



Park Opening Plan

Your behind the scenes guide to seasonal park opening processes

Kakadu National Park Tourism and Visitor Services 2023





Introduction

Throughout the year Kakadu's landscapes undergo dramatic seasonal changes.

Most visitors prefer the pleasant climate of the dry season, between May and September/October, when there's minimal rainfall and the skies are clear.

Between November and May Kakadu is in the grip of the wet season. During Kudjewk, the height of the monsoon season, waterfalls thunder off the escarpment, rivers and creeks swell and break their banks and floodplains fill up. The Rainbow Serpent is also particularly active at this time of year, especially in the waterfall regions.

During an average wet season many of the visitor sites in low-lying areas and the waterfall regions of the stone country become inaccessible due to flooding, with access roads, campgrounds, amenities blocks and pit toilets, walking tracks, shelters and picnic tables going under water.

Every year, as the wet season comes to an end, streams gushing off the Arnhem Land escarpment start to slow, floodplains begin to empty and sites become accessible again.

Rangers and park staff continually assess and mitigate risks on roads, walking tracks, and at visitor sites. Visitor safety is our highest concern — but ultimately everyone's responsibility.

This document provides an overview of what we do to open visitor sites after the wet season and how we communicate progress through different channels. It also outlines why we may need to close sites, temporarily or for the season.

Kakadu offers different experiences across the park and year-round! The below table provides guidance on when sites are generally open, and how they can be accessed.

Region	Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Main roads	Arnhem Highway												
	Kakadu Highway												
	Old Jim Jim Road												
	Oenpelli Road												
	Gimbat Road												
South	Two Mile Hole												
Alligator	Four Mile Hole												
-	Waldak Irrmbal (WAH)												
	Alligator Billabongs												
	Kungarre walk												
	Mamukala												
	South Alligator boat ramp												
	Ubirr												
East	Mangarre walk												
Alligator	Cahills Crossing viewing area												
(Erre)	Bardedjilidji walk												
(Live)	Merl campground												
	East Alligator boat ramps												
Jabiru	Bowali Visitor Centre												
vabii u	Bowali walking track												
	Yilikadjarr walk												
	Malabanjbanjdju camping												
	Burdulba campground												
Nourlangie	Burrungkuy art site												
	Barrk walk												
	Anbangbang Billabong												
	Nawurlandja lookout												
	Nanguluwurr art site												
	Kubara walk												
	Djarradjin (Muirella Park)												
	Bubba walk												
	Sandy Billabong (Djirrilba)												
	Mirray lookout							İ					
Yellow	Yellow Water cruise												
Water	Yellow Water boat ramp												
vvatei	Home Billabong boat ramp												
	Jim Jim Billabong												
	Mardukal boat ramp												
	Mardukal campground (caravan)												
	Mardukal campground (tent)												
	Kungardun walk												
Jim Jim	Karnamarr campground												
	Jim Jim Falls (gorge)												
	Barrk Marlam walk												
	Budjmi lookout												
	Twin Falls Gorge												
	Twin Falls Goige Twin Falls plateau walk												
	Bilkbilkmi (Graveside Gorge)	Permi	i it requir	ed ed									
	Maguk	CITT	i roquii	Ĭ									
Mary River	Gungurul campground & lookout												
way Kivei	Bukbukluk												
	Igoymarrwa												
	Kambolgie campground												
	Yurmikmik walks												
	Gunlom												
		Darre	it roomin										
	Jarrangbarnmi (Koolpin Gorge)	Permi	it requir	eu									
	Gimbat day use area												

Usually accessible by 2WD	Exclusive access, please enquire
Usually accessible by 4WD only	Inaccessible, seasonal closure
Check Kakadu Access Report	

Visitor Safety

ROAD SAFETY - FLOODING

Wet season flooding affects many of Kakadu's roads. On sealed roads a natural watercourse may spill over a floodway or culvert, on unsealed roads there may be no structure. Water levels can change rapidly and crossing flooded creeks and streams can be extremely dangerous. The ability to cross these floodways and streams will depend on the depth of water, the strength of the current, possible obstructions, the type of vehicle and the driver's experience.

