

# Pond Management

This section on management is only meant as a brief guide. Detailed information on pond management can be obtained from the specialist literature.

Much of the current advice on pond management is the result of recent research and contradicts many of the old maxims. A great deal of past pond management has probably caused more harm than good so please TAKE CARE. Ideally ponds which look as if they require management should be left alone for natural succession to occur, with a new pond excavated near by. However where a lack of space and resources exist the pond can be managed sensitively to prolong its life and prevent the complete loss of a valuable habitat.

## What is your pond for?

Make a list of what you want your pond for, this should then be arranged in order of priority.

## Managing Vegetation (when you have too much)

Ponds which appear to be choked with vegetation often support the greatest diversity (ie number of plant and animal species). Ponds do not need large areas of deep open water, as in fact this is where the fewest species are found. Animals live where there is food and shelter ie among the aquatic vegetation in the shallower water.

Dense stands of single species such as bulrush can prevent the establishment of less robust species such as water for-get-me not and may need thinning, but never remove all of one species.

When removing vegetation remove it as a wedge, like removing a slice of cake, because animal communities change with water depth within the same stand of plants. Vegetation removal does the least damage when carried out between September and November.

When vegetation must be removed it can be done by:

- introducing light grazing of horses and cattle (1-2 cattle/ha.) in large natural ponds.
- cutting or removing by hand (remember to wear gloves because of water borne diseases) remember to shake removed vegetation in a bucket or before removing it from the pond and leave the vegetation near the bank to allow as many animals as possible to return to the water.
- Cutting and removing using mechanical means. Take care as this is the most damaging to wildlife.
- Plant trees and or shrubs around part of the pond to increase shading and reduce excessive weed growth.

## Managing vegetation (when you have too little)

Identify what is causing the lack of vegetation. It may be fish, ducks, pollution or sever lack of light.

Many ponds have natural populations of **fish**. When fish are introduced into small ponds they can eat much of the animal and plant life. Large fish such as carp stir up the sediment preventing plants from becoming established. If fish are essential to your pond stocking should be at or below 100 kg/ha i.e. 0.1 kg fish per square metre of pond area.

Large numbers of **duck** result in bare trampled pond margins, few plants and nutrient rich sediment. It is not possible for a small village duck pond where the ducks are fed to also be a wildlife pond. If only a few natural species are present such as mallard, moorhen and coot, do not feed them and establish a dense cover of emergent plants and bank side vegetation either by planting and/or cordoning off sections of bank.

Identifying a **polluted pond** and the cause is not always easy. However it is likely your pond is polluted if there are no submerged plants present, the water is coloured green by algae or 50% or more of the pond is covered with algae, duckweed or water fern. Try and identify the source of the pollution. If the pollution cannot be eliminated create a buffer zone of grassland or scrub, which is not intensively managed 30m up hill of the pond. Where polluted water enters the pond as a drain, create a silt trap in the form of a vegetated area or establish a reed bed at the point of entry. It may be better to leave the pond and create a new pond or series pond elsewhere where there is not a pollution problem.

## Managing problem species

**Duck weed, blanket weed and water fern** can cover the surface of a pond preventing light and oxygen entering the water. This often occurs when the water is nutrient rich.

- Barley straw netted and tied releases a natural fungicide which kills algae but is a temporary solution.
  - Rotting tree bark particularly willow also has the same effect.
  - The vegetation can be cleared from the surface using a rake.
  - Maintain and increase the number of submerged aquatic plants to “soak up” the nitrogen
- A more lasting solution is to reduce the nutrient level either by removing the nutrient rich sediments and identifying the source of the nutrients e.g. fish, ducks, a drain.



Canadian Waterweed  
*Elodea canadensis*



Floating Pennywort  
*Hydrocotyle  
ranunculoides*



Australian Swamp  
Stonecrop  
*Crassula helmsii*



Water Fern  
*Azolla filiculoides*



Parrot's Feather  
*Myriophyllum aquaticum*

Alien species such as **Australian Swamp Stonecrop**, **Parrot's feather** and **Floating Pennywort** are now also invading ponds. They grow rapidly and out compete our native plants, ruining ponds. Remove them as soon as you see them before they have time to spread.

**Australian Swamp Stonecrop** must **NEVER** be cut or raked as this encourages it to spread. Ideally all three species should be sprayed by a trained professional, or removed by hand ensuring the whole plant is taken.

### **Managing heavily shaded ponds**

Ponds in long established woodland have a specialised fauna and flora and are best left unmanaged. Ponds which have become shaded in the last 5-20 years can benefit from some tree removal, as the seed bank of aquatic and marginal plants will still be present. Trees on the south side of the pond should be coppiced. Ideally only a few should be removed at a time to monitor the effects. Willows and alder should be left as they are natural wetland species. Never remove more than a quarter of the trees over a five year period. For amphibians ideally 25% of the pond should remain unshaded to encourage spawning. Maintain trees and scrub where they act as a buffer zone and screen from agricultural chemicals.

### **Managing ponds that have dried out, temporary ponds and draw down zones**

Many ponds occasionally dry out during the summer. Current research has shown that this does remarkably little damage. About half of our freshwater plants and animals suffer no ill effects. No management is required. The effects may even be beneficial by removing fish from the pond. Check that drying out is due to the weather and not due to land drainage or ground water abstraction.

**Temporary ponds** dry out regularly and are very valuable in their own right. They often look unattractive and are "candidates for pond management" but they provide a habitat for many rare species adapted to this environment. Never deepen them. If you want an attractive pond create a new pond next to it.

**The draw down zone** is the area of mud that becomes exposed during the summer months as the water level drops. This is a very valuable habitat. A very broad and slightly undulating draw down zone will encourage the most marginal plant diversity. Ponds with steep sides will benefit from breaking down the bank to produce an undulating area at the water level. Many, often rare species of invertebrates lay their eggs or live in this habitat and 85% of wetland plant species that grow in ponds grow in the draw down zone.

