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Jay Lazzarin
Landscape Architect



CREATING WATER FEATURES IN THE LANDSCAPE

By Robert F. Brzuszek, Assistant Professor Department of Landscape Architecture, Mississippi State University.

The simple addition of water in the landscape can offer a new dynamic to a garden area.

From quiet still shallow ponds to the active spray jets in a formal pool, water can provide just the right element for the many moods of a landscaped space. Because of the wide range of options that are available, adding a water feature can be accomplished for even the smallest of garden areas.

Water gardens can range in size from a pond of several acres to a small whiskey barrel container. Although different in water volumes, the principles of water gardening are the same for any size feature. Every water garden will need to be maintained on a regular basis and consideration should be made for the amount of maintenance time available by the homeowner/maintenance contractor. By understanding a few basic principles, problems in ponds can be reduced and maintenance minimized.

WATER CHEMISTRY

A healthy water body is one that is in balance. Water is the substance where many organisms live, from small algae and microorganisms to taller water plants. These in turn support aquatic insects, amphibians, reptiles, and fish. When all these elements are in balance according to the water volume, a healthy ecosystem is achieved. Imbalance occurs when too much of one thing is added to an aquatic system.

Smaller ponds are easily imbalanced since it doesn't take much to exceed its limitations. This is particularly important when it comes



to nutrients. Nutrients enter water bodies from a variety of ways: including fertilizers, fish food, animal waste, leaking septic tanks and drain fields, soil, leaves, and even rainwater. An excessive amount of nutrients will in turn be utilized by algae that will explode in population, creating a green pond.

Algae is an important and vital part of any water system, but an excessive amount can deprive other organisms from oxygen. The best way to avoid green water is to reduce the amount of nutrients entering the system. This may include blocking any surface water or soil from entering the pond, reducing or stopping the feeding of fish, or by adding more water plants.

Water plants absorb nutrients in the water --the more water plants, the better job they will do of removing nutrients from the water. A good rule of thumb is to allow up to 40% of the pond surface or subsurface to be occupied by water plants for proper balance. The addition of spray jets above the water surface or waterfalls into the pond will provide additional oxygen into the wa-

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ter. The use of pumps and filters will help to circulate water and clean water debris. UV light filters are available to control algae in some pump systems. The addition of fish will also consume algae and help regulate mosquito larvae populations.

All water gardens require some level of regular maintenance. Large ponds may require the regular removal of invasive water plants or dredging to remove silted materials. Small ponds require the removal of leaves and debris materials, the constant checking of pumps and filters, and the removal of excessive water plants. Water levels may need to be replenished during drought conditions, and automatic floats and water lines may be added to solve this problem. Algae may need to be cleaned from pumps and filters or the pond bottom, but this points to an improper pond balance. Ponds should be located and designed to be easily pumped and cleaned when necessary.

In addition, water gardens can be an important source of water to backyard wildlife. As a water body is introduced, a new habitat is soon available to both invited and uninvited critters. Mosquitoes are often a concern to the water hobbyist. Rarely does a well-functioning pond add to the mosquito population. The addition of small fish will control mosquito larvae

Plants are a vital and necessary component of the garden pond. An important concept to understand is that water plants grow in certain water depths, and the design of the pond should accommodate for those desired species. Plants are generally adapted to four water depth pond levels--shallow water (less than 1' average water depth), medium depth water (1'-6' deep), deep water (over 6' deep), and floating surface plants. Shallow water plants include iris, sagittaria, rushes, cattail, and sedges. Medium depth water plants include water lilies and lotus, and deep water plants are submerged plants such as Anacharis. Floating surface plants include duckweed and water fern.

The major costs of a water garden include its materials and construction. Water garden costs can vary widely according to the quality and quantity of materials used, and the existing site conditions. Since ponds are considered long-term investments, it is wise to invest in quality materials that will minimize replacement and maintenance costs. Pond materials and construction techniques can vary according to climate differences.

PLASTIC AND RUBBER POND LINERS



Pond liners are flexible sheets of thick plastic or rubber. The advantages to using these liners rather than concrete and steel are reduced costs, the ability to freeform any shape or depth to the water body, and ease of installation. Disadvantages include the possibility of punctures, reduced product lifespan, the inability to add drains or wiring through the bottom of the pool, and its limited colors. It is important to make sure that the soil outside of the liner is free of any roots or sharp objects, and should be covered with a protective pad or underlayment. Remember to add a small levee of soil from the excavation around the pond edge to prevent surface water from entering the pond. This levee may be hidden from view with soil, rocks, or plants.

The most common durable form of plastic liner is 45 ml EPDM (Ethylene Propylene Diene Terpolymer). When covered with sand and stone it has a 40 year life expectancy. If a leak was to occur, a simple inner-tube patch can be glued to the surface.

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PREFORMED PONDS

Preformed ponds are usually made from plastic or fiberglass, lasting 15+ years in the landscape. The advantages to selecting preformed ponds include a guaranteed pond shape and depth, ease of installation, more color choices, and durability. Disadvantages include a higher material cost, inflexibility in shape and size, and a less natural appearance. Preformed ponds come in a variety of sizes, shapes, and depths. Remember to select a product that will allow for intended uses, such as fountains or plant types.



