

Why conserve seagrass?



Seagrasses are **economically and ecologically** valuable to both humans and marine life. Seagrass is one of the most productive natural ecosystems in the world.

Seagrasses **improve water quality** by acting as nutrient sinks, buffering or filtering nutrient and chemical inputs to the marine environment. They also **stabilise** coastal sediments, helping to avert erosion.

Seagrasses provide **food and shelter** for many organisms (shrimps, crabs, worms, snails and small fish) and are a nursery ground for **commercially important** prawn and fish species. Larger fish and seabirds visit seagrass meadows to feed.

Endangered sea turtles and dugongs also graze on seagrass.

Seagrass meadows are fragile ecosystems. Human impacts such as excessive pollution from sewage discharge, oil spills, herbicides, coastal runoff, dredging, boat propellers and anchors/moorings can damage or destroy seagrasses.



How you can help

In Queensland, all marine plants, including seagrass, are protected from unlawful damage. Incidental damage and limited collection of seagrass is allowed if only in accordance with the DPI&F self assessable code MP05 (see website below).

Many efforts are underway to educate the public about the benefits of seagrass and how they can help to protect seagrass. There are many ways you can help: don't litter; be aware when applying fertilizers and pesticides, as excess amounts can wash down gutters and drains to the sea; when boating, slow down and avoid shallow areas; support marine conservation initiatives; learn about these special marine habitats and volunteer to monitor their health by joining Seagrass-Watch.

Seagrass-Watch is a global seagrass assessment and monitoring program. Seagrass-Watch monitoring efforts are vital to assist with tracking global patterns in seagrass health, and assess the human impacts which have the potential to destroy or degrade these coastal ecosystems and decrease their yield of natural resources. Responsive management based on adequate information will help to prevent any further significant areas and species being lost. To protect the valuable seagrass meadows along our coasts, everyone must work together.

For more information visit:
www.seagrasswatch.org



Seagrasses of Hamilton Island



Cymodocea rotundata

- flat, strap-like leaves 2-4mm wide
- rounded, smooth leaf tip
- smooth rhizome
- leaf scars form continuous ring around the stem
- found on shallow reef flats



Cymodocea serrulata

- strap-like leaves, 5-9mm wide
- leaf tip serrated
- leaf sheath is broadly triangular
- leaf scars not continuous ring around the stem
- found on shallow subtidal reef flats



Halophila ovalis

- oval shaped leaves in pairs
- 8 or more cross veins
- smooth leaf surface
- preferred dugong food



Halophila spinulosa

- fern like
- leaves arranged in opposite pairs
- erect shoot up to 15cm long
- found at subtidal depths (>3m)



Halodule uninervis

- trident leaf tip
- 1 central longitudinal vein
- rhizome usually pale with clean black leaf scars
- dugong & turtle preferred food



Thalassia bempribii

- broad ribbon like, curved leaves
- short black bars of tannin cells in leaf blade
- thick rhizome with scars between shoots
- common on reef flats



Syringodium isoetifolium

- narrow, cylindrical spaghetti-like leaves
- leaves 7-30cm long, taper to a point
- 2-3 leaves arising at each shoot
- rhizomes thin



Thalassodendron ciliatum

- cluster of ribbon-like curved leaves at end of erect stem
- leaf tip round and serrated
- tough, woody rhizomes with scars from successive shoots
- found in rocky areas with strong currents



Zostera capricorni (*Zostera muelleri* subsp. *capricorni*)

- long strap-shaped leaves growing from rhizome
- 5 longitudinal veins
- cross veins which form a mesh across leaf blade
- rounded leaf tip
- found on shallow and intertidal mud/sand flats

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What are Seagrasses?



Seagrasses are unique marine flowering plants of which there are approximately 60 species worldwide. Various common names are applied to seagrass species, such as turtle grass, eelgrass, tape grass, spoon grass and shoal grass. Seagrasses are not seaweeds. Seaweed is the common name for algae.

Seagrass live in sheltered coastal waters, undergo pollination while submerged and complete their entire life cycle underwater. They grow much like land grasses, with extensive below ground rhizomes or

runners. Plants form small patches that develop into large continuous meadows. These meadows may consist of one or many species: sometimes up to 12 species present within one location.

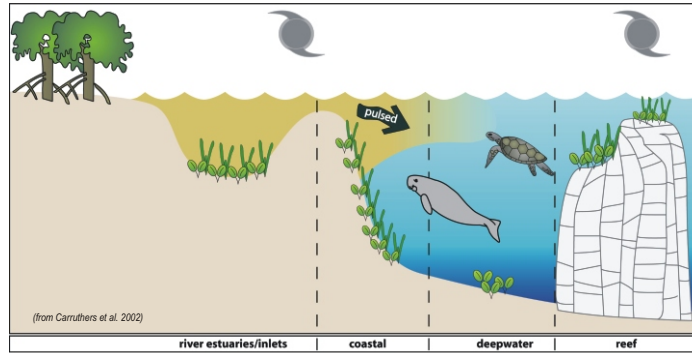
Because seagrass requires sunlight, most seagrass is found in clear shallow waters. Seagrasses survive in the intertidal zone especially in locations sheltered from wave action or where there is pooling of water at low tide, (e.g., reef platforms and tide pools), which protects seagrass from elevated temperatures and drying.



Seagrasses of the Whitsundays



Seagrasses are a major component of the Whitsunday region marine ecosystems. Twelve species of seagrass have been recorded, representing 80% of the known species found in Queensland waters. The wide range of physical habitats where seagrasses are found undoubtedly contributes to the high species diversity. Habitats include intertidal and subtidal areas of estuary, coastal fringing reef environments and deepwater environments.



(from Carruthers et al. 2002)

General conceptual model of seagrass habitats in north east Australia

Seagrasses of Catseye Bay

Catseye Bay is the large fringing reef flat in front of the main resort. Nine seagrass species can be found in Catseye Bay. Scattered over the sandy areas exposed at low tide you will find the narrow leaved **Halodule uninervis** and the clover like **Halophila ovalis**, both species are food for dugong. At the eastern end of the bay you'll find the darker leaved **Zostera capricorni**. Mixed in amongst the coral on the reef flat you will find the hooked leaved **Thalassia hemprichii** and a wide leaf form of **Halodule uninervis**, often eaten by green turtles which visit the reef flat during high tides. If you look closely you'll find some broad leaved **Cymodocea serrulata** with its serrated leaf tips and its narrow leaved relative **Cymodocea rotundata** with smooth leaf tips. On the shoreward edge of the coral are small patches of rare **Thalassodendron ciliatum**: its presence on Hamilton Island is the southern most occurrence of this species in the Pacific. On the outer edge of the reef flat in the shallow waters you will find **Syringodium isoetifolium** with it's distinctive spaghetti-like leaves. Just over the edge of the reef crest in the deeper waters (>3m) you will find the fern like **Halophila spinulosa**, also a favoured food for dugong.

Seagrasses on Hamilton Island are being monitored as part of the Great Barrier Reef Water Quality Protection Plan because seagrasses are important indicators of the 'health' of the marine environment. The monitoring programme provides a critical component of the assessment of any long-term improvement in water quality that will occur as best land management practices are widely adopted across the Great Barrier Reef catchments and regions.

Where to find seagrasses in Catseye Bay, Hamilton Island?

HS *Halophila spinulosa*

SI *Syringodium isoetifolium*

HU *Halodule uninervis*

TC *Thalassodendron ciliatum*

HO *Halophila ovalis*

TH *Thalassia hemprichii*

CR *Cymodocea rotundata*

ZC *Zostera capricorni*

TC *Thalassodendron ciliatum*