We work with the Northern Territory Government's Department to keep road users safe. Water depth and velocity of flow of inundated sections of any of the main roads in the park will be reported by park rangers to the Department of Infrastructure, Planning and Logistics who in turn determine whether road access needs to be restricted.

Always look up the Kakadu Access Report and the Road Report NT to check conditions prior to travelling, obey directions from rangers and heed all signage. Remember: If it's flooded, forget it!

We use the following terminology in our access report and on signage:

Water over road/ High-clearance 4WD

Water is present over all or part of the road at levels up to 0.3 m, but the road is still trafficable, with caution.

Impassable

Access along the section of road is affected by flooding or other obstructions. Road conditions are likely to change rapidly and may present an extreme hazard. You should not attempt to use/access the road. This restriction usually comes into effect for water levels between 0.3 m and 0.5 m.

Road Closed

Temporary closure of the road where passage of motor vehicles is not permitted. Do not travel on closed roads. Penalties for driving on a closed road without a reasonable excuse as defined in the Control of Road Act, apply.

Waterways can become too dangerous to cross at depth of 0.4 m of fast-flowing water, even for high-clearance 4WDs. Roads will generally be deemed impassable at depths of 0.3m to 0.5 m and road closures will be in place at 0.5 m.

WATER SAFETY

Visitors are urged to understand the following warning to enjoy a safe visit.

Kakadu National Park has many spectacular waterways and natural pools however they can be dangerous for swimmers. Observe ALL safety warning signs; be aware of your surroundings; remember the location of Emergency Call Devices (ECDs) in case someone needs help; and carry a First Aid kit with you.

Watch for changes in the weather. Some waterways may flash flood causing dangerously strong currents, and many of the waterways are home to crocodiles. Crocodiles hunt by staying submerged and can attack in knee-deep water. Always stay a safe distance from the waters' edge. Be careful when walking near waterfalls or rock pools which can be slippery, and may contain submerged rocks or tree branches that pose risk. Water in rock pools can be extremely cold and may induce shock, especially on hot days.

The safest place to swim in Kakadu is in a public or hotel pool, and never swim alone.

CROCODILE SAFETY

More than 10,000 estuarine (saltwater) crocodiles inhabit the waterways across Kakadu National Park. Saltwater crocodiles are dangerous. Visitors are urged to be CrocWise, keep away from the water's edge and not to become complacent.

Saltwater crocodiles move around, especially during the wet season, and regularly find their way into creeks and plunge pools along the Arnhem Land escarpment. Crocodile surveys are conducted in all areas of the park where visitors are close to water, but five sites in Kakadu's stone country are designated crocodile management zones. Following the wet season, saltwater crocodiles are actively removed by park rangers from pools and creeks in these high-risk visitor areas which include Jim Jim Falls and Twin Falls gorges, Maguk, Gunlom and Jarrangbarnmi (Koolpin Gorge).

Despite our rangers' best efforts, crocodiles can move back into these areas undetected, so we do not recommend swimming in any of Kakadu's waterways. Remember that the safest place to swim in Kakadu is in a public or hotel pool, and you should never swim alone

Read the crocodiles safety advice on our website to stay safe in crocodile country.

For more detailed information on crocodile management in Kakadu see Attachment 3.





The risk of heat exhaustion and dehydration increases considerably between October and March, when temperatures often reach 40 °C and above and the humidity is on the rise.

No matter how fit a person, hot weather can be draining, and overexertion can quickly turn into a life-threatening situation. Heat exhaustion and dehydration can hit suddenly and lead to dire consequences in remote locations. This is an issue traditional owners and park staff are very concerned about.

Parks Australia has implemented a heat management strategy to improve visitor safety at Kakadu National Park.

On days when the temperature is forecast to be 36 C or above, visitors are encouraged to:

- start longer day walks before 9.00 am
- avoid walking during the hottest time of the day (1.00 pm to 6.00 pm)
- heed the safety advise on our website.

Kakadu's longer day walks in the stone country are closed annually from 1 October or when the Bureau of Meteorology announces the first severe heatwave for the Kakadu region.

