EUCALYPT

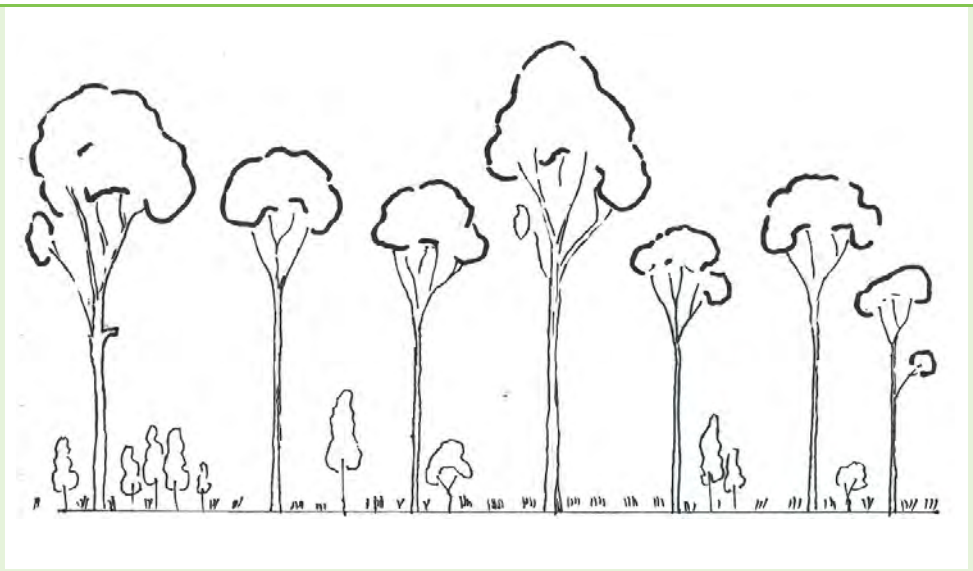
VEGETATION TYPE 4d

Regional Ecosystem: 12.11.25

Broad-leaved Spotted Gum - White Mahogany (*Corymbia henryi - Eucalyptus carnea*) Woodland to Open Forest on Metasediments

COMMUNITY STRUCTURE

Vegetation type (VT) 4d is typically an open forest to woodland. The canopy layer varies from 15m to 26m high and provides approximately 35-60% canopy cover (shade to underlying plants). Broad-leaved Spotted Gum (*Corymbia henryi*) and White Mahogany (*Eucalyptus carnea*) are typically the dominant species, although a variety of other tree types are also present in lower numbers.



Source: Searle, 2019 (derived from GC94; GC107; GC108; GC1112; GC114)

The sub-canopy and shrub layers are usually sparse, with saplings of canopy trees mixing with a variety of other shrubs including Golden Pea (*Daviesia arborea*) and Hickory Wattle (*Acacia disparrima*). Although the ground cover is dominated by of native grasses, the Soft Bracken (*Calochlaena dubia*) fern and the grass tree (*Xanthorrhoea macronema*) may also be conspicuously present.

Characteristic plant species

Approximately **115 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

Large-leaved Spotted Gum
Corymbia henryi

Photo needed

Photo needed

Broad-leaved White Mahogany
Eucalyptus carnea

Spotted Gum
Corymbia citriodora subsp. *variegata*

Narrow-leaved Ironbark
Eucalyptus crebra

Grey Ironbark
Eucalyptus siderophloia

Small-fruited Grey Gum
Eucalyptus propinqua

CANOPY

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

Pink Bloodwood

Corymbia intermedia

Queensland White Mahogany

Eucalyptus tindaliae

Tallowwood

Eucalyptus microcorys

Brush Box

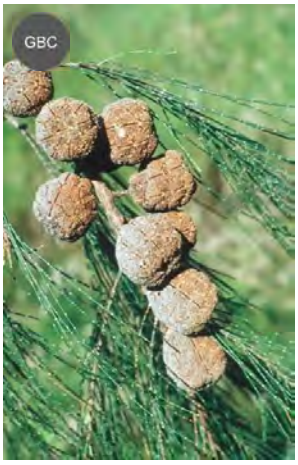
Lophostemon confertus

SUB-CANOPY

Tree layer below canopy

Brush Box

Lophostemon confertus



Forest She-Oak

Allocasuarina torulosa

Swamp Box

Lophostemon suaveolens

SHRUB LAYER

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

Hickory Wattle

Acacia disparrima subsp. disparrima

Golden Pea

Daviesia arborea

Dogwood

Jacksonia scoparia

Brush Box

Lophostemon confertus

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 (TUSSOCK)

CITY OF GOLDCOAST.

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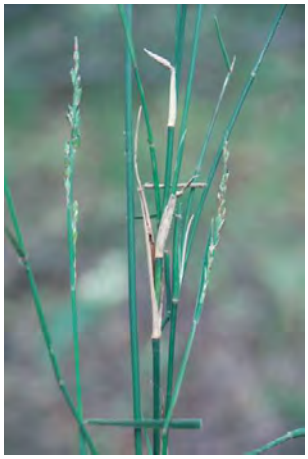
Photo needed

Small-flowered Fingergrass
Digitaria parviflora
GRASS (TUSSOCK)



Wiry Panic
Entolasia stricta
GRASS (TUSSOCK)

Blady Grass
Imperata cylindrica
GRASS

Bottlebrush Grass Tree
Xanthorrhoea macronema
OTHER

Shorthair Plumegrass
Dichelachne micrantha
GRASS (TUSSOCK)

