

Water Gardening

Nothing is as tranquil & stress-relieving as the sound of gently running water. A simple way to achieve at home tranquility is to create your own water garden.

The sight and sound of water has always drawn the interest of people. Water adds an appealing element to a garden. Water gardens can include fountains, waterfalls, small ponds and elaborate combinations of rockwork and lighting. Basically, a water garden is just a pool of water that is home to plants and possibly fish and other water creatures. Natural ponds or large spaces are no longer needed for a water garden. They can consist of a concrete dish, half barrel, plastic tub or anything else that can hold water.

Perhaps the most important consideration in water gardening is to choose the right spot. Most aquatic plants and fish need plenty of sun, so a site that gets 6-8 hours of direct sun is best. Choose a site away from tall shrubs and trees for best light and to prevent the accumulation of leaf debris.

Plan your water garden using some basic principles. Consider the size of your property and the ability to maintain the water garden. Small ponds are best for small properties. A container on a deck may be all that is needed and add just the right feature for your space. Features like waterfalls, rockwork, lighting and fountains depend on your budget, style of your landscape, and purpose of the garden pond.

When choosing aquatic plants, keep in mind that the plants should cover no more than 50 - 60 percent of the water surface. There are many types to choose from. Some are free floating while others are marginals to submerged. Selection depends on the size of the pond and the kind of look you want. Water lilies can add drama and fragrance even in small tubs. Some plants provide oxygen and help keep the pool healthy. Fish can be a beneficial addition, because they are good scavengers, cleaning up debris. They also can help control mosquito larva, and other insects.

All garden pools regardless of size will need maintenance throughout the year. With proper planning you can ensure a healthy balance between living and decorative features of a water garden that can almost care for itself with simple maintenance inputs from you.

CHOOSING YOUR POND SITE

Choosing a location is the most important initial decision in designing your garden pond. Locate the pond in an active area of your yard so that you can enjoy it throughout the year. It is important to situate the pond around your best view of your garden. For instance, if you have a deck overlooking your yard, set the pond in an area where you can see it from the deck's best vantage point. Consider the winter months and situate the pond so that you can view it from inside the home. An attractive pond draws people to it like bees around a honey pot. Visitors arriving at the house will make a detour to have a look at the pond. If you do not have a path, the grass would soon be worn away by tramping feet. If you put your pond out in front of your house you will have passersby who will surely stop and take a look. You will meet a lot of people this way but this could also

interfere with your peace and supper hour. Keep in mind the safety of people and pets. Ask yourself if children, elderly and handicapped people can freely and safely visit your pond. Make your pond easy to get to so that ALL can enjoy it.

It will be helpful to design your pond with a length of garden hose or rope, using it to alter the shape and size until you are satisfied. Bigger is better.

Here are some other factors to consider when choosing the location of your pond...

SUNLIGHT & TREES

Aquatic plants such as water lilies and lotus require a minimum of six hours of full sun, if they are to achieve their full beauty. If you think your pond would look perfect in that shady corner or under overhanging trees, then there are a few plants that will do well. Ponds that have overhanging trees will keep you busy with removing the leaves from your pond. Some kinds of trees like the black walnut can poison your pond and fish. Fruit trees are also a hazard for a pond. Overripe fruit, figs or nuts can fall into the water and begin to rot and pollute the water. It will only take a few days for your fish to die. The falling leaves could clog pumps and filters. You can cover your pond with some sort of a net. Tree roots growing under the pond can also cause damage. Silver Maples have roots that grow to the top of the ground. Many of us have hit these roots with our lawnmowers.

DRAINAGE

Whether you select a hard or soft liner pond, be sure to choose well-drained soil. Do not locate your pond in a hollow, because boggy or wet soil can shift and distort the shape of a lined pond. There also could be the risk of water collecting in the hole and cause the liner to float away from the base and sides, sandy soil can cave in the side of a pond. Runoff during a rainstorm could fill a pond with mud and debris as well as pesticide and fertilizer residues-even if you don't use them, they can come from the neighbors yard. If your only choice is a low area, consider a camouflaged ditch if there is standing water or install perimeter drainage to direct the groundwater away from the site. You can also construct the pond with raised edges to discourage runoff into the pond.

ELECTRICITY & WATER

Be sure that easy access to both of these resources are available. Make sure you measure the distance to your tap or you could find your hose too short to reach your pond. Pumps, filters, fountains, special lighting and other accessories run on normal household currents. You will have to dig a trench from your electric source (house) to the pond in which a wire can be buried. You need to refer a local licensed electrician. Remember! Water and electricity is a dangerous combination so please call your local authorities before you dig!

LOCAL ORDINANCES

Check with the zoning board in your area to see what requirements you will need to fulfill. Some localities may require a fence for a deep pond. Insurance companies also will have rules to be followed to insure you and your pond.

