

## Information for Fish Keepers

### Can I use tap water in my pond or aquarium?

Water quality standards are set to ensure that tap water is safe for humans to drink. At water treatment works, the pH of the water is adjusted in order to ensure the water is not corrosive to metallic pipework and chlorine is added to make it safe to drink. Fish do not naturally encounter soft alkaline water and chlorine is harmful to them, so drinking water from the tap requires conditioning before it is used for keeping fish or other aquatic organisms. However, as long as some basic rules are followed, tap water can be used in aquariums or ponds for keeping hardy species of fish.

Some types of sensitive fish require additional adjustments to drinking water before it can be used and so it is important that the specific water requirements of individual species of fish are established at the outset. For example, marine fish need added sea salt, whilst some Amazonian fish require soft acidic water and Malawi cichlids appreciate hard, alkaline water. These adjustments are even more important when breeding sensitive species.

It is recommended that before fish, in particular marine and tropical fish that require very specific environments, are purchased or acquired, a fish keeping book or the fish supplier are consulted to find out what specialist equipment or chemicals are needed to treat the water.

### The basic rules for fish keeping

- Always use water from a mains-fed cold tap, do not use a tank supply.
- Allow the tap to run for a sufficient period to remove standing water from the pipework before filling a container.
- Some fish and particularly marine invertebrates are very sensitive to the metals taken up from domestic pipework like copper and zinc, which can accumulate overtime to problem levels in tanks or ponds.
- Never use water from a hot tap, or artificially softened water.

### Temperature

Tap water is generally much colder than the water in indoor aquariums and fish tanks, and can also be colder than pond water in summer. Fish are vulnerable to rapid temperature changes, they can go into shock which may be fatal.

For heated aquariums, warm the water prior to addition by adding a little boiled water heated in a non-metallic container, or by using an aquarium heater to raise the temperature. Slowly adding a mist spray of water to top-up evaporation losses from ponds shouldn't cause problems, provided, only small amounts are added on a daily basis.

### Chlorine

To make sure that tap water is safe to drink, Dŵr Cymru Welsh Water disinfects it using low concentrations of chlorine. In some areas we also add ammonia that combines with the chlorine to form long lasting chloramines. Whilst chlorine / chloramines are not harmful to humans, they are harmful to fish and other aquatic organisms. It is important therefore to always remove chlorine and chloramines from water before it is used for fish keeping purposes. This can be done by adding a dechlorinator to water before it is added to a tank or pond. It is essential that the manufacturer's instructions are followed when using a dechlorinator. If an area is supplied with chloraminated water and sensitive fish such as koi or discus are being kept, a conditioner should be used that is designed to remove the ammonia from the water that may be liberated from the breakdown of the chloramines. Again, follow the manufacturer's instructions when adding conditioner.

### Does mains water change once it's added to a tank or pond?

Yes, fish waste, plant and algae growth, overfeeding and poor filtration, all produce toxic nitrogenous waste, and lower dissolved oxygen levels. Algae growth can result in rapid daily pH changes. If nitrogenous waste is allowed to accumulate this will cause distress to fish and they may die. Biological filters can be used to remove nitrogenous waste, but must be maintained to ensure they are effective. Many good books on pond design and husbandry of aquaria and ponds are available from libraries. Specialist books, equipment and test kits are available from aquarist shops.