

# A beach explorers guide blants and anima to plants and animals







Australian Government **Parks** Australia







# **Exploring your beach!**

This guide will help you identify the fascinating species you might find while exploring South Australia's beaches or rocky reefs.

Low tide is often the best time to visit your beach as more plants and animals are washed up, rock pools are exposed and birds are often feeding. If you turn over any rocks please replace them gently to protect the animals and their habitat. All plants and animals in intertidal rocky reefs are protected in all coastal waters in South Australia.

National parks, marine parks and other reserves help protect our marine and coastal environments. Nineteen state marine parks and seven Commonwealth marine parks (which are further offshore) are working together to help protect coastal habitats such as rocky reefs, sand, seagrass, estuaries and saltmarsh.

#### **Coastal terminology**

**Subtidal:** the area below low tide mark which is always covered by water

**Intertidal:** the area that is covered by high tide and exposed at low tide **Substrate:** the surface on which an organism lives

**Sediment:** matter such as sand and shells which settles on the beach and seafloor **Rocky shore:** a rocky area where the sea meets the land

**Rock platform:** a flat rock which has formed a platform on a rocky shore **Rock pool:** depressions in rock often caused by erosion which can hold water during low tide

**Reef:** a bar of rock or other material, lying beneath the surface of the water

#### Front cover images



© J. Baker, CC BY Attribution



© J.J. Harrison @ Wikimedia Commons, CC BY-SA 3.0

#### Goolwa cockle / pipi Donax deltoides

The Goolwa cockle is an abundant, commercially significant species found on ocean beaches around Australia. In South Australia, it is most abundant near the Coorong. The empty shells are sometimes found on beaches where cockles do not live, because many fishers use this species for bait.

#### Hooded plover Thinornis rubricollis

These shorebirds are listed as Vulnerable, with possibly less than 800 of them in South Australia. They nest at the base of sand dunes during spring and summer, and will abandon their eggs and chicks if disturbed. Some ways in which 'hoodies' are being protected in South Australia include seasonal fencing and signage, wooden 'chick shelters', as well as research and monitoring.



### **Fishes**



© J. Baker, CC BY Attribution

#### Sand gobies Nesogobius species

Sand gobies are small fish that are found mainly in shallow waters and are often seen darting around rockpools. There are several common species in South Australia, and they are well camouflaged in sandy habitats near shore.



© W. Moyse CC BY-NC 4.0

#### Smooth toadfish Tetracteros glaber

This species of pufferfish occasionally washes up on beaches. Their flesh is poisonous and unfit for human or pet consumption. It is not uncommon to see numerous toadfish washed up on the shore following long periods of hot, calm weather. These conditions cause algal blooms which can deplete the oxygen in nearshore waters.



© CSIRO Australia © M. Bossley, CC BY Attribution

#### **Globefish / slender-spined porcupinefish** *Diodon nicthemerus*

These spiny, poisonous fish are occasionally washed up on beaches, like the toadfish they can wash up in greater numbers during algal blooms and hot weather.

## **Birds**



(Pied) © Fir0002 @ Flagstaffotos, CC BY-NC (Sooty) © A. Brown, CC BY-NC 4.0

#### Pied oystercatcher Haematopus longirostris and sooty oystercatcher H. fuliginosus

These distinctive shorebirds are often found along coasts using their strong, red beak to stab and pick at prey such as molluscs, crabs and worms. Sooty oystercatchers (black) prefer rocky shores, and pied oystercatchers (black & white) are usually seen on sandy shores. Sometimes an oystercatcher will take a shell to a flat rock where it can use its beak to hammer at the shell until it breaks open.



(Juvenile) © R. Campbell, CC BY-NC 4.0 (Adult) © G. Fergus, CC BY 3.0

#### Pacific gull Larus pacificus

The largest gull in Australia, the Pacific gull is found across the southern Australian coastline and breeds on offshore islands. The mottled grey juveniles are sometimes seen foraging in estuarine areas. Adults have a distinctive goldcoloured beak, which is tipped with red. They eat molluscs, fish, and small birds, and also scavenge on rubbish.



#### Caspian tern Hydroprogne caspia

This is Australia's largest tern. It has a large bright red bill and can be seen hovering then plunging into the water to catch fish. Both sexes share nest-building, incubation and care of the young. They are widespread around Australia and can be found in coastal, offshore and inshore habitats.





