



# Mangroves on the Gold Coast

**Mangrove forests fringe our coastal waterways and cover mud islands in our open estuaries. You can see them along the boardwalk at Paradise Point, Currumbin, Jabiru Island, Macintosh Island and the Southport Broadwater Parklands.**

## What are mangroves?

Mangroves are plants that grow above the average mean sea level of an intertidal zone (between low and high tide).

True mangroves have special adaptations that help them live in salty and oxygen-deficient soils, such as above-ground roots called pneumatophores that help them breathe. These specialised structures are filled with spongy tissue and holes that maximise oxygen absorption; acting like snorkels.

Mangroves are also able to desalinate nutrients they take in from the environment around them. Cell membranes at the root surface act as a barrier to salt and any salt taken in can be excreted through the leaves.<sup>1</sup> If you look closely you will see salt crystals on their leaves.

## The importance of mangroves in our coastal environment

Mangroves, known as the 'kidneys of our coast', are an important habitat because of the role they play in nutrient cycling within our coastal environment. Many of the animals that live in mangroves, such as crabs, feed on dead or decaying matter. The nutrients are then returned to a form that organisms higher in the food chain, such as fish or humans, can use.

The structural complexity of mangroves (thick sticky mud, tangled roots and pneumatophores) shelters important nursery habitat for many animals in our coastal environment including fish, prawn and crab species that are harvested commercially. Up to 70 per cent of the seafood we eat is dependent on the mangrove environment for at least part of its lifecycle.<sup>1</sup>

Mangroves also play a valuable role in foreshore protection. Their extensive root systems assist in maintaining shoreline stability. During storms, mangrove forests can reduce the rate of erosion and the impact of storm waves and surge by absorbing wave energy.

Mangrove forests often smell like rotten eggs. This pungent smell is not a health risk, nor is it related to pollution or mosquito breeding. The smell is a sign of a healthy mangrove forest as it signifies that leaf litter is being effectively recycled into the complex food web.



Grey Mangrove  
(*Avicenna marina*  
subsp. *australasica*)



Red Mangrove  
(*Rhizophora stylosa*)



River Mangrove  
(*Aegiceras corniculatum*)



Orange Mangrove  
(*Bruguiera gumnorrhiza*)

Photo credit to Glenn Leiper.

Source is the Flora and Fauna database [goldcoastflorafauna.com.au](http://goldcoastflorafauna.com.au)

## Types of mangroves in our city

**The Grey Mangrove (*Avicenna marina* subsp. *australasica*)** is common to the Gold Coast and features smooth bark and leaves that are light green on top and silvery-grey underneath.<sup>1</sup> The flattened egg-shaped fruit is yellowish with velvety skin. Their most noticeable feature is the mass of pneumatophores that surrounds them, which looks like pegs reaching out from the mud.<sup>1</sup> You will find Grey Mangroves fringed along most of our waterways.

**The Red Mangrove (*Rhizophora stylosa*)** features a distinctive root system of arching stilt or prop roots that are long, above-ground extensions reaching from the main trunk and anchoring the mangrove into the mud.<sup>1</sup> These stilt roots also have breathing cells to draw in air.<sup>1</sup> The leaves of the Red Mangrove occur in clumps at the end of the branchlets and feature numerous brown spots on the underside.<sup>1</sup> You can spot Red Mangroves amongst the many mangrove forests in our city e.g. Paradise Point and Currumbin.

**The River Mangrove (*Aegiceras corniculatum*)**, with its small oval leaves, features an adaptation to this salty environment with small salt glands on the underside of each leaf.<sup>1</sup> If you turn the leaf over and look closely; small, conspicuous crystals of salt can be seen.<sup>1</sup> Adding to the scents of the mangrove forest, the bundles of small white flowers smell like rotten bananas.<sup>2</sup> You can see River Mangroves at Currumbin.

**The Orange Mangrove (*Bruguiera gumnorrhiza*)** features large, glossy leaves up to 20cm long occurring in clumps at the end of the branches.<sup>1</sup> The bark of this mangrove is rough and fissured. It has characteristic roots that branch from the lower level of the trunk into the mud. These roots are similar to a bent knee in appearance.<sup>1</sup> Flowers of the Orange Mangrove are red and cup-shaped with green, cigar-shaped propagules (seeds) extending from the flowers.<sup>1</sup> You can see Orange Mangroves along the boardwalk at Paradise Point.

## Mangroves are now protected

Historically, extensive mangrove forests throughout Queensland have been cleared for development, which has led to a loss of habitat and increased the risk of storm-related inundation. Today, mangroves are protected under the State Government's *Fisheries Act 1994* and any disturbances, no matter how small, require a permit.

## The future of mangroves

Coastal development, pollution and climate change place immense pressure on our beautiful mangrove forests. It is important that we manage the impact of climate change and ensure that any impacts of adjacent urban development are minimised. Our waterways maintenance program includes weekly litter collection and the Nature Conservation Strategy involves assessing our coastal environment to formally identify and map coastal ecosystems, including assessment and monitoring the health of our mangroves.

## How you can help

- Use environmentally friendly detergents.
- Dispose of oil wastes at appropriate depots e.g. landfill.
- Pick up litter.
- Dispose of fishing debris appropriately.

## For more information

**P** 1300 GOLDCOAST (1300 465 326)

**W** [cityofgoldcoast.com.au](http://cityofgoldcoast.com.au)

<sup>1</sup> Duke, N. (2006) *Australia's Mangroves: The Authoritative Guide to Australia's Mangrove Plants*, University of Queensland, St. Lucia, Brisbane.

<sup>2</sup> Davie, P. (1998) *Wild Guide to Moreton Bay*, Queensland Museum, Brisbane.

This information is produced in partnership with the Griffith Centre for Coastal Management's CoastEd program. For more information visit

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