

Guide to Over-Wintering Your Pond

Despite all outward appearances the pond is active even when the water is cold or even frozen. Dead leaves, algae, insects and solid fish waste that have accumulated over the summer slowly break down during the winter months. This natural decomposition uses oxygen and produces hydrogen sulfide, a toxic gas. A build up of leaves, uneaten fish food and fish wastes can produce excessive hydrogen sulfide and at the same time, reduce oxygen to dangerously low levels. This can cause all of your plants and fish to die. Pond netting used to catch leaves and along with the following fish information can help to prevent this.

First, remove all debris you can with a coarse net, which you should have been doing throughout the year (to prevent more leaves, drape a pond net over it). Next, use a fine net to remove any sludge covering the bottom. Since you're in there stirring things up a bit, you should change about 50% of the water, too. If your pond has a lot of "junk" at the bottom of it and is tinted yellow from dissolved organic material, make (2) 30-50% water changes a day or two apart. When you're pumping out the water, stir up the sludge and clean the bog and/or marginal shelves, etc. After everything is cleaned, start to fill with tap water. Add to your tap water some type of water de-chlorinator.

If you're really concerned about the chlorinated water, add some Ammo Lock to instantly neutralize the chlorine and chloramines in the tap water so it doesn't harm the fish (It also locks ammonia so if you ever have high ammonia levels in your pond, you can use the Ammo Lock). It is imperative that you get rid of the chlorine in the tap water or else it will kill your fish. Plants don't like the chlorine either. Add *Pondzyme* to your pond, to get "good" bacteria working in your filter, etc.

The metabolism of koi and goldfish is controlled primarily by water temperature. As the water cools, their metabolism slows down and they require less food and food with less protein. When fed high-protein diets in cool water, the excess protein is excreted as ammonia, and the fish can get sick and die from the high levels of ammonia. Eliminate the high protein diets when the water temperature goes below 60°F and start feeding them "Spring and Autumn Fish Food". This type of fish food is better for the dietary requirements for the fish and won't pollute the water with excess ammonia. Feed them about 20% of what you would in the summer and you should be fine. Stop feeding your fish when the temperature of the pond goes below 50°F. If the fish don't eat the food, of course, stop feeding them or else the uneaten food will only settle to the bottom and add to the overall nutrients in the water.

For those of you who have ponds with fish and no plants, your fish can benefit from the addition of Pond salt. Pond salt provides electrolytes to the fish and gives them a nice, soothing protective coating. It acts as a barrier from bacteria, fungus, and parasites that attack the fish. Use a .3 - .5% salt solution if you don't have any plants and only have fish, and about a 2% salt solution if you have both plants and fish. Salt is ideal to use in the Fall and Spring when the fish's immune system is compromised and some bad types of bacterial strains and parasites are still active and growing. Also, some beneficial bacteria may die with a higher salt solution, so be careful on the amount you choose.

Your pond may not be crystal clear, but your fish can be healthier because of it. If in doubt, just check the ammonia levels in the pond. A 2-3% salt solution is a pretty safe bet. There are specific test kits that test for salt levels. They are referred to as salinity monitors. You can find them here at SKH.

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Will my fish freeze in my pond? (Koi, goldfish, golden orfes)

Your pond should be 18" deep and there will be no problem. You can keep the pump on until the water temperatures are in the high 40's. From there you can turn off your pump and remove it from the pond as well as your filter. Clean them up for the winter and bring inside the garage. The reason why you don't want to keep your pump running is because the tubing which is most likely on the outside of your pond will start to have ice form within it and will eventually freeze solid and cause your pump to burn out. Also, ice formation on your waterfall may divert your flow of water outside of your pond emptying out your pond by surprise. You will also need a pond de-icer which will keep an area of your pond's surface "open" and from freezing solid. This provides an opening for the toxic hydrogen sulfide gasses from decomposing fish wastes, organic matter, etc. to escape and an entrance for oxygen to enter. This year we have an energy efficient 100 watt pond heater available. If you're reading this "a little late" and your pond's surface has already frozen, DO NOT go out and try to hack a hole in the ice. You just may hack into one of your fish! A neat little trick is to get a pan with a handle and attach a long string to it. Fill the pan with boiling water and set the pan on the ice. The heat from the pan will melt a hole in the ice and you can retrieve the pan with the string!

If you have a shallow pond or even a small preformed pond (under 18" deep or above ground), you really need to bring them either inside your home or you can keep them in an unused untreated kiddie pool or aquarium set up in a cool basement or garage. A small pump & filter or power filter will provide filtration and aeration. Small water changes of about 10% per week will keep the water in good shape until Spring. Koi are jumpers and will jump out of the pool/aquarium so be sure to cover it with netting or aquarium hood. This is a must or else you'll wake up one morning to dead koi on the floor.

Over-wintering your aquatic plants

- Trim hardy bog and marsh plants such as cattails, pickerel rush etc. before it frosts. You can trim them to about 4" tall. Place in deep end of the pond, at least 18" deep.
- Pull out the hardy water lilies and trim off all the leaves and buds. Put them at the deepest end (at least 18" deep) of your water garden and let them "hibernate" there for the winter. You may bring tropical bog plants like umbrella palms, giant papyrus, taro, etc inside. Sit them in a tray of water at a sunny window. Always keep the tray filled with water.
- Tropical lilies are annuals and won't survive the winter but you can try to save them by trimming off the leaves and roots and cover the rhizomes in a tray of damp (not wet) peat moss. The peat moss has antiseptic properties and helps inhibit rotting of the rhizome. Keep them in a cool basement and spray periodically to prevent drying out.
- Anacharis can be rooted in a pot of pebble and sunk to the bottom of the pond.
- Discard floating plants such as water hyacinths and water lettuce. If you want to. You can try to bring them in but each plant takes up a lot of room and they need A LOT of light and warmth. Since they are inexpensive and multiply readily, it may not be worth the bother.

Please come in and ask our water-gardening experts any further question.