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BIG SEAWEED SEARCH: GUIDE FOR GROUP LEADERS

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BIG SEAWEED SEARCH

GUIDE FOR GROUP LEADERS



The aim of this guide is to provide practical tips to help group leaders plan and run their own Big Seaweed Search survey.

In this guide you will find advice for maximising your group's experience before, during and after you visit the coast. Whatever your group's background, it aims to prepare and equip you so that your group will get the most out of their seaweed safari!

Throughout the guide you will find links that you can click to access further information. You can also click on the different sections in the table of contents on the following page to navigate the document.

CONTENTS

MEET THE SCIENTIST	4
ABOUT THE SURVEY	5
WHY TAKE PART	5
STEP-BY-STEP GUIDE	6
Step 1: getting started	7
Step 2: planning your survey	8
Step 3: safety at the seashore	9
Step 4: preparing your group	10
Step 5: doing your survey	11
Step 6: share your data	12
ACTIVITIES	13
Discussion points	14
Activity: describe a seaweed	15
Beyond the Big Seaweed Search	16
FORMS	17
Risk assessment: template	18
Big Seaweed Search: information letter	21
Parent/guardian consent form	22

MEET THE SCIENTIST

Hello, I'm Juliet, a research scientist studying seaweeds at the Natural History Museum in London.

It's easy to take our marine life for granted, as much of it is hidden beneath the waves. Seaweeds are at the heart of these amazing ecosystems, providing shelter and food for an immense variety of animals, as well as many benefits for humanity.

The Big Seaweed Search survey results are helping me to record the diversity of seaweeds across the UK's coasts. By identifying, recording and sharing photos and observations, volunteers such as your group are essential in gathering this important information.

Over time, the data your group collects will be used by scientific researchers to understand how seaweeds are affected by environmental changes including sea temperature rise, ocean acidification and the spread of non-native species. This will help us to take action to protect the seaweeds and the wildlife which depend on them.

I hope you and your group will have fun searching for seaweeds and enjoying the beautiful coasts of the UK.

Professor Juliet Brodie

TOP TIPS FROM JULIET

- Living seaweeds will be attached to a surface. Please don't record any dead or washed-up seaweeds - they're not helpful to the research because they may have floated onto the shore from far away.
- Remember to take photographs to submit with your data. We encourage participants to submit more than one photograph of each seaweed recorded so that we can see it from different angles. Please see our separate Photo Guide for further advice.
- If anyone is unsure of the species, encourage them to seek help from other group members. You may also suggest looking for more photos online.



AIMS OF THE SURVEY

WHAT IS THE BIG SEAWEED SEARCH?

The Big Seaweed Search is a nationwide citizen science project that you can join in to survey your local rocky shore. We're asking you to look out for **specific** seaweeds found around the UK. Monitoring their abundance and distribution alerts us to changes in sea surface temperature and carbon dioxide in the atmosphere, and contribute to understanding of global climate change and its impact on marine life.

WHAT IS CITIZEN SCIENCE?

Citizen science is when volunteers participate in projects or activities that contribute to scientific research by observing, collecting or analysing information (for example, by doing a nature survey). Anyone can be a citizen scientist, including school children, families and local community groups.

When volunteers **discover, observe, identify, photograph** and **share** observations, it helps us to understand how nature is changing over time and find better ways to protect it.

WHY TAKE PART?

Taking part in environmental surveys is an excellent way of connecting people of all ages and backgrounds with nature and an opportunity to make a meaningful contribution to a larger, collective effort to protect nature.



There are many potential benefits for participants in the Big Seaweed Search, including:

- having fun by engaging in new science practices;
- getting outside and experiencing nature at the coast;
- helping others to care about their local environment;
- connecting prior knowledge and contributing to important scientific research at the Natural History Museum, which will help protect our marine environment;
- learning how anyone can be involved in science.

'I love rockpools and it was amazing to discover how many different seaweeds we have on our beaches.'

Jack, aged 11

'I wasn't really into science before the Big Seaweed Search and now I'm like really into it. I enjoy my science lessons now.'

