



Queensland Crocodile Management Plan

Prepared by: Conservation and Biodiversity Policy Unit, Department of Environment and Heritage Protection

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Foreword



One of the things Queenslanders, and visitors to our wonderful State, appreciate is our wildlife. Crocodiles are amazing wild animals to see, but they also pose a danger to humans. The estuarine crocodile is found in waterways of northern Queensland from Gladstone to Cape York Peninsula, and throughout the Gulf of Carpentaria and Torres Strait.

Until 1974, estuarine crocodiles in Queensland were hunted to the brink of extinction for their prized skins. The estuarine crocodile is now listed as a vulnerable species in Queensland, with strong efforts made over the past 40 years to conserve this prehistoric creature.

Crocodiles may be present in or near almost any water body north of Gladstone, all the way to the Northern Territory border. While crocodile conservation is important, understandably the community is concerned about the risk of crocodile attack.

This plan sets out a comprehensive and coordinated framework for managing the risks crocodiles pose to people, while continuing to ensure that crocodiles can maintain healthy populations in their natural habitat.

The plan responds to the public's support for a balanced approach between crocodile conservation and public safety by setting out how the Queensland Government will manage crocodiles, including removal in certain circumstances, in accordance with the level of risk posed across different areas of the state. The plan also highlights the key safety messages that everyone needs to keep in mind when in croc country.

I am confident that by undertaking management in accordance with this Queensland Crocodile Management Plan, and by making people aware of key safety messages, we can reduce the risk of crocodile attack while ensuring the ongoing conservation of crocodiles in the wild.

Dr Steven Miles

Minister for Environment and Heritage Protection and
Minister for National Parks and the Great Barrier Reef

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Part A—Introduction and overview

Purpose

The Queensland Crocodile Management Plan (the QCMP) has been prepared by the Department of Environment and Heritage Protection (the department) as the overarching framework for the statewide management of public safety risks associated with crocodiles.

The purpose of the QCMP is to outline:

- a consistent approach to crocodile management for Queensland
- the risks posed by crocodiles in Queensland in each of the *crocodile management zones*
- how the Queensland Government responds to and manages crocodiles in each *crocodile management zone*
- the knowledge and behaviours that can help minimise risks of crocodile attacks in each *crocodile management zone*.

Estuarine crocodiles (Crocodylus porosus) are a protected species in Queensland, listed as a vulnerable species under the *Nature Conservation Act 1992 (Qld)*. They are also protected nationally under Commonwealth legislation and internationally under the Convention on the International Trade of Endangered Species (CITES). These arrangements effect how crocodiles are managed, farmed and traded.

The QCMP supports the *Nature Conservation (Estuarine Crocodile) Conservation Plan 2018 (Qld) (the conservation plan)*, which is made under the Nature Conservation Act. Together these documents describe the strategic management framework to reduce risks to public safety and protect crocodiles in the wild.

The necessary scientific evidence to support these management arrangements is being provided by the department through a comprehensive multi-year survey of crocodile populations in rivers and estuaries from Cape York to Gladstone. This work is based on advice from some of the world's leading crocodile scientists and will help guide best practice crocodile management into the future. This program began in 2017.

As *estuarine crocodiles* pose a significantly higher risk to humans than freshwater crocodiles (*Crocodylus johnstoni*), the QCMP is largely focused on the management of public safety risks associated with *estuarine crocodiles*.

Crocodile habitat and behaviour

Estuarine crocodiles range from India to northern Australia, and across to Vanuatu and the Solomon Islands. In Queensland they are known to occur throughout the Gulf of Carpentaria, Cape York Peninsula, Torres Strait, and along the east coast of Queensland. Crocodiles are regularly present as far south as the Boyne River near Gladstone, and occasionally as far south as the Mary River.

Crocodiles most commonly live in the tidal reaches of rivers and associated inlets and wetlands. However, they also occur along beaches and offshore islands in the Great Barrier Reef and Torres Strait, and in freshwater lagoons, rivers, and swamps up to hundreds of kilometres inland from the coast.

As a result there is a possibility that a crocodiles may be present in or near almost any water body north from near Gladstone, all the way to the Northern Territory border.

Juvenile *estuarine crocodiles* feed on small insects, crabs, prawns and shrimps. As they grow, so does their range of potential food items. At sizes of around 2m they begin to take an increasing amount of vertebrates such as fish, frogs, birds, and rats.

An adult crocodile's prey may include sea turtles, goannas, wallabies, cats, pigs, dogs, kangaroos, cattle, horses, buffalo, other crocodiles, and very occasionally, people.

