Estuarine Wetland

salt marsh

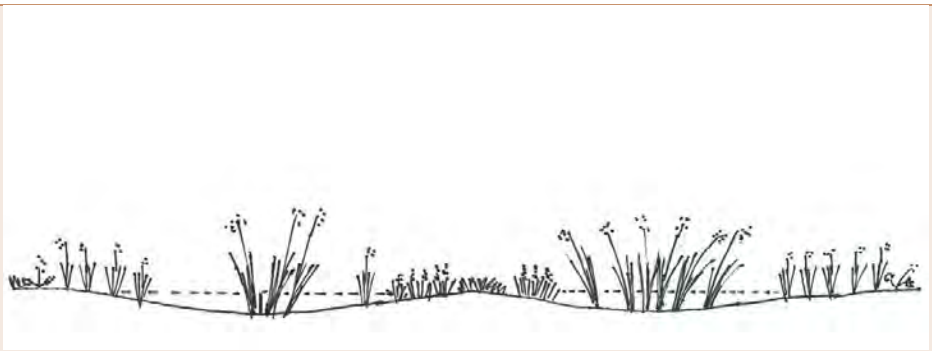
VEGETATION TYPE 22b

Regional Ecosystem: 12.1.2

Marine Sedgeland on Marine Deposits

COMMUNITY STRUCTURE

Marine sedgelands typically occupy low-lying areas on the outer margins of marine plains, and are often inundated at least periodically by fresh or saline-influenced surface water. Sedges are common (*Schoenoplectus litoralis, Fimbristylis dichotoma*), especially in the lowest ponded areas, and reach up to 1.5m in height, while other semi-aquatic forbs and grasses also occur.



Ground

Sedges/forbs 0-1.5m
Sparse to dense
25-75% cover

Source: Searle, 2019 (derived from Ryan et al (2019); plus review of all Gold Coast City marine wetland sites)

Characteristic plant species

Approximately **35 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. Plants in blue text are listed as Wetland Indicator Species in DES Flora Wetland Indicator Species List and are adapted to and dependent on wetlands.

CWS Indicates species is a City-wide significant species

GROUND LAYER AND VINES

Marine grasses, graminoids (non-woody plants with a grass-like morphology), forbs (non-woody, broad-leaved, flowering plants) and samphires (succulent, herbaceous plants that grows in high salinity environments). Vines may extend upwards into the canopy

Streaked Arrowgrass

Cycnogeton striata

GRAMINOID (SEDGE)

Saltwater Couch

Sporobolus virginicus

GRASS (CREEPING)

Sea Celery

Apium prostratum

FORB

Rusty sedge

Fimbristylis ferruginea

GRAMINOID (SEDGE)

Beaded Samphire

Sarcocornia quinqueflora

SAMPHIRE

Mangrove Club-rush

Schoenoplectus subulatus

(formerly Schoenoplectus litoralis)

GRAMINOID (SEDGE)

Prickly Couch

Zoysia macrantha

OTHER GRASS

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GROUND LAYER AND VINES

Marine grasses, graminoids (non-woody plants with a grass-like morphology), forbs (non-woody, broad-leaved, flowering plants) and samphires (succulent, herbaceous plants that grows in high salinity environments). Vines may extend upwards into the canopy

Mangrove Fern

Acrostichum speciosum

FERN

Mangrove Wax-flower Vine

Vincetoxicum carnosum

(Formerly Cynanchum carnosum)

VINE

Bacopa

Bacopa monnieri

FORB (CREEPING)

Coastal Pigface

Carpobrotus glaucescens

FORB (CREEPING)

River Lily

Crinum pedunculatum

FORB (CLUMPING)

Red Crumbweed

Dysphania littoralis

FORB

Yellow Eclipta

Eclipta platyglossa

FORB

Enydra

Enydra woollsii

FORB

Rusty Sedge

Fimbristylis polytrichoides

SEDGE

Shield Pennywort

Hydrocotyle verticillata

FORB (CREEPING)

Goat's Foot Morning Glory Vine

Ipomoea pes-caprae subsp. brasiliensis

VINE (SCABMLING)

Swamp Club-rush

Isolepis inundata

GRAMINOID (SEDGE)

CITY OF GOLDCOAST.

