MONTANE

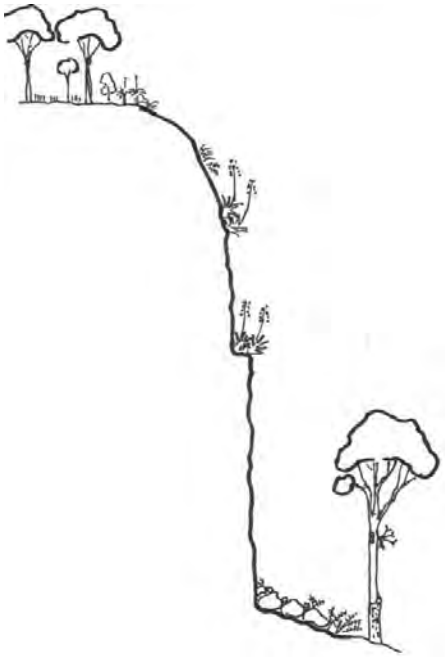
VEGETATION TYPE 35

Regional Ecosystem: 12.8.19

Rock Faces

COMMUNITY STRUCTURE

Rock faces are areas of exposed cliff and other exposed surface rock largely devoid of native vegetation. Generally, these are cliffs at the boundaries of different land surfaces or at the edges between different landforms, or exposed precipices or pinnacles within the landscape. Typically, only isolated lithophytic (rock-dwelling) plants occur, such as the iconic Giant Spear Lily (*Doryanthes palmeri*), rock orchids (*Dendrobium monophyllum*, *D. kingianum, Liparis swenssonii* etc) and, particularly in sheltered crevices, ferns and mosses. Trees and shrubs, particularly montane heath species, may be present on rock shelves and in gullies.



Adjoining VT1d (*Eucalyptus carnea* woodland) 8-15m

Isolated lithophytes (*Doryanthes palmeri, Dendrobium kingianum Lindsaea linearis, Coleus* spp) on rock shelves and in crevices

Adjoining VT2 (Brush Box tall open forest) at base of cliff on fertile soils

Source: Searle, 2019 (derived from Ryan et al (2019; no detailed sites for Gold Coast City, inferred from local knowledge)

Characteristic plant species

Approximately **27 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.

ROCK SHELVES AND CREVICES

Scattered lithophytes (grow on surface of rocks) shrubs, forbs and graminoids (grass like plants – e.g. sedges)

Giant Spear Lily
Doryanthes palmeri

Lilly of the Valley Orchid
Dendrobium monophyllum
ORCHID (lithophyte)

Pink Rock Orchid
Dendrobium kingianum
ORCHID (lithophyte)

King Orchid
Dendrobium speciosum
ORCHID (lithophyte)

Northern Tom Cats
Liparis swenssonii
ORCHID (lithophyte)

Fuchsia Heath
Epacris longifolia
SHRUB

Blunt-leaf Heath
Epacris obtusifolia
SHRUB

Gonocarpus oreophilus
SHRUB

ROCK SHELVES AND CREVICES

Scattered lithophytes (grow on surface of rocks) shrubs, forbs and graminoids (grass like plants – e.g. sedges)

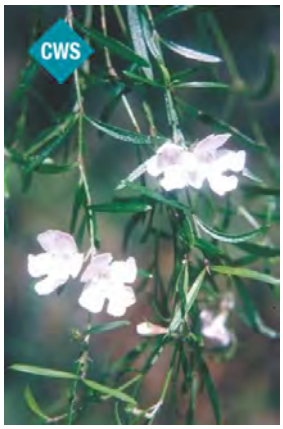
Snow Bush
Leucopogon melaleucoides
SHRUB

Cliff Bottlebrush
Melaleuca comboynensis
SHRUB

Hairy Sago Flower
Ozothamnus whitei
SHRUB

Silver Plectranthus
Coleus argentatus
(Formerly *Plectranthus argentatus)*
SHRUB

Hairy Plectranthus
Coleus geminatus
(Formerly *Plectranthus geminatus)*
SHRUB



Rock Westringia
Westringia rupicola
SHRUB

Woollsia
Woollsia pungens
SHRUB

Grassy Saw-sedge
Gahnia insignis
GRAMINOID (SEDGE)

Narrow-leaved Parakeelya
Calandrinia pickeringii
FORB

ROCK SHELVES AND CREVICES

Scattered lithophytes (grow on surface of rocks) shrubs, forbs and graminoids (grass like plants – e.g. sedges)

Coral Fern
Gleichenia rupestris
FERN

Raspwort
Gonocarpus teucrioides
FORB

Star Goodenia
Goodenia rotundifolia
FORB

Tailed Sword-sedge
Lepidosperma clipeicola
GRAMINOID (SEDGE)

Cockspur Flower
Plectranthus parviflorus
FORB

Chamomile Sunray
Rhodanthe anthemoides
FORB

Fragrant Sun Orchid
Thelymitra fragrans
FORB

Ivy-leafed Violet
Viola hederacea
FORB (CREEPING)