A heatwave occurs when the maximum and the minimum temperatures are unusually hot over a three-day period at a location.

Heatwaves are classified into three types, based on intensity.

- **Low-intensity heatwaves** are more frequent during summer. Most people can cope during these heatwaves.
- **Severe heatwaves** are less frequent and are likely to be more challenging for vulnerable people such as the elderly, particularly those with medical conditions.
- Extreme heatwaves are rare. They are a problem for people who don't take precautions to keep cool—even for people who are healthy. People who work or exercise outdoors are also at greater risk of being affected.

Rangers may temporarily close other walks on days that are forecast to exceed 36 C degrees or above. For everyone's safety, adhere to rangers' directions and all signs.

We use our Kakadu Access Report, website, social media channels and temporary signage to advise of any closures. Tourism stakeholders will be advised via EDM.

FIRE WEATHER

Kurrung (hot weather time, from August to October) is fire weather season.

On hot and windy days any fires that start can be fastmoving and difficult to control. Flying embers from campfires or carelessly discarded cigarette butts can start grass fires that quickly burn out of control.

The Park Manager will enact a total fire ban for Kakadu National Park when an extreme fire danger rating has been issued for the West Arnhem fire forecast area by the Bureau of Meteorology or a total fire ban has been declared by Bushfires NT for the Northern Fire Protection zone adjacent to the park.

If a fire ban has been declared all fires must be put out. Avoid lighting any fires during a declared fire weather period.

In case of a wildfire near a visitor site, campground, walking track or other infrastructure rangers may need to close an area at short notice.

We use our Kakadu Access Report, website, social media channels and temporary signage to advise of any closures. For everyone's safety, adhere to rangers' directions and all signs.

Refer to the section on fire management (page 14) to learn more about the role fire has in land management.

COVID-19

We request that visitors follow the directions of the NT Chief Health Officer, particularly in relation to the latest public exposure sites. For the latest COVID-19 health advice for the Northern Territory visit https://coronavirus.nt.gov.au/.

Updates regarding access to Kakadu National Park will be provided on via the Kakadu Access Report, our website and social media channels.



Seasonal conditions

KURRUNG (HOT WEATHER TIME, AUGUST TO EARLY OCTOBER) AND KUNUMELENG (BUILD-UP SEASON, OCTOBER TO DECEMBER)

Temperatures in Kakadu can be very hot between October and March and regularly exceed 40 C during Kurrung and Kunumeleng. Increasing humidty during Kunumeleng adds to the discomfort. The air becomes stifling and rocks too hot to touch.

During heatwaves temperatures stay high overnight and maximum temperatures will be reached earlier the following day. Heatwaves put stress on the body as hot nights make it harder to recover from the day of the heat.

Kakadu's longer day walks, the River and Sandstone walk (East Alligator (Erre) region), Barrk Sandstone walk (Nourlangie region), Barrk Marlam walk (Jim Jim region) and the Twin Falls plateau walk close once conditions become too hot. Sometimes we have to extend these closures other stone country walks.

The Barrk Sandstone walk (Nourlangie region) re-opens in the wet season once conditions become overcast, temperatures decrease, and water becomes more readily available along the walk. See Attachment 2 for average annual temperatures and rainfall.

KUNUMELENG (BUILD-UP SEASON, OCTOBER TO DECEMBER), KUDJEWK (MONSOON SEASON, JANUARY TO MARCH) AND BANGKERRENG (KNOCK 'EM DOWN STORMS, MARCH TO APRIL)

Kakadu rangers may close visitor sites if weather patterns indicate potential for flash flooding, or other major weather events such as cyclones. This is done with the approval of Kakadu's Park Manager.

Conditions can change suddenly during the wet season and flash flooding can occur with very little warning and cause dangerously strong currents; therefore we do not recommend swimming in any of Kakadu's waterways.

In preparation for the wet season rangers build up potential washouts on tracks, clean up and secure campgrounds and remove infrastructure that would likely get damaged during the wet season.

Once infrastructure such as crocodile traps, safety fencing or handrails have been removed, sites like Jim Jim Falls, Maguk, Jarrangbarnmi and Gunlom will close for the wet season.

