

Ring Pond

January – February

Watch the **ICE** build up. Whenever it gets thick enough, (2-3") to completely block the transfer of gasses from the water to the air, drill holes with the ice drill. This can happen often during a cold winter and not at all during a mild one. The importance of this task cannot be overstated. If it is not done, the fish will die.

March

ADD WATER to the pond. The city connection to our water source will not be hooked up until April or May. It is vital that the water be topped off. The gas station across the street will let you fill buckets at their tap and haul them across. It will take 2-300 gallons, and may have to be done twice.

Check the **SALT LEVEL** and add some as indicated.

Check all chemical balances. PH, Heavy Metals, Chlorine, etc.

April

When the water temperature rises above 50 degrees, start feeding the fish. Use a Spring **KOI FOOD** formula. Start with small amounts and keep watching the temperature. When it rises above 60 degrees the fish can be fed normally. That will usually happen in May.

When the water is turned on, drain about a foot of water from the pond use the **NET** to remove as much detritus from the bottom of the pond as you can, and refill. Clean the filters and check all chemical balances, and clean the filters.

PH, This is an important indicator and should be near neutral (7) on the scale. Slightly acidic, (7.5) is ok.

Salt, This is a vital balance and should be checked every two weeks. The salt test kit has complete instructions.

Add a couple of bales of **BARLEY STRAW**.

Add **MICROBE LIFT** according to the instructions on the bottle.

May

The water temperature should rise significantly this month. At 60 degrees start feeding the fish normally. The guidelines for this are as much as they will eat in 5 minutes.

This is a good time to **DRAIN AND CLEAN THE POND** and **CLEAN THE FILTERS**.

Check the perimeter of the pond and the stream for areas that the water is flowing out. Sometimes the edge gets stepped on inadvertently and leaks.

Clean out leaves and other detritus from the stream bed and ponds. I don't try to get the squeaky clean, just remove the excess material. Some muck is good for the health of the pond. It just cannot build up because it will fill in the bed after a while.

June – August

The fish should be eating regularly by now.

Clean the filters every two weeks.

Clean out the **PUMP INLETS**.

Use the net to clear leaves from the pond surface and scoop some from the bottom. No major cleaning now. The water should remain quite clean through the summer.

September

Continue as with the previous months.

Start watching the temperature late in the month. it should not drop below 60 degrees until October, but it is a good idea to keep an eye on it.

Watch the leaves. As they start to turn stretch the net over the pond. This will catch the leaves as they drop. We don't want them in the pond. They rot over the winter and take up vital oxygen from the water. This is not replaced as there are no green plants during the winter.

October -November

The water temperature will drop during this month and into November. Keep an eye on it and **FEED** the fish accordingly. I remove the container from the Arbor box when the water drops below 60 degrees. Stop feeding them completely when it drops below 50 Degrees in November or early December.

The water source will be turned off sometime during these months. I am currently working with Parks and the City to get the lock removed from the Fire Hydrant. If successful we will be able to refill the pond from there during the winter and keep the stream running except when there is Ice. I like to run it as often as I can to keep up the oxygen supply for the fish.

December

The Fish should not be eating at all by now. The water will drop very low and they go to the bottom to aestivate. They slow down to almost a hibernation status. Keep the water flowing as much as possible. These are the most difficult months of pond care. You must watch the pumps and shut them off when it freezes. Holes must be drilled when the **ICE** covers the pond all the way to the edges.

ADD WATER

I am currently working with Parks and DOT to get the lock taken off the fire hydrant. If this happens it will make winter water supplies much easier to achieve. The gas station across the street allows us to fill buckets from their faucet. (They attach a hose to it and run it outside where we can use it.) If Dot does not come through we will have to do this a few times each winter. If the hydrant is unlocked we can run a hose from there to the pond easily and fill whenever it is needed.

In the summer months there is an automatic fill valve in the filter system that tops off the pond. (This is like the valve in the back of tank type toilets and works without need of any special attention.)

BARLEY STRAW

Barley Straw promotes the growth of healthy bacteria that help to keep the water clear and clean. It comes in small bales about 6" square by 12" long. These are pulled apart and placed in the supplied sack with a few stones to sink them to the bottom of the pond.

They are put in during May and removed in October.

DRAIN AND CLEAN THE POND

This is probably the most intense work that the pond needs regularly.

In the spring after the water supply is turned on, The pond should be drained of about a foot and a half of water.