Container Water Gardening

A mini-aquatic garden in a tub or other container located close to the house on a deck or patio, can provide you with a unique gardening experience. Containers are a great way to try out the idea of water gardening without committing to a larger, more permanent pond. A container aquatic garden is a small commitment in terms of finances and labor. It doesn't require special aerators or filtration if set up and properly managed.

The Container

A container with a capacity of 15-25 gallons is practical. Many commercial containers are available or you might consider things like small kiddie pools, horse watering troughs, lined whiskey barrels or even old bathtubs. Remember that water weighs about 8 pounds per gallon, so be sure the location of your container will be able to hold the weight. Locate the garden so it receives a minimum of six hours of sun a day. Most aquatic plants need full sun. Some of the bog plants can survive in less. Less than six hours will decrease the blooming potential of aquatic plants. Choose containers with interiors that are dark in color. Dark green, charcoal or black colors are suggested because they give the container an impression of greater depth, discourage algae growth, and make algae less obvious when it is present. Stones and slate can be added for interest, but keep in mind that choosing dark colored rock will help discourage algae.

Planting the Garden

Plants used in small aquatic gardens are grown in separate pots and then these pots are placed into the water-filled container. Heavy, clay garden soil is used as a potting media. After the plant is potted, top the soil with a 1/2 to 3/4 inch layer of pea gravel to help keep the soil in place. Don't use a commercial potting soil mix or any type of soil mix containing fertilizer. Fill the tub with water and set your plants in place. Some aquatics prefer to be placed at certain depths in the water.

Adjust the depth of your plants by placing bricks under the pot so the crown of the plant is at the preferred depth. About 50 - 60% of the water surface should be covered with plant material. Take note of the type of water used to fill your container. City water supplies are commonly treated with chlorine. It is a good idea to let the tub sit for 24-48 hours before adding plants to allow the chlorine to evaporate. Many city water supplies are now using chloramine, a more stable form of chlorine. If this is the case, you might want to purchase a product to remove the chlorine. Don't use water from a water softener and don't add chemicals to the water.

A **tub garden** is a miniature ecosystem of plants, water and fish. This system must come into balance which means that the plant and animal life are able to hold the algae growth in check. It will take approximately 3-4 weeks for this to occur. Two weeks after you set up the garden, the water will turn cloudy with algae. In another week or so, the water will clear and remain that way. The aquatic plants and animals keep the algae under control by reducing the sunlight entering the water and competing with the algae for nutrients in the water.

Plants for the Aquatic Garden

Aquatic gardens need a mix of plants to attain a balanced system. These plants can be a combination of emergent, submerged and floaters.

Submerged Plants

These are also called *oxygenators* and help clean the water and supply oxygen. Some to consider include: varieties may vary by season and availability.

Wild Celery (*Vallisneria sp.*) Ribbon-like, translucent, pale-green leaves. Will grow in shade, part-shade and sun in water that is 6– 24 inches deep.

Fanwort (*Cabomba canadensis*) Bright green fan like foliage. Fish tend to use them to spawn and fry will find shelter in the leaves. Will grow in sun to shade in water that is 6– 12 inches deep.

Anacharis (*Egeria densa*) Whorls of deep green leaves with occasional white flowers on the surface. Most common oxygenator. Grows in water 12 inches – 10 feet deep.

Emergent Plants

These plants are potted and placed from 3 – 6 inches below the surface of the water. Some to consider are: varieties may vary by season and availability.

Arrowheads (*Sagittaria sp.*) Attractive, green arrowhead shaped leaves. White blooms in the summer. Grows from 12 – 48 inches tall. Tolerates sun to part shade.

Blue Flag Iris (*Iris versicolor*) Mixed blue flowers in June with grass like foliage. Grows from 24 –30 inches tall and will tolerate full sun to part shade.

Dwarf Papyrus (*Cyperus isoctadus*) Green grass like foliage with "starburst like" flowerheads that turn brown in the fall. Grows 12 – 18 inches tall and tolerates sun to part shade.

Water Blue Bells (*Ruellia brittoniana*) Green grass like foliage growing to 24" –48" tall. Blue flowers in summer resembling petunias. Tolerates sun to part shade.

Cork Screw Rush (*Juncus effusus*) Interesting twisted and curled stems. Grows to 24" tall and tolerates full sun to part shade.

Lotus and Water Lilies

Several of the smaller hardy and tropical water lilies do well in containers and can add both color and fragrance. Lotus are also a dramatic addition to water gardens. Both water lilies and lotus prefer full sun. Please keep in mind, as always, that varieties may vary by season and availability

'Joanne Pring'- A hardy miniature pink water lily with green leaves and deep edge

'Tetragona'- A hardy miniature white water lily with freckled leaves

'Helvola'- A hardy miniature yellow water lily with freckled leaves

'Hilary'- A tropical day blooming pink water lily with green leaves

'Red Flare'- A tropical night blooming red water lily with maroon leaves

'Momo Botan' Lotus - Grows to a height of 24" and offers rose blooms July – September

'Wan-er Hong' Lotus - Grows to a height of 12" and offers white blooms June – September

Floaters

These plants add a finishing touch to the water surface. A good plant to consider is:

Water Lettuce (*Pistia stratiotes*) Velvet, blue green leaves forming a rosette of foliage that looks like leaf lettuce.