Seasonal Opening and Closing Dates

Average opening dates for some of our visitor sites are taken from the past 15 years of historical data. Dates for opening and closing are indicative only as seasonal conditions can affect visitor sites in different ways.

For several years we have closed Jim Jim Falls, Twin Falls and the longer day walks like the Barrk Sandstone walk at Burrungkuy (Nourlangie) and the Sandstone and River walk (Badbong Wodjmeng) in the East Alligator (Erre) region before the onset of the wet season.

Senior traditional owners strongly support our Heat Management Strategy and the staged plan to close sites from early October (unless extreme heat or sudden heavy rains require sites to be shut earlier) for visitor safety.

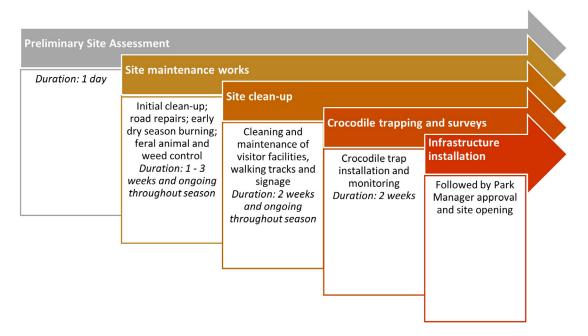
Planned closure dates are communicated to stakeholders each year with at least four weeks' notice.

Table 1: Seasonal opening and closing dates of key sites

Site	Usually Opens	Closure date		
Ubirr art site	1 Dec — 31 Mar 2.30 pm — sunset 1 Apr — 30 Nov 8.30 am - sunset	Closed to the public whenever Oenpelli Road is impassable at Magela Creek. Enquire about tourism operators with wet season access permits.		
Sandstone and River walk (Badbong Wodjmeng)	June	1 October, 4.00 pm Unless extreme temperatures or sudden heavy rainfall requires the site to be closed earlier.		
Barrk Sandstone walk (Nourlangie region)	February	1 October, 4.00 pm Unless extreme temperatures or sudden heavy rainfall requires the site to be closed earlier. Walk to re-open once regular rainfall sets in.		
Twin Falls plateau (escarpment) walk	Mid-late June	1 October, 4.00 pm Unless extreme temperatures or sudden heavy rainfall requires the site to be closed earlier.		
Barrk Marlam walk (Top of Jim Jim Falls)	Early-mid June	1 October, 4.00 pm Unless extreme temperatures or sudden heavy rainfall requires the site to be closed earlier		
All other sites in the Jim Jim area	Early-mid June	1 November, 4 pm Unless sudden heavy rainfall requires these sits to be closed earlier.		
Bilkbilkmi (Graveside Gorge)	Mid-June – mid-July	1 October, 4.00 pm Unless extreme temperatures orsudden heavy rainfall requires the site to be closed earlier.		
Jarrangbarnmi (Koolpin Gorge)	Early-mid June	1 October, 4.00 pm Unless extreme temperatures or sudden heavy rainfall requires the site to be closed earlier.		
Maguk	Early June	Mid-late December		
Gunlom	Early-mid May	Mid-late December		
4 Mile Hole	Mid-June — mid-July	December		
Waldak Irrmbal (West Alligator Head)	July	November		
Sandy Billabong (Djirrilba)	May	December		
Alligator Billabong (Gurdurunguranjdju)	June	November		

Access to Visitor Sites

For each visitor site affected by wet season closures, rangers undertake a range of different works, summarised in below graphic.



ROADS

The Director of National Parks is responsible for the management and maintenance of the road network and infrastructure under its control within Kakadu National Park.

The Northern Territory Government is responsible for the management of the Arnhem Highway, Kakadu Highway, Oenpelli Road, Cahills Crossing, the Old Jim Jim Road (sometimes referred to as 'Old Darwin Road'), Cooinda Road and the Gimbat Road from the Kakadu Highway to the Jarrangbarnmi (Koolpin Gorge) turnoff.

Kakadu's roads can be greatly affected by wet season flooding. Overland flows and rising rivers and creeks regularly damage key roads, preventing access to some of our most popular visitor sites.

