



**RVA**

**BRITISH  
MARINE** 

A joint environmental programme

## **SUSTAINABLE BOATING QUIZ AND ACTIVITY CARDS**

[www.thegreenblue.org.uk](http://www.thegreenblue.org.uk)

Quiz cards and quick fun fillers to help you to think about the environment when boating.



**Quiz Cards**



**Quick Fun Fillers**

**How many litres of water can one litre  
of oil pollute?**



1 million litres

That's the equivalent of two and a half Olympic 50m swimming pools!

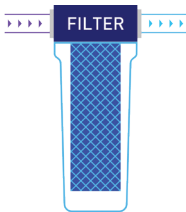
Use oil and fuel spill prevention equipment e.g. install a filter into the bilge line to remove oil when pumping out.

**How many metres from the water's edge should oil and fuel be stored?**



The Environment Agency's recommended distance is 10 metres unless of course it's a fuel berth which has to be next to the water.

**What does an in line Bilge Filter remove when pumping out?**



An in line bilge filter can be installed to extract any oil or fuel from bilge water when pumping out.

The captured oil and fuel can then be disposed of responsibly in hazardous waste at marinas or local waste centres.



**Which of these is a chemical found in cleaning products?**

- a) Calcium**
- b) Potassium**
- c) Phosphate**

## c) Phosphate

Phosphate increases algae growth on the water which prevents sunlight reaching aquatic life below the surface. You can help by using phosphate free products on board.

**Invasive species are those that have become established outside of their native habitat.**

**Many species like to grow on hard surfaces under the water.**

**What problems do you think invasive species can cause for boaters?**

- Encrust boat propellers and hulls reducing efficiency
- Block water inlets and outlets
- Cost money to remove species or replace equipment
- Restrict navigation and access, especially on inland waterways

**Which of these is an invasive non-native species found in UK coastal waters (as opposed to freshwater)?**

- a) Killer Shrimp**
- b) Quagga Mussel**
- c) Slipper Limpet**

### c) Slipper Limpet

This invasive species is a marine animal that comes from North East America and is thought to have arrived in the UK via ship hulls and ballast water. They can smother hard structures and clog up boat inlets and outlets, threaten native species and be a serious pest of oyster and mussel beds.



**How can you prevent harmful  
invasive species from being spread  
and attaching to your boat/craft,  
equipment, trailers and clothing etc?**

- **CLEAN** regularly to remove and prevent biofouling build up. Use clean tap water and a soft brush/sponge to help remove any light fouling. Pay attention to crevices, inlets and outlets where they might be hidden and attached.
- **CAPTURE** any removed biofouling and dispose of in general waste bins where possible.
- **DRAIN and DRY** to minimise species' survival. Lift your boat/craft and equipment out of the water as often as possible to help air-dry. Many species can survive in damp conditions.
- **ANTIFOUL** your boat to help prevent biofouling. Use biocide free antifoul or even better paint free, non-toxic alternatives.



**To stop the spread of invasive species around UK coastal waters what should you do?**

- a) Let fouling fall off once you are underway**
- b) Clean the hull before you set off to remove the worst of the fouling**

b) Clean the hull before you set off to remove the worst of the fouling.

It's better to leave your fouling in situ than risk taking it to a new location.

You should also remove fouling from your chain and anchor before stowing and moving to a new anchorage.

Starting with 'R' what three actions can boaters do to cut their waste?



**Reduce** (take less packaging on board)

**Reuse** (scrap paper)

**Recycle** (tins, glass, card – or even giving sails a new lease of life as a bag or deckchair!)

**Which of the following is not biodegradable?**

- a) Kevlar rope**
- b) Orange peel**
- c) Newspaper**

## a) Kevlar rope

Kevlar is not biodegradable but like other plastics, long exposure to ultraviolet light causes some degradation of the fibres.

**What do you know about  
World Sailing's Rule 55?**



**World Sailing**

World Sailing's Rule 55 states that  
'A competitor shall not intentionally put  
trash in the water.'



**Which of the following must be disposed of in hazardous or special waste bins?**

- a) Antifoul paint**
- b) Aluminium cans**
- c) Plastic bottles**

### a) Antifoul paint

Waste is hazardous if it is harmful to humans or the environment. Place a tarpaulin under your boat to capture antifoul drips, spills and debris. Dispose of any paint, antifoul debris and contaminated materials in hazardous waste bins at your marina/boatyard or local council facilities.

