EUCALYPT

VEGETATION TYPE 1e

Regional Ecosystem: RE: 12.8.8a

Grey Ironbark - Tallowwood - Pink Bloodwood +/- Grey Gum (*Eucalyptus siderophloia - E. microcorys - Corymbia intermedia +/- E. propinqua*) Open Forest on Cainozoic Igneous Rocks

COMMUNITY STRUCTURE

Vegetation type (VT) 1e is typically a tall open forest with a mid-dense canopy (60-70% cover), shading underlying plants. The canopy layer is typically 15-30m high, with the ironbark *Eucalyptus siderophloia* often the dominant tree, with *E. microcorys*, *Corymbia intermedia* and/or *E. propinqua* also often present.

Canopy		Large trees 15 – 30 m Dense tall open forest 60-70% cover
Sub canopy		small trees & juvenile canopy trees 5 - 15 m Sparse 5-10% cover
Shrub		Shrubs 1 – 5 m Sparse 5-10% cover
Ground		Grass 0 - 1.0m high Sparse 10-15 % cover

Source: Searle, 2019 (derived from Ryan *et al*, 2019; GC77; GC116)

The sub-canopy and shrub layers are typically sparse, with Brush Box and eucalypt saplings, together with Forest She-oak (*Allocasuarina torulosa*), wattles (especially *Acacia disparrima*) and rainforest shrubs (e.g. *Claoxylon australe*, *Rhodamnia rubescens*) often present. The ground layer is dominated by grasses, with ferns also present (particularly *Ottochloa gracillima*, *Imperata cylindrica*, *Lomandra longifolia* and *Pteridium esculentum*), while the vine *Smilax australis* is usually common. Where fire is excluded, ferns, cycads and other rainforest plants like gingers become more prolific.

Characteristic plant species

Approximately **91 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

Grey Ironbark
Eucalyptus siderophloia

Tallowwood
Eucalyptus microcorys

Pink Bloodwood
Corymbia intermedia

Small-fruited Grey Gum
Eucalyptus propinqua

Broad-leaved White Mahogany
Eucalyptus carnea

SUB-CANOPY

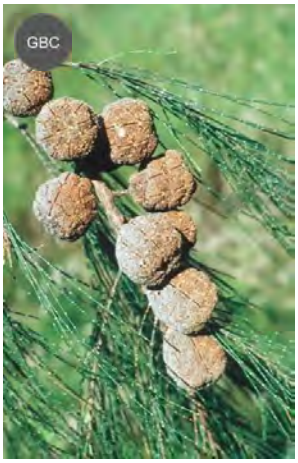
Tree layer below canopy

Brush Box

Lophostemon confertus

Pink Bloodwood

Corymbia intermedia



Forest She-Oak

Allocasuarina torulosa

Hickory Wattle

Acacia disparrima subsp. disparrima

SHRUB LAYER

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

Scrub Turpentine

Rhodamnia rubescens

Brush Box

Lophostemon confertus

Tree Pea

Daviesia arborea

Hickory Wattle

Acacia disparrima subsp. disparrima

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GROUND LAYER AND VINES

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

Graceful / Pademelon Grass
Ottochloa gracillima
GRASS

Blady Grass
Imperata cylindrica
GRASS

Long-leaved Mat-rush
Lomandra longifolia
GRASS

Common Bracken
Pteridium esculentum
FERN

Barbed-wire Vine
Smilax australis
VINE

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. No City Wide Significant plant species have been identified in this vegetation type.

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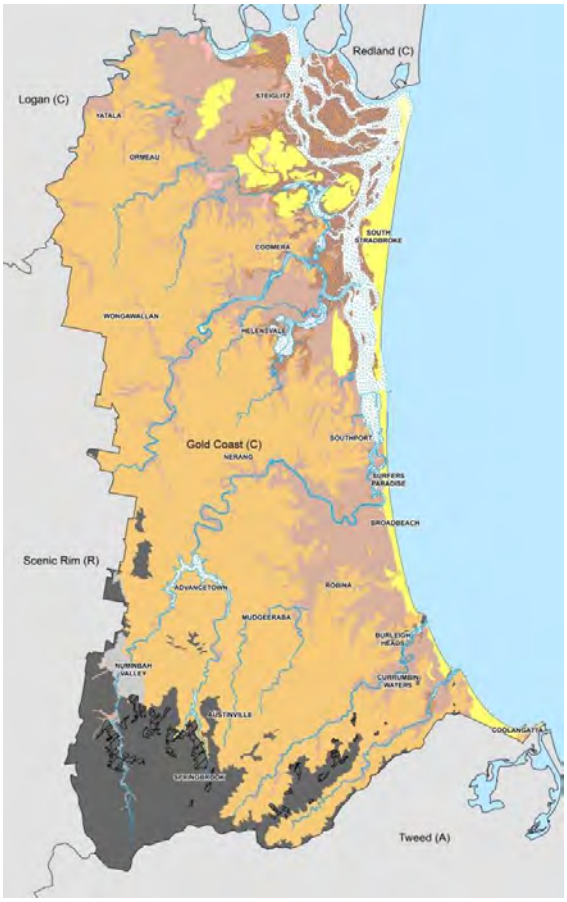
OCCURRENCE