Turn off the pumps

Turn off the automatic fill valve

Open all the drain valves and let the water flow out until it stops.

Have some children watch the water as it flows out and alert you if any fish appear. The smaller fish sometimes get caught in the flow.

This is a good time to get wet and clean out the leaves from the bottom of the pond and remove the barley straw from the year before if you did not do that in the fall.

When cleaning out the leaves watch carefully that you don't take crayfish with you. They are there in the bottom of the pond and this is the only time you will get to see them.

Clean the filters. I do this on the lawn with the sprayer hose.

Clean the **FILTER BOX AND VORTEX**

When all is clean, (Not pristine, We want some of the gunk to stay as it is healthy for the pond.)

Close the drain valves for the vortex and the filter box.

Open the bottom drain valve.

Open the automatic fill valve.

Refill the pond using all available hoses.

Check all chemical levels, IE Salt, PH, Heavy Metals, Chlorine, and Oxygen etc. There is a test kit for all of this. It has included instructions for performing the tests and remediation if any should be necessary. Most of the time, none has been needed. New York has good water.

When the pond is sufficiently full, turn on the pumps and make sure they are working properly.

FEEDING THE FISH.

Feeding the fish is a daily task. I try to get in the garden daily to check up on their welfare. Since many people feed the fish it is difficult to measure exactly what they are getting at any specific time. I have handled this problem by filling up a container in the box under the arbor with fish food every 5 days or so. That is about how much they should eat in that amount of time. People come in at random and feed them and I keep an eye on the container. If it gets low too fast I wait to fill it. I regularly feed them myself.

To feed the fish I give them a little as see how they react. If they are hungry I give them more, about what they will eat in 5 minutes. If they are sluggish or ignore it I don't feed them, assuming someone else has recently.

If it is raining I have to go in every day because other people do not. When the weather is good I often find that they have been fed.

The fish do not eat in winter, when the water is below 50 degrees. In late April or early May the temperature will rise. From 50 – 60 degrees they should be fed sparingly. They will not eat much and will remain sluggish. Above 60 degrees feed them normally.

In the late summer and Fall I give them more food, leaving some on the surface for them to eat later. They need to fatten up some for the winter when they will not eat at all for about 5 months.

There are many varieties of Koi food that can be purchased. I tend to use Either Hikari or Tetra Pond brands. I vary their menu according to the labels on the packages, IE "Spring and Fall" mix, "Summer", or "Color Brighteners." I stay away from the "Growth" formulas as they fish are large enough for our little pond.

FILTER BOX AND VORTEX

These are the two green boxes to the right of the pond. The round one is the Vortex. It's purpose is to swirl the water around slowly as it rises. The heavy leaves and dirt falls to the bottom to be drained. The lighter dirt goes through the upper pipe into the filter.

The vortex is a very useful tool for rapid cleaning of the bottom of the pond. It is designed to pull the water rapidly from the bottom. To do this:

- Turn off the pumps

- Turn off the automatic fill valve.

- Close the valve from the bottom drain of the pond .

- Open the drain valve to the vortex and let the water drain.

- Clean out the leaves etc that remain in the bottom and clear the pipe.

- Open the bottom drain. The water will rush into the vortex drawing dirt, leaves, etc from the bottom of the pond. Watch carefully for small fish. Just before the water reaches the pipe to the filter, close the drain valve and let the vortex drain.

Repeat this process a few times until the water is clear.
Close the vortex drain, leave the pond drain open. (this normally remains open)
Turn on the automatic fill valve, and use the hose to top off the pond.
Turn on the pumps.
Check the salt level.

After the Vortex is the Filter.

The filter has three parts.

The automatic fill valve is first.

This tops off the pond when the water gets low. To turn this off use the silver valve just inside the edge of the box. It is normally left on and you must remember to turn it back on. If it does not add water when turned on check the valve by pushing down the black float. If that does not work check the water lines and make sure they are turned on. Sometimes someone turns off the valve leading to the south side of the garden.

The filter media.

There are three grades to these rough, medium and fine. They go in that order from the inlet pipe. They need to be washed out regularly with the sprayer hose on the lawn. I move them around as the gunk that comes out is good food for the plants. There is another media behind these mixed in with the pumps. This is for growing healthy bacteria that remove urea and other waste products from the water. They should be shaken lightly in the water to clean them off a little. Otherwise they should be left alone.

