

### Life after fish mortality

A fish mortality can severely damage a fishery and its quality of angling. But, there is no reason why the fishery cannot recover and be successful in the future.

Before allowing fishing again it is vital that you know what caused the mortality. This will help stop it from happening again and guide the future management of the fishery. Looking at the management and conditions within the fishery is therefore very important and will benefit the future of the site and business. When to re-open a fishery will depend on the cause of the fish deaths, but the following can be used as a general guide:

#### Recovery of your fishery

Always give your fishery time to recover after a mortality. This will help you make sure that the losses have stopped and will allow the natural balance of your fishery to re-establish. Working out what caused the mortality will help you to decide how much time is needed for your fishery to recover.

If poor conditions in the fishery (such as habitat and water quality) caused the losses, then these problems will need to be sorted before the fishery can fully recover. Dead fish can affect water quality, so always remove them as soon as they appear. Regular monitoring of the water quality will also help you to work out when the conditions have stabilised.



A healthy fishery.

If the fish died because of a disease, then the pathogens are still likely to be in your fishery. In order to prevent a second outbreak you need to help your surviving fish recover as quickly as possible. Good water quality, stress free conditions and balanced nutrition, will help them to build up an immune response so that they can fight infection and reduce the risk of further losses. Keeping your fish healthy is therefore very important.

A fishery can take time to recover. It is always wise to get professional advice on how best to proceed and when to re-open your fishery. If you don't give your fish time to recover, or if the conditions remain unsuitable, then further losses are likely.

#### **Fishing**

Only re-open your fishery once the mortality has stopped and the conditions are suitable. Allowing fishing to re-start too soon could stress surviving fish and lead to further losses. When fishing does re-start, allow the numbers of anglers to build up slowly. Keep angling pressure low and don't have matches as soon as you open the fishery for business again. Using and improving biosecurity is also important as it can help protect your fishery and other fisheries from disease.

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Page 1 of 3



#### Re-stocking your fishery?

Before you decide to re-stock after a fish mortality, think carefully about what type of fishery you are trying to develop and if stocking is actually necessary. Think about the following questions as they should help you to achieve the best from your fishery.

#### What caused the mortality?

A high stock density could have been a contributing factor in the mortality. You don't want to increase the stock density to a level that could cause the same problems again, resulting in more deaths.

Also think about what other factors could have been involved, such as poor water quality and lack of habitat. If there were problems with the conditions in the fishery then make sure these have been improved before you even consider stocking more fish.

#### How many fish did you lose?

Think about how many fish you lost. Even if you lost 25 per cent of your population, you may not need to re-stock. Remember that if the conditions are right in the fishery and the fish are healthy, they will reproduce naturally. This will allow the numbers of fish to increase slowly over time and by reducing the risks linked with re-stocking, it will be better for the fishery.

#### What species of fish did you lose

If the fishery was a single-species fishery then the effect of the mortality is likely to be higher than in a mixed species fishery. In terms of the future of the fishery, it may be better to run a mixed-species fishery as the impact of a fish mortality is likely to be less. So think

carefully about which species of fish to stock.

### How successful has the fishing been since you reopened the fishery?

Always bear in mind that once the surviving fish have recovered, they will start feeding again. You don't need lots of fish to provide good catches for anglers. So if the fishing is good after you have reopened, leave it as it is and don't re-stock.



A mirror carp caught in a healthy fishery



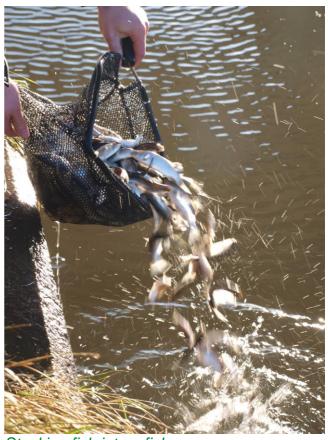
# Are you actually allowed to restock you fishery?

If your fishery had a notifiable fish disease outbreak (such as Spring Viraemia of Carp or Koi Herpesvirus) then your fishery may have a Designated Area Order. This means that you can't stock fish into your fishery without getting the permission of Defra. You also won't be able to move fish out of the fishery. This is to protect other fisheries and bodies of water.

# What should you do if you are going to re-stock?

If you are able to and do decide to re-stock, a few simple ideas will help to reduce the disease risks:

- Create a fishery plan and slowly build up your stock to meet these aims.
- Don't stock the fish all at once. Introducing small groups of fish over a long period of time will reduce stress levels. It will also enable you to keep an eye on the health of the old and new fish following introductions.



Stocking fish into a fishery.

 Stock fish during lower temperatures from autumn to early spring. Moving fish during this time will be less stressful. It will also reduce the risk of disease outbreaks, producing healthier stock.

Remember that a fish mortality is not always the end of a fishery. You just need to know how to prevent it from happening again.

This fact sheet has been produced by:

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Page 3 of 3