



A joint environment initiative

Coastal Litter Survey

Duke of Edinburgh's Award Expedition Aim for Coastlines





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Introduction

Aim of expedition

To determine the quantity and type of litter found along a stretch of coastline and provide best practice advice to boaters on how to dispose of waste appropriately and avoid littering.

Litter and Recreational Boating

It is estimated that more than a million birds and 100,000 marine mammals and turtles die every year worldwide from entanglement, or ingestion of plastics such as balloons and plastic bags. Beach litter has increased by 80% in the last 10 years and it costs up to £25,000 each year to remove the rubbish from the water in some harbours.

Table 1 highlights some types of litter that can come from boating and the impact it can have on the environment.

It is important to understand that any litter observed along the expedition route may not have necessarily come from boating activities. However it is important for all boaters to understand how different types litter can impact the environment and how they can minimise their contribution.



Table 1. The Impacts different types of litter can have on the environment and examples of best practice to minimise litter.

Type of Waste	Impacts	Example Best Practice
<p>Plastics e.g. bags, bottles, packaging, microbeads in some toiletries.</p>	<p>Many plastics take 400+ years to degrade in the environment.</p> <ul style="list-style-type: none"> Degrades the aesthetics of our coastline. Cause animals to become entangled. Can block an animal's gut and cause it to starve. 	<ul style="list-style-type: none"> Ensure rubbish is disposed of in bins. Secure items on-board to prevent them from blowing or falling overboard. Buy food items with minimal packaging. Use re-usable water bottles instead of disposable ones.
<p>Metal e.g. drink cans, food wrappers.</p>	<ul style="list-style-type: none"> Sharp edges - hazardous to water users and visitors. Fabrics can become caught in boat propellers and block water drainage pipes which can increase the risk of flooding. Degrades the aesthetics of our coastline. 	<ul style="list-style-type: none"> Dispose of metal, glass and fabrics appropriately e.g. at a local refuse centre Ensure items are secured to the boat to prevent them falling or being blown into the water.
<p>Glass e.g. bottles</p>		
<p>Fabrics e.g. clothing, soft furnishings and rope.</p>		
<p>Oil, fuel and paints</p>	<ul style="list-style-type: none"> Unightly Creates a film on the surface of water which reduces the amount of light reaching aquatic plants underneath. Poisonous if ingested by animals or humans. Restricts bird flight when feathers are covered in oil. 	<ul style="list-style-type: none"> Ensure oil, fuel and paints are disposed of in hazardous waste bins at Marinas or a local refuse centre. Ensure oil and fuel spills are cleaned up using a spill kit that contains absorbent materials. Regularly maintain fuel lines and engines to reduce oil and fuel leaks.

Further information on best practice advice can be found in [‘The Green Guide to Coastal Boating’](#) .

Methodology

Equipment needed

- 1 x Methodology
- 1 x Recording sheet
- 1 x Camera

Litter Identification and Counts

For coastal litter surveys there are two options for doing your litter count.

Option 1: Surveying specific sites onshore.

It is recommended that teams stop at specific sites to perform their litter counts. Sites can be identified by leaders and/or participants whilst performing a recce of the route to be travelled (see Image 1 as an example).

The duration of your expedition will determine how many stops you may take to do a litter survey. This should be decided by the DofE Leader.

Image 1: An example map showing how 5 landing points could be identified along an expedition route where beach litter surveys can be conducted.



Most visible litter will be found on beaches so it is recommended that teams land their boats and survey a 50m stretch of beach at each chosen site. It is important to keep the distance the same for each survey site so results can be compared equally. If a 50m stretch cannot be found for all sites reduce the distance so all survey sites are 20m or 30m for example.

To mark out the 50m distance parallel to the waterline get the same team member to pace out 50 strides along the beach.

Use **Recording Table 1** for this option. There is a column for participants to add the grid reference of the location of each observation site. Each time an item of litter is spotted along the 50m stretch needs to be marked in the corresponding row or column using a tally system. There are blank rows/columns to add any litter items that do not fit into the existing categories.

Option 2: Counting litter as you go

For this option you observe all items of litter sited along your expedition route as and when it is seen. It is important to be aware that most litter sinks and is washed up or blown onto beaches. Therefore if you are mostly offshore when doing your count you may observe limited amounts of litter compared to being close to the shoreline. This would therefore make option 1 more effective.

Use **Recording Table 2** for this option. Each time an item of litter is spotted it needs to be marked in the corresponding row or column using a tally system. There are blank rows/columns to add any litter items that do not fit into the existing categories.



OPTION 1: Recording Table for Results at Specific Site Observations

		Tally of Different Types of Litter											
Location Grid Ref.	Site Number	Plastics e.g. Bottles	Foil Food wrappers	Fabric e.g. clothing	Cardboard + paper	Electrical e.g. wire, appliances	Metal objects	Glass	Paint and paint cans	Oil and fuel containers			
	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
	9												
	10												
Total													



OPTION 2: Recording Table for Results along Entire Expedition Route

Types of Litter	Tally of Observations
Plastic Bottle	
Foil Food wrappers	
Fabric e.g. clothing	
Cardboard/paper	
Electrical e.g. wire, appliances	
Metal objects	
Glass	
Paint traces and Paint cans	
Oil and fuel containers	



Analysing Your Results

Questions to get participants looking at their results in more detail:

- Which type of litter was observed the most and why might this be?
- Which type of litter was observed the least and why might this be?
- Which types of litter do you think boating could have contributed to?
- Which locations had the most litter and why do you think this might be?
- Which locations had the least amount of litter and why do you think this might be?

- What could individual boaters do to reduce their litter?
- How can individual boaters be educated more on littering and its impacts on the coast?
- What could the Local Council or Harbour Authority do to help people reduce litter? E.g. were there enough bins available for people to dispose of their waste on the beaches?



How to Present Your Findings

You may choose to present your findings in the form of a presentation. The following points are suggested points you maybe wish to include.

- **What were the aims of the expedition?**

- Why is it important to determine the quantity and types of litter found along a stretch of water?

E.g. You can determine areas of coast that have higher or lower quantities of litter (be it from boaters or other users). If you can identify areas with larger quantities of litter solutions can then be developed to focus on these particular areas. If most of the litter is plastic bottles, are there enough facilities for people to refill bottles with water instead of buying a new disposable one? Are there enough bins in this particular location?

- **What did you find out?**

- Present your results (use graphs, tables and images to help present your findings).
- If littering was worse for certain sites – explain what may have caused this and whether boating could have contributed.
- Remember that you only took observations of litter at a specific time of day and year. This means your results will not show a clear representation of that part of the coastline all year round. For example during the Summer months more people will visit the coast as the weather is more pleasant and more people will result in the potential for more litter.

It is important to be aware of these limitations and acknowledge that your results are just a brief indication of the quantity and type of litter found along that particular stretch of coast.

- **What environmental best practice would you recommend to boaters?**

You can provide information on what individual boaters and clubs can do to help reduce their waste and litter on water courses similar to the one you travelled.

Come up with 5 top tips to help inland boaters be more environmentally sustainable and explain how these tips will protect the coastal boating environment. Examples of environmental best practice can be gained from [‘The Green Guide to Coastal Boating’](#).

Need Further Support?

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**The Green Blue is a joint environment programme
created by the Royal Yachting Association and British
Marine.**

The Green Blue helps the UK recreational boating
sector to minimise its impact on the
environment.



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