



## **BLUE GREEN ALGAE**

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This leaflet is the RYA's guidance for dinghy sailors at clubs wishing to continue sailing upon waters affected by Blue-Green algae. It includes windsurfers of RYA Level 3 and above. All the evidence is that windsurfers of this level of competence are likely to spend no more time in the water than the average dinghy sailor.

Each club is of course responsible for making its own decision as to the use of its water, according to the exact circumstances of its case and level of contamination and the RYA can do no more than advise generally on this part medical, part scientific, and part legal problem.

The basic principle to be borne in mind is that if sailors and windsurfers of sufficient maturity understand and accept the dangers involved and decide that they wish to continue to sail at their own risk, they may be permitted to do so by the club without the danger of legal liability to the club arising, provided they have been fully appraised of the risks. It may be advisable that activities should be limited to persons aged 14 and over.

The leaflet also contains a section of advice to those teaching children.

### **Blue-Green Algae: The Facts**

Blue-Green algae are natural inhabitants of many inland waters, estuaries and the sea. Although referred to as algae they are, in fact, a type of bacteria (known as cyanobacteria) with the ability to use the sun's energy to make food in the same way that many plants do. They may be found in suspension, attached to rocks and other surfaces at the bottom of shallow waterbodies and along the edges of lakes and rivers. The term Blue-Green algae covers a number of different species.

All species of Blue-Green algae need nutrients - nitrates and phosphates - to grow. If the water is enriched with nutrients and we have calm weather conditions, then the growth may become excessive and cause blooms. The blooms cause the water to appear discoloured green, blue-green or greenish-brown and some species can produce a musty odour. When the blooms die, they use up oxygen in the water and cause problems for other aquatic life, such as fish. In calm weather some bloom-forming species will rise to the water surface and form a scum which may again be coloured.

For reasons not fully understood, bloom and scum forming Blue-Green algae are capable of producing toxins. Whilst it may not always be the case, it is safe to assume that a Blue-Green algae bloom or scum is toxic. The level of toxicity may vary hour to hour which means it is often not practicable to take regular toxicity tests. In its most dangerous form, in quantity and in scum form it has caused death in cows, sheep and dogs drinking significant concentrations at the water's edge.

The effect on humans in the UK has been limited to illness rather than death. Since the early 1990's the RYA has had no incidences reported from clubs following the simple safety precautions detailed in this leaflet.

### **Who is at risk and what are the symptoms?**

Human health risk from exposure to Blue-Green algae toxins can arise through direct contact with exposed parts of the body (especially sensitive areas such as ears, eyes, mouth and throat), swallowing or inhaling water containing the algae. Different groups of water users are at different levels of risk, depending on the amount of time they are likely to spend in/ close to the affected water. Participants in descending order of likely risk are as follows: -

1. Swimmers, paddlers, dogs, other animals including some farm animals, children playing at water's edge, fishermen using the bank and water's edge.
2. Windsurfers whose level of competence, as assessed by a sailing school, puts them at risk in the prevailing wind conditions of becoming immersed in or blowing into, areas of algal scum.
3. Dinghy and catamaran sailors, canoeists, windsurfers as assessed by a sailing school, competent for the prevailing conditions.
4. Fishermen fishing from a boat or pontoon, pleasure cruisers

Essentially the more likely you are to come into direct contact with the bloom, the greater the risk of effects of exposure. Symptoms of those affected could be easily confused with a range of other illnesses so it is important to be aware of the risk of Blue-Green algae as a contributory factor. Swallowing/inhalation can result in abdominal pain, nausea, vomiting, diarrhoea, sore throat, dry cough and headaches as well as hay fever symptoms, dizziness, fatigue and skin and eye irritations. Exposure of the skin can result in allergic or irritated reactions in the form of a rash which can be itchy and uncomfortable. Bathing suits and wetsuits tend to aggravate these affects as the cells can accumulate next to the skin and be broken down through agitation releasing toxins.

### **What should you do?**

If Blue-Green algae appears in your boating lake then following the advice contained within this leaflet will minimise the risk to Club members and ensure that those choosing to continue sailing understand that they do so at their own risk.

The advice follows three simple steps:

1. Assess and manage the risk
2. Provide information to all helms, crews and others going on or near the water
3. Declarations to be signed by participants

## Assessing and managing the risk

It is advisable to carry out a specific risk assessment for activities when Blue-Green algae are present and establish how to manage these risks. It is possible that the Environment Agency (EA) may wish to take a sample of the bloom for testing, especially if the water is owned by the Local Authority or a Water Company. Although the EA is responsible for testing potentially affected water they are **not** responsible for managing the risk unless they own the waterbody; once they have tested the water, the EA will notify the relevant bodies responsible for managing any risk to human or animal health. In most situations the decision related to risks to human health is taken by the Environmental Health department of the Local Authority; although many Local Authorities will take a precautionary approach to Blue-Green algae and recommend avoiding the water until the bloom has subsided, unless they own or manage the lake they are unlikely to formally close the facility. Instead, all users will be advised that they undertake recreational activities at their own risk. It is therefore important that each club carries out its own risk assessment and put procedures in place to manage and minimise them.

