

FALKLAND ISLANDS

**BIG
SEAWEED
SEARCH**



The Falkland Islands Big Seaweed Search (FIBSS) invites you to explore the coast with your friends or family and contribute to scientific research from Falklands Conservation, the Natural History Museum, and SAERI. We need people like you to search for seaweeds all around the Falkland Islands, to help us better understand and protect this vitally important habitat.

Why seaweeds?

Seaweeds and the habitats that they create are vital to the coastal ecosystems of the Falkland Islands. Giant kelp forests that girdle the many islands of the archipelago support an amazing diversity of invertebrates and fish, provide feeding grounds and shelter for marine birds and mammals such as cormorants, sea lions and dolphins, and are home to economically important squid populations. Currently, around 250 red, green, and brown seaweed taxa are recognised, of which about 100 species have been added to the list since the expeditions of Juliet Brodie and Rob Mrowicki in 2018 and 2019. It is anticipated that this number will increase, particularly with more taxonomic work on subtidal material and examination of valuable herbarium specimens.

Charismatic species and changing seas

The Falklands are home to some particularly charismatic and recognisable seaweeds, which are important indicators of the health of coastal ecosystems. The Falkland Islands Big Seaweed Search will focus on these species, including kelps and coralline algae. These species and their habitats are known to be affected by environmental changes, sea temperature rise, ocean acidification, and the spread of non-native species. These changes may affect the distribution and abundance of all these seaweeds in this guide. This project will provide baseline data on species distribution and how that changes with time.

It is important to collect information on the current distribution of these species (the baseline data) so that monitoring efforts can more accurately measure changes over time.



FIBSS: A collaboration between Falklands Conservation, the Natural History Museum, & South Atlantic Environmental Research Institute.

Funded by the Falkland Islands Government (Environmental Studies Budget), and Darwin Plus (DPLUS068 Building foundations to monitor and conserve Falklands marine forest habitats.)

This leaflet has been adapted with kind permission from the NHM Big Seaweed Search.

How to take part

Please pay careful attention to the safety tips at the back of this booklet before visiting a seashore anywhere in the Falkland Islands. 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.tideschart.com/Falkland-Islands

All you need is:

this booklet, the recording form, a pencil and a camera or smartphone.

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 (make sure they are fastened to the rock or other surface), not dead ones washed up on the beach.

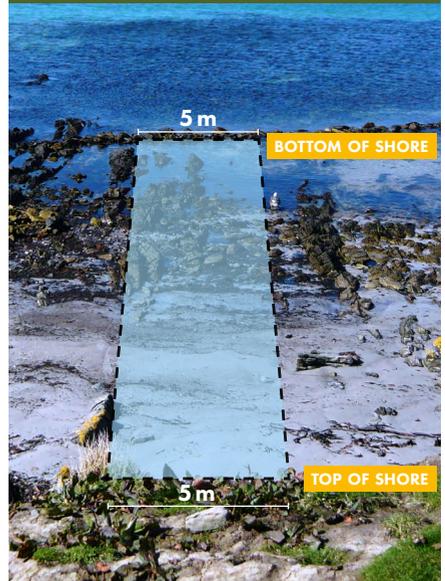
Step 5

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

Step 6

Now, the essential part! Enter your results and upload your photos at falklandsconservation.com/bigseaweedsearch or post them to us using the address on your recording form. Your observations will then be included in our research.

Step 1 – Example plot



Step 4 – Categories explained

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).

Identifying seaweeds

There are 12 key seaweed groups that the FIBSS would like you to record.



Dense patch of long, thin fronds



Water-filled bladder-like fronds

Minute pits with hairs



Narrow stipe

Old fronds in rock pool



Convoluted, spongy thallus



Very dark green thallus



Close-up of thallus

1. Bladder weeds, *Adenocystis* spp.

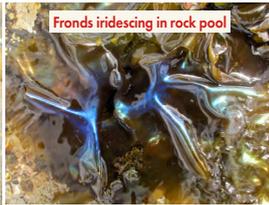
Bladders can be almost spherical to narrow and cylindrical. Soft and gelatinous when fresh; sometimes tough and leathery. Mid to low shore pools and emergent rock. Widely distributed throughout East and West Falkland. Two species but difficult to distinguish.

2. Green sponge carpet, *Codium* spp.

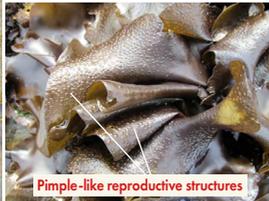
Patches can be extensive. Soft, velvety texture. Surface of rocks and boulders on mid to low shore and at the water's edge. Widely distributed throughout East and West Falkland.



Individuals on damp boulder



Fronds iridescing in rock pool



Pimple-like reproductive structures



Bleached, curled fronds

Teeth

Pimple-like reproductive structures



Close-up of teeth



Fron edge with many teeth

Proliferations

3. Iridescent *Iridaea*, *Iridaea* spp.

Fronds characteristically with a striking blue iridescence, but this phenomenon can be absent if seaweed is out of water. May become bleached to a light brown or olive-green colour. Fleshy but firm. More likely on exposed shores but also in sheltered areas with water movement. Widely distributed throughout East and West Falkland.

