

Is it algae or sewage?

Helping you to tell the difference

The South West has some of the finest bathing waters and beaches in the whole of Europe.

However, marine algae can affect our coastline and shores, especially after windy conditions following warm weather, and is often mistaken for sewage.

Marine algae are microscopic plants which are a natural part of seas and oceans. They form the base of the food chain and so are vital for the natural health of our waters. Although there are many different species of marine algae only a few may be toxic.

The most common algae in British coastal waters is a non-toxic type called *Phaeocystis*. This forms clouds of 'frog spawn' like colonies, sometimes mistaken for oil drops in the water which can grow rapidly, or 'bloom', in early summer and to a lesser extent in autumn as well.

When the bloom breaks down, as the algae die, creamy-brown coloured foam can be formed. This foam may appear as thin layers or lines on the water's surface, often produced by waves on cliffs and rocky headlands. In some cases these blooms can form blankets 1-2 metres deep alongside the shoreline.

Although non-toxic, the foam occasionally smells unpleasant and can be mistaken for sewage.

The smell of bad eggs or rotten vegetables is associated with the algae's breakdown and any brown discolouration is often sand or silt trapped in the foam.

Similar smells may also occur if there is an accumulation of normal seaweeds on the beach above the tideline, which can decompose rapidly in warm weather.

Algal blooms are not new, although it has been suggested that they may be occurring more frequently and lasting longer. This could be due to increasing levels of nutrients, mainly nitrogen, in coastal waters which are used by the algae to grow. These nutrients come from a wide range of sources which include urban run-off, agricultural and sewage inputs.



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Toxic algae

Not all marine algae are harmless; some can present a health risk to marine life as well as humans. These are rare but include high-profile cases where shellfish become contaminated and, if eaten, can lead to poisoning.

In order to minimise these risks shellfish are routinely monitored for such algae by local food and port health authorities and the Environment Agency monitors for potentially toxic algae in estuaries and bathing waters.

In the event that a toxic bloom is identified these authorities will share warning information to relevant parties and the public where appropriate. This will include signs advising against bathing.

In some cases certain algae cause discolouration of the water known as 'red tides'. If you see one of these rare events, please report it to the Environment Agency emergency hotline on **0800 80 70 60** and avoid the water.



As algae die, creamy-brown coloured foam can be formed. Brown discolouration is often sand or silt trapped in the foam

How to tell the difference

If you notice foam on the water's surface or on the beach this is likely to be the result of algae dying off and breaking down. It is very unlikely to be sewage. To help you tell the difference, the following guidelines may help:

- Algal blooms generally occur between April and August. Foams are likely to be due to algae breaking down or other natural processes between these dates.
- Long lines of algal foam can often be seen off headlands and lying parallel to the coast, often with no point of origin on the shoreline.
- In rough conditions thick mats of foam may be created on the shoreline by this natural process.
- Stormwater overflows tend to cause a grey discolouration of the water and often have a clearly identifiable source, such as a pipe or outfall, where the discolouration is strongest.
- Treated sewage discharges and stormwater overflows very rarely form foam or scums on the water surface. However, washing powders and detergents can cause localised foaming around discharge pipes (but not long lines or thick blankets of foam).
- Both sewage and the breakdown of algae can lead to unpleasant smells, typically that of rotten eggs or vegetables.

If you are concerned that what you see is not algae and is some other kind of pollution, please phone the Environment Agency's free 24-hour emergency hotline on **0800 80 70 60**.

South West Water and the Environment Agency are part of BeachWise, a coastal community partnership formed to promote safe enjoyment of our region's beautiful beaches and clean bathing waters. For more information see www.beachwise.uk