



BIG SEAWEED
SEARCH

N NATURAL
HISTORY
MUSEUM

marine conservation society 

The Big Seaweed Search

invites you to explore the coast with your friends or family and contribute to real scientific research from the Natural History Museum and the Marine Conservation Society. We need people like you to search for seaweeds all around the British Isles, to help us better understand and protect this vitally important habitat.

Why seaweeds?

The British Isles is globally important for seaweeds, being home to more than 650 species. Seaweeds create the underwater structure and habitat that provides shelter and food for thousands of creatures, such as urchins and fish.

Seaweeds support commercial fisheries, are used in foods, cosmetics and medicines, and protect our coasts by reducing wave action and storm damage. It's important for us to monitor them so we can understand and manage these vital resources sustainably.

Changing seas

The Big Seaweed Search will focus on three key environmental changes: sea temperature rise, ocean acidification, and the spread of non-native species. These changes may affect the distribution and abundance of the 14 seaweeds in this guide.

How to take part

Visit a seashore anywhere in the British Isles. All shores are important for the research, but you will find more seaweeds on shores with hard structures such as rocks, sea walls and piers, as many species anchor themselves to these.

Ideally, start your survey an hour before low tide. You can check tide times at www.tidetimes.co.uk.

All you need is this booklet, the recording form, a pencil and a camera or smartphone.

Step 1 - Example plot



What to do

Step 1

Select your survey area – a five-metre-wide plot that runs from the top of the shore down to the sea. No need for a tape measure, five metres is approximately five adult paces.

Step 2

Fill in section 1 of the recording form.

Step 3

Starting at the bottom of the shore, take a photo of your plot (with your back to the sea).

Step 4

Walk away from the sea, carefully exploring the entire area of your plot. Aim to cover the whole of your plot in one hour.

When you find one of the seaweeds in this booklet:

- Tick it off on your recording form.
- Take a clear photo showing the identification features.
- Record its abundance as band-forming, patchy or sparse. If you later find a bigger patch, update the recording form.

Only record living seaweeds, not dead ones washed up on the beach.

Step 5

Tick the absent box on the recording form for any seaweeds you didn't find in your plot.

Step 6

Now, the important bit! Enter your results and upload your photos at www.nhm.ac.uk/seaweeds or post them to us using the address on your recording form. Your observations will then be included in our research.

Step 3 - Example photo



Step 4 - Categories

Band-forming

The seaweed grows as an uninterrupted band right across the width of your five-metre plot.

Patchy

The seaweed grows in large patches (greater than one metre across) but does not cover the whole width of your plot.

Sparse

The seaweed grows in small patches (less than one metre across).

Sea temperature rise

We have seen a 2°C increase in sea surface temperature around Britain over the past 40 years. Evidence suggests that as a result the distribution of cold water seaweeds is moving further north and that the distribution of warm water seaweeds is expanding. The eight seaweeds below may be affected by sea temperature rise – recording them helps us to monitor any change.



