



Parks and Landscape Services Division

Creating a pond or water habitat

A pond is one of the best habitats that can be created in a garden to conserve wildlife. So many animals depend on water bodies, whether for parts of their life cycle or to provide prey for food or to bathe or drink. Frogs and newts need ponds or wet areas for their tadpole stage and for breeding. In summer Pond skaters, Whirligig beetles, Water boatmen and Water spiders are seen skimming near the water surface. These insects act as both prey and predator and food chains will develop when these invertebrates are introduced into a garden.

The wild flowers that grow in wet habitats will add vibrancy and colour to your garden. Submerged plants such as Water crowfoot, Water starwort, Spiked water milfoil and Curled pondweed oxygenate the water thus allowing other life to use it. Floating plants will provide protection from sunlight. These include Water lily, Broad leaved pondweed, Frogbit, Amphibious bistort and Common duckweed. Bogbean, Brooklime, Marsh marigold, Water mint and Water forget-me-not will grow around the edges. A marsh area beside the pond will have Purple loosestrife, Meadowsweet, Ragged robin, Lady's Smock and Hemp agrimony.

Providing a pond in your garden will attract bats which are becoming very rare indeed. They will feed off the insects that emerge out of the water. Bats are very useful to have in your garden as they will eat all the mosquitos and midges that you don't want!

The following text comes from the Irish Wildlife Trust leaflet:

POSITION

All aquatic plants enjoy direct sunlight so it is important to site the pool in a sunny position to ensure a vigorous plant growth and thus a healthy environment for fish and animal life. The pond should be situated at the lowest point of the garden as this is where water would occur naturally.

SHAPE

There are no rules on the shape a pool should take, however if you have a very orderly garden it should be of an orderly shape to match - rectangular or circular. Otherwise sweeping arcs and curves are best and more pleasing to the eye.

MATERIAL

There are a range of materials from which to construct a pool. Rigid pre-shaped pools of plastic or fibre lass are available. They are expensive and allow no control over shape. A flexible liner is much better and simpler to install. It can be of polythene which is cheap, but subject to the ultraviolet rays of the sun and thus perishes after a few years. It is easily punctured. PVC is stronger but has the same drawbacks as polythene. Neither can be repaired. Butyl rubber is the most expensive but lasts for years. It is almost indestructible and can be repaired.

DEPTH

The depth is important as plants and fish require a certain level of water. Water lilies and fish require a minimum depth of 45 cm (1 foot) 60 cm (2 feet) at the deepest point is best as this prevents the water freezing completely in winter The marginal (edge) plants require no more than 23 cm (9 inches) and most even less.

In calculating the amount of liner required, a simple formula can be used:-

Take the maximum length of the pool plus twice the maximum depth - this gives the length, take the maximum width of the pool plus twice the maximum depth - this gives the width.

DIGGING

Next comes the hard work of digging out the pool. The shape should be marked out with a piece of string and the soil should be removed. Ensure that no sharp stones or sticks are left as these may puncture the liner. The ideal shape is that of a very gently sided saucer with shallow sloping edges. It is advisable to spread a thin layer of sand beneath the liner to act as a cushion. Damp newspaper will also do.

FILLING

The liner should then be spread and water filled in from the centre. As it fills, the pressure of the water will cause the liner to fit the shape of the pool. Creases should be smoothed out. When the pool is full the excess liner should be trimmed, but leave a foot or so all round. This should be tucked into a shallow trench and covered with sods, slabs or smooth stones. The water should be allowed to rest for a couple of weeks before planting.

PLANTING

The first plants to be introduced are oxygenating plants. These are the key to a healthy pond as they compete against algae for nutrients in the water and deprive them of their nourishment (Algae are the microscopic plants which cause the water to turn green). The most common oxygenating plants are *Elodea canadensis* (Canadian pondweed), *Myriophyllum spicatum* (Spiked milfoil) and *Patamogeton crispus* (Curled pondweed) and should be available at garden centres holding aquatic plants. These plants are also valued by fish for spawning, and as food. Plant in shallow trays filled with ordinary garden soil (no fertiliser) and cover over with gravel to prevent the soil dispersing. Alternatively you can plant directly into a layer of sand, gravel or poor sub-soil spread over the liner. This will provide a more natural environment. As a general rule about 1/4 of the pond should be occupied by oxygenating plants.

Another important point to maintaining a healthy pond is the presence of plants which provide shade beneath floating leaves. Water lilies are useful in this regard and there are many varieties. Approximately 1/3 of the surface should be covered with floating foliage.

There are a whole range of plants suitable for planting around the shallow edge. These include Irises, Kingcups, Flags, Rushes, Water grasses and the Bog-bean.

ANIMAL LIFE

Fish should not be introduced for a few weeks after planting. This allows the plants to become established. It is advisable to stock with native species such as Stickleback. You may introduce Goldfish or Orfe but for the best wildlife results these should be excluded as they prey on smaller animal life. (Fish should not be introduced directly to the pond. The container in which they are carried should be floated in the pond for about an hour or so until its temperature is the same as that in the pool. They can then be released.) In a healthy pond fish will not require feeding. Freshwater snails can also be introduced. Various other forms of life will colonise it naturally or can be introduced by taking some mud from an established pond. This will normally have a rich diversity of small creatures. Frogs may take up residence, or spawn can be brought in, but remember that a licence must be got from the Wildlife service to take frog spawn from the wild.

MAINTENANCE

The most important job to be done is to keep the pond free of leaves which decompose and cause pollution problems. This can be solved by placing a net over the pond in the autumn. The dead and dying foliage of the pool plants should also be removed. After a few years some plants may need thinning, and this is done by lifting and dividing them in spring just when they are starting to grow. Fish should survive the winter as they hibernate at the bottom of the pool. In prolonged frost, however, a hole should be melted in the ice - it should not be cracked for this may be fatal to the fish.

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