



kakadu
NATIONAL PARK

Park Opening Plan

Your behind the scenes
guide to seasonal park
opening processes



Tourism and Visitor
Services
Kakadu National Park |
2017

INTRODUCTION

Every year Kakadu's landscapes undergo dramatic seasonal changes. Between November and May Kakadu experiences monsoonal rains; 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 as many as two thirds of all visitor sites may succumb to flooding, with access roads, campgrounds, amenities blocks and pit toilets, walking tracks, shelters and picnic tables going under water. With visitor safety being the number one priority, rangers are continually assessing and mitigating risks on roads, walking tracks, and with infrastructure and wildlife as they prepare sites for re-opening.

That's why we want to provide you with a clearer overview of what we do to open visitor sites after the wet season and how we will be communicating this with you into the future.

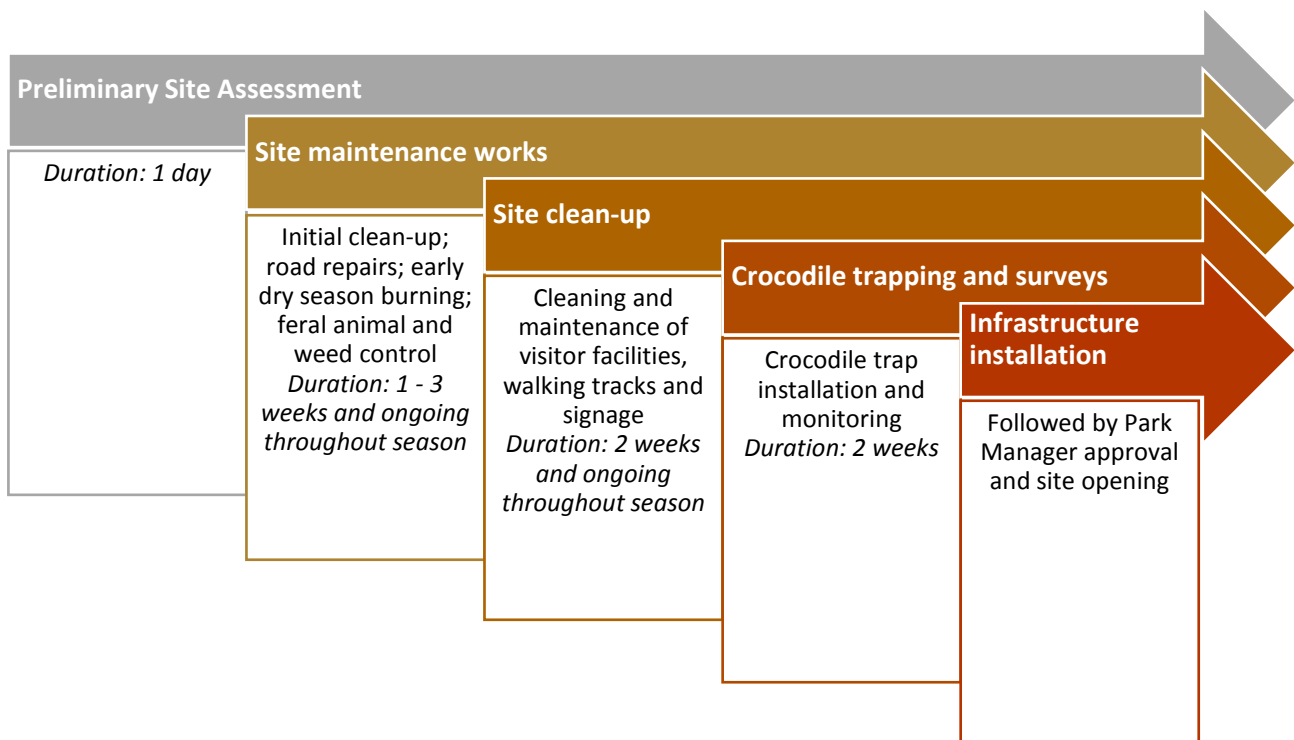
What sites are affected and when do they open again?

