

facts on blue-green algae

what are blue-green algae?

Blue-green algae are microscopic organisms, they are primitive algae. They live in fresh and sea water and have been in existence for millions of years. Heavy growths can appear as green, red, turquoise or brown scums or mats, or pea-green water on the surface of lakes and reservoirs. Such heavy growths, or blooms, are even mentioned in mediaeval records. They are found all over the world and are a natural part of the population of microscopic organisms in lakes, estuaries and the sea, along with other algae.

what causes blue-green algae to grow?

Heavy growths of blue-green algae are naturally encouraged by warm water temperatures and stable, sunny conditions. Record breaking summer weather in the late 1980s and mid 1990s provided optimal conditions for algal growth. Lakes and some slow flowing rivers across the country experienced earlier and more prolonged growths during these periods.

are blue-green algae harmful?

A number of common species are known to produce natural toxins, but amounts vary a great deal. Toxins are not produced all the time but research has shown

that they are present in about half of the blooms.

The amount of toxin depends on the number of blue-green algae as well as environmental conditions present at the time. The toxins are broken down very quickly and do not accumulate. The toxins produced by different species can vary, but methods for detecting them in water are available. Not all the toxins that have been identified in different parts of the world are seen in this country.

what are the effects of blue-green algae toxins?

Algal toxins can cause a number of ill effects if swallowed in large enough quantities. In some cases they have caused death in animals, but only after swallowing the concentrated algal scum floating on the surface that has blown to the edge of the shore.

Untreated water is vulnerable to a wide range of bacterial and other contamination so swallowing it should be avoided. Contact with heavy blooms or scums of blue-green algae can also cause skin rashes which may be due to toxins. These could also be due to an allergic response similar to that experienced by many people after contact with certain plants. ►

do toxins occur in drinking water?

No. So far there is no evidence whatsoever to suggest that the toxins occur in treated drinking water at harmful levels.

For the few Severn Trent Water raw water sources subject to algal blooms we can usually avoid drawing untreated water contaminated by algae into the works by switching to an alternative source; obtaining water from deeper in the reservoir; avoiding the surface layers where the algae are abundant. In addition, it has been shown that modern water treatment processes used to treat surface waters in the UK can remove or destroy any blue-green algal toxins that might remain in untreated water.

what is Severn Trent Water doing?

We regularly monitor our reservoirs for blue-green algae. To discourage the growth of blue-green algae Severn Trent Water have developed novel and environmentally friendly reservoir management techniques such as addition of barley-straw and floating reed beds.

If blue-green algae do occur above specified levels, warning signs are put up around the reservoir asking people to stay out of the water and keep pets on a lead. We also advise sailing and fishing clubs of the presence of the blue-green algae and the associated risks. This includes avoiding immersion sports like canoeing and sail boarding, and behaving sensibly to avoid skin contact and swallowing water.

can fish caught in affected reservoirs be eaten?

Yes. Fish caught in a reservoir with blue-green algae warning signs should be safe to eat providing they are healthy when caught. The most common toxins affect their livers which are, of course, discarded. But again, anglers should take care to avoid direct contact with algal blooms.

what can you do?

If blue-green algae signs are displayed at reservoirs:

- Read them carefully and tell others
- Keep away from the water and any scum that has accumulated at the edge or on the shore, it is important to keep babies and small children away from the water and to prevent older children from taking actions that might cause them to fall into the water containing a heavy bloom or scum. Remember to keep your pets or domestic livestock away from the reservoir as well. Dogs seem to be particularly attracted to the scum at the edge of the water.
- If you pursue activities like sailing, avoid undue contact with and swallowing the water. Wear protective clothing and shower afterwards.
- If you belong to a club ensure other people are behaving sensibly.