EUCALYPT

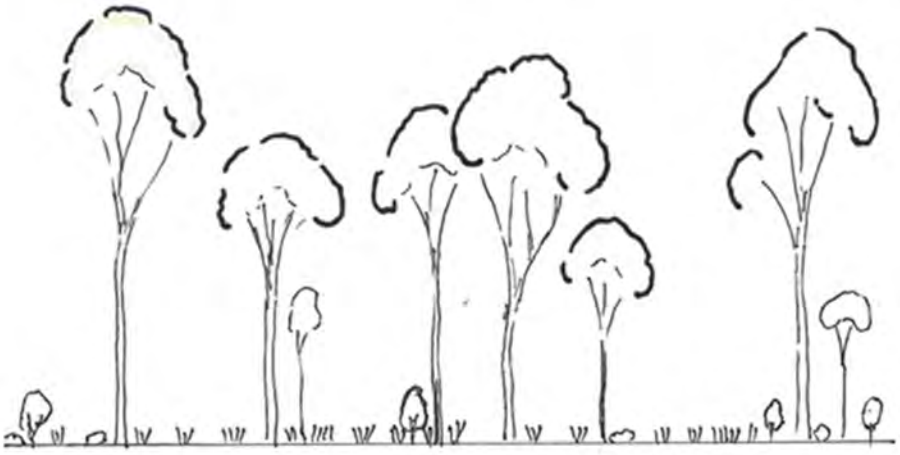
VEGETATION TYPE 4

Regional Ecosystem: 12.11.5

Spotted Gum – Narrow-leaved Ironbark +/- Grey Ironbark (*Corymbia citriodora subsp. variegata - Eucalyptus crebra +/- E. siderophloia*) Woodland to Open Forest on Metasediments

COMMUNITY STRUCTURE

Vegetation type (VT) 4 is typically a woodland to open forest. The canopy layer is typically 10-22m high and provides approximately 45% canopy cover (% shade to underlying plants). Within the canopy, dominant species are *Corymbia citriodora subsp. variegate* (Spotted Gum), *Eucalyptus crebra* (Narrow-leaved Ironbark) *and/or Eucalyptus siderophloia* (Grey Ironbark). *Eucalyptus carnea* (Broad-leaved White Mahogany), *E. siderophloia* (Grey Ironbark), and *E. tindaliae* (Queensland White Stringybark) usually occur.

Canopy		Medium – large trees 10 – 22 m Open ~ 45% cover
Sub canopy		small trees & juvenile canopy trees 4 - 10 m Sparse ~5% cover
Shrub		Shrubs 1 – 4 m Sparse ~5% cover
Ground		Grassy 0.1– 0.8 m high Mid-dense ~ 30 % cover

Source: Searle, 2019 (derived from Ryan et al, 2019; GC04; GC05)

The sub-canopy and shrub layers below the canopy are usually sparse (ca. 5% cover). The ground cover is dominated by grasses (particularly *Themeda triandra*, *Cymbopogon refractus* and *Eremochloa bimaculata*), and open areas of leaf litter.

Characteristic plant species

Approximately **102 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.

Indicates species is a preferred koala food tree*

GBC Indicates species is a Glossy Black-Cockatoo feed tree species

CWS 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 vegetation exposed to sunlight which creates a canopy that shades lower layers

Spotted Gum

Corymbia citriodora subsp. variegata

Photo needed

Narrow-leaved Ironbark

Eucalyptus crebra

Grey Ironbark

Eucalyptus siderophloia

Photo needed

Broad-leaved White Mahogany

Eucalyptus carnea

Forest Red Gum

Eucalyptus tereticornis

Small-fruited Grey Gum

Eucalyptus propinqua

Tallowwood

Eucalyptus microcorys

CANOPY

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

Red Ironbark

Eucalyptus fibrosa subsp. Fibrosa

Smooth-barked Apple

Angophora leiocarpa

Pink Bloodwood

Corymbia intermedia

Moreton Bay Ash

Corymbia tessellaris

SUB-CANOPY

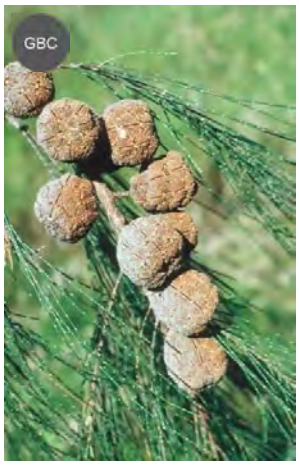
Tree layer below canopy

Brush Box

Lophostemon confertus

Hickory Wattle

Acacia disparrima subsp. disparrima



Forest She-Oak

Allocasuarina torulosa

Black Wattle

Acacia concurrens

SHRUB LAYER

Middle layer of vegetation usually made up of small trees and woody shrubs

Brush Box

Lophostemon confertus

Cassinia

Cassinia subtropica

Hickory Wattle

Acacia disparrima subsp. disparrima

Tall Ground-berry

Acrotriche aggregata

Red Ash/Soap Bush

Alphitonia excelsa

Dogwood

Jacksonia scoparia

GROUND LAYER AND VINES

Lowest layer of vegetation. Plant types can include grasses; graminoids (non-woody plants with a grass-like morphology); ferns; forbs (non-woody, broad-leaved, flowering plants) and vines (where present) may extend upwards into the canopy.

