

BENEATH THE WATER



**22 marine species to report
sightings of along the Kent Coast**



Introduction

Kent's coastline is a richly diverse environment, providing a home for an astonishing variety of plants and animals.

In recognition of this, the coastline is protected by a number of national and international designations. The latest of these is the establishment of several new Marine Conservation Zones, stretching from the Thames Estuary to Folkestone.

Along our shores, in the intertidal zone, there are a number of marine species we are particularly keen to hear about, which we have detailed in this pocket guide. The first part identifies Features of Conservation Importance (FOCI) and protected species. The second part identifies some species we expect to encounter as our seas get warmer. The third part details those non-native species and habitats.

Please report any sightings of the species in this booklet to Medway Swale Estuary Partnership: info@msep.org.uk

Directly to irecord (also available as an app)
<https://irecord.org.uk> to: www.ywt-data.org/inns-mapper/

Please include a photo and GPS position/OS grid reference.

FEATURES OF CONSERVATION IMPORTANCE AND INDICATOR SPECIES

Seagrass

Blue mussels

Oarweed

Sugar kelp

Piddock

Ross worm

Stalked jellyfish

Seagrass

(*Zostera* species)

What it is?

Dwarf Eelgrass (*Zostera noltei*) and common eelgrass (*Zostera marina*) are two species of seagrass, a flowering plant found in shallow coastal waters. They have a creeping root that runs along under the surface of the seabed, shooting up long, blunt leaves in clusters and forming seagrass meadows. This structure makes it important in stabilising sediments in intertidal habitats and provide nursery habitats for small fish. The species has suffered from rapid decline and is nationally scarce.

Description

- Underwater grass-like plant
- Long, thin leaves grass green in colour
- Leaf tips are blunt and notched in younger leaves and indented in older leaves.

Habitat

Found in intertidal zones in shallow water, growing on muddy flats and fine sand, in sheltered areas such as harbours, estuaries, lagoons and bays.



Blue Mussels

(*Mytilus edulis*)

What is it?

Blue mussels are a species of bivalve, meaning they have two shells that clamp together. They are filter-feeding organisms, that collect algae, detritus and organic material for food. The native distribution spans the North Atlantic to the Bay of Biscay and they are a familiar sight round the coast of the UK.

Description

- Roughly triangular in shape
- Blue-ish grey in colour
- The shell is smooth with a sculpturing of concentric lines
- The length is variable usually ranging from 5-10cm in length

Habitat

Blue mussels occur from the high intertidal zone to the shallow subtidal waters, up to a maximum depth of 5 meters. They can be found on the rocky, sandy or muddy shores, attached to the seabed or in crevices and can form dense beds.



Oarweed

(*Laminaria digitata*)

What is it?

A large, native kelp varying in size depending on season, but reaching up to 2 metres in length. Oarweed is distributed across a vast area and common across the UK. Kelp beds and forests are key habitats for a diverse range of species, as well as a food and energy source.

Description

- Broad and leathery fronds that form digitately.
- A flexible and smooth stripe (where fronds branch from) which is ovular in cross section.
- Anchors itself to the seabed via a shallow domed holdfast

Habitat

Anchors to hard substrates in the lower intertidal and shallow subtidal zones, to a maximum depth of 20 metres in clearer water. Also found in rockpools up to the mid-tide level, or higher on coasts exposed to waves.



Sugar kelp

(*Saccharina latissima*)

What is it?

A large, fast-growing kelp with a lifespan of 2-4 years. It is a native species, found across all coasts of Britain and Ireland. It forms kelp beds and forests, a habitat for species to find food and areas to hide, resulting in high biodiversity.

Description

- Yellowish brown colour
- Anchors via a small, branching holdfast.
- Dimpled, long and undivided fronds with wavy margins, growing from a smooth and flexible stripe.

Habitat

Sugar kelp has adapted to unstable substrates such as boulders and cobbles. Most often, it is found from a depth of 30 metres up to the shallow subtidal zone.



Piddock (Pholadidae)

What is it?

A bivalve that bores into soft rock (such as chalk) where it spends its entire life, after which it leaves behind a burrow for other marine life to make use of. There are a number of different species of piddock in the UK all of which are similar in appearance. Piddocks form part of a community specially adapted to living in chalk which is a UK BAP Priority Habitat.

