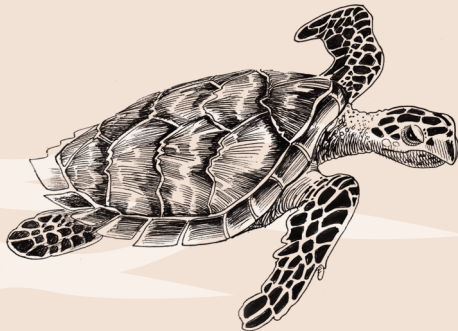


LOCATION



The waters of the Fraser Coast contains a vast array of marine habitats and coastal landscapes that form a transition zone between tropical and temperate waters. The changing water temperature drives dynamic life cycles and influences how coral, fish, mangrove and seagrass species are distributed. Seagrass meadows, mangroves, rocky shores, reefs, sandy beaches, bays, sheltered channels, rivers, creeks and estuaries host a wealth of wildlife including whales, turtles, dugong, grey nurse sharks, fish, corals and birds.

The Butchulla and Kabi Kabi First Nation people have a connection with the waters of the Fraser Coast, including the Great Sandy Strait. Today these Traditional Owners continue to practise their native title rights and interests and have an ongoing spiritual connection to land and sea Country and the protection of their Cultural landscape along with custodial responsibilities to pass on traditional knowledge to future generations.



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Marine Values



ABOUT

Marine values are made up of four important aspects of sea life that provide a diverse, rich environment for many creatures - Rocky shores, coral reefs, seagrass and mangroves.

Rocky shores are where the sea meets the land. They provide a diverse environment for many different creatures. Because big parts of rocky shores are exposed at low tide, they're great places to study marine life.

Coral reefs are one of the most diverse ecosystems in the world and due to the diversity of life found here they are often called the 'rainforests of the sea'. An estimated 25% of all marine species (including 4,000 species of fish) rely on healthy coral reefs for the provision of food and shelter.

Seagrasses are ancient flowering plants which typically form large meadows in shallow coastal waters and estuaries. They are similar in structure to terrestrial (land) plants and have the ability to photosynthesise.

Mangroves play a critical role in the stabilisation of river banks and natural filtration of the water. They protect against erosion, storm damage and siltation of the water. They collect excess nutrients, heavy metals and other pollutants. Mangroves also provide habitat for a variety of creatures from the land, water and sky. Mangrove branches host reptiles, insects, mammals and birds while their root systems provide shelter and feeding opportunities for a variety of species. During low tide, shorebirds can be seen feeding, while during high tide, diverse species of fish seek refuge in the roots.

Did You Know?

Species found in the splash (supralittoral) zone (the area closest to the land) often have an operculum (a structure used to close the opening of a mollusc's shell) which they use to trap water to prevent drying out. They also have a muscular foot which helps them to cling to the rock face. Periwinkles, barnacles, limpets and lichen are common here.

HABITAT



To live and thrive in a rocky shore animals and plants live in horizontal zones, which reflect the different abilities and special adaptations species have developed to be able to tolerate these tough conditions.

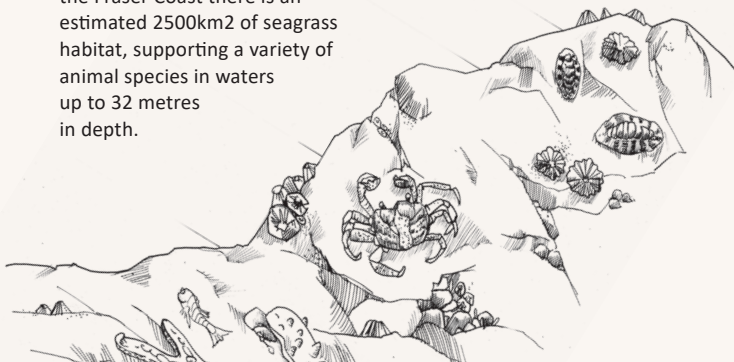
The habitat provided by coral reefs benefits a vast array of species such as hard and soft coral, anemones, fish, molluscs, turtles, sea snakes, sea urchins, sea cucumbers, stingrays and sharks (among many others). Coral reefs provide protection for coastlines from waves, erosion and storms by acting as natural breakwaters. They also support recreational and commercial activities such as fishing, diving and tourism, in addition to providing medicines.

As a primary producer (organisms that produce their own food through photosynthesis), seagrasses are critical to healthy and sustainable marine food webs. Within the waters of the Fraser Coast there is an estimated 2500km² of seagrass habitat, supporting a variety of animal species in waters up to 32 metres in depth.

In addition to the dugong, green turtles, sea urchins and fish which feed directly on the leaves of the seagrass, there are countless more species which rely on them for habitat. Small fish, prawns and shellfish often shelter within seagrass meadows to escape predators and to take advantage of the stable temperatures they provide, while seahorses can often be seen using the long leaves for anchoring onto.

Did You Know?

Forty times more animal life can be found in a seagrass meadow than in bare sand. An estimated 25% of all marine species (including 4,000 species of fish) rely on healthy coral reefs for the provision of food and shelter.



THREATS

There are many threats to the survival and sustainability of coral reefs and rocky shores, with many of them resulting from human activities.

Examples of threats include:

- Climate change
- Coral bleaching
- Poor water quality
- Crown of thorns sea stars
- Coastal development
- Irresponsible fishing practices
- Rubbish from humans (including plastic pollution)

Human pollution has caused seagrass declines around the world. The greatest threat to seagrass is from nutrients. High nutrient levels, often due to agricultural and urban runoff, cause algae blooms that shade the seagrass. Reduction in light decreases seagrass growth and can kill entire meadows.

Suspended sediments also reduce light. This sediment can come from land development runoff and through drains. Boating activity may also stir up sediment.

CONSERVATION

You can help conserve coral reefs, rocky shores, seagrass meadows and mangroves by:

- ✓ **Cutting food waste** – food waste in landfill produces methane, a potent greenhouse gas.
- ✓ **Being water-wise** – reducing your daily shower to 4 minutes can save thousands of litres of water and reduce up to 350 kilograms of carbon dioxide from being released into the atmosphere each year.

Other threats to seagrass include damage to the leaves, stems and roots by boat propellers, trawlers' nets, and dredging. Loss of seagrass habitats mean losses in marine ecosystem productivity, as well as extinction of species that depend on seagrass for survival.

Most threats to mangroves are the result of direct or indirect human activities.

Examples of threats include:

- coastline development leading to erosion and decreased water quality (increased sediments, nutrients, pesticides and heavy metals)
- oil pollution from sewage systems, drains and accidental oil spills
- aquaculture (increased siltation, erosion and nutrients)
- uncontrolled stock access
- climate change leading to sea level rise and increase in storms/cyclones
- human activities, including fishing, off-road vehicles and dumping of rubbish