Full-grown adult estuarine crocodiles will feed on any animal they can overpower.

To capture prey, *estuarine crocodiles* typically wait in ambush at the water's edge and lunge or snap sideways at animals which come to feed or drink. Their well-developed sense of smell will also lead them some distance in search of prey.



Crocodiles will often drag unsuspecting prey from the water's edge to deeper water. © Queensland Government.

In comparison, freshwater crocodiles rarely grow more than 2.5m long and their diet consists of small animals (including insects, fish, frogs, lizards, turtles, bats, birds). Because of this they pose a lower risk to humans than *estuarine crocodiles*.

Risks associated with crocodiles in Queensland

Crocodiles are opportunistic feeders that can feed on any sized animal they can overpower. They can also be highly territorial, particularly during breeding seasons, and will attack anything in their habitat that they perceive is a threat.

As a result, crocodiles can and do attack humans. Queensland Government records indicate that between 1985—2016, 17 non-fatal attacks and eight fatal attacks by estuarine crocodiles have occurred in the wild. While the likelihood of being attacked by a crocodile is relatively low when compared to many other risks (e.g. the risk of drowning) the consequence for an individual who is attacked can be very severe.

Furthermore, since the cessation of crocodile hunting in the 1970's, and the continuing growth of the human population in North Queensland, there is an ever increasing likelihood of contact between people and crocodiles.

It is imperative that each person takes accountability for staying safe in croc country. A common misconception is that it's safe to swim if no crocodiles have been sighted recently in an area and if someone is 'on lookout' for crocodiles.

Statistics show that most attacks are made by crocodiles that were not reported or seen in an area until the moment of attack.

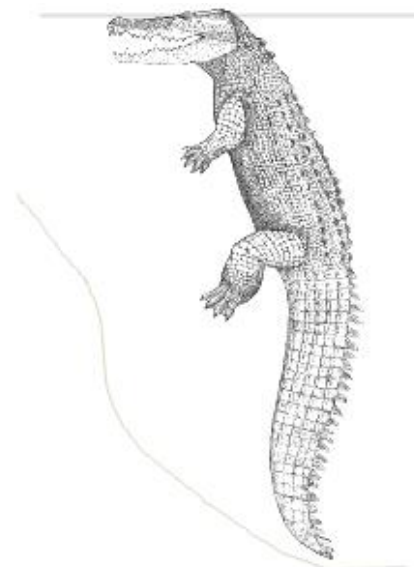
Appendix A includes stories about circumstances that are often associated with fatal and near fatal attacks.

Like many risks in our environment, the risk of crocodile attack can be minimised. In Queensland the three key strategies to significantly minimise the risks posed by crocodiles are:

1. installation of warning signs by the Queensland Government
2. community members taking personal responsibility for their safety, including being Crocwise
3. the selective and targeted removal, by the Queensland Government (and other authorised entities), of crocodiles that pose the greatest risks to public safety.

Crocodile management in Queensland

Crocodiles can lay in wait for many hours with the bulk of their body hidden underwater, sometimes with nothing visible above the water but their eyes and nostrils. Image by Tom Mumbray © Queensland Government.



Crocodile removal

The Nature Conservation (Estuarine Crocodile) Conservation Plan 2018 outlines the limited circumstances under which a crocodile may be considered a problem crocodile and therefore targeted for removal from the wild.

The process for determining that a crocodile is a problem crocodile is outlined in appendix C.

These circumstances include where:

- A. the crocodile has attacked, is about to attack, or is behaving aggressively towards, a person
- B. the nature of the crocodile's location or behaviour makes the crocodile a threat, or a potential threat, to the safety or wellbeing of humans
- C. a crocodile has passed over, through or under a crocodile prevention barrier on land, on which aquaculture fisheries resources, stock, or a working dog normally lives and is likely to become, a danger to the resources, stock or dog.

Circumstances A and B above relate to public safety, and this QCMP provides detailed guidance on when the Chief Executive may consider a crocodile as a *problem crocodile* under these circumstances.

Circumstance C relates to *problem crocodiles* in specific grazing and agricultural settings, to which the department routinely responds, and crocodiles are targeted where the relevant circumstances occur.

Dangerous crocodile behaviour

While all crocodiles can be dangerous, some crocodiles display particular dangerous behaviours around or towards humans. A *crocodile displaying dangerous behaviour* can pose a significant risk to public safety as once a crocodile has learned a dangerous behaviour, the behaviour is likely to be repeated, and this represents a much higher threat or potential threat to human's safety and wellbeing.

A crocodile repeatedly sighted at a boat ramp or making its way into a water feature on a golf course is likely to be regarded as displaying dangerous behaviour.

