

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

**MARINE
TURTLES**

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ISSUES INVOLVED WITH PROTECTED TURTLE SPECIES IN THE NORTHERN TERRITORY

Of the seven marine turtle species in the world, six occur in Northern Territory waters. All six species are protected under Commonwealth and Northern Territory law. The six species are the Flatback turtle (*Natator depressus*), Green turtle (*Chelonia mydas*), Hawksbill turtle (*Eretmochelys imbricata*), Leatherback turtle (*Dermochelys coriacea*), Loggerhead turtle (*Caretta caretta*) and the Olive Ridley turtle (*Lepidochelys olivacea*).



DESCRIPTION

Marine turtles are relatively fast swimmers and are capable of migrating long distances between feeding grounds and nesting sites. They feed on a variety of marine animals and plants, with each species having its own specific feeding habits. The range of foods marine turtles may feed on include sea cucumbers, soft corals, jellyfish, molluscs, echinoderms, gastropods, prawns and crabs. Young turtles feed mostly on zooplankton. The adult Green turtle is the only species which is primarily herbivorous, feeding mostly on seaweed and seagrasses.

Their body, apart from the protruding limbs, tail and head, is protected by large shells. The upper part is called a carapace and the lower part a plastron. Outside these they have four strong, paddle-like flippers which aids the turtle in swimming and movement on land. Like other reptiles, they have lungs for

breathing air. Marine turtles typically have a beak-like mouth which is used to shear or crush food.

REPRODUCTION

Turtles take between 30 and 50 years to reach sexual maturity and then breed periodically for decades. Breeding of the Leatherback, Green, Hawksbill, Olive Ridley and Flatback turtle is known to occur in the Northern Territory. Mating typically occurs at night in water near the nesting beach. Females come ashore following mating and dig a hole for the eggs to be laid in. The round, soft shelled eggs are laid in the hole and gently covered with sand. The female will then disguise the nest and return to the sea. Although females have the capacity to lay hundreds of eggs in a nesting season, only a few young will survive their first year of life.



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DISTRIBUTION AND HABITAT

Of the six protected turtles which occur in the Northern Territory, five occur globally. However, the Flatback turtle is primarily found in, and only breeds in, northern Australian waters. Important turtle habitats include coral reefs, seagrass beds, mangrove forests and nesting beaches. They spend most of their life in their feeding grounds, but periodically move up to hundreds of kilometres to their breeding grounds to mate and lay eggs. The males return to their feeding grounds after mating while the females remain at their breeding grounds to lay one to five clutches of eggs at approximately two weekly intervals before they too then return to their feeding grounds.

VULNERABILITY OF SPECIES

Marine turtles are recognised internationally as a species of concern. Humans can have significant impacts on both nesting grounds and their marine habitat. Alterations to beaches, including artificial lighting and beach cleaning, can reduce the survival of eggs and hatchlings. Turtles are also under threat from wastes such as plastic bags which a turtle may mistake for jellyfish and derelict fishing nets which turtles attempt to use as shelter, often leading to them becoming entangled. They are also threatened by habitat destruction, poor water quality and seagrass depletion. In the Northern Territory the harvesting of eggs and adults by Aboriginal people is recognised as a traditional practice.

At sea turtles are subject to predation by other predatory marine animals such as sharks, crocodiles, large cod and groupers. On land, turtle eggs and hatchlings are subject to predation by foxes, feral pigs, dogs, birds and goannas.

Turtles are also accidentally killed through collisions with boats or propellers as well as accidentally captured and/or drowned in professional fishing gear.



TURTLES AND FISHING GEAR

Turtles breathe air and must come to surface regularly. If a turtle is entangled by net, line or hook underwater and is unable to surface and breathe, it is likely to drown. The length of time a turtle can stay submerged varies within

each species. Prolonged struggling trying to free itself from fishing gear will shorten the overall time it can remain under water.

