

Managing ponds after creation

MILLION POND PROJECT

A 50-YEAR PROJECT TO CREATE A NETWORK OF CLEAN WATER PONDS FOR FRESHWATER WILDLIFE

1. Managing clean water ponds

One of the benefits of a clean water pond is that, once made, it should need little management, as long as the site as a whole is adequately managed (see Section 4 and Factsheet 4). In general, the less done to a pond, the better. Although 'leave it to nature' is the main aftercare needed there are a few management tweaks in the first few years that can sometimes be helpful.

2. Things to avoid: planting up

Pond management guides often suggest that new ponds need to be planted up because they are thought to be 'empty habitats' that need a helping hand.

In fact most people who make a new pond are struck by the remarkable speed with which plants and animals arrive. Water bugs and beetles will often fly in within hours, especially in the summer months. Most other insect families (e.g. mayflies, caddis flies, dragonflies) and some annual water plants can become established within the first summer. Flatworms, snails, and submerged plants will usually arrive within a few years.



Within two or three years after a clean water pond is made, it can be as rich as a 50 year old pond – entirely by natural colonisation. More importantly, though, new ponds provide a distinctive habitat type which has its own value and is very different to older ponds.

New ponds are used by a specific range of plant and animal species which either: (a) prefer open bare conditions to live in (b) need inorganic mud and sands to root into, or (c) do not compete well with other species. These 'new pond' plants and animals often disappear after a few years as ponds become more mature.

The new-pond stage is very short compared to the whole life of a pond. It is important not to shorten it further by adding plants or a bucket of sludge from another site to help the pond 'mature' faster. The pond should have centuries in which to mature.

What's in this factsheet?

- Things to avoid: planting up
- Early management
- Temporary fencing
- Managing ponds in later years

Why do ponds attract wildlife so quickly?

The naturalist Charles Darwin originally pointed out the probable reason that ponds colonise so quickly. In 'The Origin of Species' he noted that many freshwater plants and animals were particularly well adapted for dispersal – much better, in fact, than most woodland plants and insects.

Many water beetles and bugs are active fliers, and, as Darwin himself proved, both plant seeds and small aquatic animals are easily moved about on the feet of ducks and other water birds (he bought severed ducks feet from butchers and put them in water to see what hatched out of the mud!).

Darwin and others suggested that the reason many freshwater animals are so mobile is because they often need to move between waterbodies, for example, when one pond fills in and another is created.

2. Early management

Keep an eye on new ponds in the first few years after creation, while their vegetation is still establishing. Bare pond edges are particularly susceptible to colonisation by invasive alien plant species. Plant species to particularly look out for are (Figure 1):

- New zealand swamp-stonecrop (*Crassula helmsii*)
- Parrot's-feather (*Myriophyllum aquaticum*)
- Floating pennywort (*Hydrocotyle ranunculoides*)
- Water primrose (*Ludwigia grandiflora*)



Figure 1. Parrot's-feather is hard to control once it's established

If caught early enough, alien plants can be easily removed whilst they are still controllable. Once these plants are established, some can out-compete most of our native plants – including even bulrush. They spread rapidly, leading to loss of plant biodiversity. The cost of getting rid of large areas of invasive plants once they have developed can run to many thousands of pounds – and may not even be possible.

There is much less need to control native plant species that arrive at the pond. However, you might choose to remove bulrush (*Typha latifolia*) if it colonises in the first few years. Bulrush is probably the only wetland plant currently increasing in the UK. The seeds of young plants are very fertile (and there can be over 200,000 seeds in a single bulrush head), so this species can rapidly fill new ponds before other plants have a chance to establish and create a more mixed plant community.



3. Temporary fencing

If wildfowl, stock or people are likely to use the site in considerable numbers, it may be worth protecting colonising vegetation by erecting temporary fencing around part, or all, of the pond. However, in principle, there is nothing wrong with grazing or trampling pressure at a new site. It may take longer for the site to become vegetated, and this may mean the pond edges look bare for longer, but it is not something that is likely to be ecologically damaging – as long large amounts of silt don't erode into the pond.

4. Managing ponds in later years

Well designed clean-water ponds should need little management in later years (see *Factsheet 4*).

Over the decades the ponds will gradually fill with sediment and their plant and animal communities will change. This is a natural process and requires no intervention. Early, mid and late succession ponds are all valuable for wildlife. Ultimately succession produces, usually after hundreds of years, not dry land but temporary ponds or other wetland habitat like bog, fen or wet woodland: all are important, highly threatened and often very long-lived habitat types.

Ponds made by the Million Ponds Project should typically persist in good condition for hundreds to thousands of years – effectively making them permanent landscape features. As older ponds become very shallow and seasonal, rather than dredging to make them deeper again, consider creating a new pond nearby.

Unexpected landuse changes may mean that clean water ponds may require more management than anticipated. If, for example, a planned grazing regime has not been possible, shallow pools and edge areas may develop into marshy wet woodland over the course of a few decades (see *Factsheet 4*). In such cases there are two main options: (a) periodically manage the site to artificially maintain it close to the original state (e.g. control trees, remove vegetation or create new pools), or (b) leave the site to develop in its own way. As long as the site has a variety of pools of different depths and areas, it is likely that even unmanaged the site as a whole will still remain diverse and valuable.

Another reason that pond management may be required is when ponds are being managed for uncommon species with particular habitat requirements (such as great crested newts, or one of the rare bare ground plants). In some cases, periodic management may be required to maintain optimal conditions for these species.

However, considering good pond design and location at the planning stage can make many sites self-sustaining even for rare target species with particular habitat requirements. Consider how natural factors such as grazing pressure, or shade can be used to create the conditions you need.

Think also about pond density: as the number of ponds increases in the landscape, the need for micro-management of individual ponds for a species can often be reduced as the inherent variety of the ponds provides landscape-scale protection.

For further information about the Million Ponds Project please visit www.freshwaterhabitats.org.uk/projects/million-ponds/ or email enquiries to info@freshwaterhabitats.org.uk