



Andy's Garden

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Water Gardening

Water gardens are becoming a popular new addition to garden design. They can add a new dimension to your home landscape and enhance the beauty of your surroundings. Waterfalls, fountains, fish, and aquatic plants are enjoyed by all for their exotic beauty. Water gardens are easy to install and maintain once a basic understanding is developed and certain rules are followed.

Below are some general guidelines to help you establish a successful pond.

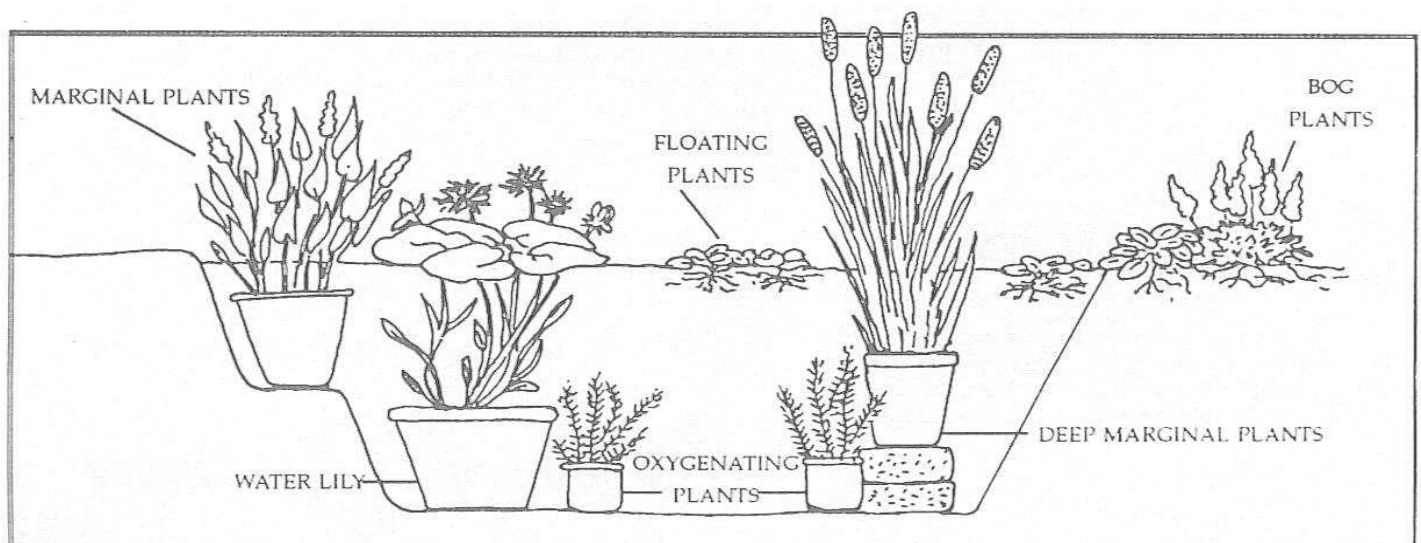
Site Selection The site should be as level as possible and in a location which receives a minimum of 5-6 hours of sun. The pond should not be directly under any trees which can make cleanup difficult, and create organic waste that may be toxic to fish.

Type of Pond (Liner or Fiberglass) Many designs are possible using a pond liner. Fiberglass pools are easy to install and durable. Both types of ponds must be set in a bed of 1-2" of sand to prevent puncture. It is also essential that they be level at the water line. A good average depth is 18", however if fish are to be overwintered, some portion of the pond should be 36" deep. The bigger the pond, the less susceptible it will be to environmental stresses, so use the biggest pond your sit and budget will allow.

Filters and Fountains In a well stocked pond the plants will maintain a natural balance and clear water. If filtration becomes necessary, the system chosen should turn over the entire volume of the pond every 2-3 hours. *Example: 300 gallon pond - 150 GPH pump. Pool volume in gallons is calculated : Length x Width x Depth x 7.5.* Fountain heads and statuary may also be incorporated into your filter system. Besides being aesthetically pleasing, they provide the pond with valuable oxygen.