The following points provide clubs some guidance in this:

1. So far as day to day operations are concerned, on each racing day an appointed club officer should inspect the shore to note collections of thick aggregations of algae or scum. If present, launching from or returning via these areas should be discouraged.
2. Where practical, mobile launching pontoons or jetties may be considered and used to launch from if the Club has not a reasonable number of alternative permanent launching slips.
3. The object must be to launch and to return to an area free from thick collections of algae and scum, with signs to appropriate slipways according to prevailing conditions, and these should be monitored during the day in the event of a change in wind direction.
4. A map of sailing waters should be on display and should be marked to show current areas of perceived risk. The map should be updated daily after inspection of the waters and shoreline. The Race Officer of the Day should consult the map BEFORE deciding upon the areas of water he wishes to use. Unduly shallow water is best avoided.
5. Provide club members with the facts on Blue-Green algae contained in this leaflet.
6. The Rescue Boat Officers of the Day should consult the map and watch to see that no capsized sailors remain unduly long in the water. Particularly they should be aware that capsized dinghies and algae both float downwind to the same area of the lake.
7. Where practical, fresh tap water hoses should always be available at known places along the shore, or at the head of the chosen slipway for the day.
8. Club members should be advised if covered in algae to wash themselves down so that scum and algae are removed from their clothing before they enter the club changing rooms. Children or dogs which stray onto the shore

should similarly be washed down and in particular dogs should be kept on leads and not permitted to lick scum off their coats. Club members should be advised to wash and thoroughly DRY all protective clothing on returning home. Wet clothes should not be stored.

9. Children, adults and pets should not walk or play at the waters edge, particularly on a lee shore on a windy day when scum may be found some distance from the edge. If the water level is falling in times of drought, dangerous pools containing high concentrations of algae may be found inland.
10. Club members taking part in 'Working Parties' to improve clubs facilities in or close to the water should be warned of the risk of contact dermatitis if they 'strip off' on a hot day and splash water on their skin.
11. The Club may wish to consider whether they should print small durable information cards for their members to retain in their wallets which in the event of illness would indicate to their Doctor that they sailed upon waters where there was an exposure to Toxic Algae. This could well indicate also that there may also be a risk from Leptospirosis (Weil's Disease) if there is a rat population in the area.
12. For future reference a record book should be kept to commence the recording of data relating to toxic algae, including the quantity of algae noted, its position, the weather and water temperatures. Records should also be retained of any illness reported by sailing club members subsequent to that days sailing. In this way a responsible monitoring and caring attitude can be demonstrated to club members, and used in future seasons to aid decisions and to work in a responsible co-operative manner with Environment Agency, Water Companies and owners. In the event of dead fish or animals being found, these must be reported to the Environment Agency 08708 506506. A record should also be kept of the build-up of scum.

#### Providing information to helms, crew and others going on or near the water

It is important that all water users are made aware of the facts about Blue-Green algae (as provided in this leaflet) and also provided with an up to date map of the areas affected (which could change daily). They should also be provided with any clear and specific operational details, such as points 4 and 8 above, to enable participants to make an informed decision as to whether or not to participate in sailing activities affected by Blue-Green algae.

It is particularly important to make participants aware of the increased risk of skin irritation if they wear a wetsuit and do not shower/wash themselves down to remove algal material immediately on exiting the water.

Information should be provided directly to each participant as well as being made available on noticeboards or similar around the Club for anyone to access.

## Signing Declarations

As an additional legal precaution, all those who have received and read the information sheet can be asked to sign and detach a declaration to that effect which should be kept by the club secretary. This could be useful evidence, in the unfortunate event of a casualty, that the victim has been aware of the dangers and had voluntarily assumed the risk. For this reason it is regrettably advisable to limit sailing on badly contaminated waters to adults and 'young persons' (who are statutorily defined as those aged 14 years and over). For clubs deciding to require a declaration a single form completed by each individual would suffice for each sailing season.

Visitors to the club, and participants in open meetings, may also be asked to read the information sheet and sign the declaration (or a sheet carrying the declaration) on the occasion of each visit to the club. Here again it would be advisable to limit admission to those aged 14 and over.

Appendix A of this document provides suggested wording for a 'Blue-Green Algae Declaration' that you could use for this additional precaution.

### **Advice to those teaching sailing to children**

The presence of potentially toxic algae on sailing waters presents particular problems to those concerned about the possibility of incurring legal liability when teaching sailing to children and young people.

We offer the following additional advice to that already issued to Clubs on this subject.

1. By 'children' we mean those who would be regarded in law as too young to make a valid judgement about whether to accept the risk of injury by participating in a hazardous activity.

Although sailing is a safe sport and most risks associated with it are self-evident, this is not the case with potential dangers arising from water pollution or Blue-Green algae growth.

By 'young people' we mean those old enough to be able to make a valid decision for themselves as to whether to accept any risks involved in sailing, provided the nature of these risks has been fully explained to them.

In our view it is realistic to treat those of 14 years of age and older as being able to make such decisions. It is therefore convenient to adopt the statutory definition of children (those under 14) and young people (those over 14).

