

Fisheries incidents, algal blooms and hot weather.

It's very much the season for fisheries incidents at the moment. There have been several instances of dissolved oxygen crashes in lakes as heavy algal blooms die off rapidly in the changeable weather. Algal blooms are typified by loss of water clarity as it turns green and possibly a blue green paint like scum at the windward end of the lake. Not all the species release toxins but it is best to assume that this is a possibility. As such it would be recommended to remind people to keep themselves and pets, especially dogs, out of the water. Any wet fishing kit should be thoroughly dried off in sunlight.



An algal scum gathered on the end of the wind.

Often these blooms will slowly dissipate as the nutrient levels reduce causing little further issue. If however the entire bloom dies over a weekend then there is usually trouble

. As the microbes present in the lake start feeding on the dead algae they in turn multiply and start using up more and more oxygen. This leads to a dissolved oxygen crash as all the available oxygen in the water column is used up. When oxygen levels get to a certain point then we find fish starting to gasp at the surface.

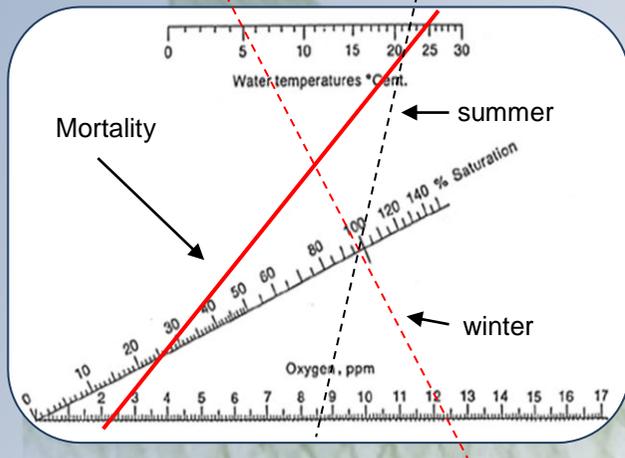
Some fish, e.g. perch, are often the first to start gasping and these are often the first indicator that there is a problem. As soon as this happens someone needs to call the **Incident Hotline on 0800 807060**. An Agency officer can then attend and decide on a course of action.

Drastic changes in weather, for instance a big low pressure system moving in after a period of high pressure, can often trigger these crashes. The reality is that these events can happen with little warning and the damage is done very quickly, often before anyone notices. If you have a lake with an algal bloom on it then it is recommended that a close eye is kept on it. At the first sign of trouble we can attempt to deploy aeration to add more oxygen to the water column, if we are called in time.

We are also in a period of below average rainfall for the region so ponds and lakes may be shrinking and the headwaters of rivers may be drying out. We rely on the public to bring incidents to our notice so that we can act. If you think there may be a problem then do not hesitate to call the incident hotline on **0800 807060**

A brief introduction to dissolved oxygen

When Environment Agency officers attend a fish kill if there is no obvious cause of death then one of the first things they will do is take a reading of the dissolved oxygen (DO) levels in the waterbody. This is expressed as a percentage with 100% being the state in which the water is carrying all the oxygen it can (saturated) for the given conditions. Water temperature can play a big part in this as water at 5°C will be holding more oxygen as water at 15°C, despite being at 100% saturation. See graph below. The added lines represent different conditions. This is part of the reason so many low DO events happen in the warm summer months. The solid red line is probably when fish start dying.



However we do see instances where water can become super-saturated with oxygen and readings of 150% or greater can be seen. This is typically found in a waterbody with lots of plants or

algae. As the plants photosynthesis they take in carbon dioxide and release oxygen. Mid-afternoon on a sunny day often sees the highest DO levels as photosynthesis reaches its peak. During the hours of darkness plants respire like us, taking in oxygen and expelling carbon dioxide. This means that by the end of the night, just before the sun has come up, DO levels in the waterbody are at their lowest.

Fish survey data available to all!