Average opening dates are taken from past 15 years of historical data. For more information on historical opening and closing dates please see Attachment 1.

Site	Usually Opens
Jim Jim Falls	Early-mid June
Barrk Marlam Walk	Mid June
Twin Falls Gorge	Late June
Twin Falls Escarpment Walk	Mid-late June
Maguk	Mid-late June
Gunlom	Early-mid May
Jarrangbarnmi (Koolpin Gorge)	Mid-late June
Bilkbilkmi (Graveside Gorge)	Mid June – mid July
Gunlom	Early-mid May
Waldak Irrmbal (West Alligator Head)	Mid-late July
4 Mile Hole	Late June – early July
Alligator Billabong	June
Sandy Billabong	Mid-late May
Jim Jim Billabong	Mid-late May

What work do rangers do to open a visitor site?

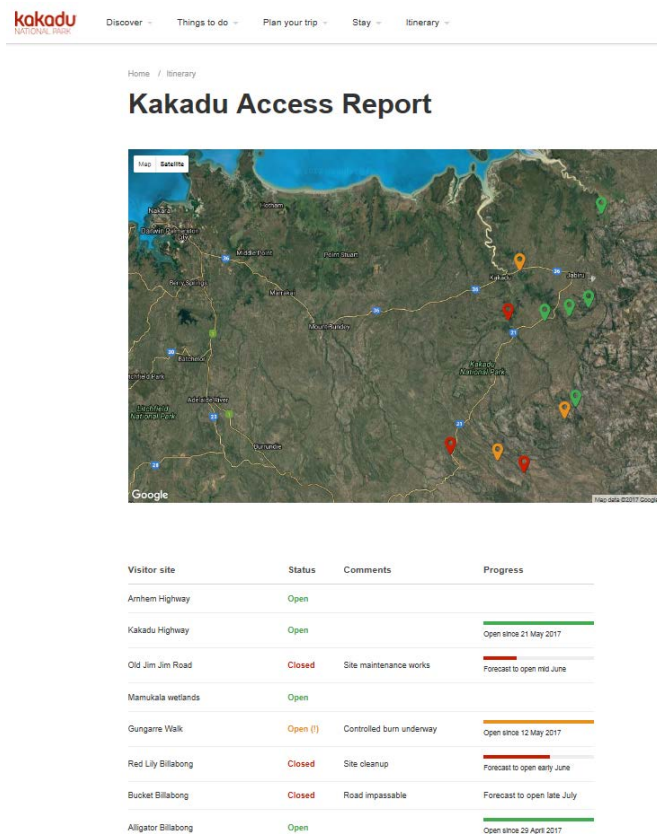
For each visitor site affected by wet season closures, rangers undertake the below steps:



How we communicate our progress

We aim to keep our popular sites open for as long as possible. If we are forced to close any during the wet season, principally due to inaccessibility and visitor safety concerns, we aim to give operators and the public as much notice as possible in this changing environment.

The new [Kakadu Access Report](#) is the key source of information about access to visitor sites and is on our visitor website or you can subscribe to have the report emailed daily.



Now, to make it even easier for all of our operators and visitors, we are adding an online progress chart to the Access Report to show you on a daily basis where we are up to with the opening steps. As always, people's safety is our number one priority, so by monitoring our progress you'll be able to commence planning your tours and park visit, as well as ensuring both yourself and visitors are safe by only accessing sites once cleared by our Park Manager.