Reece, aged 11

1st Willingdon Scouts

STEP-BY-STEP GUIDE

STEP 1

GETTING STARTED



SURVEY GUIDE

Your group will need copies of the **Big Seaweed Search survey guide** and **recording form**. You can download both of these resources from the Natural History Museum website at nhm.ac.uk/seaweeds or from bigseaweedsearch.org. It is a good idea to read the survey guide and recording form, and browse the website, beforehand.

HOW MUCH TIME WILL THE SURVEY TAKE?

Survey: one hour

Uploading results: 15 minutes

Season: the survey can be completed at any time of year.

STEP 2

PLANNING YOUR SURVEY

FIND A BEACH

As a general rule, you will find more seaweeds on rocky coasts. You may already have a local beach in mind for undertaking the Big Seaweed Search survey but, if you need help, here are a few places to get you started.

The Marine Conservation Society website has a search tool to help you find beaches near you. mcsuk.org/nearyou

The UK Beach Guide is a directory of beaches across the UK and is searchable by region. thebeachguide.co.uk/beach-list

Use a map. A 1:25 000 Ordnance Survey map will show the landscape in detail, including field boundaries and shoreline detail. Google Maps satellite view and [Google Earth](#) are also useful for finding and planning your journey to an appropriate beach.

Please note: some councils require groups to ask permission when conducting surveys, so remember to check this in advance. You can usually find out which council manages the beach on signage in public areas.

By comparing results from different beaches, scientists can quantify the relative abundance and diversity of seaweeds in the UK.

IT'S ALL ABOUT THE TIMING

Aim to conduct your survey in the hour before low tide so that you don't get caught out – remember that it's always better to follow a falling tide than be chased by an incoming one! Low tide is also when most of the seaweeds will be uncovered on a rocky shore.

Find information on tide times at tidetimes.co.uk

BEFORE ARRANGING A TIME AND DATE

Let your group (and parents or guardians of anyone under the age of 18) know that they need to bring:

- weather-appropriate clothing, including a raincoat and warm layers in cold weather, and light clothing, and a hat for sunny weather
- sunscreen
- sturdy footwear
- drinking water in a reusable bottle

Familiarise yourself with the location(s). If you can, use free online maps or Google Earth to locate your chosen beach. Examine the map and identify key features such as compass points, land, the ocean, a pier, an esplanade, play areas, etc.

WHAT YOU'LL NEED ON THE DAY

In addition to the items above, don't forget:

- Big Seaweed Search recording forms and identification guides;
- a smart phone or camera to take photographs;
- a first aid kit;
- pencils and clipboards.

If there are rock pools at the beach, your group may wish to take some additional tools such as a seaweed or seashore species guide, magnifying glasses, a clip-on macro camera lens (for up-close photos), and a tape measure or string for marking multiple survey plots.



STEP 3

SAFETY AT THE SEASHORE



Follow your regular planning and safety procedures for trips and outdoor activities when planning to do the survey. If relevant, check your group's insurance policies to ensure they cover your group when participating in outdoor activities. It is good practice to carry out a risk assessment before organising a survey with your group to identify hazards and make changes to minimise the risks. You can find a template risk assessment at the end of this guide. The table below can inform a safety briefing at the start of your activity.

✓ DO'S	✗ DON'TS
Be gentle with any animals living on or under the seaweed – don't pull or poke.	Don't throw anything into a rock pool or the sea.
Put creatures back where you found them. They may have a family there!	Don't pick animals up and move them.
Put seaweed and rocks back too.	Don't knock animals off the seaweed.
Stay with your group and listen to instructions.	Don't run/climb/jump over rocks.
Walk carefully.	Don't go near the sea (or in any mud) especially if it's stormy.
Sanitise your hands.	Don't pick up anything sharp, gooey or that can sting without wearing gloves.
Be kind to each other and to the beach life, and be respectful of others on the beach.	Don't approach other people's dogs, even if invited by owners.

STEP 4

PREPARING YOUR GROUP

ARRIVING ON SITE

Allow plenty of time to find the right location and organise your group. Use a central location as a base to safely store bags and other items and where participants can also return to should they require any assistance.