1 Dabberlocks
Alaria esculenta

← max 1.5m →



2 Sugar kelp
Saccharina latissima

← max 1.5m →



3 Serrated wrack
Fucus serratus

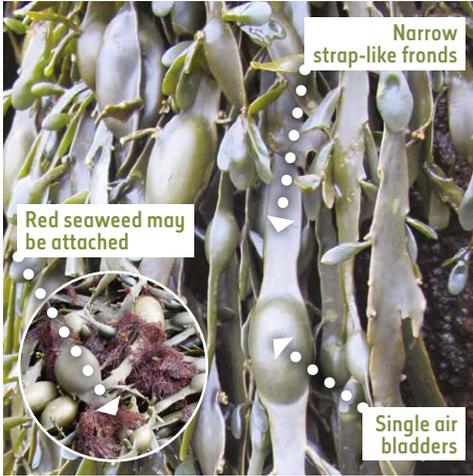
← max 60cm →



4 Bladder wrack
Fucus vesiculosus

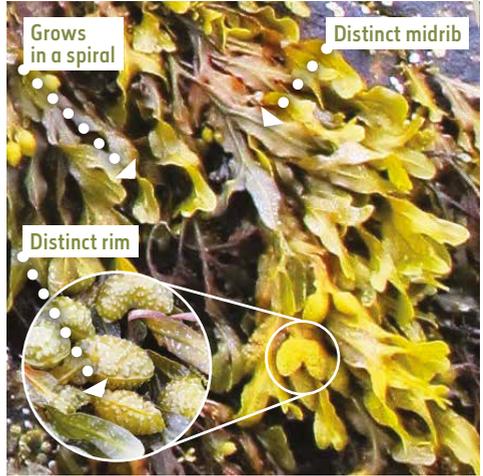
← max 90cm →

Top tip Don't rely too much on colour for identification - these seaweeds vary from vivid green through to brown or even black.



5 Knotted wrack
Ascophyllum nodosum

← max 1.5m →



6 Spiral wrack
Fucus spiralis

← max 20cm →



7 Channelled wrack
Pelvetia canaliculata

← max 15cm →



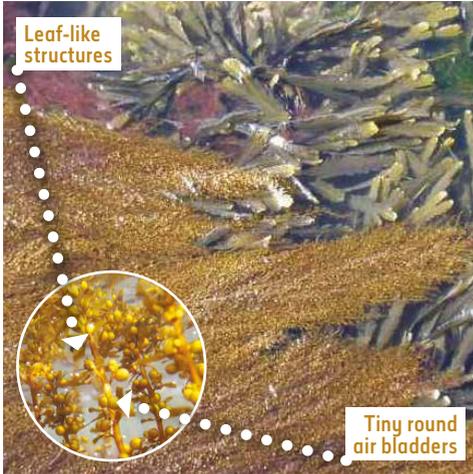
8 Thongweed
Himantalia elongata

← max 1.5m →

Non-native species

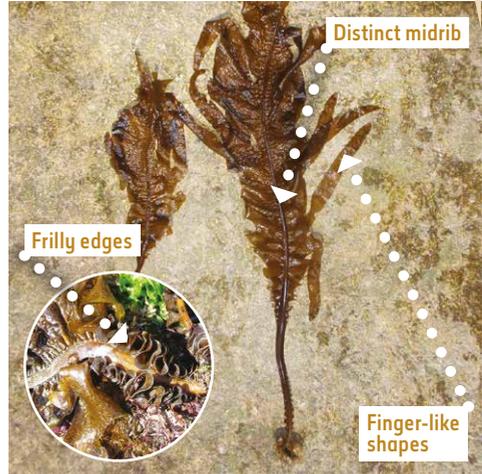
Non-native species of seaweed, ones that historically are not found in our waters but that have arrived due to human activity or environmental change, have been living around the British Isles for well over a century. But in recent years there has been an increase in the rate of their arrival. We need you to record the four non-native seaweeds below, to help us understand more about their impact on British coasts.

Top tip It is easier to identify fine branched seaweeds when they are submerged in water eg in a rock pool, as this causes the branches to spread out revealing their key features.