Fish and Snails for Water Gardens

Pond creatures can be added to your water garden for added interest and to help in maintaining the ecosystem balance. Several small snails are very helpful as they eat algae, fish waste, and decaying organic matter. Fish such as Koi, Comets, Shubunkin, Sarasa and Fantails are good choices. They do well in the variable water temperatures of a small patio pond plus they eat mosquitoes. Larger containers of 20 gallons or more can handle one to two goldfish.

Overwintering the Garden

Plants in container water gardens may need to be brought in for the winter. Plants will go dormant and will reflush in the spring after the weather warms. Floaters may be overwintered indoors in aquariums where there is high light. It may be best to handle these as annuals. Plan to buy new plants each season to replenish any that have not survived.

Algae Problems in Water Gardens

Algae problems in water gardens are generally caused by the action of the sun and excess nutrients in the water. If ponds are established properly and balanced with the correct ratio of plants, fish and scavengers, algae control and algae problems are not difficult to control. When first establishing a water garden, add Aquaclearer by Aquascape, green water conditions will exist for about 2-3 weeks but will clear as the water equalizes between plant nutrient uptake and the introduction of nutrients from fertilizers and/or fish. The general cause of algae in ponds is excess nutrients from either the overstocking or overfeeding of fish, overfertilization of plants, or the lack of nutrient uptake by plants caused by planting too few plants in the pond. A general rule for stocking fishponds is to use 1" of fish per 1 square foot of pond surface. Feed fish enough food that they may finish in 5 minutes. Don't feed fish once water temp has dropped below 60 degrees. Most fish can survive on naturally occurring foods within a balanced system.

General methods for reducing algae in ponds include adding EcoBlast by Aquascape and the reduction of nutrients causing the algae. To reduce nutrients, reduce the feeding of the fish, the level of fish stocked in the pond or the fertilization of the plants. Other methods to reduce algae problems are flushing the pond and adding new water; adding additional aquatic plants to allow as much as 50 percent of the water surface to be covered; and adding some type of mechanical or biological filter system in larger ponds.

Aquatic Plant Selection

There are many types of plants available for use in a garden pool. Considerations such as water depth, amount of sunlight and how each species relates to its surroundings need to be taken into account when choosing plant material. Both floating

leafed and submerged plants are needed for a healthy pond and need to be included in your selection. Water garden plants are called aquatic, because their life cycle revolves around water. Aquatics can be divided into three major categories: emergent, submerged and floaters.

Emergent plants are sometimes also called *marginals*. These plants are found along the edges of a pond where the roots are attached to the muddy bottom and portions of their stems are above the water. Common examples include cattails, iris and pickerelweed (see list of emergent plants for others). Further from the edge, between shallow and deep water,

are other emergent plants where roots are attached to the bottom, but have floating leaves above the water. Water lilies fall into this category. Bog plants are also considered to be marginals.

Though most are not grown for their flowers, some, like lotus and waterlilies, are extremely dramatic when in flower. Bog plants are available for those not able to locate their water garden in sufficient sunlight to support good plant growth. Some bog plants can tolerate as little as three hours of sun and still provide interest to the water garden. Many bog plants grow in constantly moist to soggy soils, while others actually grow in standing water. There are many different species of bog plants with varying heights, textures and foliage colors that add height and drama to water gardens. Lotus, sagittarius, dwarf bamboo, iris, cattails, and sweet flag are some examples.

Submerged plants are those that for the most part remain beneath the water surface. They are often referred to as *oxygenators*. These plants help combat algae by consuming excess nutrients while at the same time providing cover for fish and producing oxygen during daylight hours. Roots of these plants are not used for nutrient or water uptake, but only for anchorage. Because of this, many oxygenators may be potted in gravel. Submerged plants stocked at the rate of about one bunch per two square feet of water surface area. Caging these plants is sometimes suggested if the pond contains fish, which tend to forage on submerged plant foliage

Floaters are not rooted in the soil, but are allowed to float freely above or below the water surface. Floaters enhance the display of water lilies and lotus as well as adding a finishing touch to the water garden. They are the "ground covers" of the pond world. They may be restricted by a framework to prevent them from moving around or allowed to float freely with the breeze. This produces an ever-changing look to the water surface. Some floaters are very prolific and may need to be kept in check by scooping out excess plants on occasion. Duckweed, frog's bit, and water lettuce are examples.