**Tricks and Tips to Maintain Your Water Feature**

Now that you’ve decided to dive into the world of water gardening, you’re probably wondering exactly what you need to do to maintain you’re new aquatic beauty, and keep it looking good.

There is a lot of conflicting information out there about the dos and don’t of water garden maintenance so your head may be spinning, wondering which steps are necessary and which ones aren’t. The whole point of installing your pond in the first place was to reduce the stress in your life, not add it to.

Allow us to share a little bit of water gardening knowledge with you … the key to a low maintenance water garden is to keep your new ecosystem in balance! Read on and learn how to water garden the low maintenance way. So regardless of which type of water feature you own, we’ll tell you the best way to maintain it with the least amount of work on your part!

Different Pond Types  **Ecosystem Ponds**
The key to keeping an all-natural water garden in check is general ecosystem maintenance. The five elements of your ecosystem all need to be balanced in order to insure that everything is working smoothly. They are:

* Mechanical and Biological Filters
* Pumps and Plumbing
* Rocks and Gravel
* Aquatic Plants
* Fish

These elements must all be present in order for the system to really work. Once your pond is balanced, it's not hard to see why maintaining a well-balanced ecosystem is easy. With the exception of some seasonal maintenance, all you really need to worry about is tossing a little beneficial bacteria into your pond and cleaning out your skimmer net once every week or two.

**Preformed and Container Water Gardens**
When it comes to preformed and container gardens, maintenance is a little different. There are a few products that can be used to clean up your pond when non-algae problems continue. Remember, the smaller the system, the harder it is to achieve balance, so a more repeated dosage of beneficial bacteria may be necessary.

* **AquaClearer™ Extreme Dry** is effective at reducing sludge, waste and excess nutrients.
* **AquaClearer™ Extreme Liquid** is effective at reducing ammonia, nitrites and excess nutrients.
* **EcoFoam Away™** Removes foam from the water.
* **EcoFloc™** clumps suspended particles for easy removal.
* **EcoBlast™** Granular Algaecide is Aquascape's #1 treatment for breaking down algae! Fast Acting and not temperature sensitive. 100% safe for fish.
* **EcoStarter™** Plus Liquid removes & detoxifies chlorine; removes & detoxifies ammonia; destroys chloramines; detoxifies copper & heavy metals; boosts alkalinity; adds essential electrolytes; adds 3-part skin slime replacer; and reduces stress.

Preformed ponds and container gardens also differ from liner ponds in the fact that leaks cannot be fixed. Preformed ponds and barrel liners are impossible to fix if cracked and must be replaced. Evaporation is also more common and much more noticeable because of the small amount of space. You can, however, follow the same steps when refilling them as you do a natural liner pond. Lastly, over-doing plants and lowering the fish load in your preformed pond or container water garden will help balance the system better!

**Pondless® Waterfall**
One of the greatest features of the Pondless® Waterfall Filter is that there is very little maintenance. The system can be run 24 hours a day or can be turned off and on when desired. Don’t forget to periodically check that there is enough water in the Pondless® Waterfall basin to properly operate the waterfalls. When you hear the pump “gurgling” or sucking air, you know it is time to add water.

General Maintenance

The Skimmer
The skimmer is designed to sweep the surface of the water so this it is free from debris. The debris basket inside the skimmer is the first filter stage of the skimmer. The basket will collect leaves, twigs, seeds, and other debris that falls or blows into the pond. It only takes a few minutes every other week to empty the debris basket. More frequent changes will be required during the fall because of the quantity of leaves falling off the surrounding trees.

It is a good habit during your first season with the pond to periodically check the quantity of debris in the basket. This is especially true in the fall. Keep a mental note as to how often your basket has to be emptied. It’s important that the debris basket is not allowed to become too full as too much debris can reduce the water flow to the pump.

Filter Mat
The filter mat below the debris basket is the second stage of the skimmer. The mat is designed to handle any debris that finds its way past the basket. The mat will not need maintenance as frequently as the basket, since the basket will remove the majority of debris from the water.

The water reaching the pump should be relatively free of any large debris, thanks to the debris net and filter brushes on the skimmer, and, if you have a Pondless® Waterfall, the fact that the water has to pass through layers of gravel in the basin.

*Note:* The filter mat may have a slot cut into it so that it fits around the discharge pipe. Install the filter mat correctly so the slot fits around the discharge pipe. Skimmer filter mats are designed to last for about two years. Filter mats may be discolored and appear dirty and old, but will work just fine in your skimmer and BIOFALLS® filters, or MicroFalls™. Replace old filter mats if they begin to tear or fall apart. Ask your installer or local garden center about replacement filter mats.

