

Sea Turtles of the Northern Territory

Marine turtles are an integral part of the ecosystem and are also important culturally and economically to people throughout the world. Throughout northern Australia sea turtles remain important to Indigenous Australians and are still commonly used for food and in ceremonies.

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Flatback turtle returning to the water after nesting on Bare Sand Island, NT

Sea turtles are marine air-breathing reptiles that have lived in the oceans for the last 200 million years. These ancient animals have a hard shell (carapace) and paddle-like flippers. They live in many different habitats from inshore reefs to open oceanic environments and move between these habitats as they pass through their different life stages.

There are seven species of sea turtles worldwide, with six of these occurring in the waters of the Northern Territory Australia. The Northern Territory and Commonwealth Governments protect all six species. The Commonwealth's *EPBC Act 1999* lists these sea turtle species as either endangered or vulnerable to extinction.

General Life Cycle

Sea turtles nest on sandy beaches across northern Australia and offshore islands. During breeding seasons, female sea turtles migrate from their feeding grounds to a beach near where they hatched to lay their own eggs.

Sea turtle eggs incubate in the sand for 6 to 8 weeks until the hatchlings emerge, cross the beach and enter the sea. The temperature in the nest controls the gender of hatchlings. Cooler nests produce males and warmer nests produce female hatchlings. Once the hatchling turtles enter the water they spend the next few days swimming directly out to sea guided by the waves and currents. The juvenile turtles spend the next five years or so in the open ocean. When they are about 40 cm in carapace length they migrate to inshore feeding grounds where they spend most of their life.

At an age of around 30 to 50 years turtles reach maturity and begin their first migration to breeding grounds. Females may migrate over 3000 km to the nesting grounds from which they came, using the earth's magnetic field and the smell of the sand to find the mating area and the nesting beach. Once there they mate and start their journeys to the nesting beach. They go ashore at two-weekly intervals to lay between 50 and 140 eggs (depending on the species). They may do this 3-5 times in a nesting season before returning to their feeding grounds. During these nesting migrations, female turtles don't feed and rely on fat stored in their body for fuel. Because this is



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Green turtle laying eggs

Sea turtles in NT waters

Six of the seven known species of sea turtles live in the waters of the Top End, namely the Flatback, Green, Hawksbill, Loggerhead, Olive Ridley and Leatherback turtles. Juvenile and adult sea turtles live throughout the northern waters to the edge of the continental shelf.

Flatback turtle (*Natator depressus*)

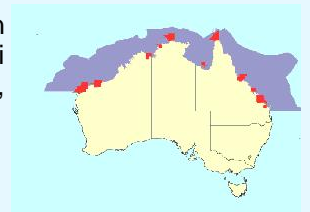
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Flatback turtles have a low domed carapace with upturned edges and a cream-yellow underbelly. Adults are 80 to 96 cm in carapace length and weigh about 80 kg.

The muddy, shallow, coastal waters in northern Australia are home to the Flatback sea turtle. Here they feed on molluscs, squid, cuttlefish, soft corals, jellyfish and algae. Their distribution extends from northern Australia to South-east Asia but nesting occurs only on tropical and subtropical beaches in Australia.

Flatback turtles nest across the Top End on many sandy beaches including the Tiwi Islands, Bare Sand Island, Kakadu beaches, Groote Eylandt and areas near Borroloola.



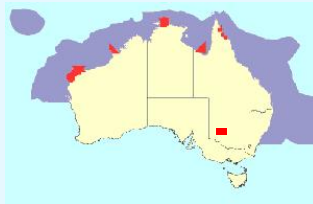
Conservation status: Vulnerable (EPBC Act)

Green turtle (*Chelonia mydas*)

Green turtles have a high-domed carapace with speckles of orange, brown and black. Their name originates from the colour of their fat and not their carapace. Meat from Green turtles formed the basis for turtle soup and is still the preferred turtle meat by many Indigenous Australians. Adult turtles are up to 120 cm in carapace length and weigh up to 200 kg.

Young and adult Green turtles live throughout the Top End waters on coral and rocky reefs and on inshore seagrass and algal beds. Green turtles are herbivores feeding mainly on seagrasses and seaweeds.

Green turtles nest on Cobourg Peninsula where their large nesting pits form craters in the sand. Green turtles also nest on the islands in the Gulf of Carpentaria such as the Wellesley Islands, Sir Edward Pellew Islands, Groote Eylandt and in North-east Arnhem Land including Blue Mud Bay.



Conservation status: Vulnerable (EPBC Act)

Hawksbill turtle (*Eretmochelys imbricata*)

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The prominent parrot-like beak and overlapping tortoiseshell scales on the carapace clearly distinguish Hawksbill turtles from other species. Globally hunters targeted Hawksbill turtles for their shell causing a decline in nearly all populations. Adult Hawksbill turtles are smaller than most species with females measuring to 83 cm in carapace length and weighing almost 68 kg.

Hawksbill turtles prefer rocky and coral reefs and live in waters around Darwin and along most of the Northern Territory coast. They feed mainly on algae and sponges with some soft corals and shellfish.

Hawksbills nest in the Northern Territory on Cobourg Peninsula, New Year Island and North-east Arnhem Land including Truant Island and Groote Eylandt.



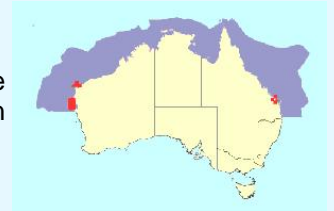
Conservation status: Vulnerable (EPBC Act 1999)

Loggerhead turtle (*Caretta caretta*)

A growth of barnacles and algae often covers the carapace of Loggerhead turtles. As the name suggests, the head is relatively larger than that of other species. Adults grow to 113 cm in carapace length and weigh about 100 kg.