The pumps.

These move the water and must have their inlets cleared regularly. You can tell when this has to be done by watching the water flow where they pump into the stream. With a little observation you will see how much water comes out when they are clear. Check this every time you are in the garden and clean the pumps accordingly. One pump is on a flexible hose and can easily be pulled from the water to clean. This pump is on the timer and goes into the upper pond. It is the most important one as it keeps the water flowing at regular intervals throughout the day. The other is on a hard pipe. You have to reach down into the water and clean it blind. This pump goes to the upper stream and is turned on only when someone turns the timer switch on the side of the **POWER BOX**.

Care and maintenance of the filter system is the most time intensive part of the pond system. It takes regular attention. A few minutes each week to check the systems and make sure the pumps are working properly. They also take about an hour every month to clean the filters and pond.

ICE

Winter Ice is a factor that must be carefully watched. It will stop up the pipes and burn out the pumps if they are left on. When it covers the pond completely, holes must be drilled to let out toxic gasses that can kill the fish. This only has to be done when there is

a deep freeze, but it is vital that it be done. There is an ice drill in the shed that I move to the Arbor box in early winter for this purpose. It is not fun standing on the pond and drilling a hole when the temperature is hovering near zero, but it must be done.

MICROBE LIFT

This is a natural additive of healthy microbes that help the pond achieve the proper balance after the winter. I purchase two bottles each spring and add them to the pond as per instructions every few days for a couple of weeks. Beware of the stench. It smells like a sewer but is really healthy. Since I have been using it there have been far fewer incidents of sick fish.

NET

There is a net in the shed that needs to be used in the fall to keep leaves from the pond. If they are allowed to fill the pond they will take up vital oxygen from the water as they rot. It is impossible to keep them all out but the net will help. I stretch it over the pond and will add a beach ball to the middle to keep it from sinking. Shake out the net periodically to keep the leaves from building up.

The net could also be useful for catching a sick fish. I have never actually been able to do this so it is at this time just a suggestion. Spread the net over the bottom of the pond with places where the fish can get through. Let it stay there for a few days until they get used to it and the target fish is inside it's borders. Lift the edges, sealing off the area and then slowly gather the net so there is not a lot of water for the fish to hide in. Use the small net to catch the fish you want.

PH

There is a PH test kit in with the Pond Water Test Kit. This should be used from time to time to check this important balance. I have not had any trouble with this one for years, but it is a good idea to check it regularly just in case. It seems that the city water we use is PH balanced naturally and there are few factors to set this one off. If it does vary from the norm, there are products the Suppliers sell to balance it again. PH up and PH down.

POWER BOX

This is the power storage supply and management for the solar power.

PUMP INLETS

These must be cleaned regularly. Watch the flow of water into the upper pond from the filters. It is the stream of water arching into the pond above and a little to the right of the filters when the pump is running. This should be shooting out about 8-10 inches into the pond. If it is not, the pumps inlets need to be cleaned off. They gather leaves etc. that get past the filters or fall into the boxes when the lid is off.

SALT LEVEL

Salt is very important to the health of the fish. They need a low level to help them fend off parasites and other diseases. There is a salt level kit in the shed and a supply of Pond Salt. Use the kit as per instructions and add as needed. It is easy and should be checked every couple of weeks and especially after every time you add a significant amount of water. The salt does not evaporate so when the proper level is reached it tends to remain steady for a while. There is leakage from various places around the system so eventually it does go down. It also needs to be replenished and checked daily for a few days after changing large amounts of water as is done in the spring. I add the salt to the upper pond and let the circulation mix it into the lower pond so the fish are not shocked by a sudden change.

VORTEX AND FILTER BOX

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- Repeat this process a few times until the water is clear.

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- Turn on the automatic fill valve, and use the hose to top off the pond.

- Turn on the pumps.

- Check the salt level.

This process is easy and quick. It should be done every couple of weeks.

The water drained from the pond here would be great food for the fish if someone can only figure out how to save it and pump it onto the plants.

The major problem with this part of the system is when the drain pipe gets clogged. I take a stiff wire and work it through the drain from the bottom of the vortex itself. There are places where the wire gets jammed just keep twisting it around until it goes through the holes and slides completely into the pipe about 2'. There are long armed gloves in the shed for this purpose. It is best to do it with the vortex drained though this is not always an option. If it gets too bad, call a super with a snake or call a plumber. It must be kept clear.

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