EUCALYPT

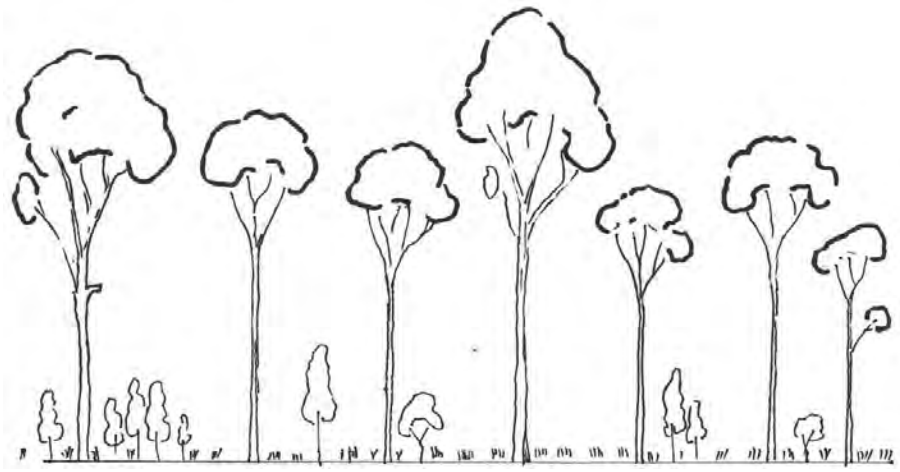
VEGETATION TYPE 4a

Regional Ecosystem: 12.11.25

Broad-leaved Ironbark - Large leaved Spotted Gum/Fine-leaved Red Gum (*Eucalyptus fibrosa - Corymbia henryi/E. seeana*) Woodland to Open Forest on Metasediments

COMMUNITY STRUCTURE

Vegetation type (VT) 4a typically is woodland to open forest. The canopy layer varies from 14m to 25m high and provides approximately 20-60% canopy cover (shade to underlying plants). Broad-leaved Ironbark (*Eucalyptus fibrosa*) and Large-leaved Spotted Gum (*Corymbia henryi*) are common and conspicuous components. Narrow-leaved Red Gum (*E. seeana*) are also often present and can be co-dominant in some areas.

Canopy		Medium – large trees 14 – 25 m Open 20-60% cover
Sub canopy		Small trees 5 - 12 m Sparse 10-15% cover
Shrub		Shrubs 1 – 4 m Sparse 0-5% cover
Ground		Grassy 0.1 – 1.0m high Mid-dense 30-70% cover

Source: Searle, 2019 (derived from Ryan *et al*, 2019; GC30; GC129; GC130)

The sub-canopy and shrub layers are usually sparse, with Black Wattle (*Acacia concurrens*) and/or Black She-oak (*Alloasuarina littoralis*) usually comprising most of the shrubs, although Prickly-leaved Paperbark (*Melaleuca nodosa*) can be common in some locations. The ground cover is comprised mainly of native grasses.

Characteristic plant species

Approximately **50 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

Broad-leaved Ironbark

Eucalyptus fibrosa subsp. fibrosa

Large-leaved Spotted Gum

Corymbia henryi

Narrow-leaved Red Gum

Eucalyptus seeana

Photo needed

Broad-leaved White Mahogany

Eucalyptus carnea

Smooth-barked Apple

Angophora leiocarpa

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SUB-CANOPY

Tree layer below canopy

Black She-Oak

Allocasuarina littoralis

Prickly-leaved Paperbark

Melaleuca nodosa

Black Wattle

Acacia concurrens

SHRUB LAYER

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

Black She-Oak

Allocasuarina littoralis

Prickly-leaved Paperbark

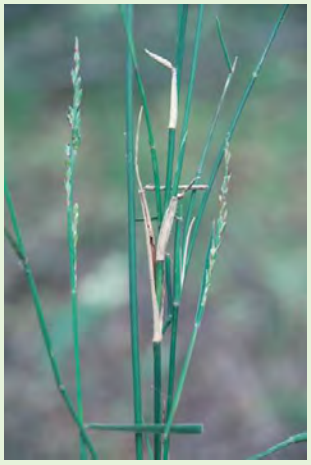
Melaleuca nodosa

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.

Poverty Grass
Eremochloa bimaculata

GRASS (TUSSOCK)



Wiry Panic
Entolasia stricta

GRASS (TUSSOCK)

Photo needed

Small-flowered Fingergrass
Digitaria parviflora

GRASS (TUSSOCK)

Cockatoo Grass
Alloteropsis semialata

GRASS (TUSSOCK)

Weeping Grass
Microlaena stipoides

GRASS (TUSSOCK)

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.