BRIEFING YOUR GROUP

Set the scene by welcoming your group and introducing yourself if they do not already know you.

Introduce the scientific aim of the Big Seaweed Search at the beginning of your survey. The seaweeds you record are affected by sea temperature rise, ocean acidification and the spread of non-native species. Monitoring their abundance and distribution alerts us to changes in sea surface temperature and carbon dioxide in the atmosphere and contribute to understanding of global climate change.

Video: youtube.com/watch?v=SdHqF38dGtY

For more general information about seaweeds, to understand more about the science behind this survey and additional resources please visit the Big Seaweed Search website: nhm.ac.uk/seaweeds.

Explain the activity. Discuss the survey with your group, outline expectations and, if appropriate, go through the recording form.

- Explain that it should take an hour to do the survey and that you will start off at the low-water mark and work back up the beach in five-metre-wide strips.
- The aim is to search for and record the seaweed species that you encounter within each strip.
- The species you'll need to focus on are featured in the Big Seaweed Search identification guide. Read the 'what to do' instruction page carefully.

Safety. Use a risk assessment and information in the Big Seaweed Search Guide as the basis for a safety briefing. You will find a [template risk assessment](#) at the end of this guide. Discuss potential hazards at the beach and how to avoid them. Identify any designated first-aiders.

Photographs must be taken for the data to be double-checked at the Museum. Data that do not include a photo will not be used for scientific research. Make sure that someone is responsible for taking photographs on behalf of each group. This can be one of the adults if the group is made up of younger children.

- Placing a small label or coloured marker in each photograph can help you remember which seaweed(s) you have spotted. See photo below.
- Take care of your phone or camera, especially around water, and use a neck or wrist strap if you need one.
- For more information on what makes a good photo for the Big Seaweed Search, please refer to the Photo Guide for the Big Seaweed Search.



Record the absence of species. Point out to your group that knowing which species are not present is just as important as recording those that are. If your group has done a thorough search of their five-metre plot and some seaweeds are completely absent, we can be confident that they aren't found in that location. This information is really useful for scientists tracking the local changes across the UK.

Protect marine wildlife. All living things should be treated with care and returned to where they are found before you leave the site. Brief your group that if they turn over any rocks they must put them back as they find them as many creatures live underneath them.

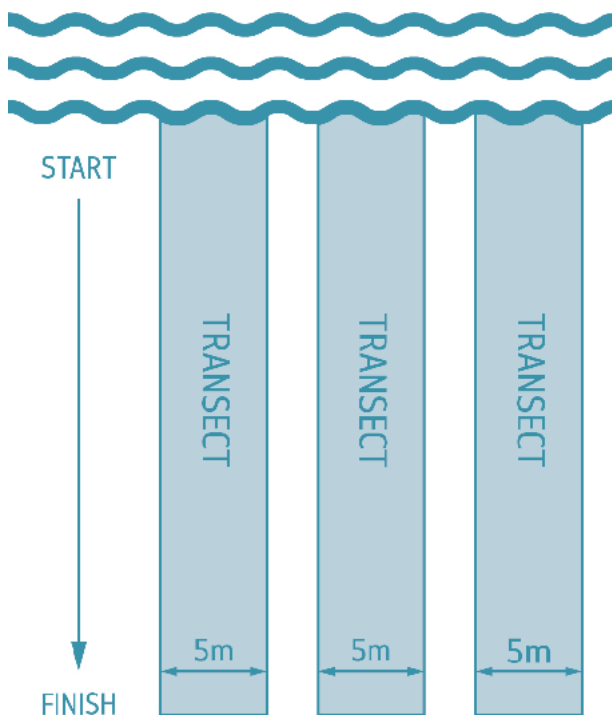
Other rules. If you're with a group of young people, let them know any other rules or expectations for their behaviour during the session.

STEP 5

DOING THE SURVEY

DIVIDE THE BEACH

- Your survey area is a strip from the bottom of the shore up to the highest point of the shore with seaweed. Scientists call these strips **belt transects** and they should be five metres in width (around five or six adult paces).
- Each sub-group should explore their own transect. Spread across the beach so that sub-groups do not overlap (see diagram below).
- It may be useful to mark out boundaries by placing flags, markers or natural features of the beach at the top of each transect, furthest away from the sea. The markers can then guide sub-groups as they walk away from the sea, to ensure that they stay within their strip and participants do not wander off.