Soft Bracken
Calochlaena dubia
FERN

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

Palm Lily

Cordyline congesta

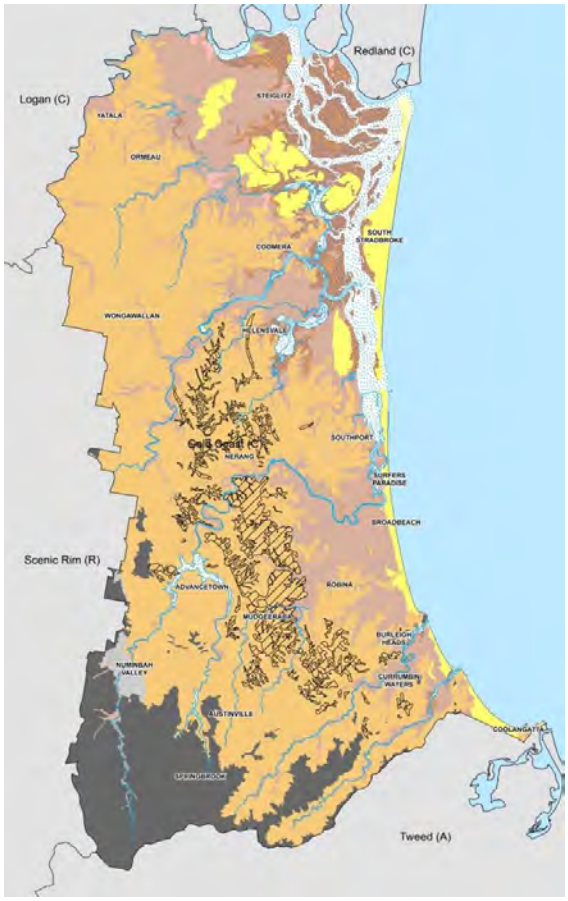
PALM

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 is the dominant community on the crests and higher hillslopes in more fertile areas in the central and southern parts of the Gold Coast City. It occurs on ridges on shallow soils, and often transitions into other vegetation types downslope on more fertile soils, such as VT1 (Broad-leaved White Mahogany - Queensland Stringybark Woodland to Open Forest on Metasediments) or VT1b (Grey Gum - Ironbark Open Forest on Metasediments). Common localities include Nerang, Gilston, Maudsland, Mudgeeraba, Bonogin, Advancetown, Tallebudgera, Elanora and Tallebudgera Valley.

Historic distribution of Vegetation Type 4d



LEGEND

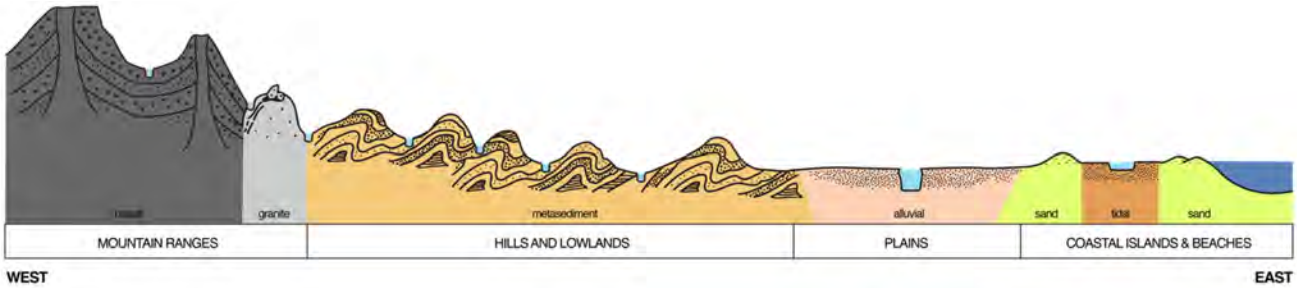
Vegetation Type 4d | Ocean | Major Waterways

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**

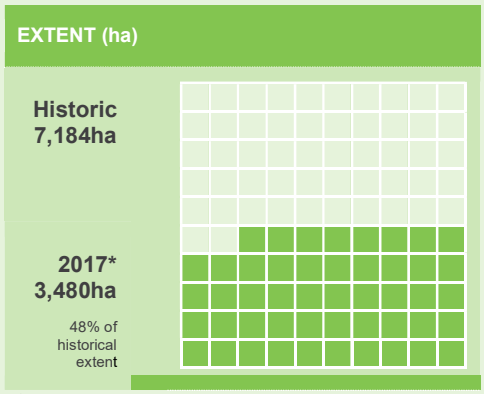
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment.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

VT 4d was the fifth-most common vegetation type in the Gold Coast City area prior to clearing, and is the sixth-most common today, with 48% of its original extent remaining. The current extent* of this vegetation type on the Gold Coast is 3,480 hectares.

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

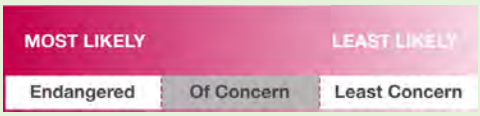


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth

Queensland

The conservation status of vegetation in Queensland is specified under the *Vegetation Management Act 1999*, which lists this regional ecosystem (RE 12.11.25) as being of 'Of 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 ©

Version 3, November 2020

THREATS

Broad-leaved Spotted Gum - White Mahogany Woodland to Open Forest on Metasediments occurs on ridges in areas surrounded by tall open forest in fertile areas, and benefits from more frequent, less intense fires than surrounding communities. However this community can still be burnt too often or intensely, which can result in erosion and desiccation of the soil layer. Timing of fire, and subsequent recovery of some ground cover is important to control erosion on the hilly terrain where this vegetation occurs.

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.

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