Molluscs: Soft muscular foot and shell

**Gastropods**

**Snail**
Description: rounded shell, grey/brown/cream colours.
Various sizes: 5–30 mm
Habitat: sand or mudflats and mangroves

**Whelk**
Description: elongated shell, grey/brown/white colours and sizes.
Maximum sizes: 20–150 mm
Habitat: sand or mudflats and mangroves

**Bivalves: two shells**

**Cockle**
Description: ribbed shell.
Maximum size: 50–80 mm
Habitat: sand

**Razor shell clam**
Description: purple/brown ribbed shell.
Maximum size: 65–120 mm
Habitat: mud and sand

**Oyster**
Description: outside grey; inside white.
Maximum size: up to 100 mm
Habitat: rocks and mangrove areas

**Mussel**
Description: purplish black and shiny, some hairy.
Maximum size: 50–120 mm or smaller varieties 30–50 mm
Habitats: pylons of jetties or where sand and rocks meet

**Pipi**
Description: cream to pale brown and shiny white inside.
Maximum size: 40–60 mm
Habitat: sand

**Nudibranches (sea slugs)**
Description: marine snails that have no shell, many colours.
Maximum size: 10–40 cm long
Habitat: seagrass

**Cephalopods**
Cephalopod means ‘head-foot’.
The foot of the cephalopod is a cluster of tentacles that connects directly to the head.

**Cuttle fish**
Description: eight arms, two tentacles and a soft body.
Maximum Size: 15-25 cm
Habitat: seagrass

**Squid**
Description: eight arms, two longer feeding tentacles, a large head and two eyes.
Maximum Size: 20 cm female and 30 cm male
Habitat: seagrass

**Octopus**
Description: octopus means ‘eight feet’, soft body.
Maximum size: The southern octopus has an armspan of 40 cm
Habitat: seagrass
**Crustaceans: Hard shell, legs with joints**

**Shrimp and prawns**
Description: shrimp and prawns have five pairs of walking legs, with the first pair modified to form pincers.

**Prawn**
Description: pale green/brown/translucent with shell segments overlapping on one side only from the front.
Maximum size: 190 mm
Habitat: estuaries/seagrass

**Shrimp**
Description: green/brown/translucent with shell segments overlapping both in front and behind each other.
Maximum size: 45 mm
Habitat: estuaries/seagrass

**Barnacles**
Description: white to grey, attached in colonies.
Maximum size: varies with species 5–8 mm and 16–18 mm
Habitat: in or below the intertidal zone

**Isopods**
Description: flattened from the top.

**Slater/pill bug**
Description: 14 pairs of legs, large head, 2 eyes and 2 large antennae
Maximum size: 5–15 mm
Habitat: sand, mud

**Amphipods**
Description: appear pinched inwards.

**Sand hopper**
Description: translucent, brown or grey.
Maximum size: 6–20 mm
Habitat: sand, mud

**Skeleton shrimp**
Description: colour resembles seagrass in which it grazes.
Maximum size: 20 mm
Habitat: seagrass
Crabs

Male Crab
Male crabs have a triangular inset on the underside.

Female Crab
Females have a broad and round inset on the underside that is most obvious when the eggs are being carried.

Crab larva
Description: larvae called zoea hatch from eggs and moult several times as they grow.
Habitat: swim in plankton

LARGE SIZED CRABS

Swimming crab, Portunus pelagicus
Description: their last pair of legs are modified as swimming paddles.
Maximum size: up to 350 mm
Habitat: soft sediment and mud

Mud crab, Scylla serrata
Description: dark brown or dark green mottled crab.
Size: Large crab – can grow to more than 240 mm
Habitat: mud, mangroves

MEDIUM SIZED CRABS

Hermit crab, Pagurus sinuatus
Description: crab that uses the shell of another creature for its home.
Size: 80–150 mm
Habitat: sand or mudflats and mangroves

Ghost crab, Ocypode cordimana
Description: light grey in colour, rounded shell, large eyes at the end of short eyestalks.
Maximum size: up to 35–50 mm
Habitat: dry sand near estuary entrance or sandy estuarine beaches

Sentinel crab, Macropthalmus setosus
Description: rectangular shaped crab, greenish grey with light coloured limbs.
Maximum size: 30–40 mm wide
Habitat: different species in mud, shallow pools, mangroves, seagrass

Smooth shore crab, Cyclograpsus granulosus
Description: purple, dark grey or purplish grey, scavenger eats whatever is around.
Size: 30–40 mm
Habitat: sheltered bays and estuaries in mud areas and saltmarsh flats
MEDIUM SIZED CRABS (continued)

**Spotted smooth shore crab, *Paragrapus gaiardii* (Grapsidae)**

Description: very large purple-brown claws and grey or yellow flecked carapace.