WORKING IN SUB-GROUPS

Split into **sub-groups** of four or five, with each sub-group searching different transects. Sub-group members may choose different roles such as taking photographs or writing on the recording form, so that everyone has a chance to take part in the survey. To facilitate this, remind your group to 'make sure you try out all the possible responsibilities you could take on in this activity'.

Each sub-group must take their own photos of the seaweeds they find in their transect, even if they find the same seaweeds. This ensures that their data can be verified and will not be counted as duplicates.

An adult should supervise each group of children under the age of 11 – we recommend one adult supervisor for every five children. This is to ensure everyone's safety and the accuracy of the data recording.

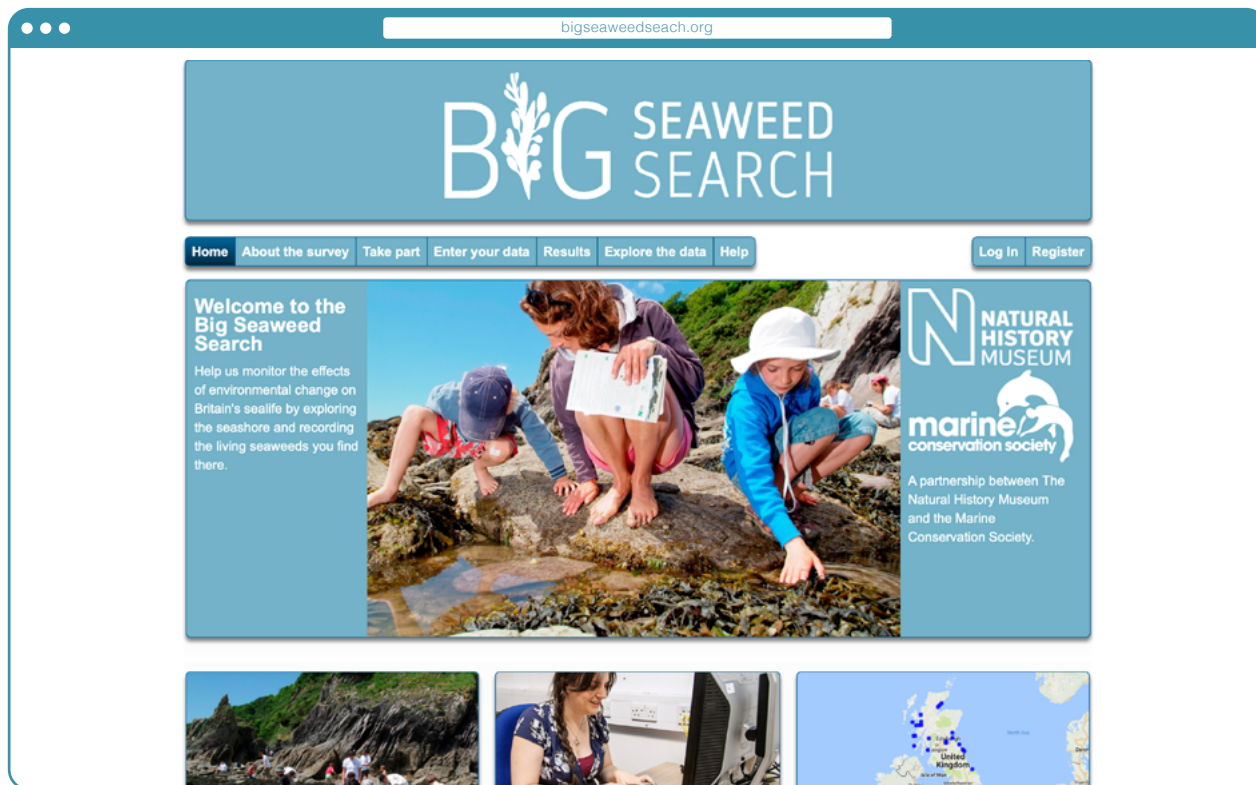
Please note that young people remain the responsibility of their class teacher or group leader at all times.