4. Saw-toothed weeds, *Sarcothalia* spp.

At least five species in the Falkland Islands, 5–54 cm high. Characterised by saw-like projections along margin of frond. Texture may be rough smooth, depending on life history stage. At the water's edge, lower to mid shore pools and channels on mid shore rocks. Widespread in Falklands but information lacking for detailed distribution of individual species.

1-5 The "Charismatic Falklands" species

6-8 Seaweeds affected by sea temperature rise

9-10 Seaweeds affected by ocean acidification (overleaf)

11-12 Non-native seaweeds (overleaf)



5. Antarctic turf foot, *Caepidium antarcticum*

This species has both a crust and upright phases. On emergent rock from mid to low shore and at the water's edge on moderately exposed shores. Widely distributed throughout East and West Falkland.

6. Bull kelp, *Durvillaea antarctica*

Texture smooth, tough and hard, although sometimes feels spongy. Occurs in pools on the lower shore, more commonly at the water's edge and in shallow water on rocky coastlines of moderate to high wave exposure. Widely distributed but patchily across East and West Falkland.



7. Tree kelps, *Lessonia* spp.

May be up to 1–2 m in height. Blades up to 50 cm. Blades thick and tough with slippery surface. Lower shore rock pool, at the water's edge and shallow water. Moderately exposed to exposed coasts. Widely distributed throughout East and West Falkland.

8. Giant kelp, *Macrocystis pyrifera*

The largest of all seaweeds (to approx. 45 m). Blades up to 1 m. Tough and leathery blades with slippery surface. Main axis tough but flexible and slightly elastic. At the water's edge and in shallow water down to approx. 40 m depth. Along sheltered and exposed coastlines. Widely distributed throughout East and West Falkland.

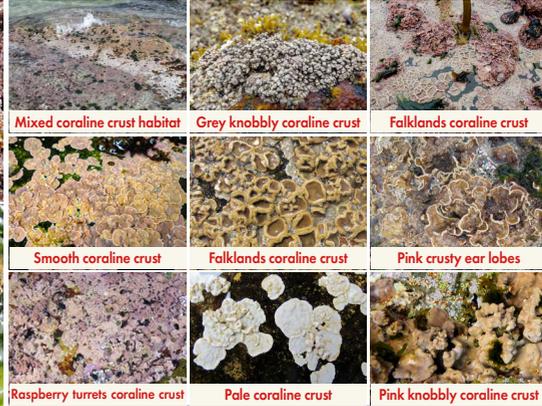
9-10 Seaweeds affected by ocean acidification

11-12 Non-native seaweeds



9. Coral weeds, *Corallina* spp.

Two species recorded from the Falklands Islands. Calcified species, 1.5-4 cm in height. Texture hard to touch but with flexibility. At the water's edge, lower shore rock pools and on vertical rock on lower shore. Widely distributed on exposed shores.



10. Calcified crusts

There are a wide range of calcified crusts, many species of which have yet to be described. Falklands coralline crust is a complex of at least four species. Some species can form extensive crusts. Shallow water's edge, lower and mid-shore rock pools, on wet rocks. Widespread in Falklands but information lacking for detailed distribution of individual species.



11. Green sponge fingers, *Codium fragile*

Firm, velvety texture. Pools and emergent rock on the mid to low shore and at the water's edge. Widely distributed throughout East and West Falkland.



12. Green fluffy spongy weed, *Spongomorpha aeruginosa*

Fine, filamentous seaweed, soft and spongy. At the water's edge or in pools on the mid to low shore. Commonly grows epiphytically on other seaweeds. Widely distributed throughout East and West Falklands, particularly on sheltered shores.

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.
- Watch for waves when conducting your survey, especially when you may have your back to the sea; have a friend keep watch for you as well.
- 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. Remember the adage of "Four Seasons in One Day" – prepare for all weather possibilities.
- Remember sun screen and other sun protection such as a hat and long-sleeved clothing.
- After touching seaweeds, be careful not to touch your eyes or mouth, and to wash your hands before eating.

Other considerations

- Consider your actions on wildlife—Falklands shorelines may be home to penguins, seals, and other wildlife. Take careful attention not to disturb nests. Follow the countryside code.
- Much of the Falkland Islands is private land, be sure you have landowner permission to access the areas you are surveying.

Large bull kelp anchored to rocks, amongst many smaller seaweeds.



Submitting your Results:

Enter your results and upload your photos via:
falklandsconservation.com/bigseaweedsearch

or post your form to

Falkland Islands Big Seaweed Search,
PO BOX 26, Stanley, Falkland Islands. FIQQ 1ZZ.

Extra recording forms can be downloaded from the [Falkland Islands Big Seaweed Search website](#) or requested from [Falklands Conservation](#).

Sunlight shining through
a kelp canopy; image
by Shallow Marine
Surveys Group



Contact: outreach@conservation.org.fk



@FalklandsConservation



@FI_Conservation