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 restricted to the southern part of Gold Coast City, occurring on the rich red to brown soils of the Springbrook plateau and associated ridges to the east. Here it occurs in drier areas, where it often forms a mosaic with VT41 (Flooded Gum tall open forest on Cainozoic igneous rocks), from which it is distinguished by the absence of *Eucalyptus grandis* or *E. saligna*. Common localities include Springbrook, Numinbah, Advancetown, Bonogin and Upper Tallebudgera and Currumbin Valleys.

Historic distribution of Vegetation Type 1e



LEGEND

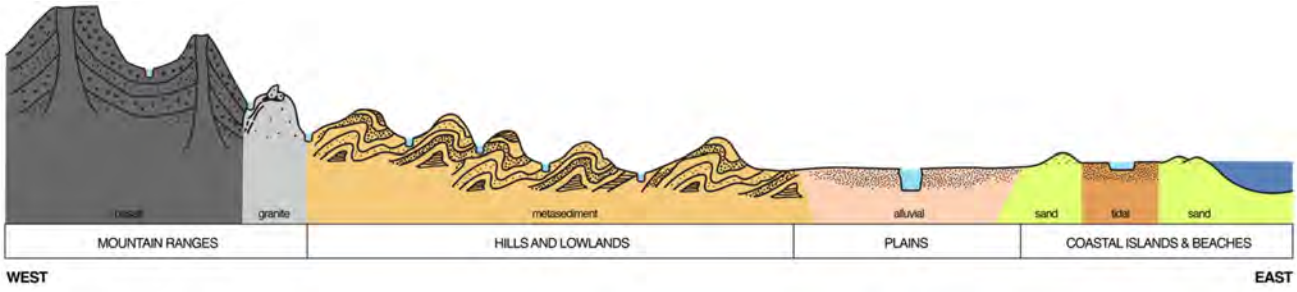
Vegetation Type 1e | Ocean | Major Waterways

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**

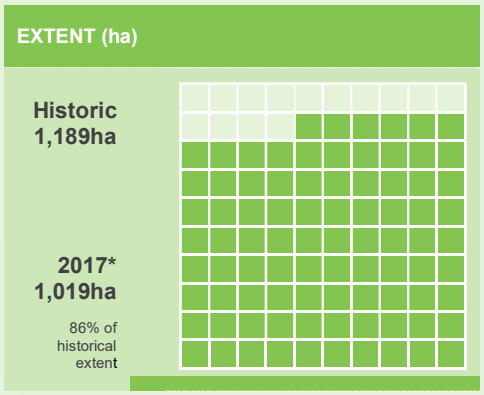
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment.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

The 2017 extent* of this vegetation type on the Gold Coast is 1,019 hectares.

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

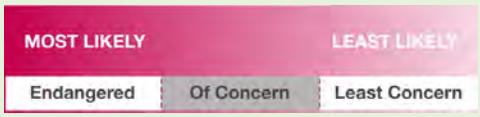


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth

Queensland

The conservation status of vegetation in Queensland is specified under the Vegetation Management Act 1999, which lists this regional ecosystem (RE 12.8.8a) 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

VT1e is largely restricted to more fertile high-altitude ridges and slopes, and is therefore susceptible to infestation by Lantana, Molasses Grass and other dense understorey growth, particularly in the absence of fire. It is a naturally restricted vegetation type that can transition towards rainforest or wetter tall open forest (VT41) in the absence of fire. It therefore relies on appropriate fire management (moderate frequency, moderate intensity fires). Weed and fire management are key to the healthy management of this vegetation type. Refer to the Queensland Government's Regional Ecosystem Description Database for more information including suggested fire regimes.

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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