Sea turtles of the Gold Coast

Sea turtles are ancient reptiles that have lived in the world’s ocean for over 100 million years.\(^1\) Over this time, sea turtles have played an important role in coastal communities around the world, especially in the traditional culture of indigenous communities.\(^1\)

What are sea turtles?
Sea turtles are renowned for their timid, agile movements. Their streamline shell, called a carapace, and four paddle-like flippers help them manoeuvre through water. Being a reptile, sea turtles have lungs to breathe air, rough scales (scutes) that cover the body and are cold-blooded. They have a layer of fat that assists with maintaining a stable body temperature, which is one of the reasons why sea turtles prefer to live in warm tropical to temperate waters.

Sea turtles life cycle

Sea turtles can live for 80 years (depending on the species) and have a complex life cycle.\(^1\)

- Female turtles crawl ashore to above the high water mark and dig a nest to lay approximately 100 eggs the size of ping-pong balls.\(^1\)
- Sea turtles reach sexual maturity at around 50 years of age. They then migrate potentially thousands of kilometres to mate in shallow waters near their nesting beaches. It has been found, as hatchings, they read the Earth’s magnetic field which helps them return to their nesting beach. Females may mate with a number of males to maximise the chance of reproductive success, laying 3–6 nests per season (12–14 days apart), every 2–4 years.\(^1\)
- The nest is then covered back up with sand to allow the eggs to incubate for 6–8 weeks (species dependent). The sex of turtles is temperature dependent: warmer sand temperatures mainly produce females and cooler sand leads to male development.\(^2\)
- Upon hatching, the tiny turtles follow the light and swim towards the ocean, where they take their first swim out to the open ocean to feed on pelagic (open ocean) microscopic algae.\(^1\)
- Once they are about the size of a dinner plate, sea turtles migrate to near inshore feeding grounds and forage on soft corals, seagrass and jelly fish.\(^1\)

A baby Loggerhead Turtle on South Stradbroke Island

A female Loggerhead turtle making its journey up the dunes to lay her clutch of 100—126 eggs
Sea turtles you might see on the Gold Coast

<table>
<thead>
<tr>
<th>Sea Turtle</th>
<th>Description</th>
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<tr>
<td><strong>Green sea turtle (Chelonia mydas)</strong></td>
<td>Actually gets its name from the green coloured fat under the shell (carapace). Oval shaped carapace that is green and yellow in colour. Adults are 83–114cm, 110–190kg and are strict vegans. Listed as vulnerable under the EPBC Act.</td>
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<tr>
<td><strong>Flatback sea turtle (Natator depressus)</strong></td>
<td>Known for its flat shell. Hatchlings are larger than most species. The carapace is olive-grey fringed with a pale brown-yellow colour and has large non-overlapping scutes. On average adults are 99cm and 90kg. Mainly eats invertebrates, e.g. jellyfish and prawns, as well as seagrass. Listed as vulnerable under the EPBC Act.</td>
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<tr>
<td><strong>Hawksbill sea turtle (Eretmochelys imbricate)</strong></td>
<td>Threatened worldwide for the harvesting of their distinct ‘tortoise shell’ for decorative items. Relatively smaller than the other types of sea turtles. Adults are 71–89cm and 46–70kg and use their narrow and sharp jaws to reach food in crevices amongst coral reefs. Listed as vulnerable under the EPBC Act.</td>
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<tr>
<td><strong>Loggerhead turtle (Caretta caretta)</strong></td>
<td>Just like its name, it has a distinct large head with strong heavy jaws. Carapace is heart-shaped with non-overlapping scutes, red-brown in colour with a yellowish abdominal (plastron). Rarely seen on the Gold Coast. Listed as endangered under the EPBC Act.</td>
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Why are sea turtles an important part of our coastal environment?

As a predator species, they help maintain the health and diversity of marine environments. Another important ecological function they perform is injecting nutrient-rich deposits (nests) into the nutrient-poor beach environment. Their charismatic nature also makes them highly important to the inquisitive onlooker as well as tourism.

Sea turtle monitoring

Gold Coast City Council undertook a comprehensive study about sea turtle usage of the Broadwater in 2007. This included GPS tracking, habitat assessment and nesting availability. Sea turtles will be included in Gold Coast City Council Coastal Ecological Inventory Plan, which will outline any additional monitoring recommended to better understand and protect our precious sea turtles.

Threats to sea turtles on the Gold Coast

- Feral animals taking eggs from nesting beaches
- Decreasing nesting site availability
- Light pollution adjacent to nesting sites (a turtle hatchling navigates its way to the water using the light of the moon)
- Changing sand temperatures due to climate change

In Australia, sea turtles are protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Where can you see sea turtles on the Gold Coast?

South-east Queensland has a significant population of sea turtles with many taking up residence in the Gold Coast Seaway, throughout the Broadwater and further up into the Moreton Bay Marine Park.

How can you protect sea turtles?

- Collect fishing debris and floating plastics
- Be aware of the Green and Go Slow zones in Moreton Bay Marine Park
- Use propeller guards on your watercraft
- Use environmentally friendly detergents at home to prevent pollution entering the sea
- Adopt a Seagrass Watch site and help find out how to save these beautiful marine reptiles of the sea

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