Every year we dedicate resources to the restoration of these roads, generally around April to May each year, depending on weather conditions and the impact of the past wet season. We aim to open roads as soon as we can, keeping in mind that people's safety is our number one priority.

Parks Australia works closely with the NT Department of Infrastructure, Planning and Logistics (DIPL) on road maintenance. One example is the Gimbat Road, providing access to Yurmikmik, Jarrangbarnmi (Koolpin Gorge) and the Gunlom Road. When works commence on the Gimbat Road, we liaise with DIPL and their panel contractors to also repair approx. 10 km of the Gunlom Road. This allows our rangers to gain access to Gunlom and begin to prepare the site for opening.





Above: Unsealed roads in different stages of repair after the wet season.



Above: Gunlom campground and facilities prior to site opening.

We aim to have the unsealed roads to key visitor sites graded every three to four weeks once sites have opened for the dry season. Grading is undertaken by Parks Australia and also by using contracted service providers.

Rangers monitor the road, and grading frequency may be increased depending on traffic volume, the rate at which road conditions deteriorate, and the availability of plant and equipment.

Graders operate at a rate at which they can do so safely, which is largely dependent on the amount of other road users. Always adhere to speed limits on Kakadu's roads, be mindful of other road users and overtake graders only where and when it is safe to do.

The Australian Government (through Parks Australia) remains committed to supporting tourism in Kakadu by investing an unprecedented \$276 million to implement the infrastructure upgrades identified in the Tourism Master Plan (2020-2030). This includes \$70 million for the implementation of the Kakadu Roads Strategy, which will improve road safety and visitor access to key sites over coming years.

CAMPGROUNDS AND DAY USE AREAS

We manage 20 campgrounds, five of which have toilet and shower facilities. At the start of the dry season, we eradicate weeds and mow grass, tidy campsites, clean picnic facilities, give amenities blocks a high clean and repair any damage to infrastructure.

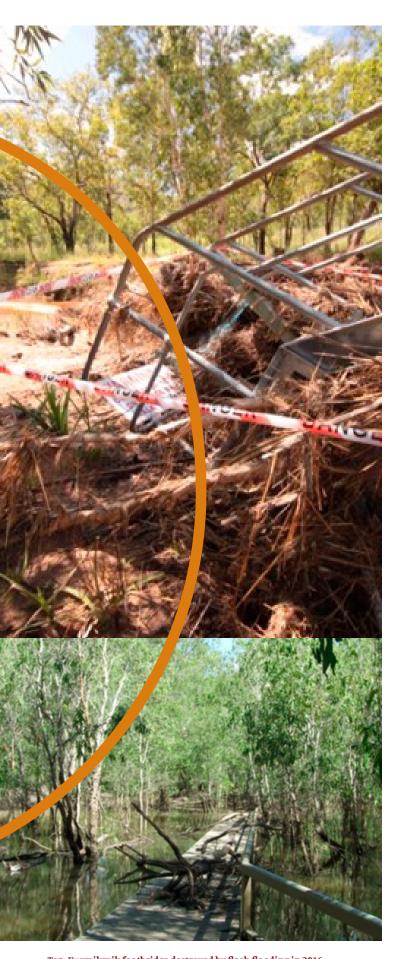
At our other campgrounds with more basic facilities (composting toilets, designated camping sites and fireplaces) we clean up, manage weeds and mow grass.

VISITORFACILITIES AND INFRASTRUCTURE

We maintain water tanks, toilet facilities, shade structures and furniture, car parks, boat ramps, fish-cleaning bays, signs and projector screens for ranger-guided activities.

Water, pumped into water tanks from bores, is provided at the 5 campgrounds with on-site managers (Gunlom, Merl, Djarradjin (Muirella Park), Mardukal and Karnamarr) as well as other popular sites in the park. We perform repairs and maintenance annually on tanks and pumps. We maintain solar panels for provision of lighting and hot water, repairing them as required. We also re-install shade sails, safety fencing and handrails.

Our rangers keep weeds at bay, repair walking tracks, maintain carpark areas and replace track markers and damaged signs as required.