**What is the difference between a non-native species and an invasive non-native species?**



A non-native species is a plant or animal that has been introduced to an area outside its normal range.

Most don't cause any problems but some are invasive and prey on native wildlife, smother aquaculture beds and damage equipment.

**When fuel is burned it emits particulates and green house gases such as carbon dioxide as well as harmful gases like carbon monoxide.**

**What can you do on board to reduce fuel emissions?**

- Install solar panels or wind turbines
- Use electric outboards
- Use engine leg trim and/or trim tabs to maximise efficiency
- Run the engine at various RPMs and speeds in differing sea states and wind direction so you know the most efficient RPM for your engine

**What is the best way to maximise engine efficiency?**

- a) Get up onto the plane as quickly as possible before easing back on the throttle and adjusting the trim**
- b) Carry extra weight on board to stabilise the boat**

a) Get up onto the plane as quickly as possible before easing back on the throttle and adjusting the trim

Whilst up on the plane the drag of the hull is reduced allowing a more efficient drive.



**Which of the following will help reduce the amount of wash from a boat?**

- a) Low speed and good boat handling skills**
- b) Travelling on the plane at all times**

a) Low speed and good boat handling skills

Wake and wash from boats can erode shoreline habitats, as well as disturb moored boats and wildlife resting, feeding or breeding on or near the water's edge.

**Which of the following helps to prevent pollution during antifoul renewal?**

- a) Putting a tarpaulin under the boat and over drains**
- b) Scrubbing off all fouling and residue paint**

a) Putting a tarpaulin under the boat  
and over drains

Use a tarpaulin to stop scrapings and paint from going into the water down a slipway or a surface water drain that may lead out to the marina or harbour.

## What should you do if you encounter wildlife?

- a) Get as close as you can for a better view
- b) Slow down and keep your distance

b) Slow down and keep your distance

Maintain a 'no wake' speed if possible and spend no more than a few minutes in their vicinity.

**Where should boats try to discharge their sewage to minimise any impact on the environment and other water users?**

- a) Anywhere as it will disperse naturally**
- b) 3 miles offshore**

b) 3 miles offshore

Untreated sewage discharged into the water contains *E. coli* and can cause gastroenteritis if ingested.

Use a pump out facility or empty the heads/tanks as far offshore as possible.



## How should you deal with an oil or fuel spill?

- a) Use detergent to break it up and disperse it
- b) Use a spill kit to soak it up

b) Use a spill kit to soak it up

If the spill is too big for you to manage, report it to the local harbour authority, marina or Environment Agency.

Don't use washing up liquid as this only breaks it up into smaller particles that can spread and be ingested by wildlife more easily.

**What steps should you take when anchoring to protect the marine environment?**



1. Use existing moorings.
2. Use recommended anchorage locations and anchor away from protected habitats where possible.
3. Avoid your anchor dragging along the seabed by:
  - Using the appropriate anchor for the conditions.
  - Deploying the chain gradually to avoid it building up in one area.
  - Checking the anchor is holding periodically.

**What does MARPOL stand for?**

**a) Marine Police**

**b) Marine Pollution**

b) MARPOL refers to 'marine pollution'.

It is the IMO's International Convention for the Prevention of Pollution from Ships.

It only applies to UK flagged recreational boats over 400gt, but it's still important to know how to deal with oil and waste at sea.

**What should you do if a pod of dolphins accompanies you on the bow wave?**



Slow down, keep a steady course and let them decide when it's time to leave.

Most marine wildlife is protected. Under the Wildlife and Countryside Act 1981 it is an offence to intentionally (or, in Scotland recklessly) kill, injure or take a protected species, without lawful excuse.



## What does WEEE stand for?

- a) **Waste, Energy and Electricity in the Environment**
- b) **Waste Electrical and Electronic Equipment**

b) Waste Electrical and Electronic Equipment, in other words equipment that needs a battery or a plug.

This equipment often contains hazardous materials which need to be disposed of as hazardous or special waste.

What is this sign for?



This is the sign for a sewage pump out facility for boats with holding tanks.

Untreated sewage in the water contains E. coli and can cause gastroenteritis if ingested by other water users.

Boats without holding tanks should try to fit one and avoid discharging blackwater in enclosed waters.

## What is a Marine Protected Area (MPA)?



Marine Protected Areas are marine coastal, inshore and offshore areas that have different legal protections for wildlife, habitats or areas of geological importance. By following The Green Blue's good practice guidance, recreational boating can help minimise disturbance to protected wildlife and habitats in all waters.