The progress chart is updated daily and is available at [Kakadu Access Report](#) - below is an example of how the status of is displayed:

Step	Status	Description	Progress
Site temporarily closed	Closed	Site closed due to events beyond Kakadu's control. For example: flooding, bushfires, roadworks or extreme weather.	0% complete
Preliminary site assessment	Closed	Inspect the site and plan upcoming works. Takes one day to complete.	5% complete
Site maintenance works	Closed	Initial cleanup, road repairs, early dry season burning, feral animal and weed control. Takes one to three weeks.	30% complete
Site cleanup	Closed	Cleaning and maintenance of visitor facilities, walking tracks and signage. Takes two weeks.	60% complete
Crocodile trapping and surveys	Closed	Crocodile trap installation and monitoring. Takes two weeks.	75% complete
Infrastructure installation	Closed	Followed by Park Manager approval and site opening.	90% complete
Open, but beware of risks	Open (!)	For example: road conditions, fire management and ongoing work.	100% complete
Conditions are good and accessible	Open	Any site specific advice will be noted.	100% complete

You can also keep up with the latest by following our [Kakadu Facebook Page](#) or subscribing to our [Kakadu Tourism Industry Updates](#)



VISITOR SAFETY

Weather conditions

Kakadu rangers close particular sites as soon as 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.

We try to reduce the wear and tear on infrastructure by preparing for the wet season – building up potential washouts, cleaning up and securing campgrounds and when deemed appropriate, removing the Twin Falls floating walkway and shuttle boats.

The risk of heat exhaustion and dehydration increases considerably during the late dry season and the build-up. No matter how fit a person, hot weather can be draining and over exertion can quickly turn into a life-threatening situation. Heat exhaustion and dehydration can hit suddenly, and in such remote locations can lead to dire consequences. This is an issue traditional owners and park staff are very concerned about.

We recommend avoiding strenuous walks during the heat of the day, carry plenty of drinking water and starting walks before 9:00am to return by 11:00am.

For people's safety, our rangers may need to temporarily close walks on days that are forecast to be 36 degrees or above after 11:00am.

With temperatures regularly reaching 35 to 40 degrees, Kakadu's longer day walks, the River and Sandstone Walk (East Alligator region), Barrk Marlam Walk (Jim Jim Region) and, the Twin Falls Escarpment walks close for the build-up. Sometimes we have to extend this to some stone country walks too.

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.



Above: Flooding of Malabanjbanjdju and Burdulba camping area and walking tracks.

Jim Jim, Twin Falls and Nourlangie

For several years we have closed Jim Jim Falls, Twin Falls and the Barrk Sandstone Walk at Nourlangie during the wet season. Senior traditional owners strongly support the staged plan to close sites from mid-October (unless sudden heavy rains require sites to be shut earlier) for visitor safety.

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

Site	Closure Date
Barrk Marlam Walk (Top of Jim Jim Falls)	Mid-October Usually from 4:00PM on a Sunday afternoon Unless sudden heavy rainfall requires the site to be shut earlier
Twin Falls Escarpment Walk	Mid-October Usually from 4:00PM on a Sunday afternoon Unless sudden heavy rainfall requires the site to be shut earlier
Barrk Sandstone Walk (Nourlangie Rock)	Mid-October Usually from 4:00PM on a Sunday afternoon Walk to re-open once regular rainfall occurs
Jim Jim Falls (gorge), Jim Jim day use area, Budjmi Lookout, Twin Falls Gorge, Garnamarr campground	Early November Usually from 4:00PM on the first Sunday of November Unless sudden heavy rainfall requires the site to be shut earlier

Crocodile management

More than 10,000 saltwater crocodiles inhabit the waterways across Kakadu National Park. Crocodile surveys are conducted in all areas of the park where visitors are in close proximity to water. There are a limited number of sites that allow swimming, namely plunge pools below the Arnhem Land escarpment where crocodiles are actively removed by park rangers to reduce the risk to people who choose to enter the water. Estuarine crocodiles are removed at the end of every wet season in five management zones in high risk visitor areas around waterways. These areas have been classified as special management zones and include Jim Jim Falls and Twin Falls gorges, Maguk, Gunlom and Jarrangbarnmi (Koolpin Gorge).