Planting your Pond Approximately 60% of the pool surface should be covered when plants are mature. Clear Water Formula: *For each square yard of surface area you should have:*

- * Two bunches of oxygenating plants
- * One medium to large water lily
- * One dozen snails & Two fish (4-5")



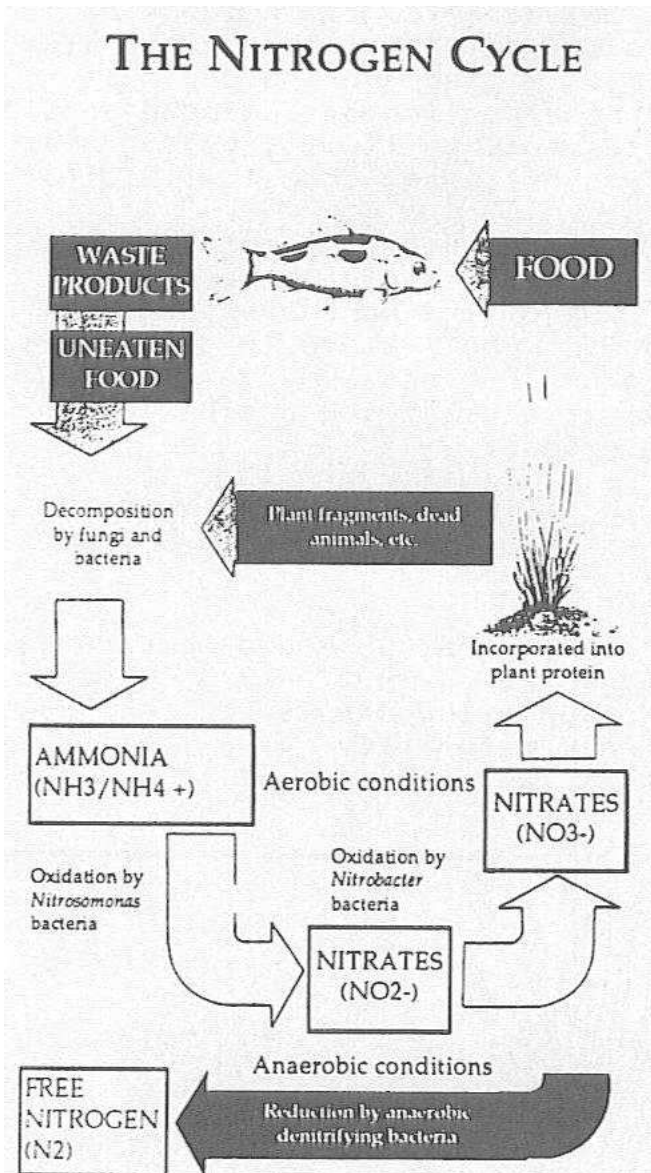
Water Gardening ... cont

Water plants grow in a range of different depths in the pond. Some grow completely submerged and others keep only their roots below the water surface. Water plants must be set at the appropriate depth if they are to grow well. Following is a brief description of the major groups of water plants.

Floating Plants take their nutrients directly from the water, and simply float on the surface, adding shade and variety to the pond. Floaters help purify the water and reduce unwanted algae growth. Many floating plants are fast spreaders, but are easy to control.

Marginal Plants Most marginal plants grow in the shallow water at the edge of the pond, however a few, referred to as deep marginals, will grow at greater depths. They provide lush, upright foliage that softens the edge of the water garden. Correct depth is important for good growth.

Bog Plants Often confused with marginals, bog plants differ in the amount of water they will grow in. They will not tolerate being submerged, but like constantly moist soil as found around the pond. Bog plants create graceful transition into the pond.



Water Lilies & Lily-Like Plants such as Lotus, have large ornamental leaves and flowers which dominate the water garden. There are hardy varieties, which are easily overwintered in the pond (provided the root system is below the frost line) and tropical varieties which are treated as annuals. Do not place lilies too close to a fountain or waterfall as their foliage will not tolerate constant splashing.

Oxygenating Plants grow completely submerged underwater, with some varieties sending flowers up to the surface. These plants produce oxygen by day, but take up oxygen at night. Oxygenators are valuable as they use up waste nutrients, which keep the water pure by starving unwanted algae.

Containers, Soil and Fertilizer Aquatic plants should be planted in containers in the water garden as this makes them easier to maintain. Plastic containers are the strongest and lightest. Aquatic plants should be planted in a heavy garden soil. Lighter soils will float to the top and become a nuisance. A layer of gravel to cover the soil surface will help prevent clouding of the water. Regular fertilizing is required. Use only aquatic-type fertilizers, which are specifically formulated tablets designed for insertion into the soil.

***Making the world beautiful
one flower at a time.***



The nitrogen cycle is a naturally occurring sequence of biochemical reactions that keeps nitrogen circulating in your pond. The aerobic nitrifying bacteria play a crucial role in this cycle, as outlined above for your convenience.