

### "Floaters" for surface cover

**Duckweed (*Lemna minor*)** - Hardy but a real nuisance.

" (*Lemna polyrrhiza*) - Marginally hardy

**Fairy Moss (*Azolla caroliniana*)** - Marginally hardy

**Floating Fern (*Ceratopteris pteroides*)**

***Salvinia brasiliensis***

**Water Hyacinth (*Eichornia crassipes*)**

**Water Lettuce (*Pistia stratiotes*)**

The above four are definitely ANNUALS - They will not survive the winter and should be removed from the water along with the falling autumn leaves so as not to decompose in the water.

### OXYGENATORS

**Parrots Feather (*Myriophyllum brasiliense*)** - tropical and needs to come inside

**Moneywort (*Lysimachia nummularia*)**

The above three are hardy - should be located on the bottom of the pool as are hardy lilies, where they will not freeze. They should be thinned out, they do not always winter over.

### Potted (Shallow water) MARGINALS

These hardy plants survive this climate when growing naturally –

Cut back leaf like plants, Irises and grasses

DO NOT Cut back cattails or rushes and any other type of tubular stemmed plants

**Japanese Irises (*Iris kaempferi*)** - should be removed, bury pot and all in the ground before frost

**Chameleon Plant & water Forget me not** should be treated like Japanese Iris

**Pickeral Rush, Arrowhead, lizards tail, gold strike rush, giant reed grass & golden club** can be left on shelf or for extra piece of mind they can be sunk to the deepest section of the water garden



## Guidelines for Preparing your Pond for the winter

**You should have flowers in the water garden through October, but the winterizing process starts in September in order to keep the pool and its inhabitants at their best. Pond maintenance is simple; some of the steps outlined may be optional for some pools.**

### September

1. Give your plants their last dose of fertilizer tablets.
2. Remove any dead or dying foliage and flowers (this should be done on a regular basis through the summer.)
3. Cut back any heavy growth of water hyacinths and oxygenators
4. A net should be used to remove any debris, particularly leaves, from the bottom of the pond. Such agitation of the pool will stir up the sediment- your submersible or external filter should be running to remove as much of this as possible and restore water clarity.
5. At this time, transplanting up lilies, lotus, and marginals into a larger container can be done. (Remember, larger containers mean larger plants - small pools may require the dwarfing effect of small containers)
6. If falling or blowing leaves threaten, a pond net cover can be placed over the pool. (They are nearly invisible and save a lot of work in the spring), leave the net on over the winter time to help keep leaves to a minimum.
7. This is a good time to plant up any tropical marginals that you will be bringing indoors.
8. Switch fish food over to wheat germ or a fall blend of food as the water temperature drops below 70

### October/ November

1. Stop feeding fish (Their metabolism slows down when the water temperature drops below 55 degrees)
2. Filters should remain running to remove particles, convert ammonia and to oxygenate the water. (The larger the fish population, the more

serious the need for supplemental filtration and oxygenation - oxygenating plants will go dormant)

3. Some people do a 25-50% partial water change at this time. (This would help to reduce toxic gases and be done so as to increase the oxygen content of the water.)

3a. Use a water treatment, to break down the chloramine and to add colloid to the water.

3b. a pH test may be advisable

3c. Start **Microbe Lift Autumn Prep**, especially if rocks line the bottom of the water garden

4. Dead foliage and flowers need to be removed from the pool. (As they decay, they will remove oxygen and may release toxic gases.)

5. As the frosts takes their toll, water hyacinths and other annuals should be removed to the compost pile.

6. Oxygenators should be removed and any accumulated debris netted out, this will help the winter water quality for your pond pets

7. Keep the filter running

8. Hardy rushes & lotus should wait until spring to be cut back.

### **Late Fall**

1. Hardy aquatic plants should be lowered to the bottom of the pool. (See "Winter Plant Care Instructions")

2. Fish owners should install their pond heater, (this will keep surface area open for gas exchange), to be switched on during extreme cold weather, also supplementing with a small pump 180-360 gph or air pump with air stones.

2a. Goldfish only need a hole in the ice to survive the winter

2b. Koi are sensitive to water temperatures below 35 degrees, they need a hole opened on a daily basis for at least 6-8 hours a day, also use of an air pump or small recirculating pump to agitate the water next to the de-icer is encouraged, this will aid in dissolved oxygen levels for larger koi.

3. Fountains, waterfalls and filters may be used into early winter but they should not be allowed to freeze!

Summer flowers will be sorely missed for the next few months but our memories and photos will remain. During the long evenings, when ice and snow set in, some underwater pond lighting can add a new dimension of pleasure to your water gardening experience. Low voltage lights, (with clear or colored lenses) can be installed in the pool and decorative low voltage fixtures can be placed to light the pool surface or any statue or feature. A few lights and some careful forethought can add many a winter's evenings of delight!

## **Winter Care of Aquatic Plants**

### **Waterlilies - Nymphaea - Hardy Cultivars**

Lower plants to the bottom of the pool (18" - 30" of water, depending on the dimensions and exposure of the pool) after they have gone dormant. For the tub gardens, remove plant to a cool, dark location and keep moist, by wrapping pot and all in wet burlap and placing in a garbage bag, store in a cool dark area of the basement. Do this with almost all of your hardy marginals that are in tub gardens

In the spring raise pot first week in April or as soon as ice has melted, raise to within 6" of the water surface and fertilize.

### **Water lilies - Nymphaea - Tropical Cultivars**

1. Plant the tropical water lily into a ThermoPlanter bring into the house place in at least a whiskey barrel size container full of water, place grow light over lily and plug in Thermo-Planter. or

2. Remove foliage & tubers from water rinse soil off of root system and place in bucket with water, rinse roots and change water in bucket every day for 2 weeks. Cut foliage off and place tuber in a Ziploc bag with damp sand; store in a cool, dark location (55 degrees F) for winter.

### **Tropical Marginals**

Remove all tropicals before first frost; this is a good time to replant into a bigger container Colocasia and Cyperus (Taro and papyrus varieties) will do fine indoors as a windowsill plant. Keep Moist. The easiest is placing pot and all in a decorative container that will hold water

Eleocharis (Chinese water chestnut) treat as Tropical Waterlily

Canna Hybrids - store tubers, pot and all in a cool dark area of the basement

### **Lotus - Nelumbo**

Leave lotus pot where it was growing unless you are located at a higher elevation then sink to a deeper location. DO NOT CUT BACK!!!! (Same depth as hardy waterlilies) For the tub gardens, remove plant to a cool, dark location and keep moist, by wrapping pot and all in wet burlap and placing in a garbage bag, store in a cool dark area of the basement.

Remember to raise the plant near the surface and fertilize around the first week in April or when Ice has melted away

### **Lily-Like Aquatics - Nuphar, Nymphoides**

**Floating Heart (Nymphoides peltata)** - Anchor roots in pot that you wish to keep and then cut back foliage, lower to the bottom of the pond.

**Spatterdock (Nuphar advena)**

**Water Hawthorne (Aponogeton distachyus)**

**Water Poppy (Hydrocleys nymphoides)**

**Water Snowflake (Nymphoides indica & germanica)**

Authorities and experience vary about the last three plant varieties - They agree that these will survive with no more than "window-pane" ice. They also agree that none will survive in zone 5 without protection.