For more detailed information see Attachment 3.



Above: Crocodile management using traps.

ACCESS TO VISITOR SITES

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, Cahills Crossing, the Old Jim Jim Road, Oenpelli Road, Cooinda Road and the Gimbat Road up to the Jarrangbarnmi (Koolpin) Gate.

Kakadu roads are greatly affected by the annual wet season. Depending on the severity of the wet season, overland flows and rising rivers and creeks regularly damage key roads, preventing access to some of our most popular visitor sites.

We dedicate resources to the restoration of these roads at the end of the wet season, generally around April to May each year, depending on the size and nature of the wet.

Around 10,000 crocodiles call Kakadu home and they're on the move during the wet. We aim to open roads as soon as we can, keeping in mind that people's safety is our number one priority.

We work closely with the NT Department of Infrastructure, Planning and Logistics (DIPL) on road maintenance. One example is the Gimbat Road, providing access to Gunlom. After the wet season we begin work on Gimbat Road, using DIPL panel contractors to repair the final 10 km. This allows our rangers to gain access to Gunlom and begin the opening up of the area to visitors. See Attachment 1 for historical opening and closing dates for visitor sites.



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

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 slash 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, slash weeds and mow grass.



Above: Gunlom campground and facilities prior to site opening.

Visitor facilities and infrastructure

We maintain water tanks, toilet facilities, shade structures, 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, Muriella Park, Mardugal and Garnamarr) as well as other popular sites in the park. We perform repairs and maintenance annually on tanks and pumps. We maintain solar panels to providing lighting and hot water, repairing them as required. We also re-install shade sails and projector screens for slide shows. Our rangers slash weeds and repair all of our car parks, replacing damaged signs as required.

At Twin Falls we use a helicopter to install the floating boardwalk as crocodiles are known to inhabit this water body. Visitors need to make their way safely across the deep creek crossing to access this popular attraction. Water levels after the wet season often take a long time to drop, meaning we're often unable to reopen until late June to early July.



Above: A helicopter installing the floating boardwalk at Twin Falls Gorge

Rangers can only safely cross the Jim Jim Creek by vehicle to access Twin Falls Gorge once the water has dropped below 1m in depth. Once the water level drops to 0.8m or less at the crossing visitors can access the area by high-clearance 4WD with snorkel only.

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, including their track classifications using the Australian Standards from the 'Users Guide to the Australian Walking Track Grading System'.

Rangers walk each track before opening to assess and mitigate risks, clear them of debris, re-align where necessary and re-install safety signs and track markers.



Left: Yurmikmik footbridge destroyed by flash flooding in 2016.

Right: Debris covering the bridge across Catfish Creek on the Sandstone and River Walk after heavy September rainfall in 2016.

Emergency Call Devices (ECDs)

We provide and maintain Emergency Call Devices at each major visitor site across the park for visitors in distress. Our rangers test each of the 16 ECDs to ensure they are functioning, once sites are accessible.

OTHER MANAGEMENT CONSIDERATIONS DURING THE YEAR FOR VISITOR SITES

Feral animals 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 can be aggressive and potentially cause injury by charging at vehicles or walkers. Their trampling also promotes the spread of weeds across the landscape.

Rangers, working together with Bininj/Mungguy target feral animals along walking tracks and camping areas to reduce the risk of dangerous encounters. Any meat from feral control of animals such as buffalo, cattle and pig is shared among local Bininj/Mungguy communities.

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 our rangers have to temporarily close visitor sites to prevent the unintentional spread of weeds and give our rangers a chance to thoroughly clean-up sites.



Left: Water buffalo. Right: Salvinia infestation caused the temporary closure of 4 Mile Hole in 2016.

Fire management

We conduct early dry season burns using traditional burning practices. Rangers together with Bininj/Mungguy traditional owners conduct small, patchy, cool burns which are implemented from the air, vehicles and on foot.