Description

- Shells oval and white or off-white with a series of serrations near the hinge end.
- Up to 12cm long, living in holes in soft rock.

Habitat

Found on the lower shore and shallow sub-tidal waters, in soft substrates particularly chalk, sandstone, clay and peat.



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Ross worm (Sabellaria spinulosa)

What is it?

A worm that lives in a tube that it builds out of sand and shell fragments. When many ross worm live in close proximity the tubes create a reef. Ross worm reefs provide a habitat for a range of other animals increasing biodiversity. Ross worm reefs are a UK BAP Priority Habitat.

Description

- Individually the tubes appear as a thin crust attached to rock along their entire length.
- At greater densities the tubes overlap and are built upright away from the rock creating reefs up to several metres across and 60cm tall.
- The worm is not normally apparent but occasionally a flower-like disc maybe seen protruding from the tube.

Habitat

Mainly subtidal but can be found on the lower intertidal on hard substrates where sand is available for tube building.



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Stalked jellyfish

(Stauromedusae)

What is it?

A tiny animal, often no larger than your little fingernail. It resembles an upside down jellyfish with a stalk which it uses to attach to marine plants. There are a number of different species of stalked jellyfish found in the UK including some that are UK Biodiversity Action Plan (BAP) priority species and Features of Conservation Importance (FOCI).

Description

- Funnel shaped body.
- Eight webbed arms with tiny tentacles, and stinging cells which help it catch prey.
- Variety of colours including red, green and brown.

Habitat

Lower shore and shallow sub-tidal waters attached to seaweed or seagrass.



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CLIMATE CHANGE INDICATORS

Snakelocks anemone

Strawberry anemone

Snakelocks anemone

(*Anemonia viridis*)

What is it?

A large anemone with long, flowing tentacles which rarely retract into the column. This species is commonly encountered on western coasts of the UK but is increasingly recorded further east. This is another species that is thought to be extending its range due to increasing sea temperatures.

Description

- Up to 200 tentacles that maybe grey-brown or bright green in colour. The green variety has purple tips to the tentacles.
- A large anemone, up to 7cm across the base with an 18cm tentacle span.
- Tentacles rarely retract into the column unlike other anemones.



Habitat

Found in rockpools from the mid shore down to the shallow subtidal. Has been found as far east along the Channel as Sussex.

Strawberry anemone

(*Actinia fragacea*)

What is it?

A large, red anemone with obvious small green spots on the column. It can easily be confused with the beadlet anemone (*Actinia equina*). The strawberry anemone is commonly encountered on western coasts of the UK but is increasingly recorded further east, including as far as Sussex. This is another species that is thought to be extending its range due to increasing sea temperatures.

Description

- A large red anemone up to 10cm across the base. The beadlet anemone is smaller (up to 5cm across the base).
- Column is covered with small green spots. The beadlet anemone may also have small green markings on the column, but they tend to be more like rows of dashes than dots.

Habitat

Lower shore attached to rocks and boulders, in rockpools and shaded places.



INVASIVE NON-NATIVE SPECIES

Pom pom weed
Devils tongue weed
Dwarf surf clam
Leathery sea squirt
Chinese mitten crab
Carpet sea squirt
Pacific oyster
Wakame or Japanese kelp
Wireweed
Asian shore crab
Brush-clawed shore crab
Orange-tipped sea squirt
American tingle or Oyster drill

Pom pom weed (*Caulacanthus okamurae*)

What is it?

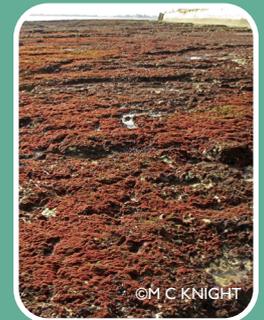
This small red seaweed is a recent arrival in SE England and shows best in late Autumn and early Winter.

Description

- The species often has a scarlet hue which highlights it when mixed with other turf species.
- The short stems are cylindrical and have a “thorny” appearance with curved thorn like branches.
- A magnifying glass or handlens is needed to check the branches for confident identification from native red seaweed called *Gelidium* sp.