Kangaroo Grass
Themeda triandra

GRASS (TUSSOCK)

Barbwire Grass
Cymbopogon refractus

GRASS (TUSSOCK)

Poverty Grass
Eremochloa bimaculata

GRASS

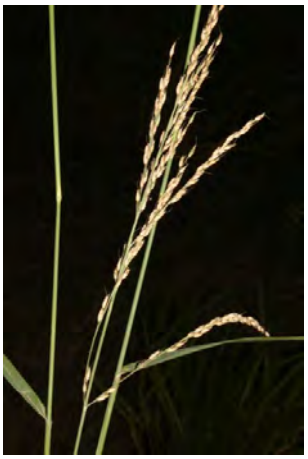
Photo needed

Small-flowered Fingergrass
Digitaria parviflora

GRASS (TUSSOCK)

Blady Grass
Imperata cylindrica

GRASS



Reedgrass
Arundinella nepalensis

GRASS (TUSSOCK)

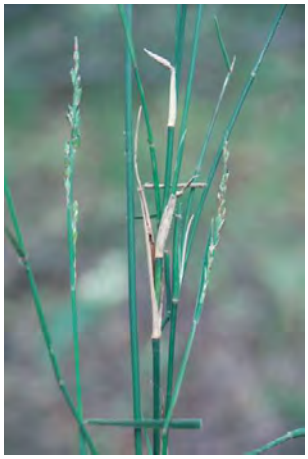
GROUND LAYER AND VINES

Lowest layer of vegetation. Plant types can include grasses; graminoids (non-woody plants with a grass-like morphology); ferns; forbs (non-woody, broad-leaved, flowering plants) and vines (where present) may extend upwards into the canopy.

Photo needed

Scented-top Grass
Capillipedium parviflorum

GRASS (TUSSOCK)



Wiry Panic
Entolasia stricta

GRASS

Pale Mat-rush
Lomandra confertifolia subsp. pallida

GRAMINOID

Photo needed

Beard Grass
Chrysopogon sylvaticus

GRASS

City-wide significant plant species

CWS

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. In addition to characteristic species identified above as CWS species, the following CWS plant species may also be present in this vegetation type.

Short-leaved Joint-vetch
Aeschynomene brevifolia

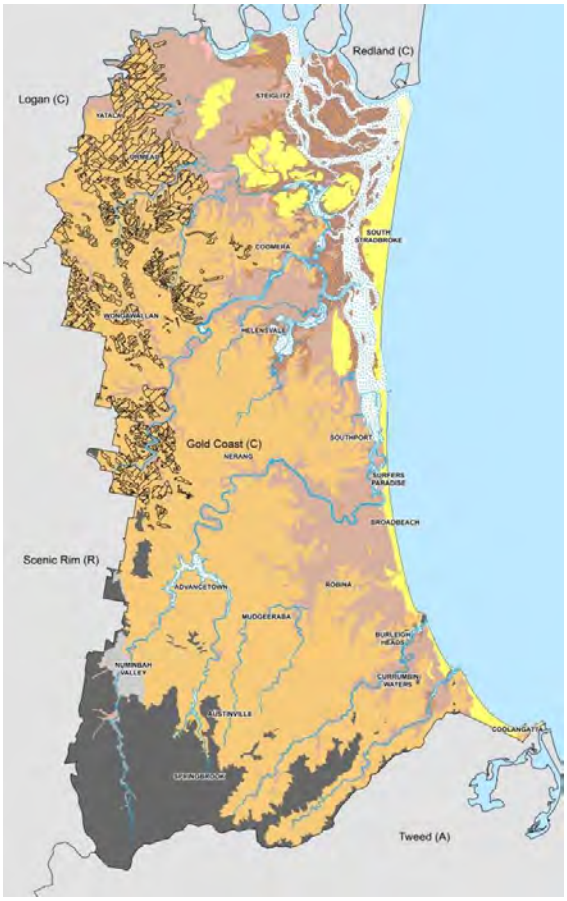
FORB (PROSTRATE)

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.

