



10 Tips for Maintaining your Lake or Pond

Pond and Lake Maintenance

Like fingerprints, no two lakes are the same. They each have their own unique eco system and the delicate balance between temperature, nutrients, and oxygen plays an important role in creating the management programme for any lake or pond.

Keeping your lake or pond in a healthy and thriving condition needs to take into account a number of factors, so here are Aquatic Solutions top 10 tips for looking after your lake or pond.

1. A Question of Shade

Trees and tree roots do offer benefits to any pond or lake they are sited next to. The main one is the shade they provide from full sun, which helps keep the temperature of the water down. This is beneficial to plant and animal life in the pond, and will also help in inhibit the growth of algae.

However, too much shade will reduce plant growth and fallen leaves will lead to an excess of decaying organic matter at the bottom of the pond. The natural process of decay will reduce the oxygen levels in the water to an extent that is detrimental to plant and animal life. While some decaying matter is necessary for certain aquatic life, too much is harmful, so ensure that you remove some, but not all leaves to ensure a healthy balance.

When siting a new pond bear in mind that some trees are poisonous, for instance – laburnum, and bay, laurel, yew and lime trees may also cause problems for fish ponds.

2. Reeds and Rushes

Reeds and rushes not only look attractive they are extremely beneficial for a number of reasons.

- They provide refuge for a number of endangered, rare and uncommon species
- Create an ideal habitat for bird watching
- Treating sewage and areas of poor water quality



- Filter soil and run off from arable fields
- As bankside protection from erosion

However they can quickly multiply and get out of control, overtaking a body of water completely. To keep these under control and confined to the areas that you're happy with, they will need bi-annual cutting or for larger scale control, digging out by the roots.

3. Oxygenate your water

A healthy pond is well oxygenated, a necessity for the break down of decaying vegetation matter and fish waste, the survival of fish, amphibians and plant life.

In a pond lacking oxygen the water becomes stagnant and will smell unpleasant, and a thick layer of algae will develop very quickly, which further depletes oxygen levels.

Waterfalls, aerators and an appropriate balance of animal and plant life all help to achieve a well oxygenated, healthy body of water.

Choose plants with care. Some non-native aquatic plants can be invasive and prevent others from becoming established, so go for a selection of native aquatics.

Submerged Plants: Submerged plants are extremely valuable – providing 3 essential functions. Firstly they oxygenate the water – essential for a healthy pond and aquatic life. Secondly they dissolve nutrients which helps to reduce algae by conditioning the water. Thirdly they provide essential shade for fish and their spawn. But beware! Some species of oxygenating plants can be invasive and need to be controlled regularly.

Emergent Plants: Plants with floating leaves and plants that grow out of the water also offer essential shade with their leaves.

Bankside plants: A broad margin of plants around the edge of the pond acts as a filter and removes nutrients and chemicals from the water.



Bankside plants are also important as they provide shelter and food for animals living in the pond and those that visit, including dragonflies, damselflies, mayflies, frogs and toads.

4. Weed Control

Some aquatic plants can be extremely invasive, and while putting oxygenating plants can seem like a good idea at the time, these can soon take over your pond and out compete native species. Keep the invasive plants under control (once introduced they can be almost impossible to remove permanently):

Submerged plants

- In garden ponds thin the weed frequently using a rake
- In larger, shallow ponds and lakes try thinning using a long-handled scythe to cut by hand. In deeper water use a chain scythe. For large specialist contractors can be employed using weed cutting boats or weed bucket attachments
- It is likely that cutting will be required twice during the growing season
- Do not cut *Crassula helmsii* as it will regrow from tiny stem fragments
- Most water weeds float to the surface when cut and it is essential that as much as possible is removed from the water; left in place it decays leading to de-oxygenation. Where there are flow outlets, booms should be placed to prevent the weed washing downstream

Marginals

- Lift and divide *Iris pseudacorus* (yellow flag iris) every three to four years
- For small natural ponds, hand-pulling is highly effective but try to ensure the roots are pulled out. Alternatively, plants can be dug out
- Cutting in July or August limits the time for regrowth before the end of the growing season but has to be repeated annually.



