RIVERINE

Riparian

VEGETATION TYPE 2b

Regional Ecosystem: 12.3.2

Flooded Gum (*Eucalyptus grandis*) Tall Open Forest to Woodland on Alluvium

COMMUNITY STRUCTURE

Vegetation type (VT) 2b is typically a tall open forest along river terraces and upstream sections of major creeks within high rainfall catchments throughout the Gold Coast. It is characterised by a very tall canopy layer of widely-spaced, mature Flooded Gums (*Eucalyptus grandis*). The sub-canopy may be mid-dense where Brush Box (*Lophostemon confertus*) occurs at high densities, or sparse and including a variety of other rainforest trees (including *Alphitonia exclesa* and *Commersonia bartramia*)

Source: Searle 2019 (derived from Ryan et al (2019); GC115; GC138)

The shrub layer is shaded and can be sparse to mid-dense, with juvenile trees and rainforest shrubs (including *Cryptocarya microneura* and *Rhodomyrtus psidioides*) present. The ground layer is comprised of ferns and grasses (particularly *Pteridium esculentum, Blechnum cartilagineum, Ottochloa gracillima*). Vines are also common, including *Smilax australis, Dioscorea transversa* and *Clematicissus opaca*.

Characteristic plant species

Approximately **44 native plants species** have been recorded for this vegetation type. Characteristic plant species 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

Flooded Gum
Eucalyptus grandis

Small-fruited Grey Gum
Eucalyptus propinqua

SUB - CANOPY

Tree layer below canopy

Brush Box
Lophostemon confertus

Brown Kurrajong
Commersonia bartramia

SUB - CANOPY

Tree layer below canopy

Blue Quandong
Elaeocarpus grandis

Red Ash/Soap Bush
Alphitonia excelsa

Hickory Wattle
Acacia disparrima subsp. disparrima

SHURB LAYER

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

Native Guava
Rhodomyrtus psidioides

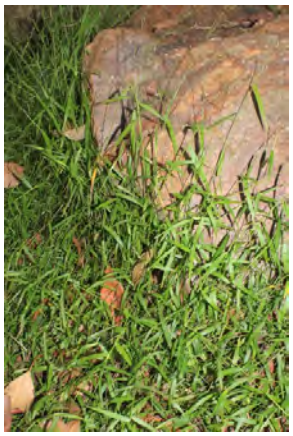
Murrogun
Cryptocarya microneura

Creek Sandpaper Fig
Ficus coronata

Molucca Bramble
Rubus moluccanus

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 Grass / Pademelon Grass

Ottochloa gracillima

GRASS

Barbed-wire Vine

Smilax australis

VINE

Native Yam

Dioscorea transversa

VINE

Pepper Vine

Clematicissus opaca

VINE

Gristle Fern

Blechnum cartilagineum

FERN

Common Bracken

Pteridium esculentum

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. The following CWS plant species may be present in this vegetation type

Long-leaved Tuckeroo
Cupaniopsis newmanii
SHRUB

Black Walnut
Endiandra globosa
TREE

Mountain Shield Fern
Lastreopsis silvestris
FERN

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 found on alluvial flats along the relatively narrow river terraces and gully lines of watercourses, commonly associated with the low valleys of the southern hinterland areas of the Gold Coast (especially Bonogin, Tallebudgera and Currumbin Valleys). It occurs on deep grey to black soils amongst river stones, with high organic content. Typically occurring in moist fertile areas exposed to high rainfall, such as sheltered gullies and floodplain terraces, this vegetation forms a mosaic with VT20a (Vine Forest on Alluvium). Other localities include Numinbah, Advancetown, Nerang, Maudsland, and Coomera and Pimpama River Valleys.

Historic distribution of Vegetation Type 2b

LEGEND

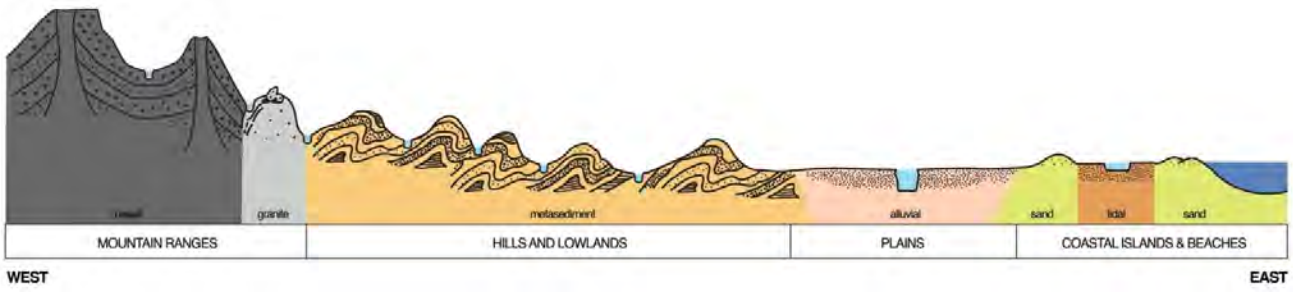
Vegetation Type 2b | Ocean | Major Waterways

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 and beach ridges (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**

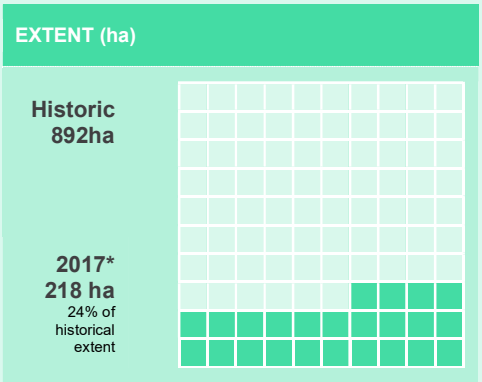
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment.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

Historically, one of the least common types of riverine vegetation on the Gold Coast. The 2017 extent* of this vegetation type on the Gold Coast was 218 hectares. 24% of its historical extent.

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

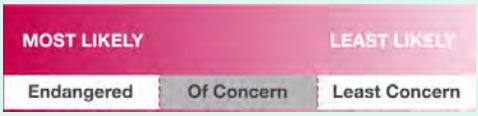


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth.

Queensland

The conservation status of vegetation in Queensland is specified under the Vegetation Management Act 1999, which lists this regional ecosystem (RE 12.3.2) 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

As this vegetation type is largely restricted to sheltered, fertile river valleys and floodplain areas with high rainfall and moisture, it is susceptible to infestation by Lantana and exotic scrambling vines (notably *Pueraria lobata, Anredera cordifolia* and *Macfadyena unguis-cati*). This vegetation community transitions towards rainforest in the absence of fire, and relies on appropriate fire management (low frequency, high intensity fires). Weed and fire management are key to the healthy management of this vegetation type. Flooding also creates periodic disturbance, and stormwater management upstream is key to limiting the impact of these events.

About common threats

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.