

All ponds will suffer from evaporation in warm weather. This is of course natural and for many pond plants and animals it is important as they depend on setting seed or laying eggs in this "drawdown zone" or exposed wet soil. However, it is not good to let the pond dry out too much as algal blooms can occur if the basal soils are exposed to the air and nutrients released. It is best to fill up the pond with rainwater collected in a container, but tap water can also do.

PONDS, MARSHES AND SAFETY

Safety is an important consideration with ponds. If you have young children, you should fence off the pond. Another idea is to have a marsh instead of a pond. This can easily be created by digging a shallow hole, laying pond liner and filling with soil. The pond liner will prevent the water from escaping and keep the area wet. You would need to make some holes in the liner to allow limited drainage. See the plant list for plants suitable for planting into a marsh.

REMEMBER TO WASH YOUR HANDS AFTER YOU HAVE BEEN POND DIPPING!



WATER BEETLE

FOR FURTHER READING

Creating a Wildlife Garden - Bob and Liz Gibbons. 1992. Hamlyn.
How to Make a Wildlife Garden - Chris Baines. 1985. Elm Tree Books.
Wildlife Gardening - Fran Hill. 1988. Derbyshire Wildlife Trust.
The National Trust Book of Wildflower Gardening John Stevens. 1987. Dorling Kindersley.
The Joy of Wildlife Gardening - Geoffrey Smith. 1989. RSPB.
Starting a Wildlife Pond - Peter Sibley. 1989. School Garden Company. PO Box 49 Spalding. Lincs.
The Wildlife Gardening Handbook 1991 - Ulster Wildlife Trust.
Dig a Pond for Dragonflies - British Dragonfly Society. 1 Haydn Avenue, Purley, Surrey.
Pond Life - Richard Manuel 1991. Collins Gem Guide.
Collins Field Guide to Freshwater Life. - R.Fitter & R.Manuel. 1986. Collins.
Pond Life - Trevor Beebee. 1992 Whittit Books.



FROG

Our aim is to protect, conserve and promote the natural and built environment for the benefit of present and future generations.

Northern Ireland Environment Agency
 Klondyke Building
 Cromac Avenue
 Gasworks Business Park
 Belfast BT7 2JA
 T. 0845 302 0008

www.ni-environment.gov.uk

WILDLIFE GARDENING

(2009)
 WG 010

WHY PUT IN A POND?

A pond or marsh is often the most dramatic and eye-catching element of a wildlife garden. It can be a place to hunt for stunning dragonflies, a bath or place to drink for raucous groups of birds or a home to an underwater world of creatures, such as Frogs, Newts, Diving Beetles or Water Boatmen.

Ponds used to be common in the countryside as farmers needed them to provide drinking water for their animals. Today, they are now rare as many were filled in following the introduction of piped water supplies. For the animals and insects that depended on these ponds, this has been a disaster and so for them, garden ponds can really help.

WHAT COULD LIVE IN MY POND?

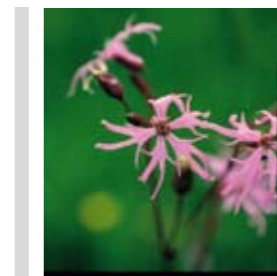
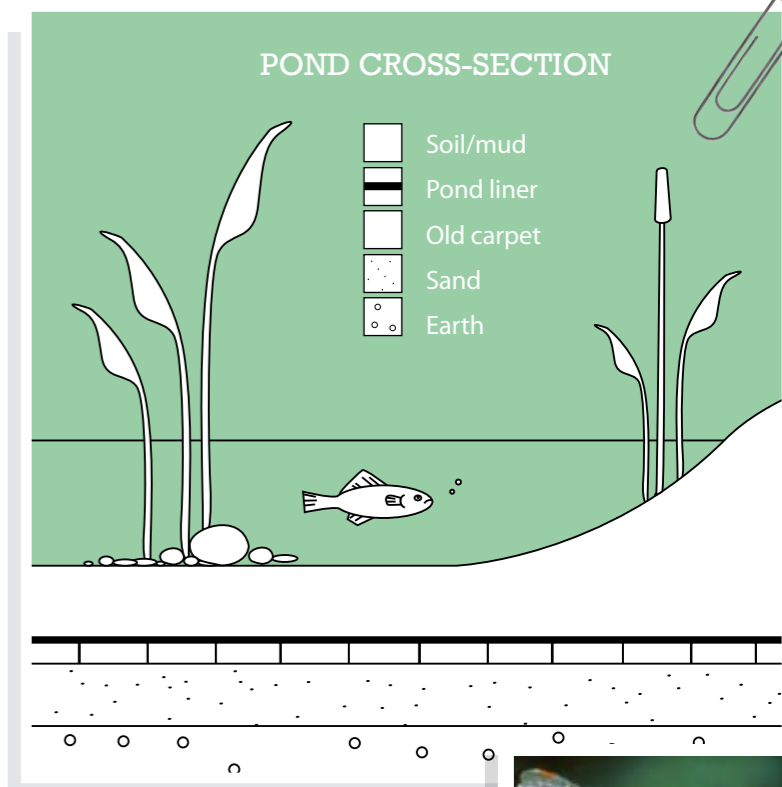
Pond residents can be a surprising bunch. Tadpoles and newtlets grow into Frogs and Newts, but the adults will only remain in the pond in the breeding season. For the rest of the year, they will be hunting on land. The Great Diving Beetles and their fierce looking larvae are amongst the top carnivores. Water Boatmen with their long oar-like legs, smaller Water Beetles, Whirligig Beetles, Water Scorpions, Caddis larvae, Dragonfly and Damselfly larvae can also be found. Freshwater Shrimps and Water Lice can usually be found in large numbers and on the smaller scale, Water Fleas can be found in their thousands and are very important in the food chain. A number of species of Pond Snails graze on algae in the pond and are thus very useful. Sticklebacks will not do too much damage in a wildlife pond, but Goldfish will eat everything and are not recommended in a wildlife pond.