- A floating boom can be used to sweep the surface from end to end
- Stop-boards should also be fitted at upstream inlets to prevent weeds entering
- Duckweeds do not compete well with other floating-leaved plants such as water lilies
- Whatever methods are used, complete control is usually impossible. Regular inspection is therefore necessary to prevent re-establishment
- A biological control (*Stenopelmus rufinus* weevil) for Azolla is available

Floating-leaved plants:

- These can be cut and cleared the same way as submerged water weeds. With waterlilies, however, cutting gives only short-term control as new leaves will regrow from the rhizomes
- In garden ponds, plants can be lifted out every two or three years, thinned and replanted. The use of planting baskets makes the job easier
- Many aquatic weeds are intolerant of shade. This can be created by bankside planting of taller marginals or trees and shrubs on the south side
- In larger, still waters, with heavy infestations, black polythene sheet weighted at the corners can be used to shade out water weeds but it should remain in place for at least four to six months. Don't cover more than 30-50 percent of the surface area so as to conserve fauna and reduce the risk of de-oxygenation.

It is very important that weeds removed from ponds or lakes are composted, buried or burnt. On no account should they be transferred to rivers, other ponds or lakes. Several introduced pond weeds, widely available from garden centres, cause enormous problems where they escape or are introduced into the wild.



6. Care with chemicals

Be careful when using pesticides, fertilisers or other chemicals near a pond. Water draining off the land into your pond or lake will carry these chemicals with it and if you use sprays near water they can easily drift.

Small ponds are not able to dilute toxic chemicals sufficiently so they will have a big impact on plant growth and animals. Use only spray operators who are qualified to use herbicides, in and around water, ie Aquatic Solutions UK.

7. Avoid tap water

Tap water in the UK is treated to a high standard so it is safe to drink but often it still contains high levels of nutrients. These nutrients come from fertilizer washed off fields into our waterways, from domestic detergents and from run-off from hard surfaces like roads. Tap water is also disinfected with chlorine.

In short, tap water is not friendly to wildlife in ponds and adding it to your pond will raise nutrient levels, encourage algae and may turn the pond murky green.

It is natural for pond levels to be lower in summer, and many wetland plants and animals enjoy this “cycle”. But if you do need to top up you could harvest rainwater in a water butt.

8. Test your water

Buy a simple testing kit so that you can monitor levels of Nitrates. Nitrites and Phosphates in your water body.

Pond fish produce waste in the form of ammonia, which is released into the water through the gills. Ammonia can also originate from the dead and decaying plant material in the pond or from uneaten food, which is left in the water.

In a natural process the ammonia is broken down to a secondary product, **nitrite**, and finally into **nitrate**. Concentrated levels of these 2 by-products can have a negative impact on aquatic life and levels need to be



monitored.

Phosphate is a naturally occurring compound which may be present in the source water used – for instance it can come from the soil in the area or from run-off into the water sources, especially in agricultural areas that use a lot of fertilizer (phosphate is one of the main ingredients in fertilizers used on farms and in gardens!)

The signs of high phosphate levels can be obvious and one of the most common signs is the water colour. If your outdoor pond is a pea green colour, chances are that phosphate levels are high.

The presence of algae can also be an indication of high phosphate levels – phosphates are nutrients and algae thrive in ponds or lakes where nutrient levels are high.

Simple testing can highlight levels and you can take the necessary action.

9. Reduce Silt/Decaying Matter Levels

As silt levels increase, water depth decreases and as a result the water will get warmer and with the increased levels of decaying matter will provide nutrient for algae and aquatic weed blooms.

Mechanical silt removal may be necessary for larger ponds and lakes and the removed silt can be removed, or used on site to build up banks, etc.

10. Don't overstock with fish

The stocking level of the pond is critical to the health of your fish. Too many fish leads to decreased oxygen levels and the extra fish waste leads to ammonia and nitrite build-up.

Aquatic Solutions can offer help and advice on any of these issues, just call us on **01788 810614**, or email **info@aquatic-solutions.co.uk**.

