

# Winterizing your pond

## Preparing hard goods:

### Pumps:

For most ponds it is best to keep the pump running, through the winter months, although a few modifications are recommended. For November through February raise the pump to a shallower part of the pond. This will allow for water to circulate, but will keep the colder water from reaching the bottom of the pond, where fish hibernate. Water circulation is important for the removal of toxic gasses from water. This will also allow for debris to be caught by the filter, where it can easily be removed.

### Bio-Filters:

These should be thoroughly cleaned once the water temperature has dropped below 10°C. This is the temperature threshold for beneficial aerobic bacteria in the filter. Once the temperature drops, they will die.

Leaving the filter running through the winter will allow it to continue catching solid wastes, but be aware that, anaerobic bacteria will continue to thrive in colder water. Anaerobic bacteria produced eat the debris in the filter, but produce toxic gasses (ammonia, and methane) in doing so. So it is best to re-clean the filter if it becomes dirty. This will keep the anaerobic bacteria at a minimum, while keeping the pond clean and the fish healthy.

### Ultra-Violet-Clarifiers (UVCs):

UVCs should be disconnected from the system, when there is any danger of freezing. This is because they pass water around glass, and electrical equipment. If water freezes in the UVC, there is a high chance of glass parts breaking, and of **electrical shock hazard!**

### Tubing:

All flexible types of tubing should be safe if water freezes in them. If the pond has been constructed using rigid pipes, they should be disconnected from the system, and drained.

## Cleaning the pond:

### Fall leaves:

There are a couple of solutions to this problem. The best is to string a net across the pond for October and November. This will keep most of the unwanted leaves from fouling the pond. Pond vacuums are another choice for cleaning leaves out of the pond, if a net is not suitable for the job.

## **Preparing the plants:**

Floating plants such as “water lettuce”, and “water hyacinths” are considered annuals and are best discarded to the compost.

Marginal zone plants should have their foliage cut back as much as possible, otherwise it will rot in the pond and foul the water. Plants like irises, flags, and rushes, should be divided at this time as well. The plants should be overwintered in a deeper part of the pond, where they will not get frozen solid in ice.

Deep water plants; such as water lilies, and water hawthorn, should have their foliage removed at this time. Lilies may be divided now as well. Wash any soil from the roots, and separate any large new crowns. Hardy lilies may be overwintered in their usual spot in the pond. Tropical varieties need to be brought indoors for the winter.

## **Pond soils:**

Clay soils are rich in nutrients, but are difficult to work without damaging delicate roots. They may cloud the water, and or contain high concentrations of metallic minerals. So make sure that it is a pond quality product.

Silica type soils hold beneficial minerals for the plants. They don't float, and are easy to work with for planting and dividing. Their only disadvantage is that containers need to be lined with landscape fabric, to keep the soil from oozing out holes in the pot.

Peat / pumice mix soils are rich in nutrients, and are easy to work with, but they float, so covering soil with a layer of gravel is required.

## **Koi, goldfish, & winter conditions**

Do not feed fish, if the water temperature is below 10°C. Fish are cold blooded and will not digest food in cold water. Any food they eat will rot in their gullet, possibly leading to death.

Since fish are cold blooded, their body systems slow to a minimal pace for the winter. This unfortunately leaves them susceptible to shock, disease, and parasites. Keeping the pond and filter clean will help keep disease and pests at bay. Keeping the pump at a higher level in the water will help keep water temperatures even. The other important factor is **never break ice covering a pond**. If the surface stays frozen for several days on end, melt a hole in it with hot water, this allows air circulation. Having the pump circulating water will also keep part of the surface open, except in the most extreme conditions.