The Pump
On occasion, you may see a reduction in the water flow over the waterfall. This could be a sign that it is time to clean the filter screen on the bottom of the pump. This process should take no longer than five minutes. Simply unplug and remove the pump from the skimmer or Pondless® Waterfall Vault and physically remove any debris found on the bottom of the pump. You may also want to physically remove any debris with your hands that may have found its way to the bottom of the skimmer or Pondless® Waterfall Vault, where the pump sits.

BioFalls® Filter
The BioFalls® filter is the starting point of your waterfall. The filter mats and media provide a home for the beneficial bacteria that help clean the pond. It is designed for once-a-year cleaning when used in combination with a Signature Series™ Skimmer or Pondless® Waterfall Vault prefilter, ensuring that large debris is filtered from the water before it reaches the Signature Series™ BioFalls® filter.

Most ponds don't require the filter mats or filter media bag in the BioFalls® Filter to be cleaned more than once a year. Cleaning them, especially with chlorinated tap water, more often will reduce or kill the beneficial bacteria growing on these filters. Replace old filter mats after several years, when they begin to tear or fall apart. The filter mats can be removed for annual cleaning through the wider opening at the front of the rack.

*Note:* The Signature Series™ BioFalls® filter that comes with the Pondless® Waterfall system does not include filter mats or media bags. There is no need for these items since there is no pond. In addition, Aquascape produces a full line of products and educational materials designed to help you get the most from your new water feature. Ask your installer or local supplier for more information on purchasing these products.

The Water Level
Every pond will experience a little evaporation. The amount of water loss due to evaporation depends on waterfall height, water splashing outside the pond, stream length, the amount of sunlight the pond receives, and the temperature of the region where you live.

During the warmest months of the year, most small, residential ponds will need a weekly addition of water to counteract the effects of water loss. During rainy periods, adding water to your pond may not be necessary at all. The water level of the pond can be monitored using the opening of the skimmer mouth as a reference. The ideal water level should be set at about ¾-inch below the top of the skimmer mouth. You can check the water level each time you empty the debris net.

When you notice that the water level is low, simply drop a garden hose into the pond and add the required amount of water. De-chlorinator does not need to be used when adding less than 20 percent of the pond’s total water volume.

If your pond is equipped with a water fill valve inside the skimmer, the water level of the pond will be maintained for you. The water fill valve can be connected to the garden spigot on your house or connected to the main line of an underground irrigation system. When the water level in your pond drops, the float on the valve drops also. Water is added through the fill valve until the float rises back to its original position.

Troubleshooting Leaks
If you notice you have to add water on a daily basis, or hear the “hissing” of your water fill valve constantly running, (after properly setting the water level) you may have a leak, most of which occur along the perimeter of the waterfall and stream. These leaks are generally due to the ground settling which causes the water to trickle over the edge of the liner. These leaks can be easily fixed.

* Check the perimeter of the pond, waterfall, and stream for any areas that are wet. This is usually a good indicator that water is leaking over the liner.
* Check to make sure any slow moving sections of the stream/waterfall have not become obstructed by leaves, plants, or other debris. This can cause the water to back up and leak over the edge of the liner.
* Once you have found the leak, pack additional soil under the liner to raise the edge above the water level. Hide the exposed liner by replacing the gravel and add mulch.
* If you have plants growing in your BIOFALLS® filter, it is common for their growth to displace the water, causing it to flow over the back side of the filter. Simply remove enough of the plants to lower the water level.

Seasonal Care

Fall and Winter Maintenance
In the fall, water is almost always very clear because of the cooler temperatures and the full, lush plants. Enjoy the good water quality! Here are some things that you can do to keep your water garden looking good. Note: Several of the steps do not apply to Pondless® Waterfall systems.

* There may be an increasing numbers of yellow leaves this time of year, so prune them off all of your plants. Your lilies – tropical and hardy – should still be going strong, at least until the first heavy frost.
* Stop fertilizing when the weather becomes cooler. This lets the plants know the season is coming to an end.
* When the water temperature is around 55 F° (10° C), stop feeding your fish. Continuing to feed them could cause health problems or death for them, since their digestive systems are beginning to slow down for the winter.
* As leaves falls from nearby trees, you’ll probably have to empty the debris net every day to keep up with the influx of leaves. Some of them will undoubtedly sink to the bottom, try to remove as many as you can, however a few left in the pond will give insects and frogs a place to over winter.
* If you leave too much organic matter in your pond, the water may turn brown. If this happens, remove the excess debris and add activated carbon to clear the water.
* As it gets colder, your aquatic plants will have all but died for the season. Now you can cut back the dead plant material and remove the tropicals. Cut back the cattails above the water level, or better yet, leave them up to see how magnificent they look in the winter.
* If you’re fortunate enough to be where it stays warm all year round, you’re set for the winter.
* If you live up north, where the surface of the pond freezes, you’ll need to prepare for winter by deciding whether you want to keep your pond running or shut it down.
* To shut your pond down, first unplug your pump and pull it out of the water. The pump should be stored in a frost-free location, submerged in a bucket of water to keep the seals from drying.
* If you have fish, a small re-circulating pump that bubbles at the water surface is necessary to oxygenate the water. In all but extremely low temperatures, the bubbling of the pump will also keep a hole open in the ice to allow for a gas exchange, keeping your fish alive. It is not necessary to oxygenate the water or keep a hole open in the ice if you don’t have fish.
* If your area experiences long periods of extremely cold weather, you may consider adding a floating de-icer. Controlled by a thermostat, the unit only runs when the water temperature is at or below freezing, heats the water to just above that, and then shuts off again. Ask your installer or local supplier for products to help your pond during the winter.
* If you use a floating de-icer, place it away from the bubbler. The movement of the water can move the heated water away from the de-icer, making it run more than necessary.
* You can also choose to keep the waterfall running. This will require a little babysitting to make sure an ice dam does not form which could cause water to run out of the Pondless® Waterfall/ Pond basin. You will also still need to replace water loss so the pump can continue to function properly (see “The Water Level” above). This extra effort during the winter will reward you with the most beautiful ice formations and patterns around the falls and streambeds.

