

# Water Gardens

Providing water for wildlife will round out the habitat requirements of your Wild Yard. One way to do this is to create a pond. Your garden pond may range in size from a bathtub sunk in the corner of your yard to a mammoth concrete structure. All backyard wildlife will benefit from this permanent water source.

Small insects and mammals can exist on rainwater, puddles or morning dew, but they and larger creatures will be attracted to any new source of clean water. Even if you only have room for a simple pool built from a washtub, you can still have a lovely water garden which will be visited by an amazing variety of wildlife.



## Water Gardens Made Simple

You can make a small pool from half of a whiskey barrel or wine keg (either buried or set up on rocks or a low stump), a buried aluminum horse trough, a buried bathtub (it's edges hidden by flat rocks), or even a large plastic bucket.

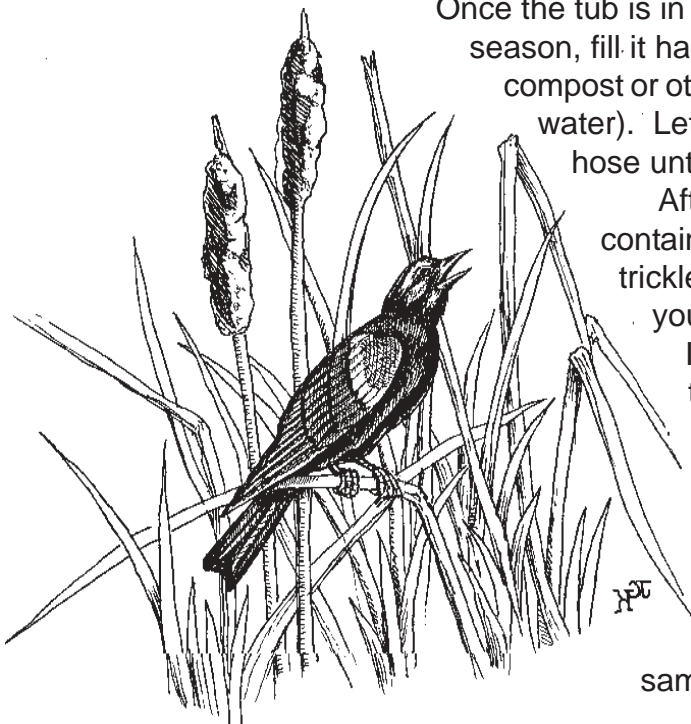
When building a pond, you will need to be more concerned about its depth than its size. A small pool for amphibians, songbirds and other backyard wildlife should be no deeper than 18" at the deepest section. Backyard pools should have gently sloping sides so that amphibians can get in and out easily. Steep-sided pools with no exposed rocks or logs may trap frogs and salamander in the pool.

If you can't create gently sloping sides with your artificial liner, place partially submerged rocks or logs in the water for animals to climb on to get in and out of the water.

Once the tub is in a place where you want it to remain all season, fill it halfway with sandy loam soil. (Do not add compost or other organic matter to the soil; it will cloud the water). Let water trickle slowly into the container from a hose until the container is a bit more than half full.

After planting a few aquatic plants, fill the container to the top with water, adding it at a slow trickle as before. If there are animals that find your aquatic garden habitable, they will find it.

If you want to introduce a few native fish into the water garden, do it a few days later.



## Creating a Pond

For a larger water garden or a more natural look, a pond can be made from a waterproof plastic or rubber liner or from a pre-formed fiberglass pool. Many of the same rules would apply as if you were creating a



smaller water garden. You should still provide varying water depths to accommodate a diverse system of plants and animals.

There are many different approaches to creating ponds, and you may need to experiment a little to see what works best for you. Some people like to keep a somewhat simple pond with aquatic plants in it and water-loving plants around its edges, and then just see what happens.

If nothing else, birds will appreciate the water source and many kinds of other wildlife will be attracted to the water as well. People may choose a more elaborate project with pumps that both filter the water and allow for the creation of waterfalls and other features.