# Shark and ray egg cases



© K. Bunker @ Flickr, CC BY-NC 2.0

#### Port Jackson shark egg case

The Port Jackson shark is a common type of bullhead shark which lives on the seafloor in various habitats across southern Australia. Female Port Jackson sharks lay brown, spiral egg cases, that often get washed into rock crevices on reefs. The egg cases harden, and stay in the crevice for up to a year. Sometimes egg cases get dislodged before the baby shark can fully develop and wash up onto beaches.

#### Elephantfish egg case

Elephantfishes, also known as elephant sharks, are unusual animals which have features of both bony fishes and sharks. They live for most of the year in deeper waters off the continental shelf, but females move to shallow bays after breeding and lay pairs of leathery eggs cases. The baby inside the egg case hatches after about 8 months, but sometimes the cases are washed up on beaches after storms, before the young can hatch.



© M. Bossley, CC BY Attribution



© J. Baker, CC BY Attribution

#### Other shark, ray and skate egg cases

There are several small common sharks in South Australia that lay eggs, including the gulf catshark and the draughtboard shark. Skates are a type of ray with a kite-shaped body and thin tail that also lay eggs. Egg-laying sharks are often found around reefs, whereas skates usually live on sand or mud bottoms. The shark egg cases have curly tendrils at the ends, and skate cases have horns at both ends. These cases sometimes wash up on beaches and are known as "mermaids' purses".





### Anemones



© J. Baker, CC BY Attribution

#### Waratah anemone Actinia tenebrosa

A bright anemone that is common on southern Australian rock platforms and in rock pools. The tentacles close up at low tide when the body is exposed to air and looks like a dark red blob of jelly. This is a live-bearing species and the baby anemones are fully formed when they come out of the mouth of the parent.



© P. Honan, Museum Victoria, CC BY Attribution

#### Green snakelock anemone Aulactinia veratra

This green or red-brown anemone is found across southern Australia and New Zealand in crevices or rock pools in rocky shores. The green anemone can retain water and swell up when the tide is low, to prevent itself drying out.



© J. Baker, CC BY Attribution

#### Shellgrit anemone Oulactis species

These anemones are found on rocky shores and attach pieces of shell and sand to their tentacles. They feed on small mussels and shells that have been dislodged by the waves at high tide.



## Molluscs – snails and their relatives



© R. Wilson, Museum Victoria, CC BY Attribution

#### Blue periwinkle Austrolittorina unifasciata

A small snail (to 1cm) that lives in groups on rocks in the highest part of intertidal reefs. These snails are herbivorous and eat lichen. When the rocks are dry the snails protect themselves from drying out by clustering together in crevices and depressions in the rock.



© D. Muirhead, CC BY Attribution

#### Conniwinks Bembicium species

Striped or banded snails that live on rocks in the splash zone of reefs in South Australia's gulfs and are active at low tide. The pointed top of the striped conniwink shell is often eroded, and coloured orange.



© L. Altoff, CC BY Attribution

#### Black nerite Nerita atramentosa

A common black snail, also known as black crow, occurs in groups on intertidal reefs across southern Australia, and grows to around 3cm wide. They often occur around the edges of rock pools where they scrape algae off rocks using tooth-like radula. When the tide goes out they shelter under rocks.







© J. Baker, CC BY Attribution

#### Warrener or turban shell Lunella undulata

Round, edible snails that have a dark green and white zig-zag pattern on the shell. They are found in large numbers on many reefs and are a food source for Pacific gulls, which pick them up and drop them from a height onto rocks to smash the hard shell. The white 'trapdoor' (operculum) protects the soft animal inside and is often washed up on beaches.



© M. Lorenz, CC BY Attribution

#### Cartrut shell Dicathais orbita

An abundant shell to 10cm long, lives on rock platforms and shallow reefs across southern Australia. The predatory cartrut shell helps to control populations of barnacles and mussels on rock surfaces. This species is long-living to around 20 years.



© J. Baker, CC BY Attribution

#### **Top shells / Winkle shells** *Austrocochlea species*

There are several species of top shell on intertidal reefs in the gulfs region. These shells scrape micro-algae off intertidal rocks. The colour and darkness of banding in the shell relates to the amount of green pigment (chlorophyll) in the food supply.



