 or 1:100,000 topographic map, to be submitted with your permit application.

Mobile phones without satellite reception do not operate outside the Jabiru local area.
Reading 4.3.4: Extract from the Kakadu National Park Draft Management Plan—Day walks and overnight bushwalking

KAKADU NATIONAL PARK DRAFT MANAGEMENT PLAN

6.7 Day walks and overnight bushwalking

OUR AIM
Visitors to Kakadu have the opportunity to experience Kakadu’s habitats through provision of a range of day and overnight walking opportunities in a manner that protects and promotes the natural and cultural values of the Park.

MEASURING HOW WELL WE ARE MEETING OUR AIM

• Extent to which impacts from walking activities are within acceptable levels
• Level of Bininj satisfaction with management of and involvement in day and overnight walking activities
• Visitor satisfaction with the range of day and overnight walking opportunities

BACKGROUND
Kakadu provides a range of opportunities that enable visitors to undertake day walks and overnight bushwalks and is sought after as one of the major bushwalking destinations in the Top End. Marked walking tracks in the Park vary in duration from half an hour to whole day walks, are of varying difficulty and are located in a range of habitats including monsoon forests, woodlands, wetlands, rivers and escarpment country.

Opportunities for overnight bushwalks are provided in the escarpment country of the Park. These are undertaken along unmarked routes that have been identified by traditional owners.
Figure 7 – Camping and day use areas

This figure shows camping areas in the Park as at 2005 that are available for camping without a permit. There are other areas in the Park where camping is provided for only in accordance with a permit. Such areas may be restricted to minimise environmental impact, to protect the visitor experience, or for cultural purposes. Management arrangements for all camping in the Park will be reviewed during the life of the Plan.

Due to seasonal flooding, many day walks and overnight bushwalks are inaccessible during the wet season.
Wet season walks in Kakadu

Note: The above areas correspond to the area maps in your Kakadu National Park Visitor Guide.

South Alligator Area (off the Arnhem Highway)

(6) Gungarre Rainforest Walk: A 3.6 km circuit walk through monsoon rainforest and open woodland and overlooking the red lily-covered Angurrala Billabong. This area is rich in wildlife, including agile wallabies, orange-footed scrubfowl, yellow-spotted monitors and lots of mosquitoes. Allow about ninety minutes and be prepared for muddy sections. May close mid to late wet season.

(5) Mamukala Wetlands: Something for everyone with a 100 m stroll (unsealed but wheelchair accessible) to a platform with views of wetlands associated with the South Alligator River floodplain; a 500 m walk to a bird hide; and a 3 km circuit walk skirting the wetlands. Allow thirty minutes to two hours depending on the walk you do. May close mid to late wet season.

Nourlangie Area (off the Kakadu Highway)

(8) Mirrai Lookout: A moderately strenuous uphill walk leading to 360° views of the central part of Kakadu. The escarpment and Nourlangie Rock to the east, and the South Alligator floodplains to the west can be seen through the trees at the top of this 1.8 km return walk. Allow one to two hours.

(11) Nourlangie Art Site: Aboriginal paintings located in the Anbangbang Gallery at the base of Nourlangie are accessible by those in wheelchairs. Stairs lead to the impressive Anbangbang rock shelter and a gentle path leads to the Gunwardewarde Lookout which offers splendid views of the distant escarpment, including Lightning Dreaming. Much of this 1.5 km circuit track is paved.

(14) Nanguluwur Gallery: An easy 3.4 km return walk through open woodlands to some remarkable Aboriginal paintings on the northern side of Nourlangie Rock. The last 100 m or so is a steep walk up a rocky slope. Allow two hours return.

(12) Nawurlandja Lookout: A steady climb along a sloping rock platform leads to sensational views of Nourlangie Rock and across the flat woodlands to the dramatic walls of the distant escarpment. Best late in the afternoon when Nourlangie Rock is touched by the soft light of the setting sun. Allow half an hour for this 600 m return walk.

(15) Gubarra Walk: A 6 km return walk along a gently undulating track through woodlands and past impressive sandstone outliers to rock pools shaded by rainforest. Allow four hours.

(16) Barrk Sandstone Bushwalk: A challenging one-way 12 km circuit walk beginning with a steep ascent to the top of Nourlangie Rock from Gunwardewarde Lookout at the Nourlangie art site. The first half of the walk is the most exhilarating, spectacular and difficult. The second half is mostly flat, easy walking through the woodlands. Make sure you detour the 200 m to the Nanguluwur Gallery. Get more information and the Park Note for this walk from Bowali Visitor Centre before you go. Allow six to eight hours and make sure you keep the orange triangular markers in sight.

Yellow Water Area (off the Kakadu Highway)

(20) Gun-gardun Walk: An easy 2 km circuit walk through eucalypt woodland, Kakadu’s most widespread habitat. A walk in the cool of the morning or late afternoon may yield sightings of agile wallabies and various birds. Allow one hour.

Mary River Area (off the Kakadu Highway towards Pine Creek)

(21) Gungurul Lookout Walk: A short walk from the Gungurul picnic and camping area leading to a lookout with views of the South Alligator River.

(22) Bukbukluk Lookout Walk: A short stroll around lookout with viewing points revealing the southern hills and ridges. The diversity of habitats in this part of the Park are home to plants and animals not found elsewhere.

(23) Yurmikmik walks: A network of walking tracks starting and finishing at the Yurmikmik car park.

Boulder Creek walk: A moderate 2 km return walk taking about forty-five minutes. The track passes through open woodland and across the rainforest-lined Boulder Creek where you can detour to the Yurmikmik Lookout or head straight back to the car park.