Once you have created your pond, many of these creatures will find their own way into it, but a couple of buckets of pond sludge from an established pond (with the owner's permission), will help speed things up.

POND SHAPE AND SIZE

Ponds do not have to be big, but the bigger they are, the better. They should be at least 90cms deep so that they will not completely freeze in winter, killing all the inhabitants. A second crucial requirement for a wildlife pond is that animals must be able to get out of it and that means that steep sides are to be avoided. This creates problems for small ponds since in order to get the required depth, they have to be steep sided.

This can be avoided by making the pond tear-drop shaped and having three steep sides and one gently sloping side. If you have a big pond, this is not a problem and you can have it any size and shape you like. However, if the pond is large and you are going to use a flexible pond liner, you may have to weld different sections of liner together to cover the area. This is expensive, so think carefully before beginning. A small garden does not mean that you cannot have a pond. You can make a wildlife pond from an old sink, bath or even a bucket. Do not use anything made from lead or copper as these are poisonous substances. Put a stick into the mini-pond so animals can use it to get out.



RAGGED ROBIN



GREATER SPEARWORT



DRAGON FLY

WHERE TO SITE THE POND

A wildlife pond should be in a sunny warm position and not under trees. This is because the warmer the water is, the more conducive it is for life and if it is under trees, leaves can collect in it and cause foul conditions in the pond as they rot. If your garden is in a windy location, it is advisable to create a windbreak using the earth excavated from the hole. Try to shelter it from north and east winds. If you are putting your pond in a naturally moist place, you might have to build a soakaway pit if flooding becomes a problem. Finally remember, the pond will be very attractive so put it where you can see and get at it!

Now you have planned your pond, here comes the hard part and the first advice is to get help! Remember of course to check that there are no cables or pipes nearby before starting. Cut any turves carefully and store as you may use them later. When digging, separate the topsoil, which can be used in the pond, from the subsoil which is not so useful. Remember not to make the sides too steep and also create areas where the water will be shallow. Here many colourful plants that like getting their feet wet can be planted.

Once the hole is dug, what happens now depends on the type of liner that you are going to use. The easiest method, but possibly the riskiest, is to puddle the clay that forms the hole. This will only work if the soil is indeed clay and if it is wet enough to be puddled. Puddling involves trampling or rolling the sides of the pond until the clay forms an impermeable barrier. The pond must be filled before the clay dries and cracks. Puddled clay or bentonite can be bought, but will be more expensive.

Other methods of lining the pond include concrete or buying a ready-made fibreglass liner. A concrete liner can however crack and a ready-made fibreglass liner is rarely suitable for a wildlife pond as the sides are nearly always too steep. The recommended method for a wildlife pond is that of a flexible liner. This gives you far more control over design. There are numerous types of flexible liner on the market now, but the important feature to look out for is the expected life of the liner. Sunlight can cause the liner to breakdown and PVC is especially susceptible to this. A life of 20 – 30 years is respectable. As a guide as to how much liner to buy, the length should be the pond length + 2 times the maximum depth and the width should be the pond width + 2 times the maximum depth.