While each management zone provides different criteria for determining whether a crocodile is a *problem crocodile*, throughout the state crocodiles are targeted for removal where they display certain dangerous behaviours around or towards humans.

For the purposes of management, a crocodile may be considered as a *crocodile displaying dangerous behaviour* when it has attacked, is about to attack, or is behaving aggressively towards, a person; or its location or behaviour, is a threat, or a potential threat, to the safety or wellbeing of humans.

Importantly any crocodile that develops an association between humans and food availability is likely to be considered a *crocodile displaying dangerous behaviour*. Any crocodile displaying certain territorial behaviours are also likely to be considered a *crocodile displaying dangerous behaviour*.



Crocodile removal can be difficult and dangerous, and there are only limited circumstances where it is useful.
© Gordon Grigg.

To remove all doubt, a *crocodile displaying dangerous behaviour* is a crocodile that satisfies the criteria of a *problem crocodile* under section 6(3)a of the *conservation plan*.



As crocodiles grow larger they become more able to injure or kill people. © Queensland Government.

Large crocodiles

For the purposes of management, a crocodile that is larger than 2m in length may be considered a *large crocodile*.

While most crocodiles are highly territorial and can attack humans, *large crocodiles* are more capable of injuring or killing people. The vast majority of attacks are carried out by crocodiles larger than 2m.¹

This criterion is used in the targeted management zone and the targeted beach management zone to determine if a crocodile is a *problem crocodile* (some crocodiles less than 2m in length are also targeted for removal in this zone if they display dangerous behaviour).

Size is also used as one of a number of criteria in other zones to determine if a crocodile poses a threat, or a potential threat, to the safety or wellbeing of humans.

Crocodile management zones

The Queensland Government's approach to the management of crocodiles is based on *crocodile management zones*. Different parts of the state are located within different management zones. The particular zone is determined by the overall risk to public safety that is present there.

¹ Caldicott, Croser, Manolis, Webb, & Britton (2005) Crocodile attack in Australia: an analysis of its incidence and review of the pathology and management of crocodylian attacks in general. *Wilderness Environ Med.* 2005;16: 143–159).

As shown in Appendix B, factors used in evaluating the risks to public safety in different parts of the state include

- A. the size of the human population in an area
- B. the size of the crocodile population in an area
- C. whether crocodiles are resident or transitory in an area
- D. the viability of various management options in an area.

The criteria for determining that a crocodile is a *problem crocodile* are slightly different in each zone taking into consideration the differing risk factors.

Boundaries for the *crocodile management zones* are determined by the Chief Executive, in consultation with stakeholders, with the aim of minimising risks to public safety and ensuring the conservation of crocodiles in the wild.

Each area of Queensland is zoned as one of the following *crocodile management zones*:

- a ‘barrier and removal zone’
- an ‘active removal zone’
- a ‘targeted management zone’
- a ‘targeted beach management zone’
- a ‘general management zone’ or
- an ‘atypical habitat zone’.

The area included in each crocodile management zone is shown on the crocodile management zone maps which can be found on the [department’s website](#). Links to each crocodile management zone map are provided in Part B of this document.

Zone rationale

A ‘barrier and removal zone’ is suited to areas where there are physical barriers that are generally effective in preventing crocodiles from entering the area.

An ‘active removal zone’ is suited to areas of rivers, creeks and wetlands where crocodiles are frequently in close proximity to large urban populations.

A ‘targeted management zone’ is suited to areas that are frequented by large numbers of people due to being near an urban centre or popular swimming areas and are also frequented by crocodiles.

A ‘targeted beach management zone’ is suited to areas where crocodiles are often seen passing through but are not core habitat, such as beaches.

A ‘general management zone’ is suited to areas that are typical habitat for crocodiles but are not near a large urban centre, as well as other areas with varied crocodile numbers that are not otherwise zoned.

An ‘atypical habitat zone’ is suited to areas that are not typical habitat for crocodiles e.g. beyond their typical extent.

Making and amending a crocodile management zone map

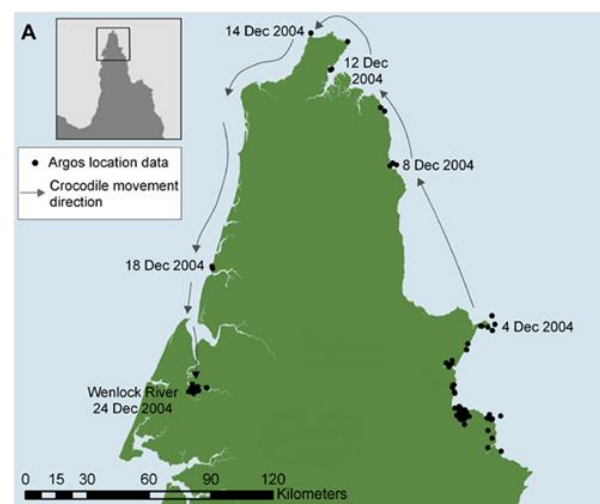
Crocodile management zones are defined by the *crocodile management zone maps* which are made by the Chief Executive, and may be amended by the Chief Executive from time to time.