There has been some huge progress of late in getting governmental department data on the World Wide Web for all to see. The www.data.gov.uk site holds data concerning business, finance, health, defence, transport, environment and much much more. Possibly of most interest to this audience will be the availability of fish survey data. <https://data.gov.uk/dataset/freshwater-fish-counts-for-all-species-all-areas-and-all-years>

I will warn you, if you download it you will get all the data that is held on the National Fisheries population Database (NFPD) in one huge spreadsheet. It requires filtering to help focus on a particular Area or river catchment, so it's best to have an idea of what sites you wish to look at



If the Water Framework Directive interests you then there is also fish classification data for cycle 2 present <https://data.gov.uk/dataset/wfd-cycle-2-river-fish-classification>

For assistance making sense of the data please email stuart.manwaring@environment-agency.gov.uk

Habitat improvements on the Chalgrove brook.

The Watlington Watercourses Group have held a series of working parties to improve the habitat for wild trout on the Chalgrove Brook, a tributary of the River Thames. Local residents, the River Thames Conservation Trust, Wild Trout Trust and the Environment Agency all pulled together to complete the practical work. In total four days of practical work took place.

Members of the West Thames Environment Programme Team and IEP team used their environmental leave to spend a morning building brushwood berms and flow deflectors.

Other local environment groups are planning to visit and it is hoped they will be inspired to improve their local streams using similar techniques.

Fisheries Technical Specialist Andy Killingbeck helped on two of the days and gave guidance and support to the group. "It is good to see local people taking care of their brook. Their work has generated more interest within the community and in other communities downstream. If we look after these small watercourses it will have a knock on benefit to the main rivers."

Now that the local groups have the skills, there are plans to continue the work along further sections of the Brook. Fish easement at Cuxham Mill is also planned which will now permit fish to move more freely up and down the Chalgrove brook. A low cost solution using wooden baffles will create a series of pools for fish to use as 'steps'. These steps will help the fish negotiate the barrier at the Mill.

For more information on this please email andy.killingbeck@environment-agency.gov.uk



A series of brushwood berms now provides some diversity to the Chalgrove Brook that was once lacking.

All change for fisheries enforcement in Thames Area

A bit of an over dramatic title perhaps but at the end of June we bid farewell to bailiff extraordinaire Mick Cox. Seizing his chance he handed his notice in and was last seen, with a spring in his step, heading towards a life of DIY and hopefully a bit of fishing. Team Leader Dave Brain was quick to get the ball rolling on the recruitment of Mick's replacement and it is hoped that we will be back up to a full complement of Fisheries Enforcement Officers (FEOs) by the end of October. This also coincides with Phase two of the Voluntary Bailiff (VB) Scheme which sees two VBs fully kitted out with all the gear necessary to assist with rod licence checking. Amongst other things, the aim of this will be to free up the fully warranted Environment Agency FEO's so that they can spend more time pursuing other fisheries offences. For more information on this story please email david.brain@environment-agency.gov.uk

New round of bids accepted for Angling Improvement Fund.

The Angling Trust is inviting applications for a share of £200,000 to help fund projects to manage fish predation and improve 'access for all' at fisheries. The money has come from rod licence sales in England and will be used by the Angling Improvement Fund (AIF) to launch at least 40 angling projects this year.

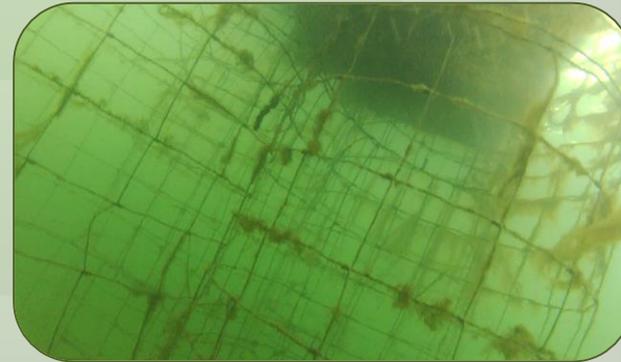
Supported by the Environment Agency, the aim is to fund projects that will encourage more people to go fishing. As long as a project meets the eligibility criteria, the Angling Trust welcomes applications over the next two months from a wide range of angling providers – individually or in partnership – including clubs, commercial fisheries, charities and local authorities. Crucially, you don't need to be an Angling Trust member club or fishery to apply.

Follow this link for case studies on recent projects - [Angling Trust Project bid winners](#)

As in previous rounds of the AIF, this latest funding will be used to better address a particular area of need in the National Angling Strategy. The Angling Trust will be looking for projects that will tackle two specific themes.

