

# Estuarine Wetland

mangrove



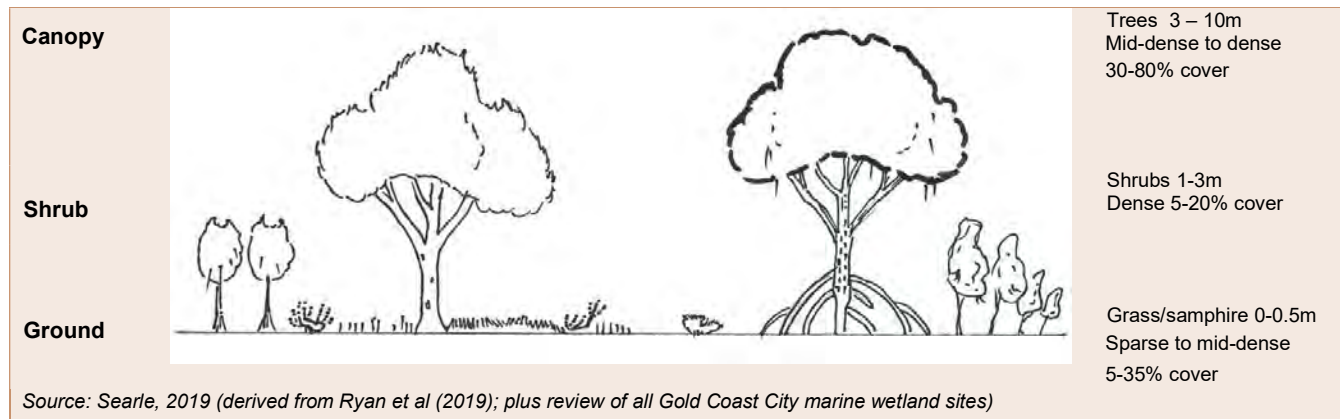
## VEGETATION TYPE 18f

Regional Ecosystem: 12.1.3

Mixed Mangrove (*Avicennia marina*/ *A. corniculatum*) Open Forest to Shrubland on Marine Deposits

## COMMUNITY STRUCTURE

Vegetation type (VT) 18f is an open forest to shrubland between 3m and 10m high, with a canopy cover of 30-80%. Several mangrove species (Grey Mangrove *Avicennia marina*, Orange Mangrove *Bruguiera gymnorhiza*, River Mangrove *Aegiceras corniculatum*, Stilted Mangrove (*Rhizophora stylosa*), Yellow Mangrove (*Ceriops australis*) may occur in mixed densities, with no one species consistently dominant. Patches of marine grassland and/or samphires may also be present.



## Characteristic plant species

Approximately **17 native plants species** have been recorded for this vegetation type. Characteristic plant species for this vegetation type are listed below. Dominant (most numerous) species are shaded. Plants in blue text are listed as [Wetland Indicator Species](#) in DES Flora Wetland Indicator Species List and are adapted to and dependent on wetlands.



Indicates species is a preferred koala food tree\*



Indicates species is a Glossy Black-Cockatoo feed tree species



Indicates species is a City-wide significant species

\* It is noted that in addition to preferred food trees, koalas utilise a range of eucalypt and non-eucalypt tree species for supplemental feeding and other uses such as shelter. These other species are also important and necessary features of koala habitat.

## CANOPY

Upper layer of trees exposed to sunlight which creates a canopy that shades lower layers.



**Grey Mangrove**

*Avicennia marina*



**River Mangrove**

*Aegiceras corniculatum*



**Orange Mangrove**

*Bruguiera gymnorhiza*



**Yellow Mangrove**

*Ceriops australis*



**Stilted Mangrove**

*Rhizophora stylosa*



**Milky Mangrove**

*Excoecaria agallocha*



## SHRUB LAYER

Middle layer of vegetation usually made up of small trees (including juvenile canopy trees) and woody shrubs



**Grey Mangrove**  
*Avicennia marina*



**River Mangrove**  
*Aegiceras corniculatum*



**Stilted Mangrove**  
*Rhizophora stylosa*



**Grey Saltbush**  
*Atriplex australasica*



**Berry Saltbush**  
*Einadia hastata*



**Ruby Saltbush**  
*Enchylaena tomentosa*

## GROUND LAYER

Lowest layer of vegetation. Plant types can include marine grasses, graminoids (non-woody plants with a grass-like morphology), forbs (non-woody, broad-leaved, flowering plants) and samphires (succulent, herbaceous plants that grows in high salinity environments).



