

## Pond Basics

When installing a new pond always consult your local council regarding regulations and requirements.

### **Checklist**

- Pond pump
- Biological filter
- UV sterilizer
- Chlorine & chloramine neutralizer with stress aid (water ager)
- Phosphate free general hardness (gH) & carbonate hardness (KH) generators
- pH, gH, KH & PO4 test kits
- Fast growing aquatic plants such as elodea & water sprite
- Fish net
- Food

### **Pond Type**

Plastic, fiberglass & rubber liners are all easy to work with. Concrete ponds, rockwork & mortar will need to be coated with a pond sealant to avoid potential leaching of calcium, lime & unknowns that may affect water quality.

### **Location**

When designing your pond, it is important to implement measures that protect our water ways from overflow of pond contents (which usually are not native to the immediate or wider area). Situate your pond in a position that does not allow overflow of water, aquatic plant or fish to enter the local waterways. Also avoid situating your pond in low lying areas that may receive water run off from surrounding land as it may contain fertilizers, sprays &/or phosphates which could be harmful to the health of your pond. Ideally your pond should be situated in a partially shaded area that receives direct sunlight for no more than 50% of each day.

### **Filtration & Water Quality**

#### **Pumps**

Pond pumps are not pond filters. The sponge media commonly included with pond pumps is not sufficient to filter water and merely prevent large particles from entering the pump and causing damage. Pond pumps provide water circulation and can be used to run fountains & waterfalls.

#### **Mechanical Filtration vs Biological Filtration**

Pond filters are usually purchased separately to pond pumps and are connected to the pump with hosing. Mechanical filtration is provided by sponges inside the filter which remove unsightly debris from the pond. Biological filtration is required for fish health and is most effectively provided by ceramic media inside the filter. This media cultivates live filtration bacteria which break down harmful fish waste (see B.A. Biological Basics care sheet for further information). A high quality pond filter will provide both these forms of filtration. Regularly test your water for ammonia, nitrite & nitrate levels to ensure your biological filtration is sufficient, you are maintaining it appropriately & your pond is not over stocked or overfed.

#### **Ultra Violet Sterilizers**

Ultra violet sterilizers (commonly called UV filters) clarify pond water by controlling free floating algae which causes green water and supports fish health by controlling parasites & bacteria. UV sterilizers need to be connected to a pond pump.

We recommend:



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## Pond Basics cont.

### Setting Up

#### **Step 1**

Rinse pond & accessories thoroughly with tap water. Fill your pond with a garden hose. Add water ager & gH & kH generators as per directions. Add plants & accessories & let sit for 12 hours. Test water to ensure correct water parameters (pH; 7, gH; 8°-12°, kH; 8°- 10°) and adjust as required (see B.A. staff if unsure on how to do this).

#### **Step 2**

When selecting fish for your pond keep in mind there are only limited species of fish that will survive a Melbourne winter outdoors & only a few species of native fish that will happily live in the relative confinement of a backyard pond (see B.A. staff for further information). Introduce your pondfish to their new home by floating their transport bag in the pond for 10mins. Open the bag and add as much new pond water as is already in the bag. Float for another 10mins. Using a net, gently put your fish into their new home (without adding water from the transport bag).

### Maintenance

Regular pond maintenance will maintain water quality & keep sludge & organic waste products to a minimum. For smaller ponds (less than 600 litres) remove & replace 20% of the water monthly. For larger well established ponds (1000 litres) a 10% water change every 4 months should be sufficient. Add water ager & gH & kH generators to the pond in quantities suitable for the new water added. In larger ponds housing only native fish, the use of gH & kH generators, although recommended, is not essential. Rinse or replace filter sponges in removed pond water as required (do not rinse in tap water as this will destroy beneficial filtration bacteria). Remove & clean pond pump impeller & impeller cavity every 6 weeks or as required. Replace UV sterilizer tube every 12 months. Regularly test for phosphates as high levels of sunlight, combined with (among other things) high phosphate levels dramatically increases algae growth and green water (see B.A. Filter Maintenance care sheet).

### Feeding

In outdoor ponds fish eat a variety of insects, larvae & plant matter. This should be supplemented with regular feedings of pond flakes &/or pellets. During summer your pond fish should be fed once a day. In winter, as their metabolism slows down they only require feeding two or three times per week.

### Tips

- It is important to run your filter 24 hours a day. Turning off your filter will cause damage to your filtration bacteria which can affect water quality & fish health.
- In some areas larger predatory birds such as kookaburras or heron will steal your pond fish. The addition of plenty of floating plant & pots for cover can help but covering the pond with bird proof netting is the only guaranteed way to prevent this problem.
- The main key to healthy pond fish is healthy & fast plant growth. As aquatic plants grow they absorb waste products from the water, provide oxygen, offer protection for fish & help minimize unsightly algae. Slower growing plant such as water lilies & grasses look beautiful & offer some protection to fish but should be mixed with faster growing varieties such as elodea & water sprite.
- When stocking your pond keep in mind that it is against the law to catch and keep native fish, frogs, tadpoles or plant from the wild.

*Feel free to contact the friendly staff at Boronia Aquarium for further information*

To ensure water parameters remain within acceptable levels, we recommend:



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