In making decisions about amending a map, the Chief Executive may consider:

- matters relevant to the conservation of crocodiles
- matters relevant to overall public safety
- the zone rationale (see section - Zone rationale)
- any other matter the chief executive considers appropriate.

Being Crocwise in Queensland

The government is committed to reducing the risks posed from crocodiles through the sensible management and removal of crocodiles in each management zone.



*Crocodile tracking data has shown that crocodiles can and do travel vast distances. For example, this image shows a crocodile in Cape York moving hundreds of kilometres in just a few weeks. Image adapted from Read MA, Grigg GC, Irwin SR, Shanahan D, Franklin CE (2007) Satellite Tracking Reveals Long Distance Coastal Travel and Homing by Translocated Estuarine Crocodiles, *Crocodylus porosus*. PLoS ONE 2(9): e949. Article published under the Creative Commons Attribution (CC BY) license <http://journals.plos.org/plosone/s/licenses-and-copyright>*

Regardless of the number of crocodiles that are removed the best way to avoid a crocodile attack is for people to be aware of the risks posed by crocodiles, and for individuals to stay safe when they are in and around waterways that may be inhabited by crocodiles.

Maintaining awareness and exercising key behaviours when in and near the water is called 'being Crocwise'.

To be Crocwise a person should:

- Understand that management of crocodiles never completely removes the risk that a crocodile may be present.
- Know that crocodiles are ambush predators and evidence of their presence may not be obvious.
- Pay attention to any warning signs at the locations you visit.
- Be aware that crocodiles can attack people in boats and the smaller the boat the greater the risk.
- Pay attention to zone specific Crocwise messages (see Part B of this QCMP).
- Whenever you see a crocodile, report it to CrocWatch by calling 1300 130 372.
- Avoid incidental or deliberate feeding, e.g. leaving food scraps near the water, or disposing of bait at boat ramps.

A key part of being Crocwise is to always be aware when you are in croc country.

A number of videos are available about being Crocwise, including for launching a boat, camping and fishing. These can be found on the department's YouTube channel:

<https://www.youtube.com/user/QldEHP>

And at the following departmental webpage:

https://www.ehp.qld.gov.au/wildlife/livingwith/crocodiles/crocodiles__be_croc_wise.html

The department runs a comprehensive Crocwise community education and awareness program to minimise the risks posed to people and provide information on crocodile biology and behaviour. The program encourages individuals to adopt an overall awareness that they are in 'croc country', to underpin a set of safety behaviours.

Crocwise uses a broad range of communication tools to deliver safety messages to target audiences including both locals and tourists

2–2.5 metre crocodile difficult
to see in murky water

Part B—Crocodile Management Zones

Barrier and removal zone (zone A)

Zone map

Note: This QCMP should be read in conjunction with the *crocodile management zone* maps available on the department's website:

http://www.ehp.qld.gov.au/wildlife/livingwith/crocodile/s/crocodile_plan.html#crocodile_management_zones



Effective barriers to crocodiles exist only in limited places in croc country. For example, Aplins Weir. Photo © Thuringowacityrep.

Risks posed by crocodiles

In this zone, the risk of human–crocodile interaction is generally low. This is due to the low likelihood of crocodiles being present because there is a physical barrier that largely prevents crocodiles from entering the area, combined with the management response of removing all crocodiles that are reported in the area.

Management response

The management objective for this zone is to make the area free of crocodiles so people can be in or near the water with a very low likelihood of crocodile attack.

Management involves using physical barriers (generally existing barriers such as weirs) to prevent crocodiles entering the area and targeting for immediate removal any crocodiles reported to have passed the barrier.

There are limited areas where physical barriers capable of preventing crocodile access exist.

While crocodiles are generally unlikely to be present in this zone, people should be aware that safety cannot be guaranteed given crocodiles are wild animals that can be difficult to detect in water bodies. To reduce the likelihood of a crocodile attack, people living in or visiting areas in this zone need to practise Crocwise behaviour and follow any warning signs.

