

Acute summer weather - thunderstorms

Lines to take on how you can protect your fishery

2025

What causes a thunderstorm?

A thunderstorm develops when the atmosphere is unstable. Warm, moist air rises into the atmosphere, cools, and condenses into clouds.

Thunderstorms are most likely to occur during the spring and summer months, particularly in the afternoon and evening when temperatures are at their highest. These conditions provide the warm, moist air needed for thunderstorms to develop. However, they can happen year-round and at any time of day.

In the UK, thunderstorms are most common over the East Midlands and the Southeast.

Why can thunderstorms be a problem for fisheries?

A thunderstorm often occurs during spells of hot, dry weather. These conditions in themselves can cause problems for fisheries due to lower dissolved oxygen levels and reduced water volume. Low atmospheric pressure during a thunderstorm further reduces the capacity of the water to hold oxygen, greatly increasing the risk of fish suffocating and dying.

It is not possible to have thunder without lightning. However, depending on where you are in relation to the lightning strike, you may not always hear the thunder. Before a lightning strike, a charge builds up along the water's surface. When lightning strikes, most of the electrical discharge occurs near the water's surface. As most fish swim well below the very surface layer, they are mostly unaffected, but any in the 'wrong place at the wrong time' could be killed through electrocution.

Heavy rainfall and lightning can also lead to sudden changes in water quality, including fluctuations in temperature, and pH. These changes can stress fish and disrupt their feeding and breeding patterns. Additionally, increased run-off from storms can introduce pollutants and sediments into water bodies, further impacting water and habitat quality. Understanding these impacts is crucial for fisheries management, enabling the implementation of management strategies to help your fishery.

How you can be prepared

You can take several proactive steps to protect fish from the impacts of thunderstorms:

- **Monitor the weather:** Closely monitor the weather forecast for your area: [UK weather - Met Office](#)
- **Aeration:** Install an aerator(s) **in advance** of a storm occurring and keep it running. This helps prevent / manage oxygen depletion, which can stress or kill fish.
- **Assess water quality:** Monitor regularly (temperature and dissolved oxygen especially) and assess in-line with what is 'normal' for your water(s).
- **Shelter and cover:** Aquatic plants provide shelter for fish and help absorb nutrients from the water.

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

- **Stop feeding:** Consider stopping any supplementary feeding during a storm. Dissolved oxygen levels temporarily reduce after feeding. You may wish to temporarily stop angling for similar reasons (additions of bait etc.) and because playing fish expends oxygen.
- **Management plan:** Consider and evaluate fisheries management practices:
 - Do you know the approximate stocking density of your water(s)?
 - Are you experiencing regular algal blooms?
 - Does your water(s) have high nutrient levels, e.g., through feeder stream inputs, lots of bait going in, too many fish etc.?

All these elements can impact on the balance of your fishery, potentially putting your fish at risk before a thunderstorm has even occurred. For advice and guidance, contact your local Environment Agency Fisheries Team.

- **Responsibility:** Primary responsibility sits with the fishery owner / responsible party, but we can support you in an emergency - call our **Incident Hotline** on **0800 80 70 60**.

By implementing these measures, you can help mitigate the adverse effects of thunderstorms and maintain a healthy environment for your fish.