Backyard Billabongs

Michael Thennet
4709 S. 29th Street, Arlington, VA 22206
thennet_michael@tmac.com

Last summer, I found endless enjoyment in a small, 72 gallon, above-ground pond in the backyard of my townhouse. Prior to building the pond last spring, I researched the topics of pond setup, algae, plants, inhabitants, and maintenance, in order to determine the criteria for a successful system. I selected an easy-to-build pond kit because it is inexpensive, and because my backyard isn't big enough for a decent-sized, in-ground pond. Inexpensive, makeshift ponds can also be fashioned from plastic kiddie pools, animal troughs, and tubs.

Setup and Location

To make your own "backyard billabong" (an Australian term for backwater pool), you should first consider the size of the pond and its location. If you like to keep a few different species of fish and a variety of plants, a 50-100 gallon pond will be big enough and still fit into smaller spaces. This size also provides room for some structure, such as driftwood and rocks. (Substrate is optional.) Place the pond in a level location where it will get no more than six hours of direct sunlight a day.

Also, keep in mind that above-ground ponds have to be broken down or moved indoors during the winter months unless you live in the more southern regions of North America. The smaller the pond, the easier it is to break down or move.

Algae and Plants

Plants are an essential part of the setup. They shade the pond, consume nutrients and waste, create oxygen, and provide a spawning medium for adults and a hiding place for their fry.

A few days after filling the pond with water, a light bloom of suspended algae will appear. Wait a week or so, then add 2-3 bunches of fast-growing rooted plants and 1-2 floating plants for every square yard of pond surface area. Appropriate fast-growing rooted plants are cabomba (*Cabomba caroliniana*) and anachris (*Elodea canadensis*). Recommended floating plants are water hyacinth (*Eichornia crassipes*), water lettuce (*Pistia stratoides*), and hornwort (*Ceratophyllum demersum*). Even emergent/marginal plants such as arrowhead (*Sagitaria latifolia*) and cattail (*Typha latifolia*) will do well in the shallow areas of smaller ponds. You can buy most of these plants at your local fish store or gardening center.

At this point, allow another 2-3 weeks for the plants to establish themselves before adding snails, fish, or other animals. As the plants begin to outcompete the suspended algae for nutrients in the water, the algae will begin to disappear.

To Filter or Not to Filter

If you follow my recommended stocking rates for animals (see below) and plants, your pond may not need a filter. But if you overstock the animals and/or understock the plants, you may need a pond filter to maintain water quality and clarity. Furthermore, if your pond is located where summer temperatures exceed 80°F for extended periods, a filter will help cool the pond by adding oxygen and promoting a more efficient gas exchange.

Animal Inhabitants

Prior to adding snails or fish to the pond, research your potential inhabitant's characteristics, such as size, demeanor,

care, spatial requirements, and breeding habits. This type of information serves to provide you with an estimate of your pond population, and can prevent future problems caused by over-crowding.

The snails and fishes mentioned below are generally hardy, easy to maintain, and can withstand temperatures from 55 to 90°F.

Snails Add 6-10 snails per square yard of pond surface. Start with snails such as the Colombian ramshorn (*Marisa rotala*), the widely available mystery snail (*Ampularia* sp.), and the Japanese livebearing snail (*Viviparus malleatus*). These inhabitants will help control undesirable algae and consume organic material which deteriorates at the bottom of the pond. Smaller snails also provide a limited but regenerating food source for certain species of fish. Luckily, these species are not prolific breeders, so infestations are unlikely.

Fishes For the backyard pond, I tend to prefer smaller native swamp/coastal fishes over goldfish and koi. Over the summer, smaller above-ground ponds can reach temperatures of over 90°F for several days at a time. Such temperatures can be lethal to coldwater goldfish and koi.

Stock pond fish at a rate of approximately one inch of fish per 5-7 gallons of water. Remember that smaller fish grow into larger fish, so estimate accordingly.

Enneacanthus species, such as the bluespotted (*E. gloriosus*) and blackbanded sunfishes (*E. chaetodon*), can withstand higher temperatures easily and are ideal bottom- to mid-water fishes for the above-ground pond—provided their water is soft and acidic. If harder, alkaline water conditions exist in your area, dwarf sunfish species such as the bantam (*Lepomis symmetricus*) and orangespotted (*L. humilus*) sunfishes will do well. Many native fish aquarists find it easier to spawn and breed these sunfishes under pond conditions as opposed to the aquarium.

Fundulus species such as the lined topminnow (*F. lineolatus*) make excellent, highly visible mid- to upper-water denizens as long as their water is soft and acidic. On the other hand, the banded killifish (*F. diaphanus*) and the goldenear topminnow (*F. chrystosus*) prefer harder, alkaline conditions. These species are easily bred by using floating plants such as water hyacinth and water lettuce. The elaborate root systems of these plants make for an excellent spawning medium, and give the resulting fry a place to hide. *Fundulus* also make for highly efficient pest insect predators.

Some of the more secretive pond species are the eastern mudminnow (*Umbra pygmaea*) and the tadpole madtom (*Noturus gyrinus*). These species tend to prefer soft, acidic water, but they will do fine in harder, alkaline water. They haunt the shaded, darker areas of the pond and are more active at night. Though these fishes are interesting species in their own right, their presence may have the adverse effect of reducing the egg and fry populations of breeding fishes.

Maintenance

Taking care of such a setup is relatively simple. While the plants and snails keep the algae in check, you should perform small water changes of 10-15 percent once a month (or more) using distilled water or tapwater. If you use tap water, you may want to get a pond filter with the capacity to provide chemical filtration in order to remove impurities that build up over time and can become toxic. Be sure to clean the biological filter monthly and replace the chemical media every couple of weeks. Top off the pond water as required.

Once your pond becomes established, you will not have to feed its inhabitants more than three or four times a week since the pond will eventually create its own food in the form of snails, aquatic insects, and algae. Make sure your bottom- to mid-water fishes are getting enough food since the top-water fishes tend to dominate at feeding time, and at other times seem to be a bit more resourceful than the fishes at the lower end of the water column.

Conclusion

As the old saying goes, "There is more than one way to skin a catfish." So you will have to experiment with different pond factors such as sunlight, plants, fish, and filters in order to determine what is best for your system. With a little adjustment here, a tweak there, you too will find enjoyment in the backyard billabong.

References

Barret, J. 1998. *Quick Guide: Ponds and Fountains*. Upper Saddle River, N.J.: Creative Homeowner Press.

Page, L.M., and B.M. Burr. 1991. *Field Guide to Freshwater Fishes North of Mexico*. New York: Houghton Mifflin Company.

Loiselle, P.V., and K.-H. Wieser. 1992. *Your Garden Pond*. Melle, Germany: Tetra Press.

Scheurmann, I. 1992. *Aquarium Plants Manual*. Munich, Germany: Grafe und Unzer GmbH.