© J. Baker, CC BY Attribution

#### Mud creeper Zeacumantus diemenensis

A small shell up to 3cm long with spiral whorls. Mud creepers are abundant in the intertidal area of sheltered coasts. They occur in a variety of colours and are often found in groups in sandy mud, and on seagrass and seaweed.





#### © S. Johnson, CC BY Attribution

#### Anemone cone Conus anemone

A predatory cone shell that is common on reefs around southern Australia. Cone shells have a harpoon that they use to stab prey such as worms. It sometimes washes up on beaches adjacent to reefs in wave-exposed areas. In some locations, many juveniles may be found on the shore.



© C.Meurk, BY Attribution

#### Moon snail Conuber conicum and Conuber incei

Moon snails are active predators in intertidal areas, making trails through the sand as they search for small bivalve shells to capture and eat. The moon snail holds the prey with its muscular foot, and drills a hole in the shell using its teeth (radula), assisted by acid. The moon snail then extracts and eats the soft animal inside.



© M. Bossley, CC By Attribution

#### Moon snail egg masses ("sausage blubbers")

Moon snails (see description above) lay tiny eggs encased in a clear, jelly-like 'C'-shaped mass. These masses are often found in summer on beaches where moon snails live. The jelly masses are commonly called 'sausage blubbers', and break down very easily due to wave and sand movement.



© J. Baker, CC BY Attribution

#### Brown bubble snail Bulla quoyii

Bubble snails live in intertidal areas, and also in shallow sediments. They often remain hidden in sand during the day and come out at night to feed on algae. They are occasionally found in seaweed on rocky shores. Brown bubble snails grow to about 6cm long, and the empty shells are sometimes washed up onto sheltered beaches in bays and coves.





© J. Baker CC BY Attribution

#### Variegated limpet Cellana tramoserica

There are many species of limpets in South Australia. One of the more abundant species is the variegated limpet. It is golden brown with darker stripes and grows to around 6cm. Found on intertidal reefs, it grazes on algae (which in turn helps to control algae). After moving around to feed, some of these limpets return to the same place on the "home" rock, by sensing the chemicals in their own slime trails.



© J. Baker CC BY Attribution

#### False limpets Siphonaria species

False limpets look like limpets but are in a different group that breathe by taking in air through a groove in their shell (as opposed to gills). Species such as the Van Diemen's siphon shell occur abundantly on rocky shores grazing on algae. Van Diemen's has a dark shell with many radiating white ribs, and the pointed top of the shell is often eroded.



© Nuytsia@Tas CC BY-NC-SA 2.0



© J. Baker, CC BY Attribution

### **Chiton,** such as giant chiton *Plaxiphora albida* and *lschnochiton* species

Several chiton species are found on rocks in South Australia's gulfs. The largest, giant chiton (or white plaxiphora chiton) grows to about 10cm long. The body is leathery with lots of bristles, and the plates on the back of the juvenile have wavy green lines. Some chitons graze on algae, but other species eat sponges, sea quirts and lace corals. 'Homing' behaviour has been observed, with chitons returning to the same spot on the rock after going out to feed each day.

### **Abalone,** such as blacklip abalone *Haliotis rubra,* greenlip abalone *H. laevigata* and staircase abalone *H. scalaris*

Abalone are flat shells with a pearly lining and holes along the side to assist breathing. The abalone's muscular foot makes up the majority of the animal. It is eaten and considered a delicacy in some cultures. The foot helps the abalone to clamp tightly to rocks so that they are not dislodged by waves. The shells sometimes wash up on to beaches.



# Molluscs – bivalves



© P. Hall, CC BY Attribution

#### Razorfish shell Pinna bicolor

Razorfish grow to around 50cm long, and are broadly distributed in tropical, subtropical and temperate waters. This bivalve can live for around 15 years and occurs in sandy and muddy sediments. Razorfish sometimes have many other small animals and plants growing on them, and thus act as 'mini reefs'. The empty shells often wash up on beaches but rarely are two halves of the shell found intact.



© J. Baker, CC BY Attribution

### **Scallops,** such as Pecten fumatus and Queen scallop Equichlamys bifrons

There are several common species of fan-shaped scallops in South Australia, and some of these are highly regarded as food sources. A few of the scallop species occur in sand, and others are found attached to reefs and other hard surfaces. Scallops have two shells joined by a ligament in the middle, but usually only one of the shells washes up on beaches.