Early dry season burns include asset protection burns (around campgrounds, walking tracks, roadsides, infrastructure and other assets) to reduce the spread of destructive late season fires as well as landscape-scale strategic burning for biodiversity management.



Above: Fire management

Cultural considerations

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

This may occur at short notice following the passing of members 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 number of days as a mark of respect.

ATTACHMENT 1

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

Site	Historical Opening Dates		Historical Closing Dates	
	earliest date on record	latest date on record	earliest date on record	latest date on record
Jim Jim Falls	Early-mid June 1 May 2009	13 July 2006	Mid-late November 3 September 2016 (12 October 2010)	21 December 1999
Barrk Marlam Walk	Mid June 26 May 2015	30 June 2010	Mid-late October 3 September 2016 (6 October 2014)	5 November 2015
Twin Falls Gorge	Late June 24 May 2009	20 July 2006	Early-mid November 3 September 2016 (6 October 2014)	24 November 2006
Twin Falls Escarpment Walk	Mid-late June 14 May 2002	22 July 2010	Mid November 3 September 2016 (6 October 2014)	15 December 2007
Maguk	Mid-late June 4 May 2015	14 July 2001	Mid-late December 13 October 2010	30 December 1998
Gunlom	Early-mid May 28 March 2002	31 May 2011	Mid-late December 1 November 2010	3 January 2000
Jarrangbarnmi	Mid-late June 24 April 2015	18 August 2011	November 19 October 2000	3 December 2014
Bilkbilkmi	Mid June – mid July 17 June 2002	5 August 2014	November 3 September 2016 (20 October 2000)	1 December 2002
Gunlom	Early-mid May 28 March 2002	31 May 2011	Mid-late December 1 November 2010	3 January 2000
Waldak Irrmbal	Mid-late July 16 June 2014	22 August 2013	Mid-late November 12 October 2010	12 December 2014
4 Mile Hole	Late June – early July 16 June 2014	22 August 2013	December 22 October 2010	24 December 2012
Alligator Billabong	June 27 April 2002	17 July 1999	November 12 October 2010	16 December 2015
Sandy Billabong	Mid-late May 5 April 2016	16 July 2012	December 5 November 1999	16 January 2009
Jim Jim Billabong	Mid-late May 10 April 1998	19 June 2016	December 4 November 2010	21 January 2007