GROUND LAYER AND VINES

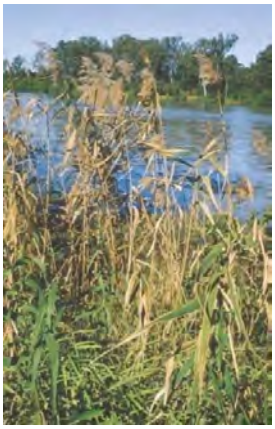
Marine grasses, graminoids (non-woody plants with a grass-like morphology), forbs (non-woody, broad-leaved, flowering plants) and samphires (succulent, herbaceous plants that grows in high salinity environments). Vines may extend upwards into the canopy

Sea Rush

Juncus kraussii
GRAMINOID (RUSH)

Common Rush

Juncus usitatus
GRAMINOID (RUSH)



Common Reed

Phragmites australis
GRAMINOID (REED)

Carpet Weed

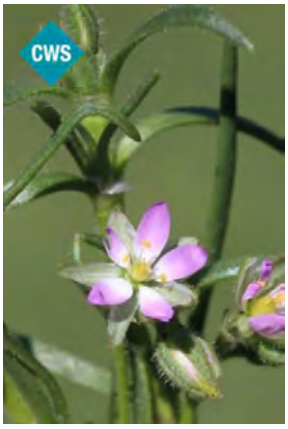
Phyla nodiflora
FORB (CREEPING)

Creeping Brookweed

Samolus repens
FORB

Sea Purslane

Sesuvium portulacastrum
FORB



Lesser Sea-Spurrey

Spergularia marina
FORB

New Zealand Spinach

Tetragonia tetragonioides
FORB

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. Characteristic species which are CWS species are identified above. No other CWS plant species have been identified for this vegetation type.

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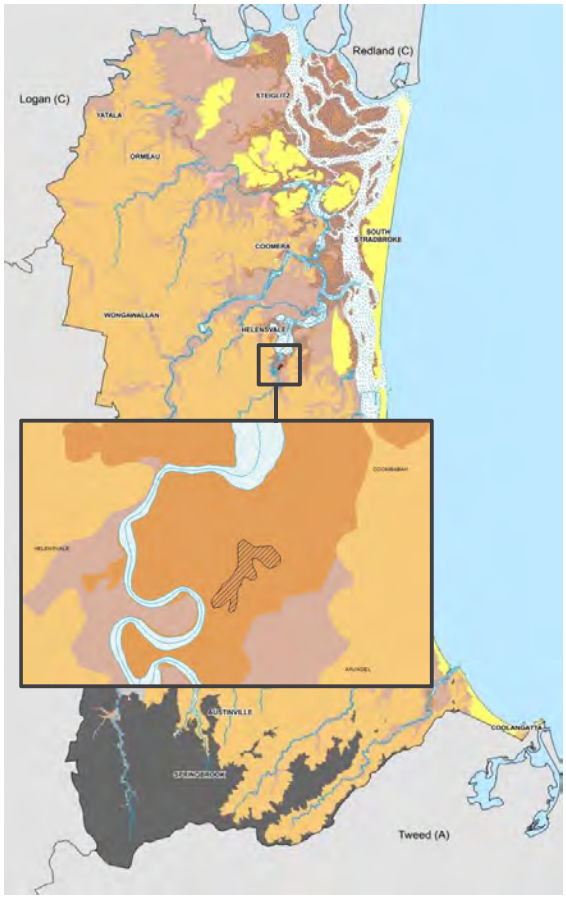
OCCURRENCE

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.