© Avenue @ Wikimedia Commons CC BY-SA 3.0

#### **Mussels**

Mussels are filter feeders and usually live in groups attached to rocks by strong threads. When the tide is out and they are exposed to the air, they use their strong abductor muscle to tightly close their shell and prevent them from drying out.



### Cephalopods - squid, cuttlefish and octopus



© J. Baker, CC BY Attribution

#### Southern calamari (squid) eggs Sepioteuthis australis

The large, fast-swimming southern calamari squid is commonly found throughout South Australia coastal waters, over reefs, seagrass beds, and sandy habitats in shallow waters. The females lay clumps of white, finger-like eggs on seagrass and seaweed. These are sometimes washed ashore after rough weather.



© J. Baker, CC BY Attribution

### **Cuttlefish 'bones'** Giant Cuttlefish *Sepia apama* and other species

Cuttlefish are very advanced, soft-bodied animals which have eight arms plus two long tentacles to help with food capture. They have an internal shell (cuttlebone) which helps to control buoyancy. There are various cuttlefish species in South Australia, but the most common in the shallows is the giant Australian cuttlefish. Cuttlebones from both juvenile and adult cuttlefishes wash up on shores. Some of these have bite marks from dolphins and other animals.



© M. Norman, Museum Victoria, CC BY Attribution

#### Blue-ring octopus Hapalochlaena maculosa

A small and very poisonous octopus that is sometimes found under rocks or shells in both intertidal and subtidal reefs. It also lives in seagrass beds and other shallow water habitats. Blue-ring octopus eat crabs and shrimps, and paralyse their prey by injecting powerful venom. This octopus should never be touched.



# Crabs and other crustaceans



© J. Baker, CC BY Attribution

#### Reef crab Ozius truncatus

A red-brown crab with dark claws that lives on rocky shores under loose rocks and boulders. Males are bigger than females, and have larger claws. They eat intertidal reef snails such as conniwinks and black nerites. Also known as black finger crab.



© Mirrabookman, CC BY Attribution

#### Little shore crab Brachynotus spinosus

A small crab (shell less than 2cm wide), found under rocks. It is well camouflaged due to the mottled shell, and has 'hairy' claws.



© J. Baker, CC BY Attribution

#### Shore crabs Cyclograpsus species

The purple mottled shore crab and the smooth shore crab are both found under rocks in intertidal areas. Both are variable in colour and pattern, but the smooth shore crab has a smoother shell (carapace), and the ends of the claws are usually white. Hybrids between the two species have also been found.





© J. Baker, CC BY Attribution

#### Purple rock crab Leptograpsus variegatus

This large crab has a dark shell (carapace) up to 8cm wide. It is found across southern Australia and New Zealand, mainly on high wave energy coasts, hiding in rock crevices. The claws of eastern Australian animals are usually mottled purple-white. However, the South Australian examples often have bright orange-gold claws and leg joints. It is also called the swift-footed crab.



© J. Donald, CC BY-NC 4.0

#### Surf crab Ovalipes australiensis

Surf crabs, or sand crabs, are found in shallow waters off sandy beaches around southern Australia. They grow to around 10cm wide and have two distinctive dark red patches on the shell (carapace). The carapace is discarded and replaced as the crab grows, and is often found on sandy beaches.



© J. Jones, CC BY Attribution

#### Seaweed crab Naxia species

There are several species of seaweed crab found in seagrass beds and on reefs in South Australia. They often stick pieces of algae, seagrass, or sponges on their pear-shaped body (carapace) for camouflage. The empty carapace is sometimes washed up on beaches.



© J. Baker, CC BY Attribution

#### **Barnacles**

Barnacles are related to other crustaceans such as crabs and shrimps, but they are very different in appearance and structure. Barnacles have hard, calcareous plates around the body and become cemented to hard surfaces such as rocks, after the larvae settle. They can also attach to other surfaces such as ships and whales. Barnacles catch food from the water by extending feather-like legs called cirri.



### Sea stars



© L. Altoff, CC BY Attribution

#### Common sea star Meridiastra gunnii

There are several small sea star species on intertidal and shallow subtidal reefs in South Australia. This marooncoloured sea star grows to around 10cm wide, and usually has 6 arms. It raises its body to eat both plants and small animals that drift past. It can be abundant in some areas where food is plentiful. The stomach can be pushed out of the mouth of sea stars to help them feed on their prey.



