

Creating a wildlife pond

Why make a wildlife pond?

Of all the features that can be added to a garden, nothing beats a wildlife pond. It gives tremendous benefits to wildlife and people, bringing the entire garden alive. A new habitat with a new set of animals is added, providing something for the whole family to watch. It's an ecosystem in miniature, with its web of life spread before you, and can help give children a lifelong interest in nature. There are benefits for more senior members of the family too, as relaxation is never more effective than beside water.

Designing and building the pond

Curved edges will give a natural shape to your pond and, as most pond plants and creatures prefer sun and warmer water, it should be away from excessive shade, something which will also help to avoid too many leaves falling in during autumn. You'll want to see it easily so either near the house or next to a sheltered sitting place is best. The larger the better but even a small pond is of great value. Most pond life lives in the shallows, so gently sloping sides with a varying gradient give the best natural profile and are also safer for children. Planting ledges aren't needed because you'll be planting directly into soil in the pond. Depth needs to be 2ft (60cm) or more in the middle, giving the pond creatures an ice-free refuge in winter.

Make sure there are no underground cables or services in your chosen place, then mark the outline with a hosepipe or rope. Lift any grass turfs, either to be relaid around the edges later or to keep to rot down for topsoil for the garden. Save the topsoil beneath likewise. Some of the subsoil will be needed for backfilling the pond, but the rest will be surplus. You could make a mound in combination with some of the topsoil, or better still use it to create a meadow (explained in the last issue of **Bird Table**). The low nutrients are ideal for this, and a meadow around a pond both looks wonderful and is a perfect companion habitat for it. It gives damp, cooler conditions for frogs, toads and newts; butterflies and other insects will love the flowers, and birds the seed heads, too.

Digging can be a chore, but a "pond digging party" is great fun if you provide enough "refreshments". Minidiggers can be even more fun for the alpha male of the family, and can be hired for around £70 per day. Level edges are essential so use pegs and a spirit level. Laser levels can also be hired cheaply and make this task simpler. Garden ponds are usually best constructed with a butyl rubber or top quality PVC liner. These are flexible, tough and long-lasting, and easy to shape to the hole. To calculate the size needed use the formula: length of liner = length of pond + (2 x max depth). Width is calculated similarly. At Natural Gardens we use a layer system when installing the liners, in order to achieve the most natural look and to ensure against leaks. First, a 2 inch (5 cm) layer of sand isolates the liner from any sharp stones beneath. The liner is then sandwiched between two layers of protective "pond underlay", a geotextile fabric sold with the liner. Old carpet is best avoided as this rots away over time.

Some plants for the pond

Oxygenators and open water plants: hornwort, spiked-water milfoil, curled pondweed, water violet, water-starwort, amphibious bistort, **water hawthorn**, *white water lily*, fringed water lily, water soldier, *water crowfoot*.

Marginals: arrowhead, bogbean, brooklime, flowering rush, yellow flag iris, **iris spp.**, purple loosestrife, marsh marigold, *lesser reedmace*, hard rush, soft rush, cyperus sedge, *pendulous sedge*, remote sedge, lesser spearwort, water forget-me-not, water mint, water plantain, blue water speedwell, watercress.

Damp edges: greater bird's foot trefoil, bugle, red campion, cuckooflower, hemp agrimony, meadowsweet, primrose, ragged robin, meadow vetchling, water avens, marsh woundwort.

PLANTS TO AVOID: The following plants should be avoided because they are too vigorous or invasive. Greater reedmace, common reed, **New Zealand pigmyweed**, **nutall's waterweed**, **parrot's feather**, **water fern**, **floating pennywort**.

Non-natives are shown in **bold**. Plants for larger ponds only are shown in *italics*.



From top: 1. A pond, installed by Natural Gardens, showing how a meadow planting can enhance the appearance of a new pond. (Ian Wilson). 2. Smooth Newt (Mike Toms). 3. One of the regular visitors to Jill Pakenham drinking pool – a male House Sparrow (Jill Pakenham). 4. Water Lilies (Ian Wilson).



From top: 1. The old Nunnery pond (Mike Toms). 2. Common Toads prefer larger ponds in which to spawn (Mike Toms). 3. & 4. Installing the new wildlife pond in the Nunnery Garden – fitting the liner and recently filled with water (Mike Toms).

The top layer of fabric allows the pond to be backfilled with three inches (7.5 cm) of subsoil, giving an entirely natural appearance with no visible liner. It also allows “pond dipping” with little danger to the liner. The link between the soil in the pond and that outside also creates a moist margin around the pond, in which damp-loving species like ragged robin, primrose, water avens, and lady’s smock can be planted. Water loss is slightly greater due to evaporation from the damp soil – at least before plants have covered it – but the natural succession of plants and natural look makes it well worthwhile. Once the pond is backfilled with soil almost to the edges, begin filling. Rainwater is best, and if the pond is constructed in autumn winter rains can do the job for you. Downpipe diverters for filling water butts can easily be adapted for pond filling, a system which is also ideal for topping up later on. Once the pond is nearly full and the liner has settled with the weight of water the edges can be buried.

Planting your new pond

Native species make the best plants for a wildlife pond, although there’s always room for some non-native favourites. They can be bought from garden or aquatic centres, but the cheapest source is a friend’s pond. Plants (or animals) should never be taken from the wild. A good mixture of oxygenators, marginals, and open water plants (see box) will create a natural balance within which the water will remain clear and clean. Avoid fish, though (except perhaps for a few sticklebacks). They’ll stir up the sediment from the bottom, feeding them will add nutrients, and the water will quickly go cloudy with algae.

Plant straight into the soil, supporting plants with stones where necessary. Think natural, creating drifts with the occasional singleton. Learn about the plants and you’ll enjoy your pond even more. Lilies are best planted in baskets, so that they can then be thinned every few years. Add some “habitat features” to the pond surrounds (e.g. a bog garden or some rocks and log piles for shelter).

The pond’s first months

After a few days the few nutrients in the soil will cause an algal bloom – a burst of soupy growth and surface foam. Don’t panic – within a week or two the nutrients will be used up, the algae will die and sink to the bottom, and the water will clear. You’ll already have noticed that pond skaters have moved in, together with water beetles and other insects. In season, dragonflies may even begin laying. Frogs, toads, and newts are great wanderers and will eventually arrive of their own accord, although it might be a couple of years before they breed. Although you can “borrow” a friend’s frog or toad spawn, this can transmit disease so is not recommended. Your main enemy will be blanketweed, which loves the conditions in a newly set up pond and will grow quickly, smothering other plants. Twirl it out with a cane regularly for the first summer and it will then die back as the other plants spread. Ducks can uproot new plants so should be discouraged until everything is well established.

Maintenance

“Little and often” is the key, avoiding major disturbance when creatures are breeding in spring and summer. Pond plants grow quickly so it is important to stop any species dominating. Regular pulling or lifting will make the job easy but if left too long roots will be deeply entrenched and tougher to remove. If necessary, autumn is the time for any major work. In summer, aim for no more than two thirds surface cover, and keep the oxygenators to well below half of the water volume.

Ian & Barley Wilson, Natural Gardens

Based in Norfolk, Natural Gardens design and install wildlife ponds and wildlife-friendly gardens. The new wildlife pond and the Nunnery Garden are the work of Natural Gardens and they are also reprofiling and improving the larger ‘old’ pond established by BTO staff a few years ago. Natural Gardens can be contacted on 01508-578092 or via their website at www.naturalgardens.co.uk.