Top: Yurmikmik footbridge destroyed by flash flooding in 2016. Bottom: Debris covering the bridge across Catfish Creek on the Sandstone and River Walk after heavy September rainfall in 2016.

WALKING TRACKS AND MARKERS

Our Kakadu Walking Track Manual (feel free to request a copy) contains an inventory of over 40 short day walks in the park.

Rangers walk each track before opening to assess and mitigate risks, clear them of debris, re-align where necessary, re-install safety signs and track markers and check Emergency Call Devices (ECDs) in the area.

EMERGENCY CALL DEVICES (ECDS)

We provide and maintain Emergency Call Devices at each of the major visitor site across the park for visitors in distress. Our rangers test each of the 17 ECDs to ensure they are functioning, once sites are accessible.

Other park management considerations





Left: Water buffalo.

Right: Salvinia molesta infestation caused the temporary closure of 4 Mile Hole in 2016.

FERALS AND WEEDS

Rangers continue to manage feral animals and weeds during the wet season to allow popular visitor sites to reopen as soon as possible.

Large herbivores like feral buffalo and cattle can be aggressive and potentially cause injury by charging at vehicles or walkers. Their trampling also causes environmental damage like soil erosion and the spread of weeds across the landscape.

Rangers, working together with Bininj/Mungguy target feral animals along roads, walking tracks and camping areas and across the park to reduce the risk of dangerous encounters. We aim to share any meat from feral control of animals such as buffalo, cattle and pigs among local Bininj/Mungguy communities. We are doing our best to keep visitor sites open to the public during feral animal management, but may have to restrict access to sites temporarily for visitor safety.

We work year-round on eradicating several noxious weeds across the park, including foreign grasses, mimosa, and that scourge of all fishermen — salvinia.

At times we need to temporarily close visitor sites to give our rangers a chance to thoroughly clean up sites, manage new infestations, and prevent the spread of weeds to other sites.

To help us prevent the spread of weeds, please stay on tracks, use only designated camp sites and boat ramps, and remove any plant material from your vehicle, boat or trailer before moving to the next site.



Above: Fire management

FIRE MANAGEMENT

Fire management is a key component of land management in Kakadu to:

- protect archaeological and art sites from damage or destruction from fire
- maintain visitor safety
- promote biodiversity and vegetation communities
- reduce the incidence of late dry season fires

We conduct wet season and early dry season burns, using traditional practices that have been used by Aboriginal people for thousands of years to clean up and care for country, for hunting, ceremony and signalling. Traditional burning practices are recognised in fire management programs — Bininj/Mungguy and park rangers manage country by combining traditional ecological knowledge with western scientific applications.

Rangers together with Bininj/Mungguy traditional owners conduct small, patchy, cool burns which are implemented from the air, vehicle and on foot.

Visitors are most likely to see early dry season burning in the savanna woodlands that are dominated by annual speargrass (sorghum ssp). Early dry season burns also include asset protection burns (around campgrounds, walking tracks, roadsides, infrastructure, and other assets), landscape-scale strategic burning for biodiversity management, and for reducing the fuel load to protect the country from yast destructive late season fires as well.

The type of vegetation in each of the park's six major ecosystems determines how fire is used. For most parts of Kakadu fire management wraps up in mid-July, before conditions become hot, dry and windy.

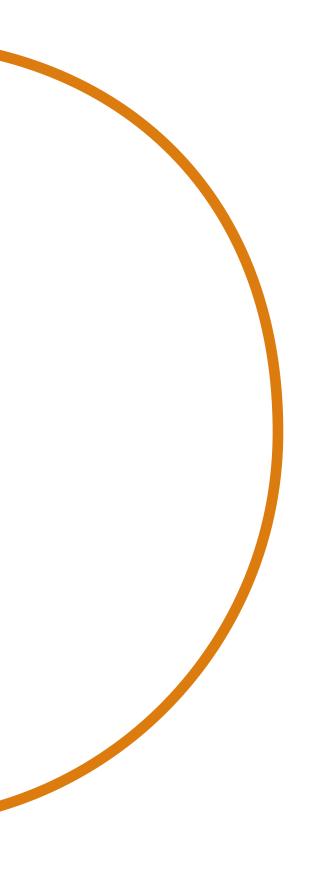
Work is scheduled to minimise disruption to access at visitor sites. On occasion, rangers may need to close a site temporarily to manage burns. They will install temporary signage and inform Visitor Services Officers at the Bowali Visitor Centre. Details will be shared on our | Kakadu Access Report, website, and social media channels.

