To have fish or not?

By Ian Thornhill

It is often suggested that if you want a wildlife pond then you should not introduce fish. There are a number of reasons why fish might have a negative impact upon plants and animals in your pond, however some of these impacts can be managed. Fish are a perfectly natural component of many ponds (particularly those in flood plains), and many ponds retain a diverse array of insect and plant life whilst also supporting fish. Equally, it is important to recognise that not all ponds would naturally have fish and many would not but for the influence of people. For wildlife garden ponds, it is also much safer to prescribe no fish than it is to suggest how many fish are appropriate, the species, and how you might manage their impact upon your pond.

Fish will eat the eggs and adults of a number of invertebrates and also amphibians such as frogs and newts. As a general rule of thumb, fish will eat the more mobile and obvious aquatic insects and insect larvae. So it follows that many people have added fish to their garden pond, only to find that the dragonflies and water beetles have disappeared. One way that the impact of fish can minimised is to encourage complex and dense aquatic vegetation in some areas of your pond that will act as a refuge for potential fish prey. Similarly, it may be possible to create a fish exclusion area with relatively fine mesh dependent upon the size of your fish. Moreover, you could simply have one pond for fish, and one not and you will soon witness the difference. Obviously, the larger your pond, the more opportunities you have to accommodate fish and would-be fish food.

The type of fish is a further consideration. Benthic feeding fish, those that grub around at the bottom of the pond, will stir up sediment which in turn will release nutrients and reduce the amount of light able to penetrate into the pond to be used by plants. Some commonly stocked benthic feeding fish are members of the carp family (including goldfish), bream and tench. As a result of their feeding activity, these fish will uproot and also feed on aquatic vegetation so, taken together, the result of introducing them can be an unappealing barren and brown pond. Species that feed away from the bottom include roach and rudd. These species are more likely to take their prey from the water’s surface, off plants and from the water column and occasionally will feed on algae, so in the right densities might be more suitable to a garden pond. Most likely to be found in a natural pond are stickleback (three-spined or less frequently the nine-spined), which rarely exceed 8cm in length. In larger ponds sticklebacks have a minimal impact upon wildlife, but in small garden ponds the impact could be greaterd.

The interaction between amphibians and fish is an interesting one. Even the smallest fish will directly compete with tadpoles for food. Larger fish will predate upon spawn, tadpoles and newt larvae. The presence of fish is generally considered detrimental to a ponds potential to support great crested newt, for example. On the flip side, during the breeding season male frogs and toads are pretty indiscriminate over what they latch onto and this can include fish. Usually though, the fish is released before any harm is done.

If the number of fish introduced is correct so there is a good balance between predator and prey, there should be no need to supplement their feeding with fish-food like pellets or flakes. Actually, if you have to supplement their feeding then you probably don't have a wildlife garden pond. With supplementary feeding, fish release extra nutrients in their excrement and

it's possible that you will need to install some form of filtration system which will disrupt normal planktonic life..

If after careful consideration fish are still to be introduced, then it is important to have some areas that are at least one metre deep throughout the year. This is particularly important where ponds are liable to be sealed under ice during the colder months when oxygen levels can rapidly decrease causing stress. This can similarly occur during the summer months as high temperatures reduce the solubility of oxygen, while driving up the metabolic rates (and need for oxygen) of the fish and other animals. Pond managed mainly for fish often have pumps with fountains or cascades to maintain summer oxygen levels.