9 Wireweed
Sargassum muticum

← max
2m →



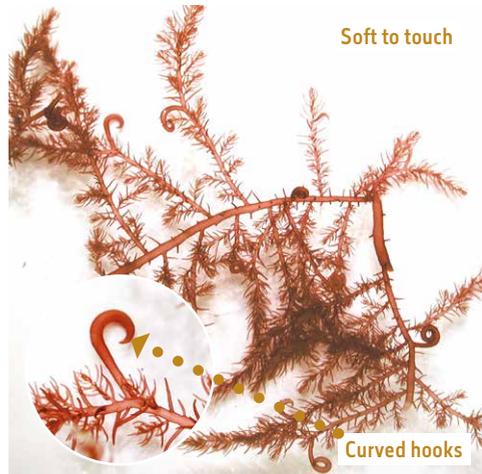
10 Wakame
Undaria pinnatifida

← max
3m →



11 Harpoon weed
Asparagopsis armata

← max
30cm →



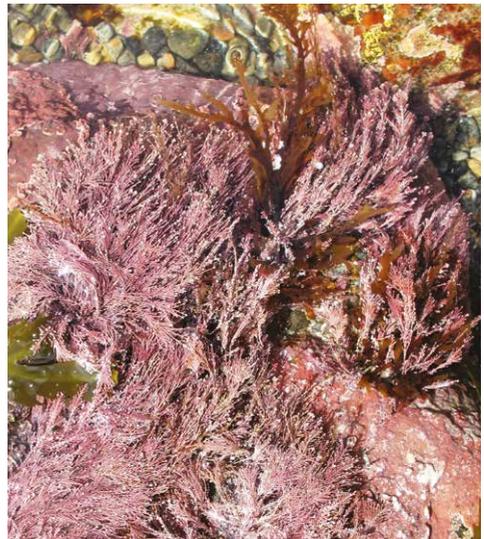
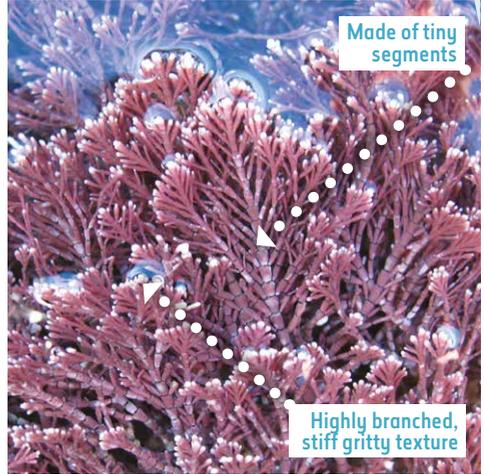
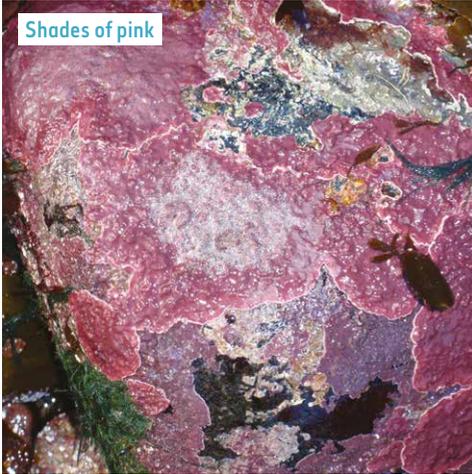
12 Bonnemaison's hook weed
Bonnemaisonia hamifera
(only SW England)

← max
20cm →

Ocean acidification

Over the past few decades, there has been a significant increase in the amount of carbon dioxide in the atmosphere. Around half of this is absorbed by the sea, which makes the water more acidic. This may corrode the chalky skeletons of some seaweeds such as those shown below, and result in changes to their abundance and distribution.

Top tip You could easily miss these small seaweeds, which may be covered by larger brown seaweeds. Search thoroughly, looking underneath the larger seaweeds and in rockpools.



13 Calcified crusts



14 Coral weeds



Staying safe on the seashore

- Stay in a group, so you have help if something goes wrong. Take a mobile phone so you can make an emergency call if you need to.
- Rocky shores have many trip hazards and can be slippery. Wear sturdy boots/shoes that provide ankle support and move across the rocks slowly and steadily.
- Check the tide tables when you plan your trip and do the survey in the hour before low tide.
- Don't do the survey in bad weather. Stormy or windy weather can make the seashore dangerous, with large, powerful waves.
- Dress appropriately. In winter, wear warm layers and a waterproof. In summer, wear loose clothing, a hat and sunscreen.
- After touching seaweeds, always wash your hands before eating.

We'd love to hear what you got up to, so please share your stories with us on Twitter. @NHM_London & @MCSUK #SeaweedSearch
w www.nhm.ac.uk/seaweeds e seaweeds@nhm.ac.uk