The most important thing is to have fun with your water feature all year long. Keep some of these key maintenance issues in mind, and it will be smooth sailing. In the meantime, stay warm!

Spring Maintenance
Spring is simply the most exciting time of year. As things slowly awaken from their winter hibernation, there are some things that you can do to make sure your water feature gets off to a good start this spring.

Does your water feature need a full clean-out this season or does it just need to be tidied up a little? There are a couple of things that you can look for to help you decide. First, if there is a layer of “crud” at the bottom of the pond and the water is dark in color, it would be a good idea to do a full clean-out.

On the other hand, if there is just a small amount of debris that you can stir up and capture with a net and the water looks clear, a little tidying up is all that’s in order. Plan on spending a half to a full day to complete a pond clean-out. A Pondless® Waterfall will take considerably less time.

The best time to perform a pond clean-out is the early spring, before your water garden completely awakens from its winter dormancy – ideally before the water temperature in the pond creeps above 55º F. If a clean-out is performed when the water is warmer, after bacteria colonies form, the balance of the ecosystem will again be thrown off and your pond will go through another “green phase” before the bacteria colonies re-establish themselves again.

Here’s what you’ll need to get started:

* A clean-out pump with approximately 25 ft. of discharge hose.
* A high-pressure nozzle for your garden hose, or a power washer.
* Garden shears for trimming plants.
* A child’s swimming pool or a similar sized container to hold fish and any other critters you find during the clean-out.
* A net or something similar to place over the fish container to keep them from jumping out.
* Two five-gallon buckets to collect leaves and debris
* A fish net.
* EcoSystems® EcoStarter™ Plus water conditioner to remove chorine and chloramines prior to putting fish back.
* EcoSystems® EcoTabs™ fertilizer tabs.

Drain the Pond/ Pondless® Waterfall

* Place the clean-out pump in the deepest point of the pond or in the Pondless® Waterfalls Snorkel in order to remove the water.
* Drain the water into the surrounding landscape. Be sure to relocate the pipe two or three times to allow the water to seep into the ground and not flood the yard.
* If you have fish, use some of this pond water to fill up the holding pool. The fish can be removed from the pond using a net once the water is low enough so you can easily catch them.
* Don’t keep the fish in the holding pool for more than several hours. Keep them in a shady spot with a net over the top of the pool to prevent them from jumping out.

Don’t Overdo the Cleaning

* Rinse the inside of the pond. You can also use a pressure washer to help remove debris from the rocks and gravel.
* Don’t try to scrub all of the algae away. Some algae on the rocks will prove beneficial in developing your ecosystem. For an average size pond (11' x 16') this should take around 15 minutes.
* Use the gentle stream from a garden hose to rinse the rocks and gravel. Start at the top and work your way down to the bottom. Periodically turn the clean-out pump on to remove the dirty water. You can discontinue the periodic pumping once the water rinsing down to the bottom begins to look clear. Remove the pump and begin filling the pond.

Cleaning the Filters

* Remove any debris from the bottom of the skimmer and Snorkel™ Vault. This can be done by hand or by using the cleanout pump.
* Remove the media nets and filter pads from the BIOFALLS® filter. (Not included with the Pondless® Waterfall). If you have the optional drain kit attached to your Signature Series™ BIOFALLS® filter, you can open up the valve and rinse the media and filters. Once the filters have been removed rinse them free of accumulated debris.
* The filter media and mats can be put back into place and the waterfalls pump can be reattached in the skimmer or Snorkel™ Vault.

