

Ponds

A pond is the easiest way to encourage a whole range of species to your garden or community area.

In the last 10 years, over one third of traditional amphibian spawning grounds have been lost, mostly due to agricultural intensification and urban development during the 1960's. With ditches and ponds filled in, the 'common' frog, 'common' toad and 'common' newt have all declined.

While many wild spawning sites have been lost, refuge is found in garden ponds which are increasing in popularity with wildlife gardening. Amphibians in the garden are in fact very useful as natural pest control as they eat slugs, snails, small insects and their larvae.

A pond provides a breeding place for frogs, toads, newts and dragonflies, as well as food and habitat for a host of other aquatic and land based creatures, from grass snakes, to water voles to kingfishers. In periods of drought, a pond is literally an oasis in a desert; it can provide a drink for wildlife, and a

refuge for many species which may otherwise struggle to survive. It has also recently been proved that ponds store huge amounts of carbon and so are very important for mitigating climate change.

Ponds with a range of features tend to host a greater variety of wildlife, however, almost any freshwater pond will attract some types of wildlife. Ponds don't have to be deep; it has been found that many pond species live in shallow water only a few centimetres deep.

Great crested newts

If you think you have great crested newts in your pond please seek advice from Natural England before any management work is carried out, as they are protected under the Wildlife and Countryside Act 1981 and European law.

This makes it illegal to injure individuals, cause significant disturbance or damage sites occupied by a newt in any stage of its life cycle. It is also illegal to handle them without a licence.

The following features make a pond ideal for wildlife:

- A minimum area of 4 - 5 square metres.
- One area of minimum depth 80 cm (2½ feet) preferably 1m, so that not all the pond freezes over in winter and there are some deep refuge areas for species like newts.
- A clean water supply. Since ponds often don't have clean, fresh water flowing through them, pollution and nutrients can become trapped in pond silt and pond water. Once in a pond, they can cause long term management problems such as algal blooms.
- A natural water supply. Tapped water should be avoided as it contains chlorine and other additives. Spring water or rain water is best.
- A shallow sloping area, to allow birds and other animals easy access to get in and out.
- A range of depths, to provide appropriate positions for different plants.
- A marsh or boggy area.
- A mosaic of vegetation and habitat types both in and around the water – submerged and emergent plants, floating and rooted plants, piles of dead wood, earth and rocks, islands and peninsulas, bare mud and areas of thicker vegetation, scrub and trees.

Practical maintenance of a wildlife pond

General rules

1. Avoid chemical treatments at all times.
2. Use care when digging or raking near or in the pond - an impetuous spade can puncture a butyl rubber liner very easily; if using a rake, make sure the tines are pointing upwards!
3. Avoid disrupting the pond in spring and summer; try to carry out maintenance work in autumn and winter instead.
4. When introducing pond plants, native species are usually of more benefit to wildlife than exotics. For the wildlife pond purist, pond plants could be native not just to the UK but also specifically to the county.

Plants for your pond

Native plants are not just beautiful, they're also ideal for wildlife, providing food for a wealth of insects and other pond creatures.

Deep water plants

Water crowfoot *Ranunculus aquatilis*
White water lily *Nymphaea alba*
Yellow water lily *Nuphar lutea*
Broad-leaved pond weed *Potamogeton natens*

Submerged oxygenating plants

Water starwort *Callitriche* spp.
Hornwort *Ceratophyllum demersum*
Water milfoil *Myriophyllum spicatum*
Curly pondweed *Potamogeton crispus*
Amphibious bistort *Polygonum amphibium*

Emergent plants

Flowering rush *Butomus umbellatus*
Bog bean *Menyanthes trifoliata*
Lesser spearwort *Ranunculus flammula*
Bur reed *Sparganium erectum*
Water plantain *Alisma plantago-aquatica*
Yellow flag iris *Iris pseudoacorus*

Bog garden plants

Water forget-me-not *Myosotis palustris*
Water mint *Mentha aquatica*
Hemp agrimony *Eupatorium cannabinum*
Ragged robin *Lychnis flos-cuculi*
Kingcup/Marsh marigold *Caltha palustris*
Brooklime *Veronica beccabunga*