## Choosing Your Pond Site

Wildlife ponds need a combination of sun and shade. Shade may be required during the hottest part of the day to prevent the water from becoming overly warm for plants and fish. A pond also needs sunlight for photosynthesis and oxygen production. Keep it away from areas subject to runoff, especially after hard rains.

You may be very careful about the use of pesticides and other chemicals around your home, but you can't always know what your neighbors are using. And most importantly, make sure your site is where you can see it!

## Deciding on a Pond Liner

Three basic options for how to line your pond are: rubber pond liners, pre-formed pools that can be sunk in the ground, or natural lining. Pond liners can be costly, but are very durable and easy to hide by placing rocks around the edge of your pond upon completion. Pre-formed pools can be easier to maintain, but don't allow for your own personal touch for its shape, size, and depth.

You may also choose to line your pond with clay. This is not necessarily a leak-proof method, but some prefer this natural option. This works better if you are placing your pond in an area that is already somewhat moist, so if water is lost from your pond, it will be easily replaced.

## Depth of a Pond

Pond depths vary depending on the vision of the builder. Take into consideration what the pond will be used for, and how deep the water needs to be for particular plants. For instance, for water lilies plan for depths of 18 to 36 inches, and for most other aquatics plan for one to four inches of water above the tops of their pots. Ponds of 24 to 30 inches deep will allow the water to warm up enough for healthy plant growth.

For some, safety concerns dictate the depth of a pond. If small children have access to your pond, making it shallower and teaching them about safety issues are both good ideas. You may also want to fence your pond in, or have children wear life jackets when they are exploring around your aquatic gardens.

## Planting Your Aquatic Oasis

If you put all your water garden plants in containers, it will be easy to take them out when it's time to clean the bottom of the pool or to bring tender plants indoors for winter. It also simplifies the task of dividing crowded perennials when that becomes necessary and prevents invasive spreaders from taking over the water garden and squeezing out less aggressive plants.

To prevent muddying up the water when plants are set into the pond, cover the soil in the pots with ½ inch of pea gravel or small stones, then saturate with water before gently lowering the pots into the water. Regardless of whether your plants are potted or not, always use heavy garden soil or topsoil without any additions of vermiculite, perlite or other fillers because they will float to the top and ruin your water garden's appearance. Avoid commercial potting mixes too, because they may contain fertilizers or chemicals that could harm fish and other wildlife. Organic matter is also undesirable; it will decompose and dirty the water. A dense clay soil is best for planting in water gardens.

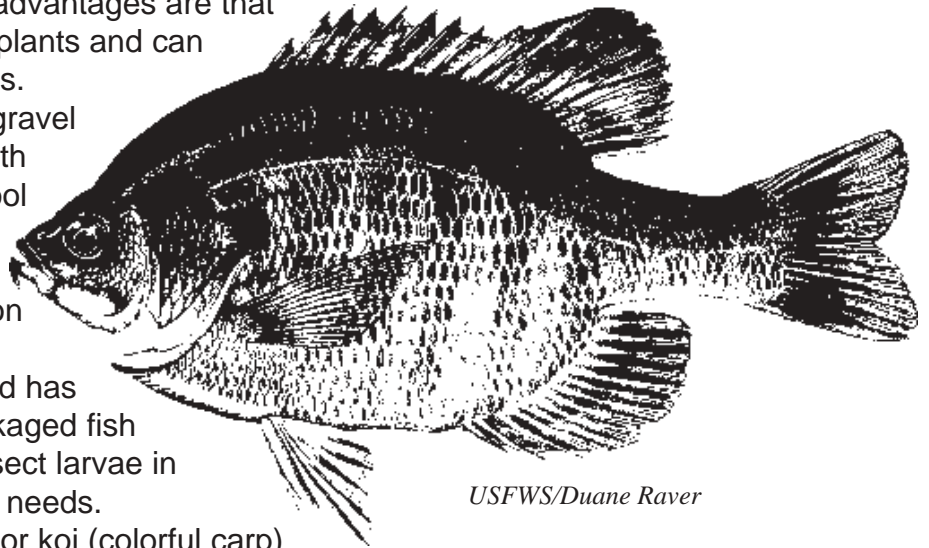
## About Fish

If you are using city water to fill a small pond, don't plant your water garden for at least three days to allow the chlorine in the water to evaporate. Some of the many advantages of having fish are that they help keep your water garden free of mosquitoes and algae and they are fun to watch. The disadvantages are that they can uproot and even eat plants and can muddy the water in the process.