Marine sedgelands typically form narrow bands or strips of low open vegetation along the interface of freshwater and saline influence, and are often found along the outer margin of VT22 (*Sporobolus virginicus* grassland). Most areas of these sedgelands are not mapped, as they are mostly too small to be differentiated at the scale of vegetation mapping, or are otherwise included in surrounding grassland, mangrove or Swamp Oak communities. Only a few areas are of a sufficient size to mapped individually, at Coombabah Reserve, although many small areas of this vegetation type existing along the margins of the marine plain and adjoining coastal lowlands throughout Gold Coast City.

Historic distribution of Vegetation Type 22b



LEGEND

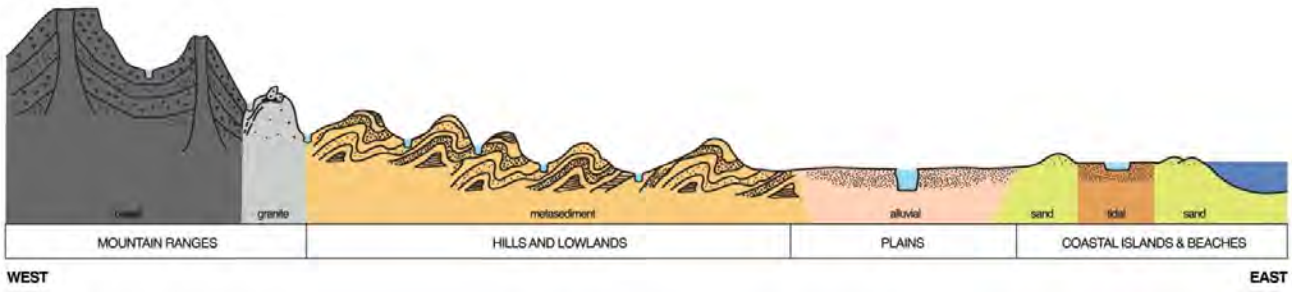
Vegetation Type 22a | Ocean | Major Waterways

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**

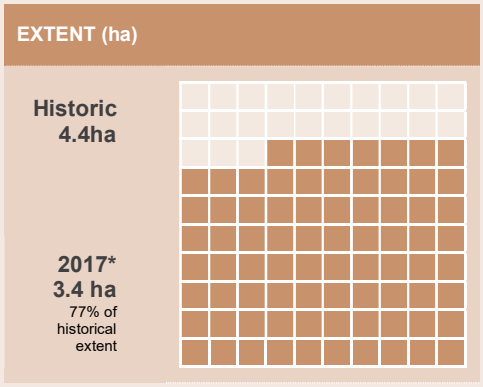
The most common underlying geology on the Gold Coast is metasediment rocks. Metasediment rocks are a type of metamorphic rock (rock transformed by heat and pressure). Originally these rocks were sedimentary rocks which were formed on the ocean floor through the deposition and solidification of sediment. 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, vegetation type 22b was the second-least common vegetation type in the Gold Coast area. The 2017 extent* of this vegetation type on the Gold Coast was 3.4 hectares.

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

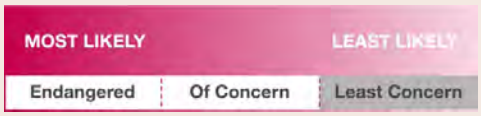


* Extent as mapped in 2017. Includes remnant vegetation only. Does not include disturbed remnant or regrowth.

Queensland

The conservation status of vegetation in Queensland is specified under the *Vegetation Management Act 1999,* which lists this regional ecosystem (RE 12.1.2) as being 'Least 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

Marine sedgelands are dependent on natural water flow and are particularly sensitive to changes in ground level both where they occur and also within the local catchment that feeds water into them. They are therefore threatened by clearing, earthworks and development within their catchments. As they are open communities with little shading, they are also prone to invasion by exotic weeds, particularly floating aquatic plants such as Water Hyacinth (*Eichhornia crassipes*) and wetland grasses such as Para Grass (*Brachiaria mutica*). Wild aster (*Symphyotrichum subulatum*) is also often present. Weed control is therefore critical to the preservation of these wetlands, and control methods also need to be sensitive to aquatic fauna.

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 is 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.