

## **Algal bloom scenario - draft**

Local Authority phone the EHS on a Tuesday with information that a member of public has reported that their two dogs died suddenly after drinking water from Lake Murkish, a local popular identified bathing area. A caller reported that the water appears to be a greenish-brown colour. The land immediately surrounding the lake is sparsely populated with a few dwellings, plus farm buildings on farm land, from which silage is cut during the summer and some of the surrounding land is under forestry. The nearest settlement is a town with a population of 3,000, which is less than three kilometres away.

The bathing area is popular with all year round swimmers and other water based activities including an activities centre which holds swimming lessons for beginners. Some of the local triathlon club train here. Sampling is carried out on a monthly basis by the LA and the last sample taken 10 days ago was satisfactory and the area is classified as "Good" on Beaches.ie. The weather forecast for the coming week is for dry settled weather, for the third week in a row.

### **What advice would you give to the LA?**

The following steps for the Local Authority are suggested;

1. Determine extent of suspect bloom (size of area involved, presence of scum in bathing location) and eliminate obvious cause (turbidity/discolouration due to weather/wave action/localised activity) which could give rise to such characteristics
2. Take a photograph of suspected bloom in situ.
3. Get a preliminary laboratory analysis if possible to confirm biological agent rather than suspended matter (suspended sediment, broken up seaweed, detritus, wastewater overflow etc). Local authorities will either use their own laboratory or a private laboratory to test the sample microscopically for species.
  - a. Actual toxicity testing can be carried out through a Scottish laboratory with expertise in this area. [Scottish Water, PO Box 8855, Edinburgh, EH10 6YQ 0345 ph 00443456018855; e mail: scientific@scottishwater.co.uk]
  - b. Kerry County Council has a lot of experience of monitoring and dealing with algal blooms and might be able to provide expertise in this if required

The LA ring back after visiting the lake, and confirm the greenish discoloration of the water. They send photos of the water. They have contacted the Scottish laboratory for advice on sampling, and intend to take samples for forwarding to the lab the following day - Wednesday. However, it will be Thursday at the earliest before preliminary results will be available.



### **What actions do you recommend that the LA take?**

Photos look highly suggestive of an algal bloom. That plus the deaths of the 2 dogs should lead to a precautionary actions and prohibition of water based activities at the lake, until sampling indicates that algal bloom is either not toxic or has dispersed.

Table 1 in Appendix 5 of BW & Health Guidance may be helpful in guiding actions.

Table 1 is helpful but if laboratory results and a detailed risk assessment is not possible/delayed and there is a concern about exposure risk, it may be safest to assume toxicity initially and bathing and exposure to contaminated water must be prohibited.

If confirmed as a Harmful Algal Bloom (HAB), bathing and exposure to contaminated water must be prohibited and the suggested standard warning signs should be erected. Depending on the nature and extent of the HAB the suggested standard warning may be supplemented with further advice to the public.

### **What actions should Public health take?**

Make contact with the local GPs, GP out of hours service and ED to advise of algal bloom and likely symptoms. Request that they inform your department of any possible cases of toxicity.

**A tri-athlon is planned at the lake the following weekend and swimming lessons for beginners and intermediates are to take place on Friday evening? What advice do you give about these activities?**

All water based activities should be prohibited until the criteria for lifting the prohibition notice are met.

The decision as to when to remove restrictions should take into account a variety of factors including the species toxicity, presence of scum and will be dependent on obtaining a favourable environmental risk assessment including;

- 2 clear samples if possible, ideally a week apart
- No obvious evidence of algae present
- Weather and environmental conditions which could cause recurrence of the bloom