## Pond General Maintenance

Most water gardeners look to their ponds as a source of relaxation and escape, not a source of work and maintenance. Fortunately, a properly designed water feature should require very little maintenance. Other than regular doses of bacteria to help keep the water clear, there are a few items of regular maintenance that you can expect.

It's reasonable to expect that most of your regular pond maintenance will relate to the filtration system. The amount of maintenance your pond requires generally depends on the type of system that filters your pond. For example, if the pump and filter sit at the bottom of the pond, then you may find yourself cleaning them at least once a week. Not only that, but you'll need to get into the pond to perform the cleaning.

A pond that is filtered with skimmers and biological filters will require much less maintenance. Regular maintenance with this type of system consists of emptying the debris nets and cleaning the filter pads in the skimmer. This only takes a few minutes of your time, and this type of filter is easily accessible too! How often this is required depends on the amount of debris and leaves that find their way into your pond.

When the aquatic plants in your pond are actively growing, you'll also need to keep an eye out for and remove any yellowing leaves and spent flowers, especially on water lilies. Like many terrestrial perennials, this is a normal part of the plant's seasonal growth cycle.

Daily water testing is generally not needed. But because poor water quality is often the cause of pond problems and sick fish, it is sometimes necessary as a key, first step in determining the treatment.

Please don't consider routine, general maintenance to be a burden on you. Think back to the days when you had to weed, water, and mow your lawn and you'll be sure to appreciate your watery paradise a little more. After all, how many household tasks do you get to perform in the warm sun, with the sounds of frogs and birds all around you, and your friendly koi nibbling at your fingers? And how often are you tempted to take your shoes off and dip your toes in the bathtub when you've been cooped up in the house washing windows? Not often. That's why you got your pond. Enjoy it!

## Spring Maintenance

The snow is melting, the birds are chirping, and the sun that you've been missing has finally decided to show its face. Perhaps you live in the Southern states and you're just happy that the temperature is starting to rise again. Either way, you may want to give your pond a fresh start by giving it a spring clean-out.

Spring algae blooms occur because of excess nutrients and deficient amounts of beneficial bacteria. In a clean-out, the stale pond water is replaced with fresh, clean water that is ready for bacterial colonization. Spring clean-outs replenish the water in a pond and allow it to begin a fresh, new season. Since a balanced ecosystem keeps the pond healthy the rest of the year, an annual clean-out gets it off to the right start.

Ideally, you would start your spring clean-out early in the spring before the water temperature creeps up above $55^{\circ} \mathrm{F}$. At this temperature, your pond hasn't begun it's annual balance, and the fish are not as active so the cleanout won't be so stressful to them.

Every pond is different, and some ponds do not require an annual clean-out. Spring clean-outs are recommended annually for most Northern ponds because of the debris that can build up over the winter. If your pond is larger than 2,000 square feet, it might only need a clean-out every few years. And larger ponds may never need a complete clean-out because any impurities present are minimal compared to the volume of water in the pond. The larger the pond, the easier it is to maintain (just like a fish tank).

Because they are able to bacterial life year-round, ponds in the South may not require a full annual clean-out. A partial clean-out, where the filter media is cleaned and a 20 percent water change is done, may prove to be beneficial for the entire system. Every two to three years may be sufficient for a full pond clean-out.

The best way to tell whether your pond needs to be cleaned out? If the water looks the same in the early spring as it did the previous summer, it's probably okay to skip the clean-out.

Now it's time to roll up your sleeves, put your waders on, and get ready to clean out your pond!

## Summer Maintenance

Summer is here and you've earned some quality time with your pond, and when better than summertime - perhaps the most beautiful time of the year for most ponds. Summer is your chance to truly enjoy the pond.

And with your clean-out completed in the early spring, the majority of your pond maintenance is behind you. There are some summer maintenance items that still need to be addressed in order to have a season of clean, clear water to enjoy. By keeping up on these tasks, you should have a healthy pond all season long.

Keep Your Pond "Topped off" - Make sure the water level stays where it should be. This will ensure that the pump and/or skimmer are able to operate properly and will help keep your pond free of debris, while providing plenty of oxygenated water for your fish. The summer heat can be tough on oxygen levels.

Add More Plants - The more the merrier! If at all possible, try to cover at least a third of the pond's surface area with water lilies. Also, make sure you have plenty of marginal and floating plants around the pond to blend the pond's edge with your landscape.

Trim Those Plants - You've added the plants, now keep them looking good. Routine maintenance, including removal of spent blooms, yellowing leaves, and excess growth will get rid of nutrients in the pond, reducing the possibility of algae blooms. If you devote just a few enjoyable minutes each day to this task, it never becomes "the big chore" that encourages procrastination.

Feed Your Fish - In the extreme heat of the summer, over feeding can lead to oxygen depletion and possible algae blooms. A good rule of thumb is not to feed your fish more than they can eat in a period of two to three minutes at a time.

Don't Clean the Filter Pads - If you have a biological filtration system, cleaning off the filter pads will destroy the algae-fighting bacteria that live there, resulting in excess algae growth.

Fertilize Lotus and Lily Plants - To encourage more prolific blooming during the summer months, use lily fertilizer tabs near the base of the plants throughout the growing season. It's not really necessary to fertilize marginal plants if they're planted right in the pond gravel - they will easily pull the nutrients they need right from the pond.

Add Bacteria - Follow the dosage instructions on the label and add bacteria regularly to compete with the algae for excess nutrients in the water, helping reduce the growth of algae.

Control Runoff - Avoid using fertilizer in areas that may drain into your pond. Fertilizer will cause a surge of excess nutrients in your pond and actually encourage algae blooms.