Crocwise knowledge and behaviours

Key Crocwise knowledge and behaviours in this zone are:

- Understand that even when barriers are used in conjunction with crocodile removal, the area may not be free of crocodiles given the site is within crocodile habitat and crocodiles are highly mobile.
- If a crocodile is present in the area, report it to CrocWatch by calling 1300 130 372.
- Obey any warning signs and practise Crocwise behaviours if a crocodile has been sighted in the area.

Active removal zone (zone B)

Zone map

http://www.ehp.qld.gov.au/wildlife/livingwith/crocodile/crocodile_plan.html#crocodile_management_zones

Risks posed by crocodiles

In this zone, the risk of human–crocodile interaction is high. This is due to the significant number of people living in the area and the high likelihood of crocodiles entering the area from surrounding crocodile habitat. The management responses of patrolling to detect crocodiles and removing them when found in the area mitigates the risk of crocodile attack to an extent.

Management response

The management objective for this zone is to significantly reduce the number of crocodiles in close proximity to large urban areas, with a particular focus on *large crocodiles*.



Waterfront home in croc country © Great Barrier Reef Marine Park Authority (GBRMPA).

The management approach changes from time to time, but generally involves a combination of the use of permanent, regularly monitored traps in some creeks, and patrolling to detect and target crocodiles for removal. Crocodiles are also targeted for removal if a sighting is received from the public. In this zone crocodiles are targeted for removal regardless of size or behaviour.

Although management of this zone should help reduce the total number of crocodiles (particularly *large crocodiles*), it is not possible to make this zone completely free of crocodiles or to entirely remove the risk of a crocodile attack.

Crocodiles are wild animals that can be difficult to detect and capture, and can swim long distances. At any given time, there may be undetected crocodiles already within the zone, known crocodiles yet to be removed, or new crocodiles entering the zone.

Even when a crocodile has been removed, it leaves a vacated territory for another crocodile to fill.

People living in or visiting areas in this zone need to practise Crocwise behaviour to reduce the likelihood of a crocodile attack.



Crocodile removal in action. © Queensland Government.

Crocwise knowledge and behaviours

Key Crocwise knowledge and behaviours in this zone are:

- Understand that while regular removal of crocodiles in this zone is the responsible action to take to reduce the immediate risk of a negative interaction with a person, it will not eliminate the overall risk that crocodiles pose to humans in the area.
- Understand that removal of crocodiles often creates vacant territory that is quickly filled by the next most dominant animal and that crocodiles are still likely to be present in the zone, so it is important to comply with Crocwise safety messaging, including warning signs.
- Know how to look for signs of a crocodile before going near the water (for example, slide marks), and check each time you are near or in the water.
- If a crocodile is present in the area, report it to CrocWatch by calling 1300 130 372.

Targeted management zone (zone C)

Zone map

http://www.ehp.qld.gov.au/wildlife/livingwith/crocodile/crocodile_plan.html#crocodile_management_zones

Risks posed by crocodiles

In this zone, the risk of human–crocodile interaction is moderate to high. This is due to the moderate to high likelihood of crocodile presence in close proximity to urban populations or large towns. It should be noted that *large crocodiles* are often likely to be living in this zone. A number of popular swimming holes in crocodile habitat areas are included in this zone.

Management response

The management objective for this zone is to reduce the likelihood of a crocodile attack. Management involves targeting for removal of all *large crocodiles* and any *crocodile displaying dangerous behaviour* (following a problem crocodile determination).

It is not possible, nor the intent of management, to make this zone free of crocodiles. Crocodiles will be present and the chance of attack from a crocodile remains.

The removal of a *large crocodile* or *crocodile displaying dangerous behaviour* may reduce the likelihood of a crocodile attack but also makes space for another crocodile to fill. People living in or visiting areas in this zone need to practise Crocwise behaviour and assume that crocodiles may be present to reduce the likelihood of a crocodile attack.



Crocodiles may or may not leave tracks and slide marks on a creek bank. A lack of slide marks does not mean that the water is safe. © Queensland Government.

Crocwise knowledge and behaviours

Key Crocwise knowledge and behaviours in this zone are:

- Understand that while the removal of a *large crocodile* or a *crocodile displaying dangerous behaviour* in this zone is the responsible action to take to reduce the immediate risk of a negative interaction with a crocodile, it is unlikely to eliminate the overall risk that crocodiles pose to humans in the area.
- Always adhere to safety messages, which may be targeted at typical activities undertaken in the area (e.g. launching a boat, swimming).
- Remember that the removal of crocodiles often creates vacant territory that is quickly filled by the next most dominant animal.
- Even when crocodiles are removed, other crocodiles are still likely to be present within the zone, so it is important to comply with Crocwise safety messages, including warning signs.
- Know how to look for signs of a crocodile before going near the water (for example, slide marks near the water).
- If a crocodile is present in the area, report it to CrocWatch by calling 1300 130 372.