**Streaked Arrow Grass**  
*Cynogeton striata*  
GRAMINOID (SEDGE)



**Sea Tassel**  
*Ruppia maritima*  
AQUATIC



**Beaded Samphire**  
*Sarcocornia quinqueflora*  
SAMPHIRE



**Jellybean Sea Blite**  
*Suaeda arbusculoides*  
SAMPHIRE



**Saltwater Couch**  
*Sporobolus virginicus*  
GRASS (CREEPING)



**Sea Blite**  
*Suaeda australis*  
SAMPHIRE

## EPIPHYTES & MISTLETOES

Species that grow on the surface of other plants. Unlike epiphytes, mistletoes are parasitic and derive some or all of their nutritional requirements from the plant on which they grow.



**Mangrove Mistletoe**  
*Amyema mackayensis*  
MISTLETOE



**Tiny Bulbophyllum**  
*Bulbophyllum minutissimum*  
EPIPHYTE

## City-wide significant plant species



The City of Gold Coast recognises species which are locally significant as City-wide significant (CWS) species. These species are important because they may be threatened, restricted to the Gold Coast, or at the edge of their geographic range. A number of characteristic species are identified above as CWS species. No other CWS plant species have been identified for this vegetation type.

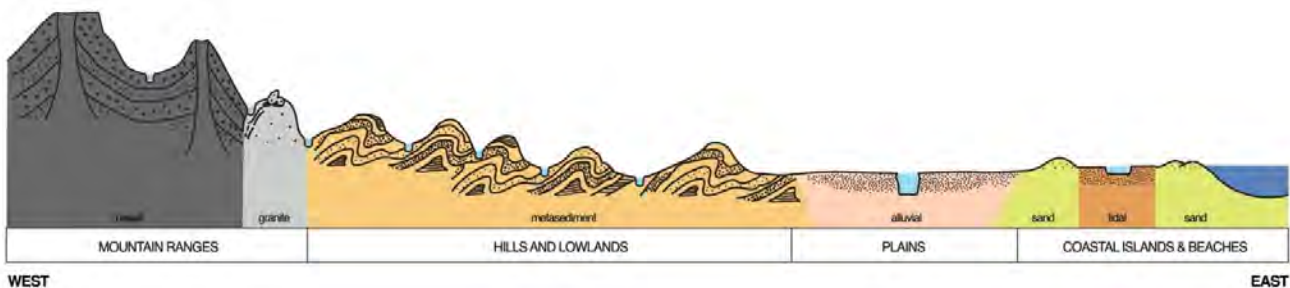
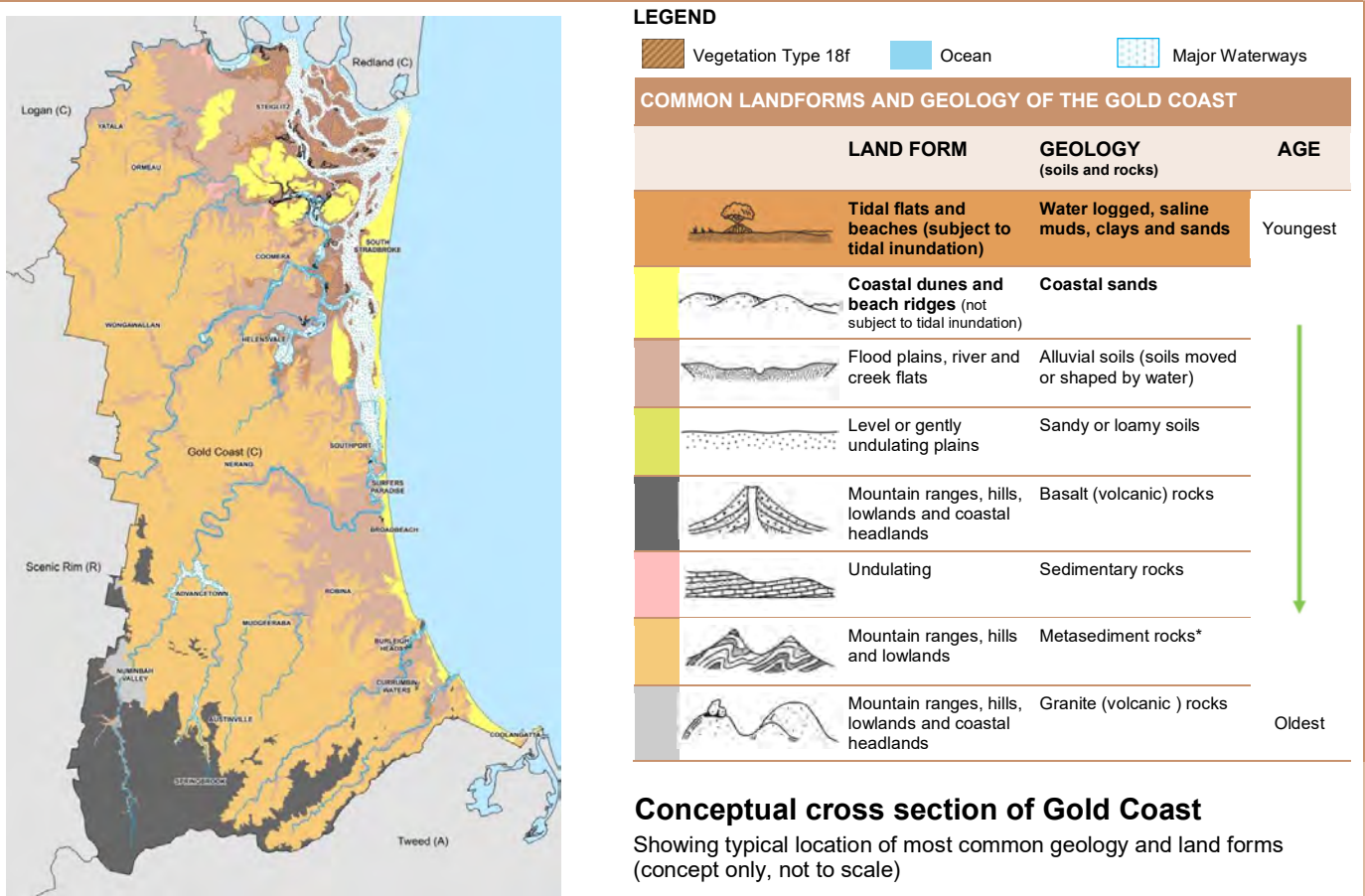


## OCCURRENCE

Native plants occur in vegetation communities, which are consistently associated with a particular soil type, landform (shape of the land, e.g. hills or plains) aspect (position on a slope in relation to the sun) and climate.

Mixed Mangrove open scrub occurs as small to large patches on the Southern Moreton Bay Islands and adjoining areas of the mainland between the Pimpama and Albert Rivers. It can form extensive areas on the Bay Islands, and is the most varied or heterogenous of the mangrove communities present in Gold Coast City. This vegetation type occurs in association with other mangrove and marine grassland/herbfield communities (VT18b-e, and VT22a-d). Mapped localities include Southern Moreton Bay Islands, Rocky Point, Jacobs Well and Pimpama.

## Historic distribution of Vegetation Type 18f



### \* Metasediment rocks

The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment. These sedimentary rocks were subsequently buried underneath other rocks and subjected to high pressures and temperatures, causing the rock to recrystallize. This recrystallization process is known as metamorphism, hence the term metamorphic rocks. About 300 million years ago these metamorphic rocks were pushed upward by geologic processes, creating much of the ranges, hills and lowlands on the Gold Coast.

