



C3

KNOW  
FEEL  
ACT!

to Stop Marine Litter

## HOW HARMFUL IS IT?

In this activity, learners estimate how harmful certain marine litter items are based on their perceptions. Learners express their personal views and work towards reaching a class consensus. They then compare these outcomes with the relevant literature on the impact of marine litter on animals and humans.

### SUBJECTS

Environmental Studies, Social Studies, Language, Arts

### LEARNERS' AGE

14-15 yrs

### DURATION

45 min plus an additional 2 hours for Step 4

### OBJECTIVES

- To be open to the views of others.
- To explore the effects of marine litter on animals, habitats, humans, vessels, etc.
- To understand that although certain types of items may have greater effects than others all marine litter items are potentially harmful.

### INTERNET SOURCES

A poster that raises awareness on commonly found marine litter and its impact on animals  
[www.flickr.com/photos/habitatnews/3506702343/](http://www.flickr.com/photos/habitatnews/3506702343/)

SECTION C

EXPLORING  
THE IMPACTS

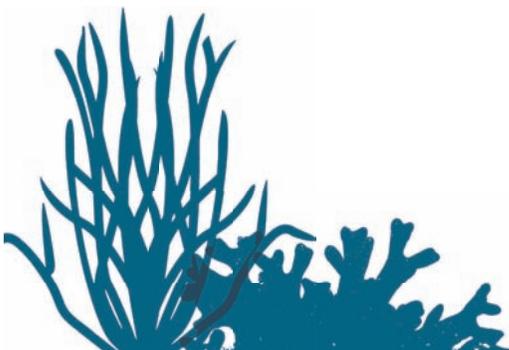
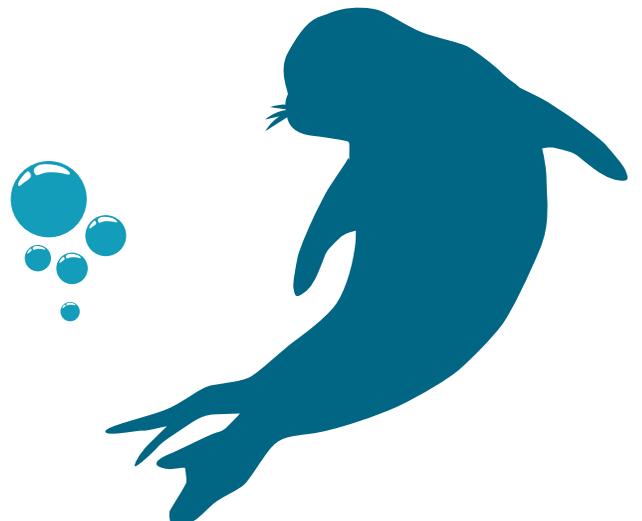




## Marine litter can have serious consequences for humans

Litter on the shore or floating on water is certainly an unpleasant sight, significantly reducing the aesthetic beauty of coastal areas. As coasts become unattractive and unsafe for visitors, coastal communities can lose revenue from tourism-related activities. Coastal communities must also face costs relating to clean ups including purchasing beach-cleaning machines, hiring operational staff, etc. The cost increases considerably for communities in remote areas with difficult accessibility or that lack infrastructure such as waste bins, etc.

In addition to the expense associated with replacing it, lost fishing gear and other floating litter can cause costly or irreparable damage to boats: fishing nets can wrap around propellers, plastic sheeting and bags can clog cooling water intakes and lost nets or lines can entangle vessels. Specifically, if marine litter wraps around boat propellers or punctures their bottom the vessel can become disabled endangering the safety of those on board. This is especially serious when power is lost in a storm and the boat cannot return to shore or when steering is hampered. The ghost nets can even affect submarines' navigation and surfacing.





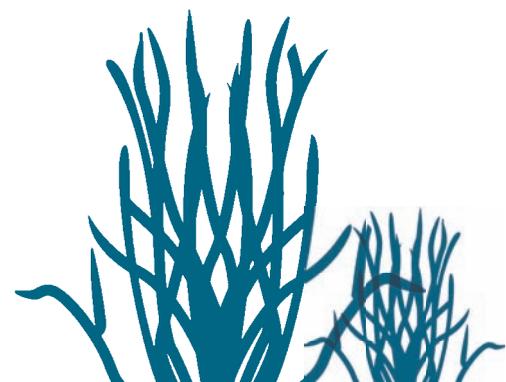
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*Ghost fishing* caused by abandoned or lost fishing nets, eventually traps and kills countless fish that neither reach the market nor release spawn to sustain the next generation. This ongoing loss of marine life impacts on populations of commercial and non-commercial species. *Ghost fishing* can also alter species diversity including their number and relative abundance in a community. Marine ecological communities are similar to terrestrial communities, both complex and fragile. Whenever marine litter impacts on how ecosystems function and compromises the services they provide, people's livelihoods are ultimately affected as well.

Marine litter can also jeopardise human health and safety. Sharp objects, such as glass and rusty metal on beaches or on the seafloor, may cause injury if stepped on. Divers can also become entangled in abandoned fishing nets and lines possibly causing serious injury or even death. Contaminated litter on shores, including medical waste, poses public health hazards through disease transmission.

The actual harm of any litter item depends on its type, condition and location in the ecosystem. For instance, the abundance of certain types of litter such as bottles and cans may make people consider them as the most threatening to wildlife. Broken glass on a beach is indeed dangerous to humans but poses no serious threat on the deep sea floor. In fact, bottles and cans are potentially less harmful to wildlife as opposed to other types of litter such as fishing lines and nets. A single fishing net can continuously maim or kill wildlife, whereas hundreds of soda cans on a beach certainly compromise its beauty but are less harmful to coastal ecosystems.





## Materials and Equipment

Examples of different types of litter: fishing line, fishing net, paper cup, cigarette butt, plastic bag, lobster trap, resin pellets, broken glass

## Instructions step by step

1. Individually, learners complete the worksheet “How Harmful Is It?” They ask their educator for any clarifications if needed.
2. With the educator’s help, the class subtotals for each type of litter are calculated and noted on the board.
3. Learners are invited to consider how individual ratings may differ from the class average. In class, they address the following questions:  
*According to class results which types of marine litter are most harmful to seals? To dolphins? To sea turtles? To seagulls?*  
*Which type(s) of litter appear to be the most harmful to animals in general?*  
*Which type(s) types of litter appear to be the least harmful?*  
*Are there any types of litter that few learners listed yet are still very harmful? Which ones?*  
*What about the impact on people, vessels and habitats?*  
*How can differences in natural conditions influence the potential harm caused by litter?*
4. Learners try to find scientific articles, official reports, etc. on the impact marine litter has on animals and humans. They compare the data with the results they found in class.  
*How similar or different are they?*  
*Is there any information that struck you?*  
*Was there something that you weren’t aware of?*

## Extension activity

- Learners choose a litter item they consider to be a threat to marine life. They create an “anti-ad” poster – they think of a clever slogan, ways to illustrate its potential threats and discourage people from consuming or disposing of it inappropriately. They may find ideas for inspiration in activity D5.
- Learners focus on a type of marine litter and design a “Most Wanted” poster. They can include an illustration of the litter item (photo or sketch) and a list of its “crimes” (effects). They might also post a “reward” for the person that finds this type of litter and disposes of it properly.