BEFORE YOU LEAVE

Leave no trace behind. Do not leave behind any items at the beach. Make sure you take all rubbish or plastic items such as pens, buckets or nets, as they can cause harm to marine life.

STEP 6

SHARE YOUR DATA



SUBMIT YOUR DATA

Submitting observations and photographs allows scientists to build up an accurate picture of seaweeds around the UK and better understand how our seas are changing in ways that affect marine life.

- Please ensure that your group submits the data they collect. If you are working with young people, encourage them to upload their group's survey results. If you have divided your group into sub-groups, we recommend that one person from each sub-group volunteers to upload photos to ensure that data are only submitted once.
- Please input data from the recording form and upload photos at bigseaweedsearch.org.
- If you do not have internet access, please post your paper recording forms and printed photos to:
- The Big Seaweed Search (AMC)
The Natural History Museum
Cromwell Road, London
SW7 5BD

WHAT HAPPENS NEXT?

Your group's research will be included in the records of UK seaweed biodiversity at the Natural History Museum in London. Professor Juliet Brodie and her team at the Natural History Museum will check your photos and the data you submit, before they map, analyse and share their findings with researchers all over the world.

These records will help us to better understand how planet Earth is changing and how environmental changes are affecting the seas around the UK. This is important if we are to protect our fragile coastal habitats and all the species that live on our coasts.

SHARE

Share your seaweed stories with us! You can tweet photos of your group out at the beach and any interesting things you have found to @NHM_CitSci and @mcsuk, using #SeaweedSearch.

ACTIVITIES

DISCUSSION POINTS



Before, during or after the survey, you could use these discussion points to prompt your group to think more about seaweed identification and marine research.

What do we know/think/feel about seaweeds?
Brainstorm for two minutes.

Can you think of any times or places where you noticed seaweeds?

How would you describe the seaweeds you saw?

Imagine seaweeds when they're underwater.
What do you think lives amongst them?
Does anything feed on them?
What role do they play in the underwater world?

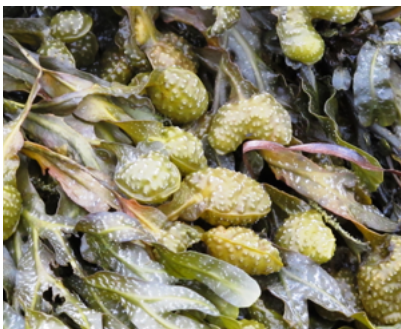
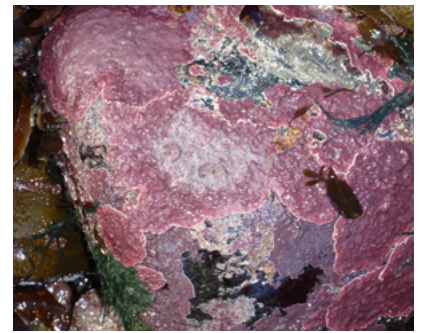
ACTIVITY

DESCRIBE A SEAWEED

- Look at the following images of seaweeds. Even better, if you're on the beach, use real examples!
- Can you describe the textures or shapes? Do you notice any interesting features?
- Spend two to three minutes describing seaweeds together.

Here are some words you could use: flat, feathery, encrusted, stringy/hairlike, thin, woolly, hollow, branched, tubular, spongy, chalky, bladders, wrinkles, wavy, midrib, curled.

- Try to group the seaweeds according to visible differences.



BEYOND THE BIG SEAWEED SEARCH

After the group has completed the Big Seaweed Search and either entered their results online or sent the recording form and photographs back to the Museum, they may wish to follow up with other related activities.

If you are working with young people, engaging in additional activities can be a good way to make learning fun and to explore the wider environmental issues introduced through the survey.

CONTINUE RESEARCH AND ACTIVITIES

Compare beaches

A visit to another beach will enable the group to compare sample site conditions and the seaweed abundance and distribution.

