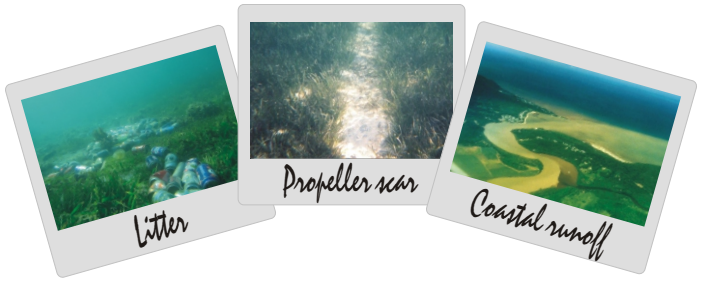
Why conserve seagrass?

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 Queensland Fisheries 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 Magnetic Is

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

Halodule uninervis

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

Halophila decipiens

- Small oval leaf blade 1-2.5cm long
- 6-8 cross veins
- Leaf hairs on both sides
- Leaves usually longer than wider

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)

Halophila tricostata

- Erect shoots 8-18cm long
- Leaves with 3 veins
- 2-3 leaves at each node
- Leaves "whorl" around stem
- Found at subtidal depths (>10m)

Syringodium isoetifolium

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

Thalassia hemprichii

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

Zostera capricorni *(Zostera meulleri* 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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Text and design by L. McKenzie and R.Yoshida, seagrass watercolours by

Seagrasses Of Magnetic Island

Seagrass-Watch

www.seagrasswatch.org

What are Seagrasses?

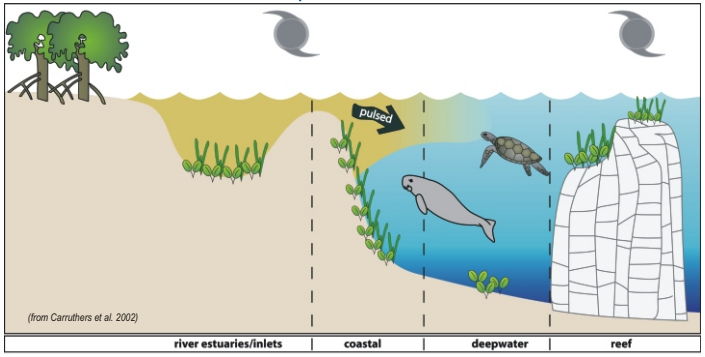
Seagrasses are unique marine flowering plants of which there are approximately 60 species worldwide. Various common names are applied to seagrass species, such as turtle grass, eelgrass, tape grass, spoon grass and shoal grass. Seagrasses are not seaweeds. Seaweed is the common name for algae.

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 Townsville region

Seagrasses are a major component of north Queensland's dry tropic's marine ecosystems. Thirteen species of seagrass have been recorded, representing 87% 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, reef and deepwater environments.



General conceptual model of seagrass habitats in north east Australia

Seagrasses of Picnic and Cockle Bays

Magnetic Island, just offshore from Townsville, is a 52 km² mountainous island. The easiest places to find seagrasses on the island are in Picnic and Cockle Bays.

Picnic Bay is fringed by a coral reef and you will find ***Halodule uninervis*** and the clover like ***Halophila ovalis***, both food for dugong, scattered over the sandy areas at low tide. On the flats you may also see small dark patches of ***Zostera capricorni***. Towards the reef crest you'll find the hooked leaved ***Thalassia hemprichii*** and in the shallow subtidal areas you may find patches of ***Syringodium isoetifolium*** with it's distinctive spaghetti-like leaves. In the deeper waters (>3m), you can find ***Halophila decipiens***, a clover like species which has "hairy" leaves. Off the reef you may also find the fern like ***Halophila spinulosa*** or the rare ***Halophila tricostata***, which has oval shaped leaves arranged in clusters on a vertical stem.

Cockle Bay is also a fringing reef flat, with a dense meadow dominated by ***Thalassia hemprichii***, ***Cymodocea serrulata*** and both narrow and wide leaf varieties of ***Halodule uninervis***. Inshore is a narrow band of ***Halophila ovalis***, and recently, a patch of ***Syringodium isoetifolium*** was observed toward the reef edge.

The seagasses on Magnetic Island are being monitored as part of the Reef Rescue Marine Monitoring Program 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.