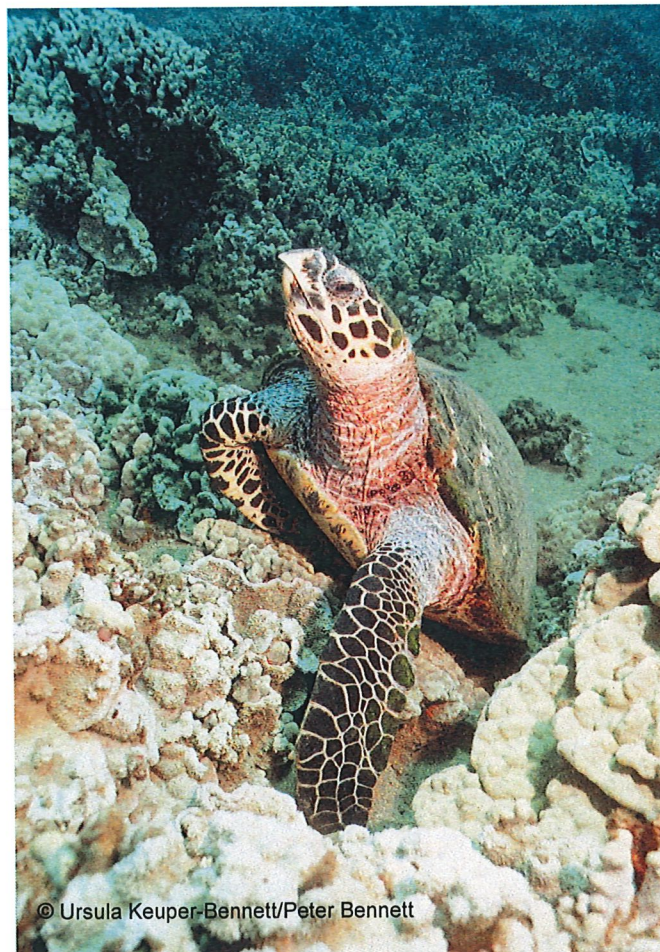
BEST PRACTICE IN USE OF FISHING GEAR

It is important that all practical measures are taken to increase the chances of survival for entangled or hooked turtles. Consideration should be given to the amount of gear set in areas where turtles are frequently spotted.

When hauling fishing gear, scan the gear as far out as possible during retrieval to identify any potential turtles caught. If a turtle is sighted in the gear, reduce the hauling speed and adjust the vessel direction to reduce the tension on the fishing net or main line while bringing the turtle closer to the vessel.

If using longlines, where possible use a circle hook, which is rounder and has smaller opening, as is has been shown to reduce the number of turtle interactions when compared to the common J-shaped hook.

De-hookers and dip nets should be should be onboard a vessel to assist in the retrieval and successful de-hooking of hooked turtles. All trawlers must be fitted with a Turtle Exculsion Devices (TED's).



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HANDLING TURTLES

Sea turtles pose a risk to the safety of crew members and should be handled with care at all times. Restrain landed turtles in a safe place out of the sun to prevent interactions with crew and avoid further injury to the turtle onboard the vessel.

Turtles should not be dropped on the deck as this may cause damage to the turtle and possibly result in death.

RELEASING TURTLES

Once the turtle is landed and removed from fishing gear, observe the turtle to determine whether it is active or inactive. If an inactive turtle is returned to the water, without adequate recovery, it may drown.

If active (moving strongly and breathing regularly)

Gently return the turtle to the water after 15 minutes if possible;

- head first
- with the vessel stopped
- ensure fishing nets are not in operation

If not active

Keep the turtle on board;

- raise the rear end of the turtle about 20 centimetres off the deck by placing something under the turtle (to drain its lungs)
- keep it shaded and damp
- allow to recover for up to 24 hours

If the turtle doesn't become active, its probably dead and must be returned to the water

REPORTING INTERACTIONS

Professional fisherman can be an important source of information and observations on turtles. Direct interactions allow for species identification, size records and other information on turtles to be monitored over time. All interactions should be accurately recorded on log returns.

Records should include the date of interaction, species of turtle, length of the turtle shell, location, whether the turtle was released alive or dead and any tag numbers on tagged turtles.

IDENTIFICATION KEY

The identification key below will help you identify the marine turtles found within the Northern Territory. Follow the flow chart and match the carapace (shell) and/or the pre-frontal scales on the head to the turtle in question.