Care for the coast

You can help to care for the coast by taking part in a beach clean with the Marine Conservation Society. www.mcsuk.org/beachwatch/volunteers

TRY ANOTHER SEASHORE CITIZEN SCIENCE SURVEY

Great Eggcase Hunt

www.sharktrust.org/en/great_eggcase_hunt

BeachWatch plastic survey

www.mcsuk.org/beachwatch

Great Nurdle Hunt

www.nurdlehunt.org.uk/

Report invasive Asian Shore Crab sightings

https://www.brc.ac.uk/risc/asianshore_crab.php

DISCOVER NATURE AT THE COAST

Go rock pooling

There are plenty of other living things inhabiting the UK shores. Go out and see what you can find. whilst remembering to:

- Always replace animals, rocks and seaweed as you found them.
- Protect marine life by using a bucket and your hands to catch creatures rather than a net.
- Keep one animal at a time in your bucket and not for too long!
- Collect only empty shells.
- Walk carefully – rocks can be slippery, and you can easily dislodge or crush small sea creatures.

Explore your coast

Go for a nature walk or arrange a scavenger hunt.

GET CREATIVE

Capture your own amazing images

Have a go at nature photography!

Try seaweed pressing

- a. Preparing for the seaweed display in Hintze Hall, Natural History Museum (video) youtube.com/watch?v=slitTRUgQAO
- b. Pressing Seaweeds, a simple introduction (video) youtube.com/watch?v=HRxLmRAd2sc
- c. Gardendesign.com
How to press and preserve seaweed (in pictures)

Visit the Museum

Visit the beautiful seaweed display at the Natural History Museum in London.

FORMS

RISK ASSESSMENT TEMPLATE

This exemplar risk assessment is for demonstration purposes only and must not be used in its current form for any surveying activities. Please use this as a starting point, but remember you must tailor it to the specific risks present during your session. The Natural History Museum accepts no responsibility for any errors or omissions in this document, or any consequences of its use.

Event/Activity: The Big Seaweed Search survey
Venue location:
Venue controlled by:
Description of location:
Event Organiser:

Hazard	Risk rating before control measures	Risk rating after control measures	Likelihood of occurrence	Likely severity of consequence	Control measures	Likelihood of occurrence after control measures	Likely severity of consequence after control measures
Slippery or uneven surfaces – slips, trips and falls	9 – Medium	6 – Low	Possible	Minor injury	<ul style="list-style-type: none"> - Wear suitable footwear and clothing. - Brief all participants about the hazard at the start of the activity. - Take extra care when walking on seaweeds that can be very slippery - move across rocks slowly and steadily, and avoid stepping on seaweed where possible. - Carry out the survey in pairs or groups. - Carry a first aid kit and telephone to call for help if needed. 	Unlikely	Minor injury
Adverse weather conditions – storms/wind/rain or extreme sun/heat	9 – Medium	6 – Low	Possible	Minor injury	<ul style="list-style-type: none"> - Wear clothing appropriate to the weather e.g. waterproofs and warm clothing in cold weather, or cool loose clothing in warm weather. - In hot weather, wear sunscreen, a sun hat and carry water. - Carry out the survey in pairs or groups. - Carry a telephone to call for help if needed. - Monitor weather forecast and cancel activity if weather conditions are unsuitable. 	Unlikely	Minor injury

Hazard	Risk rating before control measures	Risk rating after control measures	Likelihood of occurrence	Likely severity of consequence	Control measures	Likelihood of occurrence after control measures	Likely severity of consequence after control measures
Working close to the sea – risk of drowning	5 – Low	5 – Low	Very unlikely	Fatal	<ul style="list-style-type: none"> - Check tide times before conducting the survey at www.tidetimes.co.uk. - Carry out the survey as the tide is falling i.e. start one hour before low tide. - Start the survey at the shore and work back inland. - Do not enter the water above your knees. - Be aware of strong currents or large waves. - Carry out the survey in pairs or groups. - Carry a telephone to call for help if needed. - Do not carry out the survey when sea conditions are rough. 	Very unlikely	Fatal
Sharp objects – cuts/grazes	6 – Low	3 – Low	Unlikely	Minor injury	<ul style="list-style-type: none"> - Be aware of sharp rocks and or sharp objects e.g. broken glass on the beach. - Warn participants of the hazard before starting the survey. - Wear gloves if picking up litter or other objects on the beach or use a non-contact tool such as a litterpicker. - Do not pick up risky objects such as hypodermic needles. - Carry a first aid kit. 	Unlikely	Minor injury
Bacteria – infection or illness after touching seaweed or marine objects	3 – Low	3 – Low	Very unlikely	Minor injury	<ul style="list-style-type: none"> - Wash hands after handling seaweeds or other marine life, especially before eating. - Wear gloves if collecting litter from the beach. - Take and use anti-bacterial hand gel. 	Very unlikely	Minor injury

