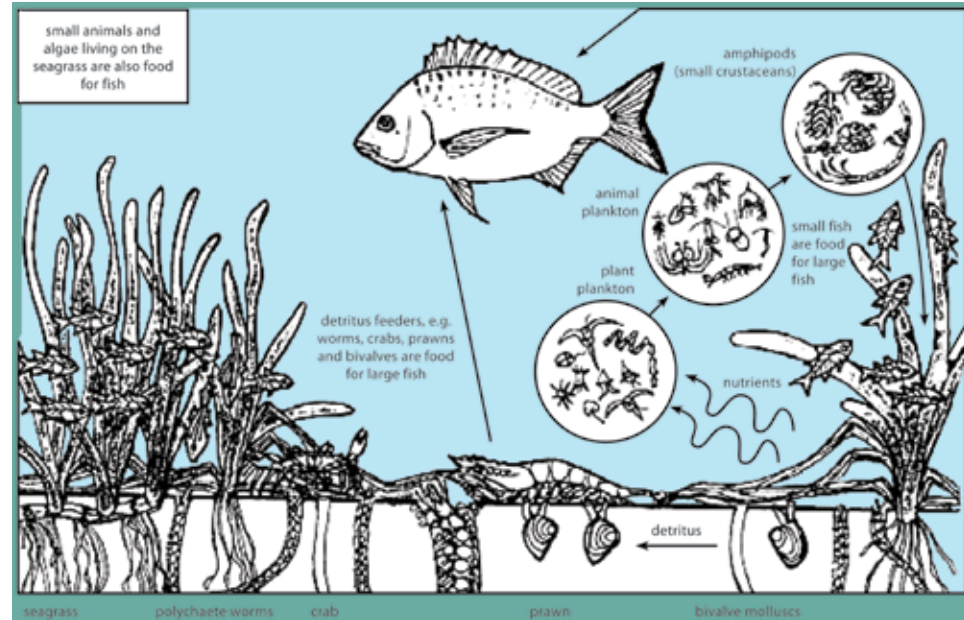


## Seagrasses clean waterways...

Seagrasses oxygenate water and recycle nutrients. Their leaves and stems act as baffles which reduce water speed. This allows suspended particles in the water to fall to the bottom. Seagrass roots trap this sediment and protect against wave erosion. Epiphytes, such as algae and protozoans found on seagrass leaves, act as water filters.



## 10 ways to be a Seagrass Friend:

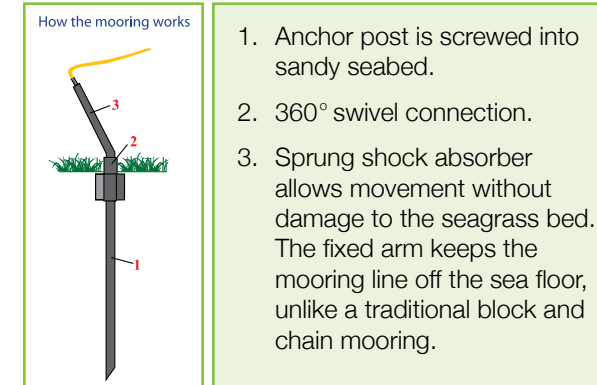
- Drop anchor away from seagrass beds.
  - Avoid boating and walking over seagrass at low tides. Propeller blades and turbulence damage seagrasses.
  - Use a mooring designed not to damage seagrass (all new moorings need NSW Maritime approval).
  - Dig for bait away from seagrass (it is illegal to use any tool to collect bait in seagrass beds).
  - Design jetties, boat ramps and seawalls to avoid shading or physical damage to seagrass beds.
  - Fence riverbanks from stock, and maintain vegetation near waterways.
  - Get a permit from NSW DPI before undertaking works in waterways that may affect seagrasses.
  - Replace decking of jetties with mesh decking to allow sunlight to reach seagrass beds.
  - Maintain septic tanks and pumps so that they don't leak nutrients into waterways and estuaries.
- and
- Join a Coastcare group to actively improve our estuary and marine environments.

## Seagrass Friendly Moorings

There are currently 3200 moorings in Pittwater with a number of these moorings located in seagrass beds.

Several different mooring systems have been designed to protect seagrasses by keeping moving parts off the sea floor.

A trial of seagrass friendly moorings (pictured below) is underway in Pittwater.



## Contacts to Get Involved

**Hawkesbury-Nepean Catchment Management Authority**, including Coastcare/Landcare Groups (ie. on private land), Windsor Office **4587 0050**  
[www.hn.cma.nsw.gov.au](http://www.hn.cma.nsw.gov.au)

**Pittwater Council**, Natural Resources Unit, also Bushcare Groups (working on public land) **9970 1111**  
[www.pittwater.nsw.gov.au/environment](http://www.pittwater.nsw.gov.au/environment)

**NSW Maritime**, Hornsby Office **9477 6600**  
[www.maritime.nsw.gov.au](http://www.maritime.nsw.gov.au)

**NSW Industry & Investment (Fisheries)**, Sydney office **8437 4933** [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

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# seagrasses

a fish's friend





## Seagrasses

These are not weeds but some of the most important plants in the world!