WATER CROWFOOT



MARSH CINQUEFOIL

TIPS ON CONSTRUCTION

If you use a flexible liner, first of all take out all rocks or stones that may have been exposed when digging out the hole. Then line the hole with 50 mm of sand, firm in position and cover with a layer of old carpet or newspapers. This protects the liner from stones pushing up from below. Before laying the liner, dig a small trench around the outside of the pond into which the edge of the liner will be weighed down. Now carefully lay the liner leaving enough excess liner to go into the trench. Before fixing the edges in position, fill the pond with water. Although rainwater is preferable, tap water will do as the chlorine will evaporate within a day or two. Once the pond is filled, put the excess liner in the trench and weigh it down with stones or some of the turves that you cut earlier.

Now put some pond sludge in from another pond (with the owner's permission) or put some of the topsoil back in once it has been sieved to remove stones. Make sure there is a good covering of soil on the sides.

PLANTING THE POND

The list below gives ideas for plants to put into your pond that will help it become a wildlife-friendly pond. To the animals living in the water, it will not matter too much what fringing plants you have, but for passing insects, good native nectar-rich plants will be the best. What will make a difference to the pond animals will be the submerged oxygenating plants that will help keep the pond free of algae. Algae can clog a pond but it is easy to keep the water clean by planting the correct plants.



MEADOWSWEET



YELLOW WATER LILY

PLANTS FOR YOUR WILDLIFE POND

ENGLISH NAME	LATIN NAME	COLOUR	WHERE IN POND
Water Starwort	Callitriche stagnalis	Flowers small	Submerged – Oxygenator
Hornwort	Ceratophyllum demersum	Flowers small	Submerged – Oxygenator
Water Milfoil	Myriophyllum spicatum	Flowers small	Submerged – Oxygenator
Curled Pondweed	Potamogeton crispus	Flowers small	Submerged – Oxygenator
Water Violet	Hottonia palustris	Pale lilac	Submerged
Bladderwort	Utricularia vulgaris	Yellow	Submerged – insectivorous
Frogbit	Hydrocharis morsus-ranae	White	Floating
Yellow Water Lily	Nuphar lutea	Yellow	Floating (only big ponds)
White Water Lily	Nymphaea alba	White	Floating (only big ponds)
Dwarf Water Lily	Nymphaea pygmaea	White	Floating (good for small ponds)
Fringed Water Lily	Nymphoides peltata	Yellow	Floating
Amphibious Bistort	Polygonum amphibium	Pink	Floating
Water Crowfoot	Ranunculus aquatilis	White	Floating
Common Water Plantain	Alisma Plantago-aquatica	White	Emergent
Flowering Rush	Butomus umbellatus	Pink	Emergent
Marsh Marigold	Caltha palustris	Yellow	Emergent
Flag Iris	Iris pseudacorus	Yellow	Emergent
Water Mint	Mentha aquatica	Lilac	Emergent
Bogbean	Menyanthes trifoliata	White	Emergent
Water Forget-me-not	Myosotis scorpioides	Blue	Emergent
Lesser Spearwort	Ranunculus flammula	Yellow	Emergent
Arrowhead	Sagittaria sagittifolia	White	Emergent
Branched Bur-reed	Sparganium erectum	Green	Emergent
Sneezewort	Achillea ptarmica	White	Fringing or Marsh
Angelica	Angelica sylvestris	White	Fringing or Marsh
Lady's Smock	Cardamine pratensis	Pale Pink	Fringing or Marsh
Sedges	Carex spp	Green	Fringing or Marsh
Meadowsweet	Filipendula ulmaria	White	Fringing or Marsh
Water Avens	Geum rivale	Purple	Fringing or Marsh
Ragged Robin	Lychnis flos-cuculi	Pink	Fringing or Marsh
Gipsywort	Lycopus europaeus	White	Fringing or Marsh
Purple Loosestrife	Lythrum salicaria	Purple	Fringing or Marsh
Monkey Flower	Mimulus guttatus	Yellow	Fringing or Marsh
Marsh Cinquefoil	Potentilla palustris	Purple	Fringing or Marsh
Greater Spearwort	Ranunculus lingua	Yellow	Fringing or Marsh
Common Valerian	Valeriana officinalis	Pink	Fringing or Marsh

POND MAINTENANCE

Unfortunately, the work is not quite finished. Ponds can have problems with algae, the vigorous growth of pond plants and evaporation. Submerged oxygenating plants will help keep algae in check, but you still may get algal blooms. Keep removing the algae, but be careful about throwing chemicals in the pond to remove it as this is a wildlife pond and the chemicals can also kill the underwater life. A block of barley straw in the pond can be as successful as any chemicals.

As any pond gets established, plant growth can become a problem as the pond can get clogged. Keep submerged plants under control, especially Canadian pondweed, Elodea canadensis, if you have it. This is a good oxygenator, but can become rampant and has to be controlled. This is manageable if you have a small pond, but if you have to wade into the pond to clear it – it is another thing! Fringing plants can also be cut back and leaf litter should be removed. Autumn is the time for this work.