2. Our advice to clubs is set out in this leaflet. This is based on the principle that if those responsible for the management of sailing waters:

- i. take the steps necessary to help sailors avoid the worst areas of contamination; and
- ii. fully explain to sailors the possible risks and the personal safety precautions that should be taken;

then those who choose to sail will have voluntarily accepted such risks as there may be.

This principle of 'acceptance of risk' would be an effective defence against a legal claim in a situation where, had the sailor not been made aware of the possible risk, liability might otherwise exist. It will not be effective against a claim by a child, because a child cannot be expected to assess the risks of sailing on waters affected by algal growth.

3. An instructor in charge of a group of children must provide the standard of care that would be given by a responsible parent having the same number of children under his or her supervision.

Instructors must therefore try and judge what a parent (having the same information on algae problems that the instructor has) would do when deciding whether to allow their child to use the water for sailing. If an instructor makes a sensible decision on this basis then no legal liability should arise in the event of some ill effects being felt by one or more trainees.

4. We are often asked 'should I obtain the written consent of a child's parent before allowing the child to have sailing instruction?'

Our view is that while it not essential to do so, it is good practice to obtain a parent's consent. It is important to realise however that such consent does not operate as an effective disclaimer of responsibility. The legal rights of a child will not be affected by a disclaimer made either by the parent or made directly by the child. Neither will those of a young person. The significance of the consent of the parent is that it indicates that you are behaving towards the child as they would do. It follows that you must make the parent aware of problems such as the presence of Blue-Green algae, so that they are giving you an informed consent. We suggest therefore that a copy of the Guidance is given to parents of child trainees, together with an invitation for them to discuss problems with you.

### Summary

Once you have identified a potential risk to sailing from Blue-Green algae you should:

1. Follow the Guidance issued by the RYA.
2. Explain the problem to the parent (s) of young people in your care for sailing, and provide them with a copy of the Code.
3. Invite the parents concerned to give their consent for their child to sail.

4. Using your own judgement on how this can best be done, explain the problem to the youngsters involved, and stress the personal safety precautions to be followed.
5. Finally: make sure your club or teaching establishment is insured against the possibility of a legal claim by anyone who does suffer harm from contact with toxic algae.

For more information kindly contact the RYA Legal Department (Environment Section) on 0845 3450373 or [legal@rya.org.uk](mailto:legal@rya.org.uk)

### **Further information**

Further information on Blue-Green algae and the management of the risks to human health can be found at:

World Health Organisation (WHO)

[http://www.who.int/water\\_sanitation\\_health/resources/toxicyanbact/en/](http://www.who.int/water_sanitation_health/resources/toxiccyanbact/en/)

Scottish Executive Health Department

<http://www.scotland.gov.uk/Publications/2007/04/20145428/0>

Disclaimer:

The RYA Legal Department provides generic legal advice for its members, affiliated clubs and RTCs. This leaflet represents the RYA's interpretation of the law. It takes all reasonable care to ensure that the information contained in this leaflet is accurate. The RYA cannot accept responsibility for any errors or omissions contained in this leaflet, or for any loss caused or sustained by any person relying on it. Before taking any specific action based on the advice in this leaflet, members are advised to check the up to date position and take appropriate professional advice.

Your Club Committee or School Principal has been advised that, if your water is affected by Blue Green Algae, dinghy sailing and windsurfing activities can still take place provided certain conditions have been met.

1. To avoid any legal liability on the club or school in the event of any damage, illness or death, every person wishing to sail on potentially affected water may be required to sign the declaration below attached to this information sheet at least once in each sailing season.
2. When water is affected by algal scum the following categories are at particular risk: paddlers, trainees doing capsizing drill, swimmers (including immersion sports), small children, pregnant women, domestic animals (if allowed to play in the water, or to drink it).
3. On a lee shore on a windy day algae and scum can be found at some distance from the water - keep animals and children away from these areas.
4. Dinghy sailors and windsurfers should wear clothing which is close fitting at the wrists and neck, also boots and sailing suits which fit into the tops of their boots to minimise contact with algae or algal scum.
5. Minimal time should be spent in shallow water launching and recovering boats and boards, and launching/recovery should be in areas away from thick aggregations of algae or scum.
6. Consult the club notice board before sailing for detailed information as to areas of the water to be particularly avoided.
7. After coming ashore sailors should hose themselves down to avoid bringing scum and algae into the changing rooms. All clothing should be washed and thoroughly dried on returning home. Do not store wet clothes.
8. If taking part in working parties in or close to the water do not strip off, even on hot days; to do so risks contact dermatitis.
9. Avoid horseplay in or near water.
10. The water should be patrolled by a safety boat whenever tuition is taking place.

DECLARATION to be signed by all helms, crews and others intending to go in or near the water at ..... (name of club/windsurfing centre).

I, (name) declare that I have read and fully understood the information provided by the club on Blue Green Algae and that in the event of any loss, damage, personal injury or death arising from contact with the water or algal scum I understand that the club/centre will not be liable for costs or damages because I have voluntarily accepted the risks associated with water containing Blue-Green algae.

Signed:.....

Date:.....