If a crocodile is targeted for removal, traps are one method that may be used. © Queensland Government.

Targeted beach management zone (zone D)

Zone map

http://www.ehp.qld.gov.au/wildlife/livingwith/crocodile/crocodile_plan.html#crocodile_management_zones

Risks posed by crocodiles

In this zone, the risk of human—crocodile interaction is moderate. This is due to the moderate to high likelihood of crocodile presence (generally only for short periods while they are passing through), combined with frequent use by people. People should note that crocodiles are often likely to be passing through this zone. A number of beaches and some urban waterways are included in this zone.



Removal of crocodiles in open coastal waters is extremely difficult, and often ineffective at minimising the risk of an attack © Queensland Government.

Management response

The management objective for this zone is to reduce the likelihood of a crocodile attack. Management involves targeting for removal of all *large crocodiles* and any *crocodile displaying dangerous behaviour* (following a problem crocodile determination).

It is generally very difficult to catch crocodiles in beach areas or nearby open water as they rarely remain near beaches for long

Temporary warning signs are also placed on beaches following any sightings to alert people that a crocodile may be in the area.

Although removing crocodiles reduces the likelihood of an attack, crocodiles regularly move through open waters. This means that this zone may still have undetected crocodiles in it or crocodiles that have been sighted but not yet removed.

People living in or visiting areas in this zone need to practise Crocwise behaviour to reduce the likelihood of a crocodile attack. This includes following Surf Life

Saving Queensland's directions and respecting all beach closures.

Crocwise knowledge and behaviours

Key Crocwise knowledge and behaviours in this zone are:

- Know that crocodiles often move through this zone to reach neighbouring estuaries and may be present at or near the water's edge (however, they typically move out of the area relatively quickly).
- Know that capture and removal is often not a practical option in open water, and is often unnecessary as crocodiles generally move on quickly of their own will.
- Understand that while removing *large crocodiles* and *crocodiles displaying dangerous behaviour* in this zone is the responsible action to take to reduce the immediate risk of a negative interaction with a crocodile, it will not eliminate the overall risk that crocodiles pose to humans in the area.
- Always adhere to safety messages, which may be targeted at typical activities undertaken in the area (e.g. walking a dog along the shoreline, swimming). If a crocodile is present in the area, report it to CrocWatch by calling 1300 130 372.

General management zone (zone E)

Zone map

http://www.ehp.qld.gov.au/wildlife/livingwith/crocodile/s/crocodile_plan.html#crocodile_management_zones

This zone extends offshore from the mainland, and islands to the extent of Queensland Waters (a distance of 3 Nautical Miles, or 5.6 km).

Risks posed by crocodiles

In this zone, the risk of human–crocodile interaction is variable. This is due to the range of habitats and varying numbers of people found within this zone. *Large crocodiles* or *crocodiles displaying dangerous behaviour* may be living within this zone.



Crocodile nests can sometimes be large mounds but can also be much less conspicuous. © Queensland Government

Management response

The management objective for this zone is to reduce the likelihood of a crocodile attack. Management involves community education regarding Crocwise behaviours, and removing *crocodiles displaying dangerous behaviour* (following a problem crocodile determination). *Large crocodiles* are generally not removed, however size is a factor in determining the risk an individual crocodile may pose.

While the removal of *crocodiles displaying dangerous behaviour* from this zone reduces the likelihood of attacks from individual crocodiles, the chance of a crocodile attack remains, particularly in areas of high quality crocodile habitat. People living in or visiting areas in this zone need to practise Crocwise behaviour to reduce the likelihood of a crocodile attack.

Under Part 2 of the *conservation plan*, the Chief Executive may grant a Crocodile Management Authority to an approved person or a prescribed officer so that they can catch and remove a *problem crocodile* rapidly, which may be appropriate in some remote communities. However the determination that

a crocodile is a *problem crocodile* must first be made by the Chief Executive of the department.

Crocwise knowledge and behaviours

Key Crocwise knowledge and behaviours in this zone are:

- Know that crocodiles are often highly likely to be present, difficult to detect, highly mobile, and are skilful stealth hunters.
- Understand that while removal of crocodiles displaying dangerous behaviour in this zone is the responsible action to take to reduce the immediate risk of a negative interaction with a crocodile, it will not eliminate the overall risk that crocodiles pose to humans in the area.
- Know that removal often creates vacant territory that is quickly filled by the next most dominant animal.
- Always adhere to safety messages, which may be targeted at typical activities undertaken in the area (e.g. launching a boat, swimming). If a crocodile is present in the area, report it to CrocWatch by calling 1300 130 372.