© G. Cox, CC BY-NC 4.0

#### Eleven-armed sea star Coscinasterias muricata

A large blue-grey and orange sea star, up to 50cm across, mostly found on reefs (down to 150m deep) or near jetties, but sometimes washes up on the beach. This sea star commonly has 11 arms, but can range from 7 to 14. It will drop arms if stressed, and then regrow them (a whole sea star can regrow from one arm). This predatory species eats various molluscs and scavenges dead animals on the sea floor.



© J. Baker, CC BY Attribution

#### **Eight-armed cushion star** Meridiastra calcar

This sea star, also known as a carpet star, grows to about 9cm across and is highly variable in colour. The body and arms have various combinations of blue, purple, white, black, brown, red, orange or yellow. It is found mainly in rock pools and under rocks, on more wave-exposed and cooler shores. This species eats various marine plants and small marine animals.



# **Other invertebrates**



© J. Baker, CC BY Attribution © S. Walker

### **Sea urchin** Heliocidaris erythrogramma, and various species of *Amblypneustes* and *Holopnesustes*

Sea urchins are spiny animals which have a calcareous body known as a 'test'. Urchins found on the beach have often lost their spines. They have sharp teeth in their mouth for grazing on algae, and rows of small tube feet to help them move. These are often found on reef or rubble, and in seagrasses or seaweed.



© J. Baker, CC BY Attribution

### Haeckel's jellyfish *Pseudorhiza haeckeli* and other circular sea jellyfishes

Jellyfishes are usually found in open waters away from the coast, but some species are also common inshore, especially in summer. Most jellyfish species have stinging tentacles. These delicate transparent animals are often washed ashore after storms, and rapidly dry out and break down on beaches.



© J. Baker, CC BY Attribution

#### By-the-wind-sailor Velella

A small, jelly-like animal which is related to stalked hydroids, not to the jellyfish. Each blue polyp has a disc-like float with a transparent 'sail', that enables the animal to drift around the ocean surface. By-the-wind-sailors sometimes wash up in large numbers on southern beaches.





© J. Baker, CC BY Attribution

#### Sponges various species

Sponges are simple animals that have a skeleton made up of a fibrous material called spongin, usually strengthened with glass-like spicules. Sponges pump water through pores in their structure to extract food, and expel the waste water through larger holes called osculae. Sponges of many different shapes and sizes are washed up on beaches after storms.



© C. Meurk, CC BY-SA 4.0

#### Green coral Plesiastrea versipora

One of the very few hard coral species in southern Australia, green coral is a slow growing species which can form flat, plate-like structures on reefs in shallow waters, and larger spherical structures in deeper waters. Green coral has a hard calcareous skeleton, and soft coral polyps live inside circular pits in the skeleton. The hard skeleton is sometimes washed up on beaches, after pieces of coral break off reefs during storms.



© J. Baker, CC BY Attribution

#### Bryozoans various species

Bryozoans are composed of very small animals called zooids, which live closely together in colonies. The body walls of many species are calcified to form a hard, coral-like skeleton. Bryozoans live in many environments, especially on reefs, seagrass and seaweed. The hard dead pieces of skeleton form a significant component of beach sand in southern Australia.



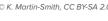
© J. Baker, CC BY Attribution

#### Redbait Pyura doppelgangera

Redbait, also known as cunjevoi, is a type of sea squirt. It has a thick, leathery covering called a tunic. They siphon water into the body and then filter out the fine plankton. The tadpole-like larvae swim until they find a hard surface to anchor themselves using cement glands on their head. The common name comes from their red insides, which some fishers use as bait.

#### Intertidal tube worm Galeolaria caespitosa

This worm species lives in hard, calcareous tubes that are about 3cm long and are often aggregated on intertidal reefs and jetty piles. These worms each have a crown of black tentacles that is extended at high tide to catch particles from the water. The crown is covered by a lid (operculum) at low tide, to protect it from drying out. Also known as the Sydney coral worm.



Lugworms family Arenicolidae Various kinds of worms live in beach sand and feed on microscopic food particles. Most are not seen at the surface, and remain in burrows. When lugworms burrow they produce casts of coiled

sand and mucus, and these are often seen on the surface of beach sand in the intertidal zone.