This vegetation type occurs on lower hillslopes and gently undulating country at the base of slopes through the northern to central parts of Gold Coast City, and occurs on higher footslopes in more fertile areas around Mudgeeraba in the south of the City. Generally occurring on thin to mid-depth soils with some litter and humus development, on mudstone and shale-based soils on lower foothill slopes, where it transitions into VT4 (Spotted Gum/Ironbark Woodland) on higher slopes and thinner more gravelly soils. Common localities include Coomera, Nerang, Maudsland, Pimpama, Ormeau and Mudgeeraba.

Historic distribution of Vegetation Type 4



LEGEND

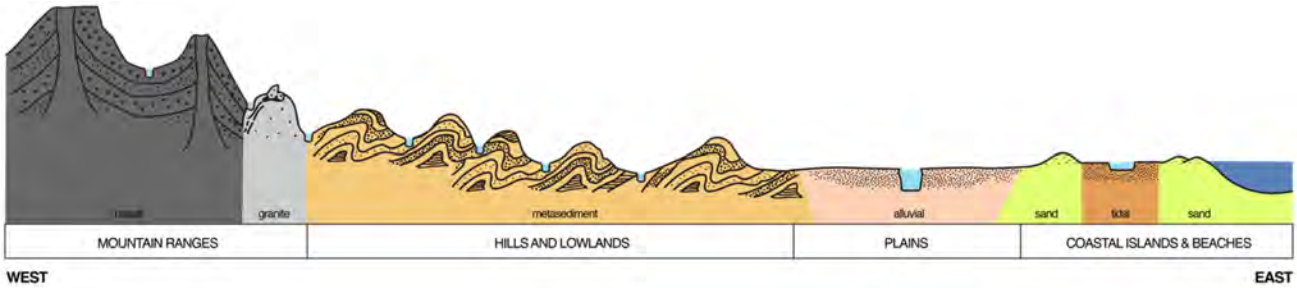
Vegetation Type 4 | Ocean | Major Waterways

COMMON LANDFORMS AND GEOLOGY OF THE GOLD COAST

	LAND FORM	GEOLOGY (soils and rocks)	AGE
	Tidal flats and beaches (subject to tidal inundation)	Water logged, saline muds, clays and sands	Youngest
	Coastal dunes (not subject to tidal inundation)	Sand	
	Flood plains, river and creek flats	Alluvial soils (soils moved or shaped by water)	
	Level or gently undulating plains	Sandy or loamy soils	
	Mountain ranges, hills, lowlands and coastal headlands	Basalt (volcanic) rocks	
	Undulating	Sedimentary rocks	
	Mountain ranges, hills and lowlands	**Metasediment rocks***	
	Mountain ranges, hills, lowlands and coastal headlands	Granite (volcanic) rocks	Oldest

Conceptual cross section of Gold Coast

Showing typical location of most common geology and land forms (concept only, not to scale)



*** Metasediment rocks**

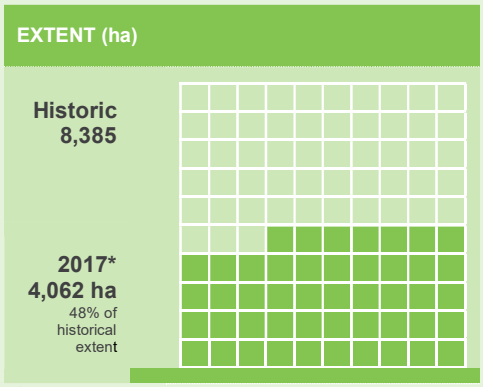
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment. 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 metamorphosis, 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

This vegetation type was second most common vegetation type in the Gold Coast City area prior to clearing. The 2017 extent* of this vegetation type on the Gold Coast is 4,062 hectares, 48% of its historical extent.

1 HECTARE (HA) = 2.46 ACRES ≅ THE SIZE OF AN INTERNATIONAL RUGBY FIELD

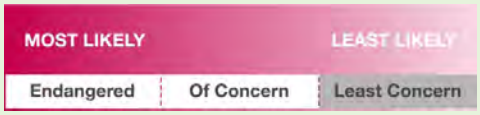


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth

Queensland

The conservation status of vegetation in Queensland is specified under the *Vegetation Management Act 1999*, which lists this regional ecosystem (RE 12.11.5) 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

Broad-leaved White Mahogany/Queensland Stringybark open forest to woodland is generally quite an open vegetation type, the ground layer which is typically a mosaic of grassland and more open areas with a conspicuous litter layer of leaves and bark. Too frequent fires, over-grazing or other loss of native grassy understorey can result in erosion and desiccation of the soil layer. Fire management, particularly where the more common weeds of Lantana and Molasses Grass have become established, is important in weed control and in managing the soils of these 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 types are 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.

CITY OF GOLDCOAST.