Crocodiles will often drag unsuspecting prey from the water's edge to deeper water. © Queensland Government

Atypical habitat zone (zone F)

Zone map

http://www.ehp.qld.gov.au/wildlife/livingwith/crocodile/crocodile_plan.html#crocodile_management_zones

Risks posed by crocodiles

In this zone, the risk of human–crocodile interaction is low. This is due to the low likelihood of crocodile presence beyond their typical range limit, combined with the management response of targeting for removal all crocodiles found in the area.

Management response

The management objective for this zone is to keep the area free of crocodiles. Management involves targeting all crocodiles for removal once their presence has been confirmed.

It is generally unlikely, but still possible, that crocodiles may be present within this zone. However recent cases of crocodiles in this zone indicate that removal can take considerable time. To minimise the risks to public safety during this period, local education and community engagement will be used.

- Obey any warning signs if a crocodile has been sighted in the area and practise Crocwise behaviours.



Waterways south of the Boyne River are not typical habitat for crocodiles.

Crocwise knowledge and behaviours

Key Crocwise knowledge and behaviours in this zone are:

- Understand that although the area is not croc country, it is possible for crocodiles to be present in this zone due to their high mobility and the typical animal behaviour of regularly ‘testing the boundaries’ of their territory to find new territory.
- If a crocodile is present in the area, report it to CrocWatch by calling 1300 130 372.

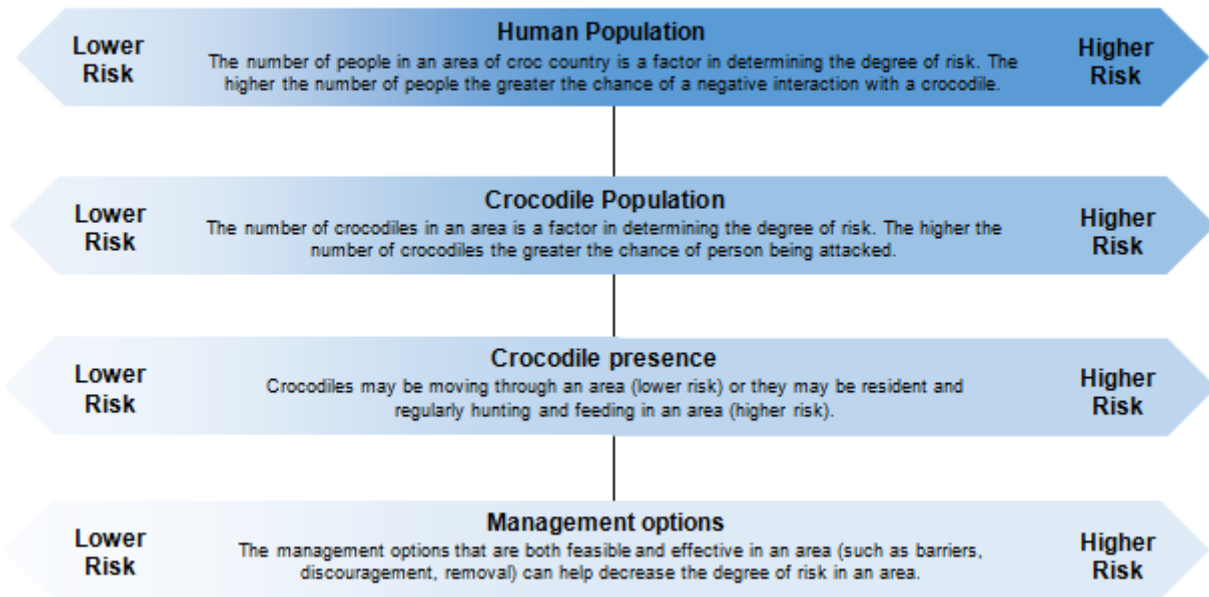
Definitions	
Problem crocodile determination	The process by which crocodile sightings/reports are assessed by the chief executive of the agency administering the NC Act to determine if the crocodile should be declared a problem crocodile (process is outlined in Appendix C). While this determination is being made sightings are publicly reported as “sighting under investigation”.
Conservation Plan	The Nature Conservation (Estuarine Crocodile) Conservation Plan 2018.
Croc country	The coastal areas from the Boyne River near Gladstone to the northern tip of Queensland and west to the Northern Territory border. It can stretch some hundreds of kilometres inland from the coast, while also encompassing many coastal islands.
Crocodile	An animal of the species <i>Crocodylus porosus</i> or <i>Crocodylus johnstoni</i> .
Crocodile management zones	Areas defined by maps referred to in the ‘Crocodile management zone’ section of this QCMP.
Crocodile displaying dangerous behaviour	A crocodile that has attacked, is about to attack, or is behaving aggressively towards, a person; or a crocodile the chief executive of the agency administering the NC Act reasonably believes, due to its location or behaviour, is a threat, or a potential threat, to the safety or wellbeing of humans.
Estuarine crocodile	An animal of the species <i>Crocodylus porosus</i> .
Large crocodile	A crocodile that is two metres or greater in length.
NC Act	The <i>Nature Conservation Act 1992</i>
Problem crocodile	A crocodile that the chief executive of the agency administering the NC Act determines satisfies the definition in section 6 of the Nature Conservation (Estuarine Crocodile) Conservation Plan 2018, as further detailed in the ‘Crocodile removal’ section of this QCMP, and in accordance with the problem crocodile determination procedure (Appendix C)
QCMP	The Queensland Crocodile Management Plan.