**Compound ascidians** such as *Botrylloides* and Botryllus species

Compound ascidians are commonly washed up on beaches after storms. They are made up of very small animals (zooids) living together in a jelly-like matrix. The zooids produce distasteful chemicals to prevent the colony being eaten. Some species are highly variable in colour. Species in the genera Botrylloides and Botryllus were introduced to southern Australia, and are now widespread.

#### Southern sea tulip Pyura gibbosa, P. australis and other solitary ascidians

Sea tulips are solitary ascidians or 'sea squirts' and have a tough jelly-like body with two openings, one drawing water and food particles, the other expels waste. Their bodies can grow up to 10cm long with a stalk up to 30cm long.



© Warwick Moyse CC-BY-NC 4.0 © M. Norman, Museum Victoria



© M. Bossley, CC BY Attribution



© K. Williamson, CC BY-SA 2.0 © K. Martin-Smith, CC BY-SA 2.0



### Seagrasses (flowering plants)



© J. Baker, CC BY Attribution

#### Seagrass and seaweed beach wrack

When seagrass and seaweed plants break down in rough weather and winter storms, they are washed up on beaches, and known as 'beach wrack'. The decaying plants are an important source of nutrients for the nearshore environment, and are a major recycling route for carbon. Flies and small crustaceans (beach hoppers) live in the beach wrack and are eaten by shorebirds. Some birds, such as the threatened hooded plover, can nest in beach wrack.



© J. Baker, CC BY Attribution

#### Wireweed Amphibolis species

There are two species of the wireweed seagrass in South Australia: *Amphibolis antarctica* has short, twisted leaves, and *A. griffithi* has longer, straighter leaves. The tough, wiry stems of uprooted plants sometimes roll together via wave action to form basket-like 'wireweed balls', but these are less common than Tapeweed fibre balls (see next page).



© L. Altoff, CC BY Attribution

#### **Eelgrass** Zostera and Heterozostera species

Eelgrasses are short plants which have narrow leaves. Some eelgrasses grow in shallow subtidal sand, and others grow near the mouth of estuaries. The plants sometimes wash up on adjacent beaches and become part of the beach wrack.





(Living plant): © D. Muirhead CC BY-NC 4.0



(Beachcast): © W. Moyse CC BY-NC 4.0



(Fruits): J. Baker, CC BY Attribution

#### Tapeweed Posidonia species

Tapeweed, or strapweed, is a long, strap-like seagrass which forms meadows in nearshore sand areas. Most of the world's species of *Posidonia* are found in South Australia, and some of these form large meadows, especially in the gulfs, and in the bays of the west coast.

Posidonia meadows have many important ecological functions, such as providing feeding and breeding grounds for many marine fishes, crustaceans, and other animals; protecting the coast from erosion; and helping to keep coastal waters clean. Seasonally, the leaves are shed in storms, and wash up on beaches as beach wrack.

Tapeweed plants produce spike-shaped clusters of flowers that develop into green, beanshaped fruits. These are released seasonally and can float a long distance from the parent plants, enabling new *Posidonia* plants to grow in other sandy habitats near shore. The green fruits, known in some countries as 'olives of the sea', are commonly washed up on beaches in late spring and early summer.



© M. Fagg at Australian Plant Image Index: www.anbg.gov.au/photo

#### Tapeweed fibre balls Posidonia species

Tapeweed has strong, fibrous leaves with veins, and also fibrous stem-like structures called rhizomes, which are attached to the roots, forming stabilising mats under the sand. When the leaves and rhizomes break down, the fibres can roll together in the waves to form balls or sausage shapes. In some wave-exposed beach areas, these fibre balls can be as big as soccer balls.



### Seaweeds



© L. Altoff, CC BY Attribution

#### Neptune's necklace Hormosira banksii

A common and slow-growing seaweed made up of chains of hollow, fluid-filled vesicles that look like beads. The chains can grow to around 30cm long but are usually much shorter. Neptune's necklace often forms mats on flat rock platforms providing habitat for fine red and green seaweeds and numerous small invertebrates. This seaweed contains fairly high levels of minerals such as iodine and manganese.



© J. Baker, CC BY Attribution

#### Common kelp Ecklonia radiata

Common kelp is a large seaweed (to two metres high), found abundantly on reefs across southern Australia. It has a strong root-like holdfast that helps attachment to reefs, and a thick leathery stalk (stipe). It forms important habitat for numerous fishes, crustaceans and echinoderms.



