

Seagrasses in our estuaries

Fact sheet 1

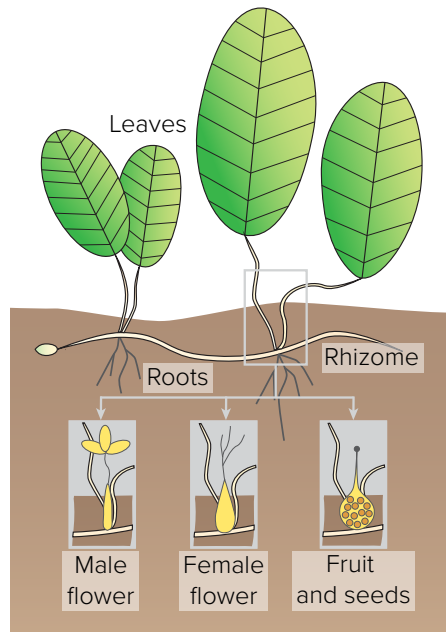
What is seagrass?

Seagrasses are the only flowering plants that live and grow completely submerged underwater. Seagrasses have evolved from land plants and have similar botanical features to plants found in your garden.

Seagrasses are found in shallow coastal and estuarine environments worldwide, on every continent except Antarctica.

About half of the known seagrass species are found in Australia. The seagrasses found in WA are the most diverse of any region in the world, with 26 species across 11 genera. Species can occur by themselves or in mixed meadows.

Features of paddleweed – a common seagrass



Leaves absorb nutrients and water directly from the surrounding water and provide energy through photosynthesis.

Water carries pollen from **male flowers** to **female flowers** producing **pollinated fruits**.

Fruits can break off the plant and may drop off close by or be carried huge distances before seeds are released.

A **rhizome** is a stem beneath the surface of the sediments that the roots come from.

The **roots and rhizomes** anchor the seagrass to the sediment and absorb nutrients and water, much like land grasses.

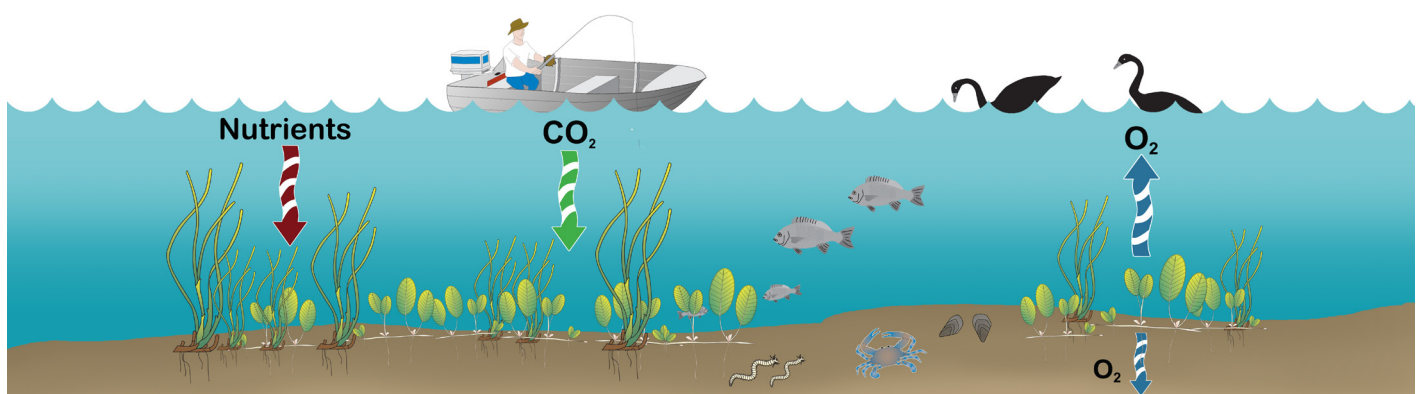


Seagrass or seaweed?

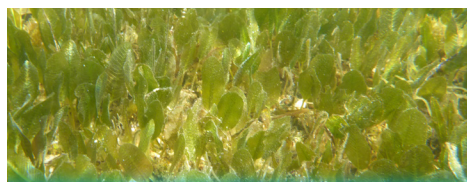
While it might look similar, seaweed (or macroalgae) is very different to seagrass. It does not have roots or rhizomes, and doesn't produce flowers and seeds. Though seaweed is an important part of the food chain, an over-abundance can indicate an imbalance in the ecosystem, usually caused by excess nutrients.

Why is seagrass important?

Seagrass meadows are an important part of estuarine ecosystems, providing habitat and food for birds, fish and crustaceans. They contribute to good water and sediment quality by consuming nutrients and oxygenating the water and are estimated to provide \$12 million per year in ecosystem services to WA estuaries. Seagrass meadows also store carbon and release oxygen – making them a strong ally in the fight against climate change.



Which seagrasses are in the estuaries we monitor?



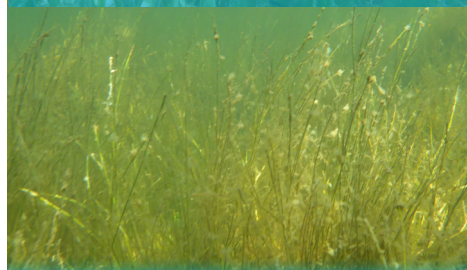
Halophila

- Dominant in:
- Leschenault Estuary
- Also found in:
- Peel-Harvey Estuary

Found in a range of environments from shallow to deep water

Tolerates low salinity through to saltier than seawater

Forms a carpet like meadow



Ruppia

- Dominant in:
- Vasse-Wonnerup Wetlands
 - Wilson Inlet
 - Hardy Inlet
 - Peel-Harvey Estuary
- Also found in:
- Leschenault Estuary
 - Oyster Harbour

Found in fresh water through to water saltier than the sea

Tolerates fresh water and seeds need it to initiate growth

Can grow over 1 m tall



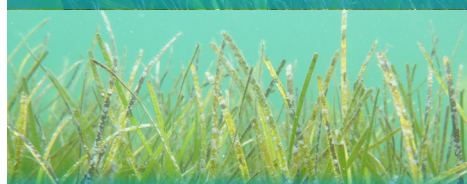
Posidonia

- Dominant in:
- Oyster Harbour

Found in sheltered, marine environments

Takes approximately 10 years for seed to grow to mature plant

Can grow up to 1 m tall



Zostera

- Found in:
- Leschenault Estuary
 - Peel-Harvey Estuary

Found in sheltered, shallow marine environments

Has short strap-like leaves

How and why do we monitor seagrass?

Seagrass condition and distribution throughout an estuary can provide important information about the overall health of the estuary and the quality of water entering it from streams, creeks, rivers and drains.

To gain a comprehensive understanding of seagrass health, we look at where different species are found (broad scale), how densely it is growing (broad scale), how it grows (fine scale), and how fast it might recover from a damaging event (fine scale).

For broad-scale measurements, we use an underwater camera to capture information at up to hundreds of sites in a single estuary. Fine-scale measurements are taken at three to eight sites in an estuary where scientists measure meadow characteristics, growth rates, seed banks and take samples for further analysis.

Broad scale ← → Fine scale



Little information over a large area. Indicates distribution and density of seagrass.

Lots of information about a small area. Indicates how resilient the seagrass is to conditions that are not ideal.



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ESTUARIES
WA