CULTURAL CONSIDERATIONS

Bininj/Mungguy have important obligations to care for country and fulfil cultural responsibilities. At times, traditional owners may request the temporary closure of a visitor site to do so.

This may occur at short notice, e.g. following the passing of a member of Kakadu's Indigenous community or an incident at a visitor site. Kakadu's traditional owners feel a great sadness whenever somebody dies or is hurt on their country and sites may be closed for a period determined by Bininj/Mungguy as a mark of respect.

Parks Australia is committed to respect the wishes of traditional owners and will implement respectful closures as requested. We use our Kakadu Access Report, website, social media channels and temporary signage to share closure notices. Tourism stakeholders will be advised via EDM.



Communication

You can access up-to-date information via a range of different means.

Make sure to follow us on social media or subscribe to our email services if you want to stay informed on any changes to site access.

BOWALI VISITOR CENTRE

Open every day (except Christmas Day and New Year) from 8.00 am to 5.00 pm

Phone: (08) 8938 1120

Email: Kakadunationalpark@awe.gov.au

WEB

Kakadu Access Report | Kakadu National Park (parksaustralia.gov.au)

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SOCIAL MEDIA

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Attachment 1

Historical and opening closing dates (based on data recorded since 1998).

Site	Historical Ope	ening Dates	Historical Closing Dates			
	Earliest date on record	Latest date on record	Earliest date on record	Latest date on record		
Jim Jim Falls	Early-mi	id June	Mid-late November			
	1 May 2009	13 July 2006 (3 July 2020*)	3 September 2016 (12 October 2010)**	21 December 1999		
Barrk Marlam Walk	Early-mi	id June	Mid-late October			
	26 May 2015	30 June 2010	3 September 2016 (30 September 2019)**	5 November 2015		
Twin Falls Gorge	Jul	y	Early-mid November			
	24 May 2009	20 July 2006	3 September 2016 (6 October 2014)	24 November 2006		
Twin Falls Escarpment Walk	Mid-late June		Early-mid November			
	14 May 2002	12 August 2017	3 September 2016 (6 October 2014)	15 December 2017		
Maguk	Early-mi	id June	Mid-late December			
	4 May 2015	14 July 2001	19 September 2016	30 December 1998		
Gunlom	Early-m	id May	Mid-late D	ecember		
	28 March 2002	31 May 2011	1 November 2010	3 January 2000		
Jarrangbarnmi	Early-mid June		November			
	24 April 2015 18 August 2011		20 September 2016 3 December 2014			
Bilkbilkmi	Mid June -	mid July	Noven			
	17 June 2002 5 August 2014		19 September 2016 1 December 2002			
Waldak Irrmbal	July		Mid-late November			
	16 June 2014 22 August 2013		28 September 2016 12 December 20			
4 Mile Hole	Mid June-mid July		December			
	11 June 2018 22 August 2013		28 September 2016 24 December 2012			
Alligator Billabong	June 27 April 2002 17 july 1999		November 28 September 2016 18 December 2019			
Can de Pillahan a			December			
Sandy Billabong	Ma 5 April 2016		Decen 26 September 2016			
Iim Iim Billahang	5 April 2016	14 August 2017	26 September 2016 16 January 2019 December			
Jim Jim Billabong	Mid-late May 10 April 1998 19 June 2016					
	10 Abrii 1998	19 Julie 2010	19 September 2016	21 January 2017		

Attachment 2

JABIRU AIRPORT ANNUAL TEMPERATURES AND RAINFALL

Last 12 Months - Temperature



Last 12 Months - Rainfall



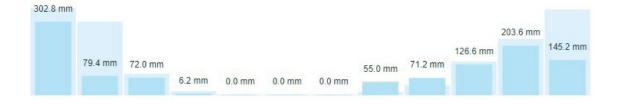


Table adapted from www.weatherzone.com.au (current January 2023)

Attachment 3

MANAGING OUR CROCODILES

Our rangers conduct crocodile surveys in all areas of the park, but especially focus on where visitors may be near water. At some of the plunge pools below the Arnhem Land escarpment where swimming is not prohibited, our rangers actively remove estuarine (saltwater) crocodiles to reduce the risk to people who chose to enter the water.