By putting a layer of pea gravel over the soil of sunken pots with plants in them and over the pool bottom, you can avoid fish muddying up the pond water. If you do opt for the introduction of fish, add them to your pond about two weeks after the pond has been planted. Give them packaged fish food until there are enough insect larvae in the water to support their food needs.

Many people put goldfish or koi (colorful carp) in their ponds. This is because these fish are easy to maintain and can tolerate the low dissolved oxygen levels of small ponds. These fish are not native to our area, but since pond populations are contained and provide no chance for releasing these fish into wild areas, it is acceptable to put them in your pond. While it is critical to use native plants in landscaping for wildlife, it is not necessarily critical to have native fish in your pond.

Many of our native fish need highly oxygenated water to survive, and if they are used in small ornamental ponds it can be difficult to keep them alive. Of course, their survival potential depends on the size of the pond. There is a higher chance of survival for most native fish in larger ponds, so depending on the size and depth of your pond, you may be able to keep native fish successfully. This is due to the increased capacity for other living organisms and plants to survive in larger ponds, including things that the native fish depend on to survive. However, never release non-native fish from your pond into anyplace wild!



*USFWS/Duane Raver*

This can have extremely detrimental effects to both fish and plants already existing in those areas.

## Caring For Your Water Garden

Small ponds need more attention than large ponds. Where there is more water, there is a better chance for problems to dissipate before they become overwhelming. Outside of the responsibility of removing large leaves and dead plants before they rot or making sure the occasional dead fish is removed, caring for the wildlife pond is not difficult.

### Winter:

Deeper ponds can be left alone over the winter as long as the pond bottom is below the frost line. Fish can live in the pond throughout the winter as long as part of the water is unfrozen and there are good hiding places between and under rocks and logs that you've placed in the pond.

If your pond is shallow and you cannot take the fish indoors for the winter, be sure to break the ice every day as it forms or use a stock tank de-icer or a water heater. After you have experienced a few hard freezes in the fall, pull the potted plants out of the pool. Cut off the top growth, then wrap the pots in wet newspaper and enclose them in plastic bags.

Put the pots in a location (such as an unheated basement or garage) where the temperatures stay above freezing but below 40 degrees F. Once the pool thaws in spring, the pots can go back into the garden.

### Algae:

Algae is completely natural to a pond. As fish and other aquatic creatures reach a balance, the water will start to clear. Don't be upset about the lack of crystal-clear water because water that is clear is sterile and does not support life. A healthy pond will always have tiny freshwater plankton consisting of protozoa and algae suspended in the water. The goal in a pond for wildlife is to maintain a balance.

A well-balanced pond contains plants that absorb carbon dioxide and release oxygen. It might also contain fish, which take in oxygen and release carbon dioxide. The fish also eat algae, while small insect and animals such as tadpoles, water snails and the larger protozoa vacuum the bottom of the pond while scavenging for food.

You may want to drain the pool once every 2-3 years, or as needed, and clean up the muck on the bottom to prevent any unpleasant odors from building up.

## Make Your Own Birdbath

Birdbaths are a simple way to provide water for your backyard visitors. Place one on a support that keeps it off the ground so birds will feel safe from predators while drinking and bathing. Place a second birdbath directly on the ground, where most mammals are accustomed to looking for water. A hollowed-out stump or a section of log can hold a waterproof container and make a great birdbath. Even a garbage can lid will hold enough water to attract many animals. Place these water sources in the shade so that the water remains cool.