**Which of these is an invasive non-native species now present in freshwater lakes and waterways in the UK?**

- a) Wakame**
- b) Carpet Sea Squirt**
- c) Zebra Mussel**

## b) Zebra Mussel

Originally from the Black, Caspian and Aral Seas, arriving via constructed canal routes. Average length of 15mm, with brown/yellowish zigzag stripes. Reproduction is prolific, outcompeting native species. They smother hulls and block inlets and outlets.





What is this sign for?



You will be able to dispose of rubbish where you see this sign.

Many marinas now have recycling facilities so separate your waste on board ready for disposal on land.

Do not throw any rubbish overboard.

What is this sign for?



This is the sign for a chemical closet disposal unit for inland waterways.

It is illegal to discharge toilet waste on the inland waterways. Chemical toilets can be emptied into sanitary or service stations where you see this sign.

**Which of the following will help reduce the amount of wash from a boat?**

- a) Low speed and good boat handling skills**
- b) Navigating close to the shore or bank**

a) Low speed and good boat handling skills.

The speed limit on canals is 4mph. The speed limit on rivers varies from 5 to 8 mph. The golden rule is look behind you. If you are creating a breaking stern wash then you are going too fast and could disturb habitats and moored boats.

**Which hull design will create high boat waves and potentially cause greater bank erosion?**

- a) Short full bow**
- b) Long finer bow**

## a) Short full bow

Reducing speed will reduce boat wash and bank erosion, but the size and shape of the hull will also help. Short full bows create high boat waves, whereas longer finer bows create smaller waves.



**What is the highest speed limit on  
the Broads?**



Research by the Broads Authority in the 1980s showed that only a small reduction in speed was needed to produce a significant reduction in boat wash.

As a result all speed limits on the Broads were cut by 1 mph, with the highest speed limit set at 6 mph.

**What is the legal limit for oil and fuel in water discharge in inland waters?**

- a) There is no legal limit**
- b) 5mg of oil per litre of water**
- c) 1 litre of oil per 5 litres of water**

b) 5mg of oil per litre of water

This is equivalent to a teaspoon.

Take care when refuelling and use a fuel collar to catch splashes and drips.

Carry a spill kit on board to help clean up any accidental oil or fuel spills.

**Can you identify five decisions you should make to minimise disturbance when you encounter wildlife?**

Our waters contain an array of amazing marine wildlife including dolphins, seals, birds and sharks, many of which are legally protected. Follow this good practice when you encounter wildlife:

1. **Slow down** - 5 knots or no wake
2. **Keep your distance** - 100m+ (300ft)
3. **Keep a steady course** - avoid erratic movements
4. **Keep quiet**
5. **Time limit** - view wildlife for less than 15min

What's the difference between 'green blue' and 'blue-green'?



The Green Blue is the joint environmental awareness programme between the RYA and British Marine.

Blue-green is a type of algae and can increase with excess nutrients in the water. Boaters can help by using phosphate and nitrate free products on board that may be discharged in grey waste water.



**Is it necessary to antifoul a boat that only uses the inland waterways?**



There is less fouling in freshwater than saltwater so antifouling is not always necessary. A light scrub around the waterline to get rid of algae is usually enough.

However, the arrival of invasive species means that antifouling is going to be more important in the future to keep these species at bay.

## How can you disturb less sediment in the underwater environment?

- a) Increase the throttle to get through shallows as quickly as possible
- b) Make sure your prop is well balanced and clean

b) Make sure your prop is well balanced and clean.

This will reduce turbulence around the propeller, as will having the rudder and propeller positioned at the correct distance from each other.

**Going slowly is good for keeping wash to a minimum to protect wildlife habitats on the banks.**

**At what other times might you need to go a little slower?**

- Passing other boats
- Passing moored boats
- Passing anglers
- Going through a narrow bridge
- Going into locks
- Approaching a bend
- Getting ready to moor

**How can you use water efficiently in the canal system when you go through locks?**

**Think big as in 50,000 gallons in a lock!**

When you're approaching a lock, see if there's space to share it with another boat.

An extra boat in a broad lock can save the equivalent of 1,000 bathfuls of water!



**What should you do if your holding tank needs emptying but you can only see a chemical toilet disposal point?**

- a) Go ahead anyway, it's all the same type of waste.**
- b) Find the next pump out facility en route – use canalside toilets in the meantime!**

a) Find the next pump out facility en route – use canalside toilets in the meantime!