Remember, for people's safety we cannot permit swimming outside of the places managed for this purpose. Staff monitor crocodile behaviour and a small number of "problem" crocodiles that display aggressive behaviour, e.g. interfere with boats, may need to be removed. Surveys may also prompt rangers to re-direct walking routes and install safety signage.

Saltwater crocodiles are on the move during the wet season. When large areas of the park become inundated, crocodiles can move large distances in search of new territories. They may be seeking temporary respite from larger crocodiles or looking for a feed. In any case, these animals are likely to be very aggressive, and an attack can lead to death.

Rangers undertake several site-specific procedures to maximise visitor safety once water levels have dropped enough to prevent crocodiles from moving in and out of management zones.

Kakadu National Park works with NT Parks and Wildlife Commission's crocodile management unit on best practice crocodile management. Together we develop procedures, statistics and visitor safety messaging are shared and developed together.





Buoy with bite marks.

Ranger baiting a crocodile trap.

1. BUOYS

Polystyrene buoys on a rope are placed into the waterway and left for a few days. As water levels drop crocodiles become trapped in waterholes or watercourses with food sources depleting quickly. An inquisitive and hungry crocodile will generally take a test bite of the polystyrene buoy and leave tooth marks behind.

Rangers will inspect the buoy after a few days to see if it has bite marks in it. The size of any tooth marks also helps rangers determine the approximate size of the animal.

2. INSTALLATION OF CROCODILE TRAPS

Several crocodile traps are installed at Jim Jim Falls, Twin Falls, Maguk, Gunlom and Jarrangbarnmi (Koolpin Gorge) after each wet season and then removed again before flooding returns. These aluminium traps are close to 5m long with pontoons for flotation on each side. Usually 4-5 rangers are required to install a trap, with an additional ranger on watch for crocodiles. Rangers bait the trap before leaving the area. Leaving the site quiet for about a week allows crocodiles in the area to settle down, regain confidence, come out of hiding and ideally take the bait.

As saltwater crocodiles can move into waterways undetected at any time of the year, traps are continuously monitored and every 1-2 weeks throughout the dry season.



3. CROCODILE NIGHT SURVEYS

Crocodiles can be elusive and spotting one during the daytime can be difficult. Night-time spot-lighting surveys are conducted in management zones, using boats modified for the purpose, with silent electric motors.

Rangers scan the water for "eye-shine" with a high-powered spotlight. The reflective red eye-shine in the water indicates a crocodile in the waterway. The size and shape of the animal is assessed to determine if it is a freshwater crocodile which generally poses no threat to human life, or whether it is an estuarine crocodile that needs to be removed.

Rangers need to be satisfied that five night surveys of a crocodile management zone have not returned any evidence of estuarine crocodiles in the area, before a visitor site can be opened.

These five surveys, however, cannot occur over consecutive nights.

Saltwater crocodiles can recognise patterns and will learn to go underwater and hide if a boat enters the }water around the same time each night and a bright light is pointed at them for several nights in a row. For this reason, surveys are usually conducted randomly over a 2-3 week period. This happens concurrently across all managed waterways.

4. TRAPPED - NOW WHAT?

In consultation with Bininj/Mungguy, rangers discuss the appropriate removal of the animal. Depending on the location management responses may vary.

In some parts of the park crocodiles are totem animals and traditional owners request they are removed and relocated. In other areas crocodile is a valued food source, and meat from trapped animals is shared among the local community.

5. FINAL SURVEYS

Once an estuarine crocodile has been removed, rangers must conduct another five non-consecutive nights of spot-lighting surveys. When rangers are satisfied there are no other estuarine crocodiles in the water, the area can be opened for access.