Maximum size: up to 30–35 mm

Habitat: mud; mangroves

**Smooth handed crab, *Pilumnopeus serratifrons***

Description: purple colour and hairy legs.

Size: 25–30 mm

Habitat: mud; mangroves

**Semaphore crab, *Heloecius cordiformis***

Description: rectangular shaped crab, greenish grey with light coloured limbs.

Maximum size: 30–40 mm wide

Habitat: different species in mud, shallow pools, mangroves, seagrass

**Red fingered marsh crab, *Sesarma erythrodactyla***

Description: green carapace and red-tipped claws.

Maximum size: 20–30 mm across with brown hairs on legs

Habitat: mangroves, saltmarsh and river banks

SMALL SIZED CRABS

**Soldier crab, *Mictyris longicarpus***

Description: small, round, blue body on long jointed legs with purple stripes. Lives in massive groups and burrows into sand in corkscrew manner if frightened.

Maximum size: 12–15 mm

Habitat: estuaries sand/mud

**Fiddler crab, *Uca* (order Decapoda)**

Description: males have one large white, orange, pink or red claw. Females have two small claws.

Maximum size: 20–30 mm

Habitat: mudflats, mangroves

**INTRODUCED CRAB SPECIES**

**Green shore crab, *Carcinus maenas***

Description: green but tends to be red/orange on the under surface with five distinct spines on the outside edge of the carapace on either side of the eyes.

Maximum size: 60 mm across

Habitat: found in both the intertidal and shallow subtidal zones of bays and estuaries
## Worms: Soft bodied

### Annelids (segmented worms)

<table>
<thead>
<tr>
<th>POLYCHAETES (many bristles)</th>
<th>NEMERTEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tube worm</strong></td>
<td><strong>Ribbon worm</strong></td>
</tr>
<tr>
<td>Description: lives in tubes cemented together in colonies.</td>
<td>Description: an ability to stretch and contract, orange or brown.</td>
</tr>
<tr>
<td>Maximum size: 30–50 mm</td>
<td>Maximum size: 25–50 mm</td>
</tr>
<tr>
<td>Habitat: sand and mudflats</td>
<td>Habitat: mudflats, estuaries</td>
</tr>
</tbody>
</table>

### Beach worm

Description: long and thin with short tentacles near their head. Common species include *Australonuphis teres* (Kingworm or stumpy), *A. parateres* (slimy), *Hirsutonuphis mariahirsuta* (wiry).

Maximum size: 2.5 metres

Habitat: sandy beaches at low water mark where they build temporary burrows

### Flat worm

Description: flattened bodies that lack segmentation; colour varies.

Maximum size: 1–10 mm

Habitat: mudflats, estuaries
Fish Identification

Fish species in estuaries will vary with location. Record any species identified in the estuary and add additional species found at your site.

**Syngnathidae**

**Pipe fish**
Description: resemble a pipe cleaner in shape (long and thin) usually green or brown.
Maximum size: 27 cm long
Habitat: seagrass

**Seahorses/seadragons**
Description: seahorses and seadragons are classified as fish, have no scales, lack teeth, and do not have a stomach.
There are a number of types that can be identified by colour and features such as length of snout.
Maximum size: seadragons grow to 46 cm in length
Maximum size: seahorses are commonly 10–15 cm in length
Habitat: seagrass in coastal bays and estuaries

**Flathead**
Description: ambush predator with crocodile like shape.
Maximum size: from 25–70 cm to 1.5 metres depending on species
Habitat: lives on the bottom, of the estuary

**Gudgeons**
Description: small fish that live in fresh and brackish water.
Maximum size: commonly 8 to 9 cm, up to 130 mm
Habitat: can live in coastal streams and estuaries

**Puffer fish (toad fish)**
Description: round torpedo shaped body that can inflate when distressed (poisonous to eat).
Maximum size: 16 cm
Habitat: coastal bays and estuaries

**Leatherjacket**
Description: long spine above the eye and leathery skin, many species occur.
Maximum size: 33 cm
Habitat: coastal bays and estuaries

**Whiting**
Description: pointed snout with small mouth, bottom dwelling.
Maximum size: there are many species that grow from 15–50 cm in length
Habitat: sandy bottoms of coastal bays and estuaries

**Mullet**
Description: often used as bait; found in shallow water and sometimes feeds near the surface.
Similar shape to whiting without pointed snout. Silvery appearance.
Maximum size: grows to about 45–75 cm in length
Habitat: estuaries and coastal bays

**Fortescue**
Description: common species with blotchy white/black/grey markings.
Note: this species has poisonous spines do not touch!
Maximum size: grows to 14 cm in length
Habitat: rests on the bottom of coastal bays and estuaries