Putting Your Fish Back Into Their Clean Home
Your pond clean-out is now done and it’s time to put your fish back into their home. Once your pond is half full, you can perform these steps to safely place your fish back in the pond:

* If you’re on city water, it’s imperative that you add a de-chlorinator to the water so it is safe for fish.
* Dip a five-gallon bucket, or similar sized container, in the holding tank and fill it with water.
* After you’ve caught a fish, place it in the bucket and set the buckets in the clean water.
* After about 15 minutes, periodically begin splashing some pond water into the bucket.
* By now, the temperature of the pond and the bucket water should be close to the same. You are ready to spill the fish into their spring-cleaned home.

Algae Control

Algae control is often considered to be the biggest headache in water gardening. There are different viewpoints as to how algae should be controlled or eliminated – naturally, artificially, or a combination of the two.

Artificial Algae Control
If you have a pond that’s suffering from green water and you can’t see your fish, you may need to use a UV filter in order to clear up your water. A UV sterilizer kills a lot of things – parasites, beneficial bacteria, insects, and most other microscopic organisms living in the water.

However, the UV filter is totally ineffective when it comes to string algae and may even inadvertently promote an increasingly larger string algae bloom.

The Natural Way
Mother Nature’s prescription for algae control is simple – make sure you have a balanced ecosystem! Many pond problems are symptoms of imbalances. Here are a few products that can help keep your pond in balance, in case it needs a little boost. We like to refer to them as complements to Mother Nature.

A Few Algae Facts
**Types of Algae:** The two types of algae that most water gardeners experience are suspended algae and filamentous algae. Suspended algae consist of millions of microscopic algae floating throughout the water. This causes the water to turn green or “pea soup” color. Filamentous, or string, algae forms long and short hair-like strands, attaching itself to rocks, gravel, plants, or any surface area it can find in the pond.

**The Annual Pond Cycle:** Most pond owners will notice a similar algae pattern in their pond, throughout the year. The cooler temperatures of early spring and late fall typically bring increased algae growth. Don’t be discouraged if your pond turns “pea soup” green or you have string algae problems during this time. Be patient. The algae doesn’t mind cool water and can grow happily, but the bacteria that help fight algae growth are dormant. This lack of balance results in excess algae. But as the water warms and the bacteria become more active, the algae will be reduced. Some ponds take longer than others do, but your pond will once again be clear and string algae will noticeably diminish as the summer approaches.

Top 10 Algae Control Methods
 **Aquascape Beneficial Bacteria:** Contains bacteria and enzymes that are specifically blended to be effective at reducing sludge, uneaten fish food, fish waste, and excess nutrients that cause poor water quality and clarity. Blended and tested to produce maximum results in ornamental ponds.
 **Aquascape EcoBlast™**: EcoBlast™ is Aquascape's #1 treatment for breaking down debris. It is fast-acting and works on contact. It is not temperature sensitive and can be used during cold temperatures. Safe for fish.
 **Aquascape S.A.B.™**: This is formulated to help reduce pond maintenance and promote the growth of beneficial bacteria and enzymes. S.A.B.™ will assist in the breakdown and reduction of debris in the stream, waterfalls, and pond.

**Plants:** Plants, since they directly compete with algae for nutrients and sunlight, are probably the most important addition to your pond. Add a wide variety of plants to your pond. This not only creates a natural look, but also will help reduce the algae in different areas of your pond.

* Place water hyacinth and water lettuce in your BIOFALLS® filter. These floating plants reproduce rapidly, using up enormous amounts of nutrients. A stick placed across the front of the BIOFALLS® filter will prevent the plants from flowing over the front of the waterfalls and into the pond.
* Plenty of bog and marginal plants should be added to the pond. Plants such as cattails and iris take up large quantities of nutrients. They are hardy and will be back each spring to help you balance your pond.
* Cover the water surface of the pond by planting lilies. Lily pads float on the top of the pond, shading the water.

**Physical Removal:** Physically remove clumps of string algae if it begins to overtake the pond. Pull or cut away the algae where it is attached. Think of it as “weeding the pond.”

**Koi:** Adding koi over 10 inches in length will greatly reduce string algae. The koi, if not overfed, will graze on the string algae in the pond. Only feed the fish what they can consume within a few minutes. Fish food that is not eaten by fish will decompose in the pond and increase nutrient levels.

**Fix Leaks:** Tap water can have an abundance of nutrients in it. Continually adding large quantities of tap water to compensate for a leak can actually promote algae growth. Fix leaks when they are discovered.

**Control Run-Off:** Never use lawn fertilizer or insecticides on trees around your pond or on areas of your property that will drain toward your pond. Lawn fertilizer and insecticides will cause large algae blooms, as well as severely threaten the aquatic life inside your pond.
 **Remove Debris:** Keep your pond free of debris. Don’t let the skimmer debris net overfill with leaves. Decaying debris in the skimmer will contribute to unwanted nutrients.