Hazard	Risk rating before control measures	Risk rating after control measures	Likelihood of occurrence	Likely severity of consequence	Control measures	Likelihood of occurrence after control measures	Likely severity of consequence after control measures
Personal safety – aggressive member of public/stranger danger	4 – Low	4 – Low	Very unlikely	Serious injury	<ul style="list-style-type: none"> - Carry out the survey in pairs or groups. - Carry a telephone to call for help if needed. - Avoid confrontation with aggressive members of public - leave the area and abandon fieldwork if necessary. - All young people will be supervised by a parent, teacher, youth leader or other responsible adult. - Any staff working with young people will be DBS checked. - Be aware of suspicious or aggressive behaviour. 	Very unlikely	Serious injury
Natural hazards – loose cliff, exposed mudflats at low tide etc	5 – Low	5 – Low	Very unlikely	Fatal	<ul style="list-style-type: none"> - Do not undertake work close to cliffs, on mud flats or other natural hazards under any circumstances. Find an alternative fieldwork site. 	Very unlikely	Fatal
Sting or bite e.g. jellyfish sting, insect bite	6 – Low	3 – Low	Unlikely	Minor injury	<ul style="list-style-type: none"> - Pay close attention when putting hands in the water to avoid stings. - Do not touch jellyfish or other creatures stranded on beach. - Be aware of any relevant allergies and avoid activities if a severe allergy exists. - Carry a first aid kit and telephone to call for help if needed. 	Very unlikely	Minor injury

BIG SEAWEED SEARCH

INFORMATION LETTER

Dear Parent/Guardian,

We are inviting your child to take part in the Big Seaweed Search Survey from the Natural History Museum and the Marine Conservation Society.

This activity will involve visiting a local beach to search for seaweeds. We will record what we find and send this information and photographs of the site to the scientists at the Museum. By doing this activity, we will be helping scientists to better understand how environmental changes are affecting our oceans and how we can protect our coastal habitats. Our aim is to have fun by engaging in new science practices, getting outside and experiencing nature at the coast, helping others to care about their local environment, and learning how anyone can be involved in science.

Our group will be taking part in the survey on _____ (date)

from ___:___ to ___:___ (times)

We will meet at: _____ (location/address)

What your child will need to bring

- Weather-appropriate clothing, including a raincoat, and warm layers in cold weather, and light clothing and a hat.
- Sunscreen
- Sturdy footwear – waterproof footwear is best
- Drinking water in a reusable bottle

Optional items: a sea life ID guide, a clipboard and pencil, a camera or smartphone

(additional items)

On the day we will give the group more information about the beach and health and safety instructions they will need to follow. Please remind your child to come prepared to work together on the survey and to demonstrate their best behaviour so that we have a safe and enjoyable time.

If you would like to know more about what is involved in the survey, please contact

(group leader name and contact details)

or visit the Natural History Museum website: nhm.ac.uk/seaweeds.

----- PRINT ON A SEPARATE PAGE -----

BIG SEAWEED SEARCH

PARENT/GUARDIAN CONSENT FORM

Name of school / youth group: _____

Yes, I will allow my child to take part in the Big Seaweed Search survey at a local beach
(as described by the group leader).

Full name of child: _____

Print name of parent/guardian: _____

Emergency contact number of parent/guardian:

Signature of parent/guardian: _____

Date: _____