Sandstone Violet
Viola silicestris
FORB

a bluebell
Wahlenbergia glabra
FORB

City-wide significant plant species

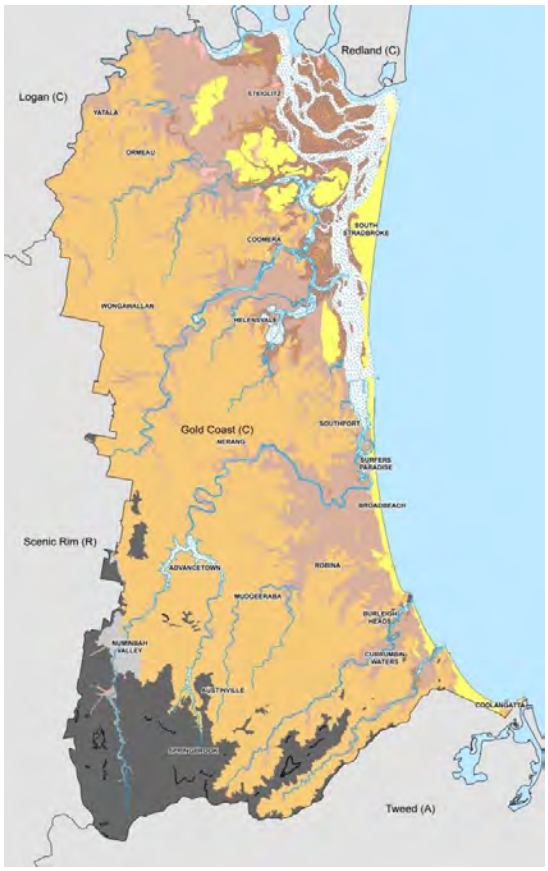
The City of Gold Coast recognises species which are locally significant as City-wide significant (CWS) species. These species are important because they may be threatened, restricted to the Gold Coast, or at the edge of their geographic range. A number of characteristic species are identified above as CWS species. There are no additional CWS species identified as occurring within this vegetation type.

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.

Rock faces occur in small patches throughout the landscape and are generally only able to be mapped when they are clearly evident on aerial imagery at the scale at which mapping is undertaken. The main mapped areas of rock face within the Gold Coast occur around the periphery of the Springbrook and Lamington Plateaus, where these cliffs are a dramatic and conspicuous feature of the landscape. Similarly, Turtle Rock and Pages Pinnacle at Numinbah, the Cougals, Tallebudgera Mountain at Tallebudgera and Mt. Gannon, Little Bally and Bally Mountains at Austinville/Bonogin are outstanding features of exposed rock large enough to be mapped. Other smaller but similar areas of rock face (which may not be mapped) occur on the escarpment at Lower Beechmont, Clagiraba, Guanaba and Eagle Heights.

Historic distribution of Vegetation Type 35



LEGEND

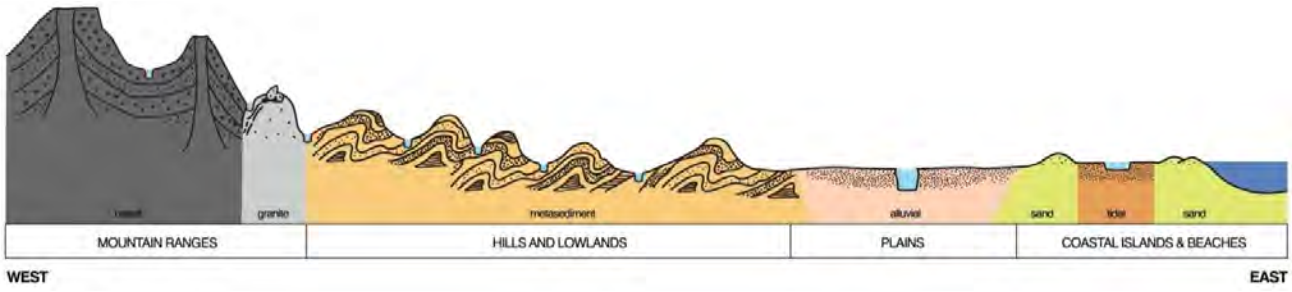
Vegetation Type 35 | Ocean | Major Waterways

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)	Coastal sands	
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**

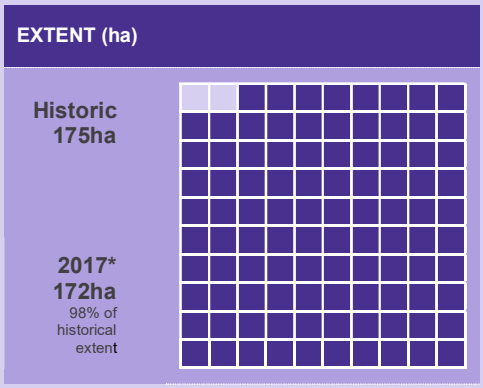
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally, these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment. 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, VT 35 is one of the least common vegetation types. However, because it grows in such difficult and isolated terrain most (98%) of its historical extent remains. The 2017 extent* of this vegetation type on the Gold Coast was 172 ha.

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

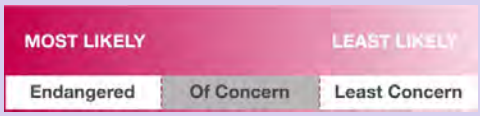


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth.

Queensland

The conservation status of vegetation in Queensland is specified under the *Vegetation Management Act 1999*, which lists this regional ecosystem (RE 12.8.19) 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

Rock faces are generally stable and represent some of the hardest and most enduring geological landforms within the Gold Coast. Despite this, they are subject to erosion and landslip, and the surrounding areas should be managed to retain existing native vegetation and provide stability to soils and landform wherever possible. These areas are threatened by some exotic weeds, such as Mistflower and Fireweed, and appropriate weed and fire management in these areas is important to retention of these features in natural condition.

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, and /or
- 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, and/or
- 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.