Loggerheads turtles seldom nest in the tropics and are not recorded from beaches in the Northern Territory. Major nesting beaches are at Mon Repos near Bundaberg in South-east Queensland and Shark Bay in Western Australia. Loggerhead turtles live in the shallow waters of the Northern Territory where they feed on molluscs and crabs but will also eat jellyfish and sea urchins.

The numbers of nesting Loggerhead sea turtles have decreased dramatically since the 1970s in South-east Queensland because of deaths caused by commercial fisheries in the region and in the Pacific Ocean. On mainland beaches, foxes and pigs dig into sea turtle nests to eat the eggs. This predation further endangers Loggerhead sea turtles in eastern Australia.



Conservation status: Endangered (*EPBC Act 1999*)

Olive ridley turtle (*Lepidochelys olivacea*)



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Olive ridley turtles are the smallest of the Australian sea turtles measuring only 70 cm in carapace length and weighing 40 kg. Olive ridley turtles have a high-domed carapace that is olive green.

They live in various habitats from shallow muddy shores to deep rocky areas where they feed on molluscs and crabs. Much of their biology remains unknown as their major nesting areas are the beaches of the Northern Territory and occasionally northern Queensland.



Conservation status: Endangered (*EPBC Act 1999*)

In India and Mexico, Olive Ridley turtles nest in arribadas when several thousand individuals nest together on a few small beaches. Such mass nesting is not present on the Tiwi Islands and Arnhem

Land.

Commercial fishing in Northern Territory waters seriously reduced the numbers of Olive Ridley turtles. With improvements in the fishing industry such as changes to nets and introducing turtle-excluder devices (TEDs) on

Leatherback turtle (*Dermochelys coriacea*)

The Leatherback is by far the largest of the sea turtles weighing up to 500 kg and measuring over 1.6 m in length. Leatherbacks have a dark grey-black leathery shell with pink and white speckles. Five parallel ridges run along their body. Leatherback turtles lack a hard-bony external carapace and instead have a leathery skin.

Leatherbacks seldom enter the tropical waters of the Northern Territory and spend most of their lives in open ocean following ocean currents and feeding on jellyfish, and other soft-bodied invertebrates. Leatherback turtles can dive to depths greater than 200 metres. Nesting along the northern coast is scant with only a few nests and tracks recorded at Cobourg Peninsula and in Arnhem Land.

Leatherback turtles live in tropical and temperate waters. They regulate their body temperature in cold water by reducing circulation to their skin and directing their blood to their vital internal organs. This enables them to feed in waters that are too cold for other species of sea turtle.



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Conservation status: Vulnerable (*EPBC Act 1999*)

Threats to sea turtles in NT waters

Sea turtles have decreased in numbers over the last two hundred years. As a result all species are listed internationally as either vulnerable to or in danger of extinction. Australia in line with international agreements now protects all sea turtles and their eggs. Many conservation groups are working to increase sea turtle numbers by reducing the threats to their survival.

The greatest threats to sea turtles in the Northern Territory are:

- Commercial harvest (in neighbouring countries)
- Unsustainable harvest by indigenous people
- Disease
- Habitat destruction
- Pollution of habitat (industrial)
- Boating and commercial fishing
- Entanglement in marine debris
- Predation by animals such as goannas, pigs and dogs

For many years companies in Northern Territory, Western Australia and Queensland exported sea turtle shell and turtle meat. These unsustainable harvests lead to a decline in turtle numbers. They are now a listed species under CITES (Convention on Trade in Endangered Species) and are banned from international shipment.

In 2000 prawn trawlers fitted Turtle Excluder Devices (TEDs) to their nets to prevent killing sea turtles in their nets. Aboriginal people in Australia are entitled to use sea turtles for food and in ceremonies.



Olive Ridley turtle entangled in a discarded fishing net

How you can help turtle conservation

- Avoid leaving rubbish on beaches and prevent plastics washing into the sea. Turtles may eat plastics that resemble food or become entangled in fishing gear.
- When boating, slow down in shallow waters and look out for sea turtles. Boat strikes cause severe damage to turtles.
- Fit a Turtle-Excluder-Device to all trawling gear.
- On turtle nesting beaches keep lights and campfires to a minimum. Put out all campfires at the end of the night and cover all coals to prevent injuries to turtle hatchlings.
- Control your dogs so they do not disturb nesting turtles or dig up turtle nests.
- If you find a tagged turtle, write down the tag numbers: when, how and where you found the turtle. Record what happened to the turtle; your name and address and send the information to

the return address on the back of the tag.

- Report sightings of all sick, injured or dead turtles to the Dept. of Natural Resources, Environment and the Arts of the Northern Territory.
- When travelling overseas, don't eat local dishes of either marine turtles or eggs. Do not buy products made from sea turtles. This harvest is often unsustainable.

- For indigenous hunters, take small immature or male turtles rather than breeding females.

Hints for watching nesting sea turtles

- Minimise the use of lights
- Stay behind the turtle
- Wait until the turtle has started laying her eggs before turning on lights or using flash photography

More Information...

For more information search for sea turtles on the following websites:

<http://www.austurtle.org.au/>

<http://www.nt.gov.au/nreta/wildlife/threatened/>

<http://www.deh.gov.au/>

<http://www.seaturtle.org/>

<http://www.ioseaturtles.org/>

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