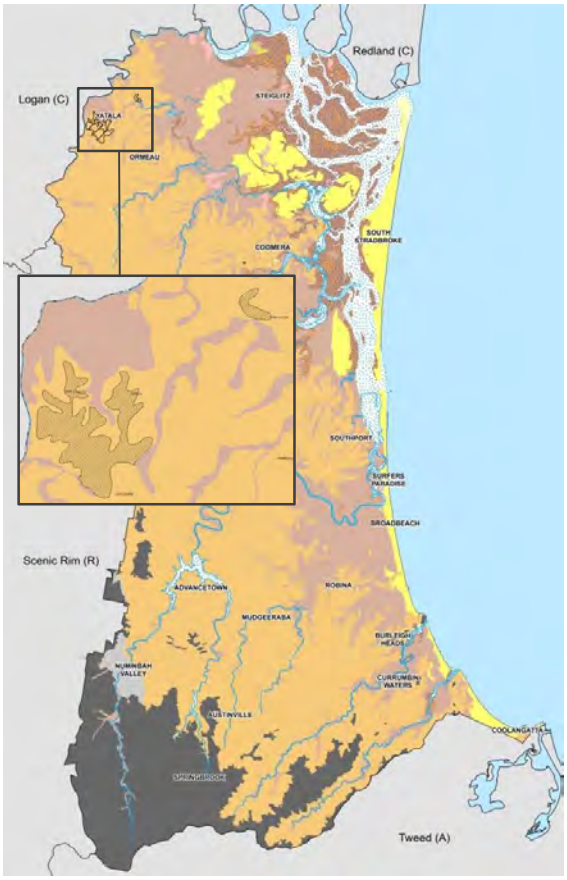
Short-leaved Bitter-Pea
Daviesia villifera
SHRUB

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 the crests and higher parts of low hillslopes in the north-west of Gold Coast City, represented in the localities of Stapylton and Yatala/Bannockburn. This community occurs on thin gravelly or stony soils with moderate to low soil moisture, although a thick litter layer may be present if fire has been absent. This community transitions into other vegetation types downslope on more fertile soils, such as VT1 or VT7. It is replaced by VT4 and VT4d on the crests and upper slopes of higher hills further south.

Historic distribution of Vegetation Type 4a



LEGEND

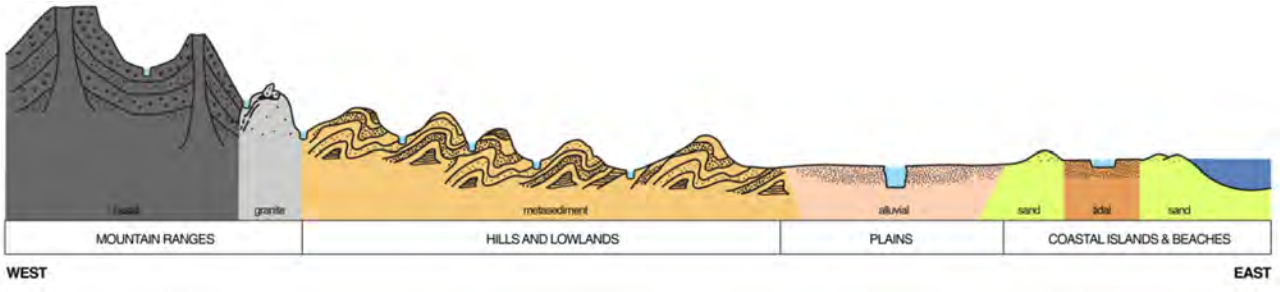
Vegetation Type 4a | Ocean | Major Waterways

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 c ross section of Gold Coast

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



*** Metasediment rocks**

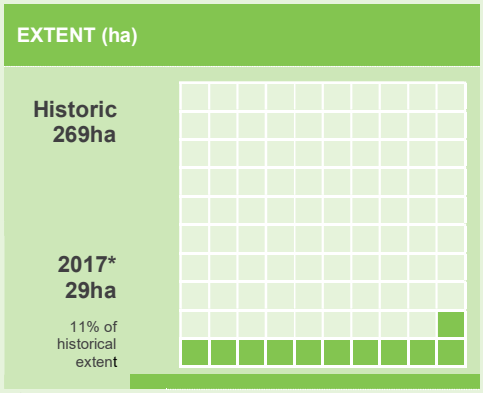
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment.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

The current extent* of this vegetation type on the Gold Coast is 29 hectares.

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

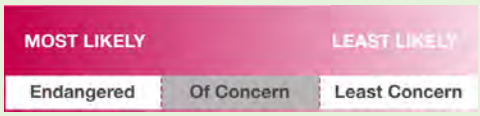


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth

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 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 Ironbark/Broad-leaved Spotted Gum woodland is generally quite an open vegetation type, the ground layer of which typically forms 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.

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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