Habitat

It can be found in the mid and lower intertidal zones in springy tangled clumps and mixed in with native red-brown seaweeds or attached to mussels.



Devils tongue weed

(*Grateloupia turuturu*)

What is it?

A large red seaweed that can reproduce and grow quickly with the potential to displace native species.

Description

- Light to dark reddish-brown in colour
- One to six broadly lancelike blades, undivided with undulating margins
- Up to 1m in length and 15cm in breadth
- Distinctive feature is that the blade is slippery to touch but doesn't leave any residue

Habitat

Sheltered areas including harbours and bays, attached to pontoons, harbour walls, shells and stones. It occurs on the lower shore in pools, and shallow subtidal. Due to its tolerance of low salinities it may be found in estuarine areas as well.



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Dwarf surf clam

(*Mulinia lateralis*)

What is it?

A small bivalve, that has likely been introduced through shipping (ballast water), dredging operations or natural dispersal. It can form dense settlements which may alter the habitat.

Description

- Bivalve mollusc with a somewhat triangular shell
- Adults are approximately 15 to 20 mm in length
- One side of the shell has a distinctive ridge giving it an angular look.
- The outer surface is white or yellowish and somewhat glossy, covered with fine concentric lines.
- Resembles native, freshwater pea mussels

Habitat

Lower intertidal and shallow subtidal soft sediments in estuaries, lagoons and sheltered inshore waters. Records to date have been in the Thames Estuary.



©Eco Marine

Leathery sea squirt

(*Styela clava*)

What is it?

It can be found on the south and west coasts of England as far north as Cumbria and in abundance in certain parts of the Solent in southern England. Large populations dominate and displace other species through competition for food and space.

Description

- Long-club shaped body, tapering to a single slender stalk
- Distinctive leathery appearance with knobby surface
- Both siphons are clearly visible, at the top and close together
- Up to 12cm long
- Solitary, rather than colonial, with a single stalk attached to the substrate.

Habitat

Found on hard surfaces in shallow, sheltered water and in warm water docks and harbours.



Chinese mitten crab

(*Eriocheir sinensis*)

What is it?

The Chinese mitten crab was first recorded from the River Thames in 1935 having been discharged from the ballast tanks of ships and are well-established in the River Thames. They can travel large distances dry land and Chinese mitten crabs burrow into river-banks, affecting their integrity and so can cause considerable damage.

Description

- Olive green-brown carapace up to 8cm wide
- Pincers covered in a mat of fine hair, giving the appearance of mittens. This feature is distinctive as is not present in any native crabs
- Long and hairy legs

Habitat

Tidal streams, rivers and estuaries. Adults migrate to estuaries to breed in the autumn. Eggs hatch in spring, and juveniles and adults migrate upstream to freshwater.



©Food and Environment Research Agency

Carpet sea squirt (*Didemnum vexillum*)

What is it?

A highly invasive non-native marine animal, thought to be originally from Japan. By smothering native species, it not only poses threats to conservation but also to the fishing and shellfish industries.

Description

Whilst similar to some native species, the following characteristics are useful for identification:

- It has a uniform pale orange, cream or off-white colour. The surface has a firm leathery texture, with a veined marbled appearance.
- Its surface has numerous open small pores, which close up out of water to produce pale spots.
- It can grow either as thin flexible sheets or hang down in long rope-like growths.

Habitat

Shallow waters, such as harbours and marinas. Usually found growing on hard surfaces, including the underside of jetties and boulders.



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Pacific oyster (*Magallana gigas*)

What is it?

A bivalve (having a hinged double shell). A non-native oyster that has been farmed in the UK since the 1960's. Rising sea temperatures have resulted in conditions suitable for spawning and now escapees have settled along our shores, out-competing native species such as the blue mussel. In high densities they create monoculture reefs.

Description

- Varies in colour from off white to bluish grey with purple patches.
- Shell has a teardrop wavy-edged shape.
- Up to 30cm in length.

Habitat

Lives permanently attached to any hard substrate, including chalk reef. In muddy or sandy areas they settle on small rocks or even the shells of other animals.



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Wakame or Japanese kelp

(*Undaria pinnatifida*)

What is it?

