



Institute of Fisheries Management

Managing Fisheries in Prolonged Dry Weather

Even though the end of the winter saw some of the heaviest rain, and highest river levels, ever recorded across parts of the country the spring has been the exact opposite. This spring was the sunniest on record and May was the driest since records began with only 9.6mm of rain falling. This has led to rivers, reservoirs and lakes that were flooding and overflowing in February now beginning to dry up and shrink at an alarming rate.

Be Prepared

Fisheries now need to be taking action to ensure that their stock remains healthy as water levels fall and water quality issues, especially dissolved oxygen, becomes an issue.

Time put in to planning now will prevent fisheries being unprepared should these dry conditions continue further into the summer.

Fishery staff should be visiting waters to check dissolved oxygen levels regularly throughout the day if possible. If this isn't feasible then aim to visit the water at dawn, when oxygen levels are at their lowest, so that you can act if needed.

Aside from decreasing oxygen levels rising temperatures will cause thermal stress, reducing resilience of fish to other environmental stresses and to disease and parasites.

Keep an eye out for algal blooms as these can lead to wild swings in oxygen levels over a 24hour period. There is also a risk of an algal crash which can lead to rapid falls in DO and an increase in ammonia as the algae dies.

Aeration



If you do see decreasing oxygen levels be prepared to add additional aeration. This could be as simple as having water pumps that can be used for moving water around to specialist aeration equipment e.g. paddlewheels. If you don't have your own can you share some with other waters in the area?

Have you had your aeration equipment serviced and do all the members of the fishery team know how to deploy it? Have an

in-house training course for committee members and bailiffs so that you always have a number of people who can use the kit.

There are cheaper alternatives available if you don't have the money for commercial aeration. The Environment Agency have made a great video on how to make a cheap venturi aerator with equipment from a DIY shop. You can watch the video on YouTube here <https://youtu.be/IZyrl5Oiqpo>

When employing aeration make sure you set it up in the correct area of the lake. In shallow water there is a risk that you will mobilise silt, which not only looks and smells bad but could also liberate a whole raft of chemicals that are locked within it. In confined spaces paddlewheel aerators can also create tow and erosion to soft, unprotected banks.

Consider ways to increase vertical mixing in deeper waters, this will prevent areas of lower oxygen forming as the lake stratifies.

Fishery Management

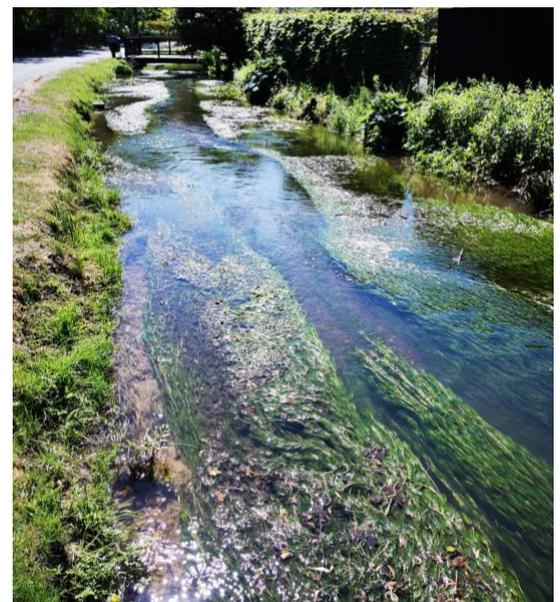
Minimise fishery management tasks such as weed cutting and tree pruning as much as possible. Cutting weed can also disturb the silt which in turn puts greater demand on oxygen levels, it will also increase turbidity which limits photosynthesis and thus oxygen production of any remaining weed. The weed can also help to maintain water levels. If you must cut the weed limit it to only 20% of the surface area and make sure you have an oxygen meter on hand to keep an eye on levels. You should also be removing the weed and not leaving it to rot down on the bank as the rotting material leaches into the water and sucks more oxygen out!

It is too late now to be adding barley straw and lake dyes as this can destabilise the algae and lead to a crash. Plan ahead for next year and get your barley straw and dye ready to add in February before the algae gets going.

Over hanging branches provide valuable shade and cooler water for fish as well as cover from predation. You may want to consider stopping fishing in very overgrown areas to provide the fish with a safe place to retreat to.

In rivers weed growth is particularly lush this year. If cutting consider bar cutting or forming channels to manage water levels and aid water movement and oxygen. Do not cut too much as it provides important shelter, shade and traps considerable volumes of silt. As with ponds don't pile the weed on the bank, make sure it goes into a dedicated trap or is removed altogether.

You should not be considering adding stock at this time of year, wait until conditions cool off in the autumn. If you feel as though your stock level is too high, and this is



putting additional stress on oxygen levels, then you might want to consider cropping smaller fish to reduce demand. Please ensure you have all of the permissions and paperwork in place from the EA or NRW before undertaking a fish removal.

Ensure that all water control structures e.g. sluices are maintained. You don't want to be losing precious water through something that is easily fixed.

Angler Management

As much as anglers may not enjoy being told what they can and cannot do it is important that they understand that their actions can also have a detrimental impact on fish health.



At the current time there are a lot of anglers on the bank, and fisheries are seeing almost every peg taken every day of the week. The amount of bait that is going into waters is phenomenal and not all of it will be eaten. Now would be a good time to implement bait limits and to ensure that you are patrolling the banks regularly to make sure they are being followed. Limiting bait volumes and types will help control the amount of additional nutrient

inputs that can put strain on oxygen levels. Lots of high protein baits can also lead to spikes in ammonia which with high stock levels and reduced water levels may reach dangerous levels.

With high water temperatures and low oxygen levels it is important to reduce stress levels on the fish as much as possible. Restrict the use of keepnets to matches only, and even during matches consider using multiple weigh-ins to limit the amount of time fish are held in a confined space.

As water temperatures rise, and oxygen levels fall in rivers, sensitive species such as barbel, pike, trout and salmon are very susceptible to damage and death if not looked after properly. Barbel should not be held in keepnets and anglers should ensure that they are fully recovered before releasing them. Salmon should not be targeted in shallow, still pools where water quality will be poor. If trout and salmon are to be fished for anglers should be following catch and release guidance as set out by the Wild Trout Trust (<https://www.wildtrout.org/content/catch-and-release>)

Pike are incredibly sensitive to low oxygen levels and anglers should not be targeting them in the summer months.

Prevent specimen anglers from sacking fish overnight as oxygen levels can fall to critical levels in shallow water during the hours of darkness.

Anglers should be minimising the amount of time they keep fish out of the water. If possible ask them to take pictures of fish in the water (if safe), alternatively they should leave the

fish in the water until the last minute before taking a quick picture and then returning the fish. If they must take fish out of the water ensure that all kit is well wetted with fresh water beforehand and the fish is kept wet throughout. Do not leave buckets of water or unhooking mats in the sun as the temperature can soon rise.

There have been a number of reports of fish, particularly carp, with sores and lesions on their bodies. It is a good idea to have fish care kits and instructions on hand for anglers to use should they catch a damaged fish. These can be put in first aid boxes and attached to posts around the fishery for ease.



With increasing numbers of anglers, it is even more important that fisheries maintain the highest possible level of biosecurity. The IFM has recently released a guide to biosecurity for fisheries which can be downloaded on our website (<https://ifm.org.uk/ifm-biosecurity-guide/>)



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