Never pump out your tank into a chemical toilet disposal point; it won't have the capacity and there's a high risk of spillage. Pollution of the canal with raw sewage would be a serious offence.

## How green is the boat?

Take a look around.

- Is there recycling on board?
- Is there a 'nothing overboard' policy?
- Is there an in line bilge filter installed or bilge sock in place to extract oil when pumping out?

- **Is there a holding tank?**
- **How and where does the boat dispose of its sewage?**
- **Are there any solar panels or a wind turbine on board?**
- **Are there environmentally friendly cleaning products on board?**
- **Are the LED lights on board?**

**You have sixty seconds to...**

**Name ten things that can be recycled  
on board a boat.**

**Don't forget to think about parts of the  
boat itself!**



**Take a look around the boat...**

**How many electrical items can you see on board that will need to be disposed of as hazardous or special waste at the end of their useful life?**





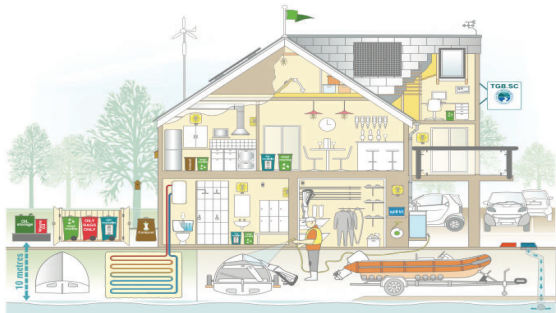
**Write a limerick about the environment or using any of these words:**

- Pollution
- Sewage
- Biodegradable
- Spill
- Turtle
- Recycle
- Oil
- Antifoul
- Invasive species
- Green
- E. coli
- Plastic



## How green is the marina/club/centre? Take a look around...

- Are there recycling bins?
- Is fuel and oil bundled?
- Are The Green Blue's and any other environmental awareness posters displayed?
- Is there a spill kit and is it near refuelling sites?
- Are there trigger nozzles on hoses to help save water?



## Charades

1. Split into groups.
2. Choose a coastal and estuarine non-native species from the list and someone to act it out to their group. Use actions only – no words or sounds!
3. Whoever guesses correctly gets a point and goes next.

Carpet Sea Squirt  
Chinese Mitten Crab  
Leathery Sea Squirt  
Zebra Mussel  
Devil's Tongue  
Tube Worm  
Wireweed  
Slipper Limpet

# I Spy

I spy with my little eye  
something in the environment  
beginning with...





## Pass It On

Sit in a circle, whisper one of the eco facts below to the next person and so on.

How does it finish up?

*Turtles can mistake plastic bags for jelly fish and choke when they try to eat them.*

*Small craft can disturb shallow habitats.*

*Detergents can be toxic to aquatic life.*



## A-Z

The first person must think of an environmental word beginning with the letter A, the next person beginning with B and so on.

Each person has 2 lives.

If anyone hesitates they lose a life.

## Some words to get you started...

**A**ntifoul...

**B**ilge sock...

**C**hemicals...

**D**iesel...

**E**missions...

**Take a look at the water or the high tide mark.**

**How many types of litter can you spot, where might it have come from and how has it ended up in the water?**

**How can boaters prevent litter entering the water?**



## Charades

1. Split into groups.
2. Choose a freshwater invasive species from the list and someone to act it out to their group. Use actions only – no words or sounds!
3. Whoever guesses correctly gets a point and goes next.

Quagga Mussel

Killer Shrimp

Demon Shrimp

Australian Swamp Stonecrop

Floating Pennywort

Creeping Water Primrose

American skunk-cabbage

Signal Crayfish



## Can you find out the following?

- Is there a drip tray under the engine to catch any leaks?
- How often is the drip tray checked?
- How and where is it emptied?
- Is there a spill kit on board?
- Are there instructions on how to deal with accidental spills?

One litre of oil or fuel can pollute  
1,000,000 litres of water



**You have sixty seconds to...**

**Name as many types of wildlife as you can that you might spot in, on or by the water.**

## **Inland Wildlife**

Smooth newt, Heron, Kingfisher, Swan, Coot, Canada Goose, Dormouse, Mallard, Damselfly, Cormorant, Butterfly, Water vole, Otter, Kestrel, Frog, Bat, Great crested grebe, Little grebe, Dolphin.

## **Coastal Wildlife**

Dolphin, Tern, Oyster catcher, Puffin, Seals, Harbour Porpoise, Basking Shark, Brent Geese.



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**The Green Blue is the 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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