A large seaweed, native to the cold temperate areas of Japan, China and Korea, first recorded in the UK in 1994. It may compete for space with native seaweeds and fouls jetties, vessels, moorings and buoys.

Description

- Brown in colour.
- Stipe (stem) has very wavy edges or ruffles at the base.
- A broad blade, flattened with a distinctive midrib.
- Between 1-3m in length.

Habitat

Found on hard surfaces, including man-made structures, from the low-tide mark down to a depth of 15m in clear water. May also attach itself to bottom dwelling creatures, empty shells, loose cobbles and other seaweed creatures.



Wireweed

(*Sargassum muticum*)

What is it?

A highly distinctive seaweed, native to the shores of the north-western Pacific. It competes with native seaweeds and seagrasses and is a nuisance to harbours and marinas, where it can become entangled in boat propellers.

Description

- Olive-brown in colour.
- Often over 1m in length.
- Tough wiry stipe with regularly alternating branches.
- Small, flattened oval blades.
- Spherical gas bladders.
- Lateral branches hang like a washing line, out of water.

Habitat

Hard surfaces in shallow waters and intertidally, particularly in rockpools. It can also tolerate estuarine conditions.



Asian shore crab (*Hemigrapsus sanguineus*) and brush-clawed shore crab (*Hemigrapsus takanoi*)

What are they?

Small crabs, native to the western Pacific, they are thought to have been introduced to the UK through the discharge of ballast water. *H. sanguineus* was first recorded in Kent at Herne Bay in 2014 and *H. takanoi* in the River Medway the same year. Both species can out-compete the native green shore crab *Carcinus maenus* and on some shores on the continent, have replaced native shore crabs as the most abundant shore crab species.

Description

- Square carapace
- Three distinct teeth on either side of the carapace and flat between the eyes.

Asian shore crab - Up to 4.5cm, visible banding on the walking legs and a fleshy bulb at the pincer base of larger males.

Brush-clawed shore crab - Up to 2.5cm, a patch of fuzzy fur at the pincer base of larger males.

Habitat

The Asian shore crab can be found in estuarine and marine habitats in the lower shore and shallow subtidal waters. The brush-clawed shore crab can be found under boulders and other hard structures in muddy sediment of estuaries, harbours and sheltered bays.



Asian shore crab



Asian shore crab



Brush-clawed shore crab

Orange-tipped sea squirt

(*Corella eumyota*)

What is it?

A non-native marine animal, native to the Indo-Pacific. It is thought to have been accidentally introduced through commercial aquaculture but its spread along the coast is thought to be assisted by leisure craft (attached to hulls). It has no known predators. Its environmental and economic impact is uncertain.

Description

- 2-4cm long, with a j-shaped gut which is visible within its oval shaped translucent body with two siphons.
- Siphons often have orange flecks or an orange tinge.
- Attaches to the substrate on its side. This can help distinguish it from the very similar native sea squirt *Corella parallelogramma* which attaches by its base.

Habitat

Lower shore and shallow subtidal waters, attached to hard substrates such as boulders and cobbles.



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American tingle or Oyster drill

(*Urosalpinx cinerea*)

What is it?

A small predatory snail that feeds on native oysters by drilling through their shells. First reported in 1927, its distribution appears to be limited to the Kent and Essex coasts.

Description

- Tall conical yellowish or grey shell (sometimes with brown irregular marks), with a sharply pointed spire, up to 4cm high and 2cm broad.
- Up to eight rounded whorls with pronounced ridges and ribs.
- Oval aperture, with an open canal at the base.

Habitat

Lower shore and shallow subtidal waters (to depths of between 12-15m), with a reported preference for the muddy bottoms of estuaries.



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Are you unknowingly spreading invasive species on your water sports equipment and clothing?

Check your equipment and clothing for live organisms - particular in areas that are damp or hard to inspect.

Clean and wash all equipment, footwear and clothes thoroughly. Use hot water where possible. If you do come across any organisms, leave them at the water body where you found them.

Dry all equipment and clothing - some species can live for many days in moist conditions. Make sure you don't transfer water elsewhere.



Find out more and watch our ID videos to learn about how to identify and report some of these coastal species by visiting kwtg.uk/shoresearch

Booklet and the ID videos are made in collaboration with



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