Do's and don'ts

- ✓ Stock your pond with native plants from garden centres. Use caution if using stock from another garden pond as there are a number of non-native invasive species which can reproduce from small root fragments, which can take over and ruin your pond.
- ✓ Plant a variety of plants that prefer growing in different depths of the pond as this can help reduce the natural occurrence of one species dominating over others. Competition for light and nutrients encourages the plants to concentrate on survival growth rather than spreading.
- ✓ Keep nutrient levels low by using rainwater to fill the pond.
- ✓ Carry out any necessary pond work in late autumn when amphibians are least likely to be present in the pond. When doing any work, try to avoid disturbing the marginal vegetation or churning up the sediment at the bottom of the pond as this may release nutrients into the water and affect the ecological balance.
- ✓ If you need to remove plants or excess silt from the pond (best done by hand), it is advisable to leave the vegetation on the side of the pond for 24 hours, to allow any creatures to return to the pond, before putting it on the compost heap.

- ✗ Do not transfer animals between ponds as amphibian diseases can be transferred between ponds.
- ✗ Never take plants or animals from the wild.
- ✗ The use of lawn feeds, compost, pesticides or fertilisers close to the pond should be avoided as the chemicals could harm wildlife and will encourage algal growth.
- ✗ Do not fill or top up a pond with tap water as this can also encourage a high growth of algae.
- ✗ Never plant non-native and invasive species such as water fern / fairy moss, swamp stonecrop / New Zealand pigmyweed, floating pennywort, parrot's feather, skunk cabbage, Canadian or Nuttall's pondweeds, Himalayan balsam, water primrose and curly waterweed. These will spread into the wider environment, causing considerable damage to habitats and native species.
- ✗ Fish and wildlife don't mix – fish will eat newt eggs, frog and toad spawn and many insects.
- ✗ Motorised pumps and filters will effectively remove whole sections of the pond ecology and make it very difficult to achieve a natural balance.

Problem solving

Problem: Build up of dead organic matter such as fallen leaves and dead vegetation at the bottom of the pond. The water turns brown as all available oxygen is used up by the decay process. Eventually, a layer of silt accumulates which makes the pond shallower.

Solution: Providing there are no other problems, de-silting can be carried out approximately once every 5 years. The best time is autumn before animals go into hibernation and after plants have finished flowering. This silt layer and some dead organic matter can be a useful feature for overwintering invertebrates and hibernating frogs.

Problem: After a while, some pond plants may be growing too abundantly or dominating over other species.

Solution: These can be pulled out or divided once every one or two years, reducing their presence by about one fifth to one half. This should be done in the autumn before animals go into hibernation. Some plants can be grown in pots, which limits their spreading. Aim to make sure that at least 10% of the pond surface is open ; many dragonflies in particular need open water.

Problem: The pond should not become completely frozen solid in the winter. Ponds deeper than approximately 60cm do not usually become frozen right to the very bottom and should be safe. However, it is still necessary to provide some open water so that oxygen can diffuse into the pond.

Solution: Float a ball on the pond that can be removed, leaving a hole in the ice. Or rest a hot pan on the surface (remove before the ice melts completely!) Using hammers and boiling water is not recommended, as this sets up shock waves or boils wildlife. Making sure there are plenty of oxygenating plants in the water will help to maintain oxygen levels if the surface of the pond freezes over.

Problem: Low water levels in the summer. Tap water is a convenient source, but the high level of nutrients such as fluoride and chlorine may induce algal blooms, where the water turns a vivid green pea soup colour. This should fade after a few days as the pond recovers its balance.

Solution: Rainwater is preferable if you have a water butt. It is better to refill little and often rather than in one go. If you do use tap water, leave it standing for several days so that the chemicals dissipate.

Find out more...

Pond Conservation

Plenty of advice and factsheets on creating and managing ponds and freshwater habitats.
www.pondconservation.org.uk

Froglife

Information about frogs, toads and newts: www.froglife.org

Wild About Gardens

Joint project with the RHS and The Wildlife Trusts.
Website has lots of advice and factsheets: www.wildaboutgardens.org

Natural England

The statutory nature conservation body for England, responsible for protected species.
www.naturalengland.org.uk or general enquiries 0845 600 3078.

GB Non-Native Species Secretariat

Information and factsheets on invasive non-native species.
<https://secure.fera.defra.gov.uk/nonnativespecies/home/index.cfm>

Lincolnshire Wildlife Trust

Banovallum House
Manor House Street
Horncastle
Lincolnshire LN9 5HF
Tel: 01507 526667
Email: info@lincstrust.co.uk

www.lincstrust.org.uk

Registered charity no. 218895

Lincolnshire Wildlife Trust