ATTACHMENT 2

Jabiru airport annual temperatures and rainfall

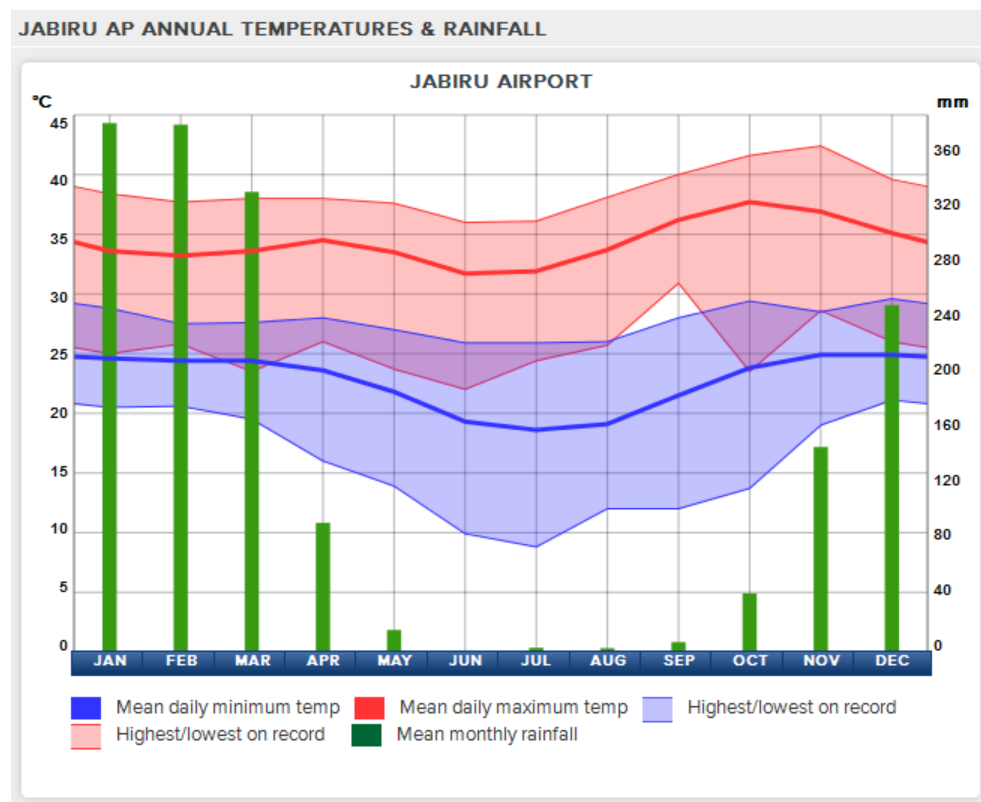


Table adapted from <http://www.weatherzone.com.au>

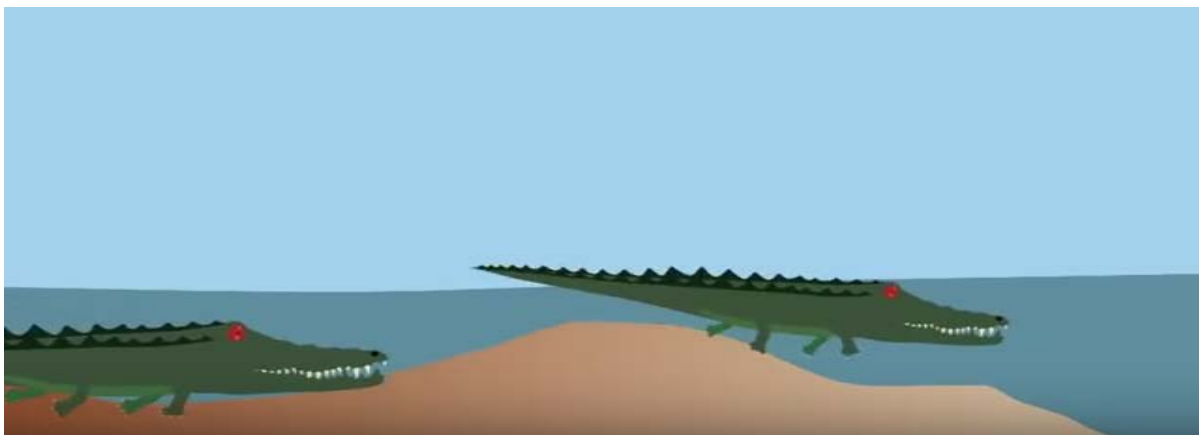
ATTACHMENT 3

Managing our crocodiles

Our rangers conduct crocodile surveys are conducted in all areas of the park, but especially focus on where visitors may be near are near water, where visitors are in close proximity to water. For the sites deemed safer for swimming, namely the plunge pools below the Arnhem Land escarpment, our park rangers actively remove the animals to reduce the risk to people who choose 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.

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.



Above: [Crocodile Safety – Be Crocwise](#)

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.

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.



Left: Estuarine crocodile sinking its teeth into a polystyrene buoy. Right: Buoy with bite marks.

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.



Left: Ranger baiting a crocodile trap. Right: Getting ready for a night's survey on the water.

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 a crocodile has been trapped, 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, in which the case the animal will be killed, and the meat shared with 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. Once satisfied there are no other estuarine crocodiles in the water, the area can be opened for access.

*For further information please contact the Kakadu Tourism and Visitor Services team:
ph: +61 (08) 8938 1100*