

**PROTECTED
SPECIES
AWARENESS
INFORMATION
FOR
PROFESSIONAL FISHING OPERATIONS**

**SALTWATER
CROCODILES**

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ISSUES INVOLVED WITH THE PROTECTED SPECIES *CROCODYLUS POROSUS* IN THE NORTHERN TERRITORY

Saltwater crocodiles are opportunistic predators, and may be attracted to fish caught in fishing nets (eg barramundi), or even to bait set in crab pots. Interactions between saltwater crocodiles and professional barramundi fishing nets are more likely to occur in areas where crocodile population densities are high.

Crocodiles are highly dangerous animals and depending on their size can be a serious safety threat to professional fishermen.



DESCRIPTION

As opportunistic predators, saltwater crocodiles use various hunting strategies to capture prey, ranging from a "sit and wait" strategy to actively hunting. The diet of a saltwater crocodile varies with the size of an individual. In tidal habitats, small crabs and prawns are the main food sources for small crocodiles (less than 1 metre in length), while the diet of larger saltwater crocodiles consists of fish, mud crabs, birds, reptiles and mammals.

In freshwater habitats prey varies from insects for small crocodiles to fish, mammals, turtles and birds for larger crocodiles. Only the largest of crocodiles is capable of taking prey as big as cattle or horses.

Crocodiles have nostrils on the top of their snout and must rise to the surface to breath. The length of time a saltwater crocodile can remain under water is influenced by its size and heart rate. By reducing their heart rate to a very low 1 or 2 beats per minute and conserving energy, large crocodiles can remain underwater for up to 2 hours. Small crocodiles are able to remain underwater for approximately 20 minutes.

REPRODUCTION

Female saltwater crocodiles reach sexual maturity at about 2.1 metres in length, equating to about 12 years of age. Males reach sexual maturity at approximately 3.1 metres, about 16 years of age. Nesting occurs during the wet season (October - May) with an average of 50 eggs being laid in a mound nest. A low percentage of the eggs laid result in an animal that will survive to maturity.

DISTRIBUTION AND HABITAT

Saltwater crocodiles are found in both salt and fresh water environments. They are most commonly found in tidal rivers, coastal floodplain channels, billabongs, swamps or silted river channels. In general crocodile densities are higher in the upper-middle regions of river systems, largely reflecting where nesting occurs. Densities in the river mouth estuarine sections are generally low. Little information is available on movement patterns for saltwater crocodiles, but adult crocodile movements appear to be more pronounced during the breeding season.

VULNERABILITY OF SPECIES

In the Northern Territory, saltwater crocodiles were protected in 1971 following increasing concerns about the decline in numbers due to unregulated hunting. Since protection, the population of saltwater crocodiles has steadily increased to near pristine levels again.

Accidental capture in fishing nets is known to be a cause of mortality of crocodiles. A study completed in 1980 estimated that approximately 350 saltwater crocodiles were caught annually in nets, with about 30% being released alive. Since 1980, professional net fishing has been banned within most river systems and some estuarine areas. Together with a decrease in the number of fishing licences there has been a huge drop in the number of interactions between professional fishing operations and crocodiles.

CROCODILES AND NETS

If a crocodile swims into a net (eg. while trying to eat fish), in most cases it will initially become entangled with netting around its teeth. The natural reaction is to thrash or roll around to attempt to free itself and this struggling can lead to further entanglement.

If the crocodile is entangled underwater and is unable to surface and breathe, it is likely to drown within 20-30 minutes. Prolonged struggling trying to free itself from the net shortens the overall time it can remain under water.



BEST PRACTICE IN USE OF NETS

It is important that all practical measures are taken to maximise the chances of survival for entangled crocodiles.

Consideration should be given to the amount of net set in areas where crocodiles are frequently spotted. The amount of net should be limited to that which can be adequately patrolled during the particular set.

Scanning the surface of the water and banks at night with a strong light (eg torch, spotlight) may give an indication as to whether there are crocodiles in the immediate area. It may also indicate whether animals are near nets or approaching nets.

FREEING LIVE CROCODILES FROM NETS

Crocodiles are dangerous wild animals that should be treated with caution. Human safety should be a major consideration when handling crocodiles of any size.

Once it has been established that a crocodile is caught in a net, attempts should be made to raise the animal's head out of the water to see the extent of entanglement. It will also allow the animal to breathe if it has been underwater. If possible, the animal's snout/head should be kept out of the water to prevent it drowning, but also to allow access to the net to cut the animal loose. A knife tied to a long pole or stick is useful to cut net while maintaining a safe distance from the crocodile.

EXTRACTING A DEAD ACCIDENTALLY CAPTURED CROCODILE

Crocodiles may become exhausted after extensive struggling and in such cases may show no movement or clear external signs of life. Ensure the crocodile is dead before handling it at close quarters.

Under Northern Territory legislation it is an offence to be in possession of a crocodile or any part thereof without an appropriate permit from the Parks and Wildlife Service of the NT.

Where a crocodile is accidentally killed in nets, fishermen should ensure that the carcass is released into the water without interference.

REPORTING INTERACTIONS

Very little information is available on movement patterns of saltwater crocodiles in the wild. Although it is known that crocodiles move out of tidal rivers and move along the coast, the size at which individuals move is unknown. Professional fisherman can be an important source of information and observations on crocodiles. Direct interactions allow sizes and other information on crocodiles to be monitored over time. All interactions should be accurately recorded on log returns.

Records should include the date of interaction, size of the crocodile (approximate length), location and whether the animal was released alive or dead.