Seagrass evolved from grass on land and are flowering plants adapted to grow in shallow and sheltered estuary waters. They grow underwater in soft sands and mud.

They are vital to marine ecosystems and support many fish, crustaceans and other invertebrate species.

Australia has the largest and most diverse seagrass beds in the world. Of the 30 Australian species, six are found in Pittwater.

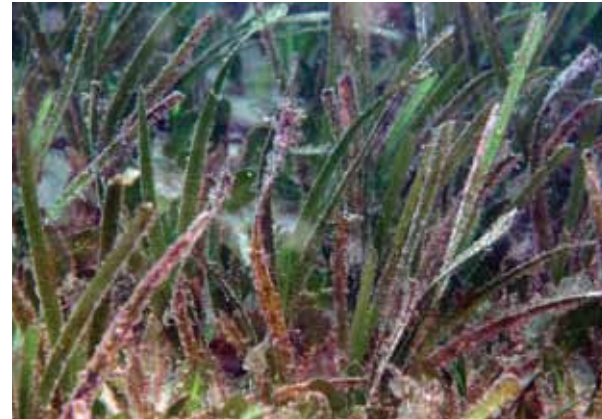
### Strapweed

(*Posidonia australis*) is the largest with flat strap-like leaves, 6-14mm wide and 30-60cm long.



### Eelgrass

(*Zostera capricorni*), have narrower strap leaves, 1-5mm wide by up to 50cm long.



### Paddleweed

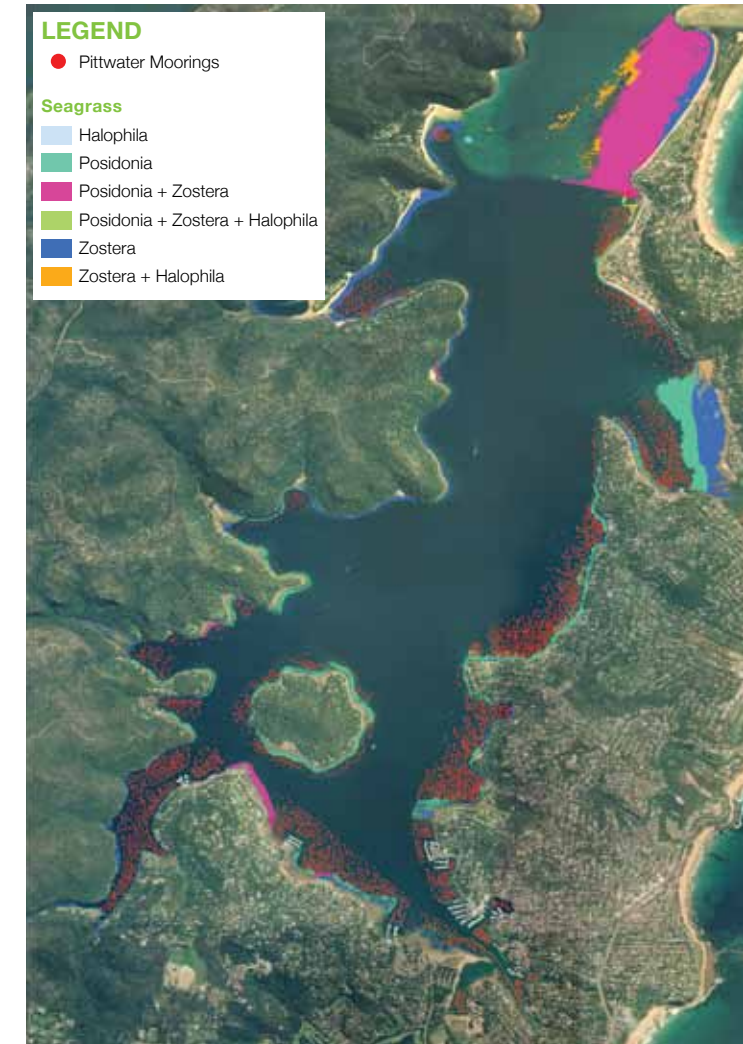
(*Halophila spp.*) have paired oval leaves, 15-20mm wide and 1-5cm long.



(Photos courtesy of David Harasti)

## Seagrasses in Pittwater

The distribution of seagrass in the Pittwater estuary is influenced by available light as a product of water depth and clarity or turbidity. Seagrass is also affected by changes in salinity, nutrient levels, bed stability, wave energy and physical disturbance.



For a high resolution map of seagrass beds go to [www.hn.cma.nsw.gov.au](http://www.hn.cma.nsw.gov.au)

## Seagrass meadows: Our forests of the sea

Seagrass beds are like a marine 'forest' with around 40 times more animals occurring in seagrass than in adjacent bare sand. Seagrasses are prolific, every year producing 20 tons of leaf material per hectare of seagrass.

Seagrass beds provide habitat and food sources for fish, including whiting, bream and flathead, and other aquatic fauna such as prawns, seahorses, stingrays and turtles. Epiphytes (algae, protozoans) and epizoa (encrusting animals) found on seagrass leaves also act as fish food.



Even dead seagrass (called 'wrack') when washed ashore, houses small invertebrates such as crabs, which are another food source for fish. The dead seagrass also acts to protect saltmarsh communities by slowing soil from drying and eroding, and by adding nutrients.