## 2017 EXTENT AND CONSERVATION STATUS

### Gold Coast

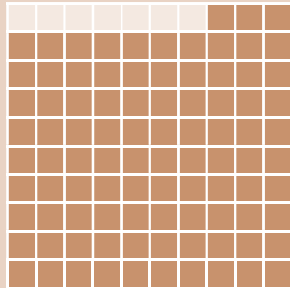
The 2017 extent\* of this vegetation type on the Gold Coast was 479 hectares.

1 HECTARE (HA) = 2.46 ACRES  $\cong$  THE SIZE OF AN INTERNATIONAL RUGBY FIELD

#### EXTENT (ha)

Historic  
515ha

2017\*  
479 ha  
93% of  
historical  
extent

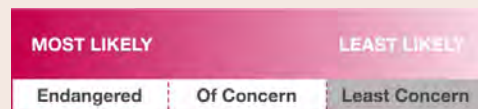


\* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth.

### Queensland

The conservation status of vegetation in Queensland is specified under the *Vegetation Management Act 1999*, which lists this regional ecosystem (RE 12.1.3) as being 'Least Concern'.

**LIKELIHOOD OF BECOMING EXTINCT (in QLD) due to biodiversity loss/degradation**



## USEFUL RESOURCES

City of Gold Coast website: Environmental weeds and invasive plants.

Find out more about regional ecosystems at the Queensland Government Regional Ecosystems webpage.

## CREDITS

Content – ngh Environmental and Jason Searle.  
Vegetation Type Photo – Lui Weber ©  
Unless otherwise noted all other photos – Glenn Leiper ©

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## THREATS

Mixed Mangrove open scrub occurs on tidal creek and islands, and is subject to disturbance from storms and other seasonal weather events. Consequently, sea level rise and potential increased erosion associated with increasing and extreme weather events suggests that Climate Change has the potential to significantly impact on this vegetation community. Weeds are generally a low threat to this community, as it occurs in lower tidal areas.

### Common threats to all vegetation types

#### Clearing

Native vegetation is protected by Federal, State and local legislation. However, with increasing population growth in the region, Southeast Queensland is experiencing large amounts of vegetation clearing, particularly in areas designated for urban development. Protecting native vegetation on your property is one of the most beneficial things you can do to protect wildlife and the natural environment.

#### Weeds

Environmental weeds are the second biggest threat to our natural environment after land clearing. Environmental weeds (introduced plants that have naturalised and are invading our bushland) degrade our natural environment by:

- out competing native plant species for available nutrients and light
- taking over and transforming native landscapes often leading to local plant or animal extinctions and loss of biodiversity
- reducing the availability of food and other resources for many native animals whilst sometimes benefiting pest animals
- increasing the risk of destructive wildfire
- often being toxic to people and animals.

#### Fire

Very broadly, vegetation is either adapted to fire or fire sensitive. Fire can become a threat if:

- it extends into vegetation types which should not be burnt e.g. rainforest
- the frequency and/or intensity of the fire is too high
- the area burnt is too large.

#### Grazing

The grazing of animals like cattle, horses, goats and feral animals such as deer can cause trampling or loss of diversity of seedlings and compact soil, preventing natural regeneration.

#### Collecting

Unethical and illegal collection of plant specimens in the wild poses a serious threat to some species, particularly orchids, grass trees and epiphytes.

#### Climate change

Changes in temperature and rainfall can have significant effects on our city's vegetation. For example, without consistent rainfall, areas become drier, potentially resulting in higher fire frequency and/or intensity, which some plants and vegetation communities won't be able to tolerate. Plants (and animals) need available space to migrate as conditions change, with high altitude species at the greatest risk as there is nowhere suitable for them to go. Warmer conditions may also provide the right habitat for a greater variety of weeds. As sea levels rise, salt water moves further upstream and vegetation also becomes inundated.