© J. Baker, CC BY Attribution

#### Branching brown seaweeds various species

There are many brown seaweeds on reefs in South Australia. Some plants break off the reefs during rough weather, and other plants seasonally shed the branches. Many brown seaweeds have hollow floats called vesicles, which enable the plants to stay upright in the water. The floats also help the plants raft along the sea surface after they are dislodged.





© J. Baker, CC BY Attribution

#### Bleached red seaweeds various species

There are many species of red seaweed in South Australia, especially in wave-exposed coastal waters. Red seaweeds often wash up on beaches, especially in the south east of South Australia, after rough weather. Sometimes the red pigments have been bleached out of the dislodged plants, turning them bright pink or white.



© J. Baker, CC BY Attribution

#### **Coralline algae**

Coralline algae are seaweeds with calcium carbonate in the structure, so they are brittle and can break easily. Some have branches such as the shore coralline *Corallina officinalis*, and others are flat and look like hard pink crusts on rocks. The branched corallines that wash up on beaches are often bleached white by sunlight.



© M. Lorenz, CC By Attribution.

#### Sea lettuce Ulva species

Several common species of thin, sheet-like green seaweeds grow abundantly in summer when waters are warmer, and also in areas with high nutrient input into the nearshore environment. These are easily dislodged from the sea floor and are often washed up onto sandy shores.



© K. Peters / Fabelfroh, GNU Free Documentation Licence.

#### **Codium** species

Various species of green *Codium* seaweed are abundant on wave-exposed reefs in South Australia. *Codium* have a core of fine filaments with an outer layer of thousands of small, succulent, cell-like structures called utricles. Some species are spherical, and others have many branches. They are sometimes washed up onto beaches after storms.



## Mammals



© Department for Environment and Water

#### Long-nosed fur seal Arctocephalus forsteri

When they are near shore long-nosed fur seals bask near the surface, swim around jetties or rest on rocks. Pups sometimes congregate in pods while their mothers are away feeding. Related to sea lions, the long-nosed fur seal has external ears and the ability to walk on all fours. They feed on squid, octopus, fish and birds and can dive deeper than any other fur seals, to depths of over 350 metres.



© Sharon Sharp

### Indo-Pacific bottlenose dolphin Tursiops aduncus

This species can be seen off the coast in South Australia in pods of up to 15 individuals or more. They feed on squid and a wide variety of fishes. Dolphins search for food primarily using echolocation, and groups often work as a team to capture schools of fish. Two other species of dolphin are found in South Australia, the common bottlenose dolphin, and the short-beaked common dolphin, but these species prefer deeper waters further offshore.



© Department for Environment and Water

#### Southern right whale Eubalaena australis

Every year these whales migrate up from colder feeding areas around Antarctica and swim along the warmer breeding grounds along the South Australian coastline. The major breeding and calving area in South Australia is at Head of Bight. Southern right whales can also be seen off the coast near Victor Harbor, where they come to give birth in protected waters. Southern right whales are baleen whales and are classified as Endangered.

#### Nineteen inshore marine parks in State waters are managed by the South Australian Department for Environment and Water. Seven offshore Australian Marine Parks are managed by Parks Australia.

All plants and animals are protected in South Australian marine park sanctuary zones, and in Australian Marine Park National Park zones. These zones are no-take areas.

Remember it is also illegal to remove any bottom dwelling organisms (plants and animals) from any intertidal rocky reef, out to a depth of two metres throughout South Australia.

(**O**) @ausmarineparks

#### **Useful links**

South Australian marine parks information including sanctuary zone maps and coordinates marineparks.sa.gov.au

South Australian National Parks information parks.sa.gov.au **f** facebook.com/nationalparkssa Australian Marine Parks information

parksaustralia.gov.au/marine

**f** facebook.com/ausmarineparks

t @ausmarineparks

Intertidal rocky reef information https://pir.sa.gov.au/fishing/closures\_and\_aquatic\_reserves/fishing\_ closures/intertidal\_reefs



Licensed under the Creative Commons Attribution 4.0 International www.creativecommons.org/licenses/by/4.0/ Copyright owner: Crown in right of the State of South Australia 2020

Text (except marine mammals) supplied by Janine L. Baker, Marine Ecologist & Educator: jannebaker@bigpond.com Revised 2021 | FIS 95929



Parks Australia







Department for Environment and Water