Appendix A – Risk stories

<p>The follower</p>	<p>They were visiting from the south and had come to croc country for the first time. They knew there were crocodiles living here and that they could kill you. They had read the safety information and the warning signs. In fact they saw that there were the same warning signs everywhere. The locals didn't seem to pay them much attention and in some places did things that seemed dangerous, they swam and went fishing in knee deep water, and they walked their dogs along the water's edge. The locals said there had never been a crocodile attack there and the big crocodiles were further downstream. The last crocodile seen there was trapped and taken away. Maybe it wasn't dangerous after all. Other people were doing whatever they wanted. So they decided they would go in—but only for a few minutes and only up to their knees.</p>
<p>The regular</p>	<p>They had gone there every weekend for years to camp and fish. Crocodiles were rarely seen there and there had certainly never been any attacks. Now in their retirement, with less available income, these fishing trips had also become a practical way of cutting their food bill. They tried to scrimp on other things to save money, including their fishing gear. They started trying to retrieve their snagged lures whenever they could. Each time they got a snag, they would cut the line and tie it to a tree. At low tide one of them would go out (only to knee depth) and try getting a better angle for pulling the lure free while the other kept watch. They saved 10 lures in the first four weeks. The next weekend they arrived on an incoming tide and by the time they were ready to leave the tide was almost full. They had snagged three lures each. They thought it would be safe so one of them went in, pulling on the line as they went sending vibrations through the water.</p>
<p>The dare</p>	<p>All the other girls had jumped off the bridge except her. Even her best friend <u>and</u> the boy she was trying to impress said she was scared, but she didn't want to jump off the bridge. She knew there was big crocodile called 'the Baron' living somewhere nearby and she'd heard that some locals even fed it chickens from the bridge. She wore the jibes for as long as she could. People had been jumping in all day and there was no sign of any crocodiles. No one had ever been attacked there. So, she went to the edge of the bridge, took a deep breath and jumped.</p>
<p>The expert</p>	<p>He knew a lot about crocodiles and would tell everyone about them, how they live, how they behave, how big they grow, how dangerous they are. From what he read, crocodiles were predictable in the way they hunted, where they could be found and when they were active. They were just primitive reptiles with very small brains that relied largely on their instincts and their senses to survive. If you understand all this you can safely predict where they will be. He would be safe if he went to the right spots that he knew about.</p> <p>But crocodiles <u>are</u> highly mobile and, like any animal, test out new areas to live. Predictability is a popular perception that is applied to 'lower animals' like reptiles—and particularly ones that coexisted with dinosaurs. If instead they were portrayed as an enduring alpha predator that has thrived in ecosystems for millions of years then any expert would have second thoughts before diving in.</p>
<p>The gambler</p>	<p>She knew the odds. There was less than one fatality a year (there was a greater risk of being hit on the head by a falling coconut). She ran her life very carefully and sensibly. On her trip to north Queensland she went swimming every day in the same spot for five days with no sign of a crocodile. For the last two days she had been watched by a couple on holidays who had been more cautious. She smiled at them as she came out of the water. They looked at each other. The next day they planned to go swimming.</p> <p>Over the past five days a crocodile had been calculating the odds too. A pattern had been forming, an animal was entering the water in the same place every day and it was likely that this would happen tomorrow too. The crocodile would get a little closer and wait.</p>

Appendix B – Risk determination tools

Key factors in determining risks to public safety.



Appendix C – Problem crocodile determination procedure