Remember, your water garden is there for you to ENJOY! Take time to appreciate all that it has to offer you. There is no better reward after mowing the (remaining) lawn than to have a seat in the cooling waters of the pond. Also, plant some tropical water lilies - either day or night blooming. Their beautiful fragrance will cover the whole pond area and they are visually stunning.

## Fall Maintenance

When fall rolls around, the change of seasons is apparent by the beautiful, multi-colored leaves and the cool change in temperatures. It may be your favorite time of year, but how will the cooler temperature and falling leaves affect your aquatic paradise? Can ponds and trees live together peacefully in the fall? With a couple precautions and a little maintenance, they can!

Debris cleanup from the fall may be inevitable in any part of the county, but you'll need to pay special attention if you're in a cold region and your pond has heavy tree cover. A skimmer filter may not be able to keep up with catching all the leaves before they drop to the pond's bottom and decompose. Removing leaves and sticks with a net will make for an easier spring clean-out next year. Debris left to rot in the pond will eventually decompose, producing gases that may be harmful to your fish.

In this case, using a large net stretched over the pond can be helpful because it will catch the leaves before they even hit the water. Plus, you can use a leaf blower to clear the area, meaning less work for you!

Regardless of whether you have a lot of trees or a minimal amount leaves falling, autumn is still a time when you'll need to empty the debris net or bag of your skimmer more often than you were in the summer - usually on a daily basis. It's also a great time to tend to your plants. It's sad to see them go, but you definitely don't want their debris falling to the pond bottom.

Hardy bog and marginal plants should have all the dead leaves and foliage trimmed down to 2" above the water level, and hardy lily leaves and stems should be cut back, leaving approximately 2 to 3 " at the base of the plant. This is also the time when tropical plants can be brought inside for winter, or simply treated as annuals and replaced each season.

In late fall, when your leaves have stopped dropping, it is also time when your winter preparation should be starting. Properly winterizing a pond at this time of year will make it easier for your spring clean-out. For information on how to winterize your pond, check out the winter shut-down link on this site.

## Winter Maintenance

Winter is fast approaching, and you still aren't sure what to do with your pond. Should you keep the pump running all winter or shut it down? Can you even keep a pond running all winter through freezing temperatures?

Maintenance is usually the determining factor in whether or not a pond owner keeps their pump running in the winter. The primary maintenance responsibility at this time is to make sure there is enough water for the pump(s) to operate properly.

Pump size is also an important consideration when determining a waterfall's ability to operate during the winter. A pump that provides at least $2,000 \mathrm{gph}$ can be operated throughout the winter without a problem, as long as it runs continuously. The moving water will usually keep a hole open in the ice around the waterfalls and in front of the skimmer.

There is nothing more breathtaking than a waterfall covered with ice formations and snow during the winter. You must, however, be careful with ponds that have long or slow-moving streams. In such cases, ice dams can form and divert water over the liner.

And then there are your fish friends. What will become of them over the winter months? Do they hibernate like a bear and wake up in the spring when you're there to greet them for a clean-out? Can they survive in only two feet of water? Won't they freeze solid into little precious fish-cicles?

The fact is that ornamental fish will do just fine in two feet of water, as long as some form of oxygenation is provided, and a hole is kept in the ice to allow the escape of harmful gases. It's recommended to place a waterfall pump in a basket, bucket, or pump sock and surround the intake of the pump with stones to prevent clogging. Place the pump on the second or third shelf of the pond so the surface water is broken by the aeration. The agitation from the pump will prevent freezing and provide oxygen.

Another option is to use a floating heater/de-icer in combination with a small submersible pump (at least 150 gph ). You can place the small re-circulating pump on the first shelf of the pond, bubbling at least one inch above the surface. Floating heaters are the most common method of keeping a hole open in the ice. Unfortunately they won't provide oxygen for the fish, and some can be expensive to operate.

Do not confuse a floating pond de-icer with a water heater. A pond de-icer won't heat the water; it will simply keep a small hole open in the ice. Be sure to place it away from re-circulating water to avoid moving the heated water. Just remember that although they seem like they're sleeping down there, they still need oxygen in order to keep going and to meet you when the ice melts!

If you feel that you can tackle the responsibilities of keeping your pond running during the winter, then go for it, because there's nothing quite like the breathtaking view of the winter pond in all its glory!

## MAINTENANCE

Opening a new pond or at start up of the new season. Water Temp must be above 50 degrees.

## AquaClearer Extreme Bacteria Liquid

Apply $40 z$ per 1000 gallons of water for 4-5 days. Water should start to clear up with in 5-7days after treatment.
The next step is to use the products below to maintain the water quality.
AquaClearer Extreme Bacteria - dry or liquid
Dry apply 1 scoop per 1000 gallons of water daily for the first 2 weeks.
Then apply once or twice a month during warm or hot weather.
Apply once or twice a week during colder weather. Temp. 50-70 degrees.
Liquid is the same but is $10 z$ per 1000 gallons of water.

## S.A.B. Extreme

Used for string algae maintenance
Apply 1 scoop per 100 gallons (must mix in a bucket of water then apply to pond area) 2-3 times the first month the pond is open (water temp 50+).
Then once every 2-3 weeks after the first month.

## Ecoblast Algaecide

Clear most of the string algae from pond area by raking debris Then apply the Ecoblast_algaecide to the rest of the string algae.
Use as needed to knock down the string algae. This is a contact product and can be used at any water temp. Only treat small areas of the pond at one time. This product can cause oxygen levels to drop in the pond if too much is used at one time.
Note: All filter pads need to be cleaned once a year and a filter media like bio balls or lava rock need to be in the up flow filter area for bacteria to do its job. Floating Water Plants in the filter area are good also. The more plants in the pond and filter area the less chance String Algae has to take over. If the treatments are not working then there may be a PH problem and that would need to be checked good is between 7 to 8.5