Theme 1 - Fish predation:

Non-lethal methods to control cormorants and goosanders, fish refuges, otter-proof fencing and other projects to manage unsustainable predation of fish stocks. Up to £5,000 will be available for individual projects and fisheries and clubs may apply even if they are not day ticket waters.



A fish's eye view of a refuge

Theme 2 - Access for All:

Open to inclusive projects seeking to increase participation by anglers who are currently prevented or discouraged due to poor access facilities in and around the fishery. Preference will be given to projects that address obstacles faced by people with physical, sensory or learning impairments or with long-term health conditions.

More information can be found here <http://www.anglingtrust.net/news.asp?section=29§ionTitle=News&page=4&itemid=3316>

Baffled weirs benefit fish on the Wye

The Wycombe Wye is only 9 miles long but has dozens of weirs along its course. Many of these are relics of water mills dating back to the industrial revolution and beyond. Most of them represent a barrier to the movement of fish up and down the river and at the downstream end they have severed the natural link between the Wye and the River Thames into which it runs.

Traditional solutions to fish passage problems at weirs and dams have normally been purpose-built to provide favourable hydraulic conditions for fish swimming in the upstream direction. Such fish passes can be expensive to build, especially when added to an existing structure.

In response to the need for an alternative, a three-year research project into low cost modifications to some weirs to improve fish passage was undertaken. This research led to the development of 'low cost baffles' which can be bolted on to existing structures to facilitate fish passage.



Baffles have now been installed at Hedsor gauging weir and a crump weir at Bourne End. For more information on this please email stuart.keable@environment-agency.gov.uk

Thames Boom Boat fish surveys

After several weeks of hard work the data has now been collected and the survey team are busy adding it to the National Fisheries Population database. A good portion of the margins of the Thames from Oxford to Teddington has been electric fished and a proportion of the reaches has also been surveyed with hydroacoustic monitoring equipment.

The results of the stretches between Oxford and Benson are through now and although the weight of fish caught was comparable to previous years it was however an excellent year for numbers of fish with an average of 15.4 fish per minute caught. The Abingdon to Culham section actually recorded over 27 fish per minute of surveying, roach making up just over half of this. Fourteen species in total were recorded. This included barbel, eel and zander.

In comparison the Thames between Benson and Hurley only had an average of 5.7 fish per minute this year with roach making up around two-thirds of the catch. Once again fourteen species were caught including carp, eel, rudd and silver bream.



The team have also been out on the boom boat recently on the Lower Thames and there are also surveys booked in the diary for surveys between Lechlade and Oxford. For more information please email Jonathan.baxter@Environment-agency.gov.uk

The River Thames Scheme, Datchet to Teddington.

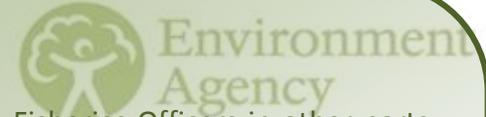
The River Thames Scheme – Datchet to Teddington is a flood relief project which aims to reduce flood risk in a number of communities along the Lower Thames. A 17km long flood channel, in three distinct sections, will help convey water past previously affected areas. Other elements of the scheme involve increase the flow capacity of three weirs, installation of property level flood protection to 1,200 homes and 40 hectares of wildlife habitat.

Land is at a premium in this area so the general concept will be to link up a number of gravel pits to create a series of new channels. These will provide extra capacity in flood events and permit water to move down the Thames sooner and quicker before peak levels such as those seen a few years back are reached.

Prior to works starting it has been necessary to undertake a number of ecological surveys. Of particular importance was for us to identify any invasive non-native species. As some of the lakes will be opened up and connected to the Thames it is important that the Environment Agency does not facilitate the spread of any of these troublesome species.

More information on the scheme can be found here <https://www.gov.uk/government/collections/river-thames-scheme>

Environment Agency Blogs



Interested about what happens to Fisheries Officers in other parts of the country or even the other Environment Agency departments? There are a number of blogs on the EA website that give a great insight into what folk are getting up to. <https://environmentagency.blog.gov.uk>

There is then the option to select different categories from fisheries and biodiversity, flooding, climate change, regulated industry and so on. Fisheries topics include fish in distress, surveying, salmon stocks, the Fisheries laboratory, enforcement and habitat enhancements.

Contact Us

If you would like any further information about any articles in this newsletter or have any other queries please contact Stuart Manwaring.

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