CONCRETE PONDS

Concrete ponds often have tile, brick, or slate added to their finish. The advantages of using a concrete pond include long life and durability, flexibility in shapes and sizes, the ability to add drain pipes and wiring, and ease of maintenance. Disadvantages include high product and installation costs, the possibility of leaks or cracking, regular attention to water quality, and inflexibility after installation. Concrete ponds are well-suited to formal landscapes or courtyards where more durable or complementary finish materials can be added. Subsurface lighting can also be added into the pond sides.



New Employee Welcome

To continue providing quality service for our growing client base, we welcome Anastasia Chechulina to our staff. As an Intern Landscape Architect, Ana will be assisting Jay in the design development of our varied projects.



Ana is a University of Guelph graduate with a degree in Landscape Architecture and has been working in this field since 2011. Prior to obtaining her degree in landscape architecture, Ana started out as a florist, after she finished a certificate program in her hometown Arkhangelsk, Russia.

Ana has a strong belief that landscape architects are important in today's world and to a large degree responsible for the well-being of our planet. She says, "the essential ethical challenge of Landscape Architecture today is to promote the principles of sustainable development, to adapt them to the current economic conditions, to invent a better and more realistic mix of aesthetics, function and sustainability in design".

We wish Ana well in her journey to becoming a licensed landscape architect and trust our relationship will be a mutually productive experience.

LOW MAINTENANCE WATER FEATURES

By Jay Lazzarin

To most of us a water feature is more trouble than its worth. However, the beauty and sound of water is so enticing/relaxing, you may want to consider installing one of these relatively inexpensive, low-maintenance features for your next project. Small decorative water features such as tabletop fountains, stand-alone fountains, bubbling urns, spitters, and fountains are container water gardens that incorporate an in-ground reservoir.

A container water garden is generally used to add the sound of water to a deck or patio, but they also look great greeting visitors by the front door. A container water garden can be created using virtually any type of container ... as long as it has the ability to hold water. An old clawfoot tub, a galvanized bucket, your favorite terra cotta pot, or an old whiskey barrel all make great containers for your new water garden! Any un-glazed pottery will need to be sealed and drain holes will need to be plugged. A wooden container such as a whiskey barrel can be lined with a piece of rubber liner that is affixed to the rim.

A small submersible pump is necessary to circulate the water, and thus minimizing mosquitoes and buildups of algae. A fountain head and a waterfall will add the valued sound of water.

STANDALONE FOUNTAINS



Traditional fountain assembled on site.



Standalone Fountains are gaining popularity due to their ease of set-up and maintenance. Found at garden centers and home improvement stores across America, a wide range of styles and finishes are available to fit everyone's taste and budget. From impressive brass to simple resin fountains, these features are made to "stand alone," meaning they don't need any counterparts to make them function. Much like a tabletop fountain, all you need to do is add water, plug the pump in, and enjoy. Some larger units may require a bit of simple assembly.

BUBBLING URNS and SPITTERS

These larger water features are typically set atop an underground reservoir that keeps re-circulating the water. Once the urn fills with water, the water spills out and over into the underground basin, which pumps the water back up through the urn. If a spitter or decorative fountain is more to your liking, you can still set it on the reservoir and a pipe will transfer the water from the basin up through the center of the spitter or fountain.

Various fountain/pond suppliers sell prefabricated in-ground reservoirs to hold the required water volume and surface material, such as the cobble rock illustrated above.



FEATURED PLANT—CHERRY TREES

Native Choke Cherry (*Prunus virginiana*).



This is a small deciduous tree that is indigenous to central British Columbia. In the wild, this tree is found on vegetated hills and riverbanks, it stands out from the tranquil Northern forest with its abundant fragrant blooms in mid-to late spring. The lacy texture of the white flowers adds a light poetic touch to the monumental Northern nature. There are several cultivars on the market available, some of which have been specifically adapted for planting in private gardens or city parks. Most representatives of the *Prunus* family will grow on a wide range of soil types and pH levels but should be planted in sunny, well-drained spots as they do not tolerate shade, flooding or standing water. They bloom in spring before leaves appear and produce a large amount of black fruit in showy clusters starting in the mid-summer. Fruit is commonly used to develop jelly.

Western Chokecherry (*Prunus virginiana* var. *melanocarpa*). Hardiness zone 3.

This is a fast growing variety of *Prunus virginiana* that grows up to 10 m (30 ft). Best suited for naturalizing and windbreaks.



Schubert chokecherry (*Prunus virginiana* "Schubert"). Hardiness zone 2.

This small cultivar grows up to 6 m (23 ft) and spreads to 5m (18 ft). Compact and oval in shape, it is an ideal frontyard or backyard tree that changes the colour of its leaves from pale green to burgundy in June. Several selections of Schubert chokecherry were improved and introduced for landscape use, among them a vigorous **Bailey's Select Schubert** (*Prunus virginiana* "Bailey Select") and **Midnight Schubert Chokecherry** (*Prunus virginiana* "Midnight").

Besides, the *Prunus virginiana* varieties, there are other trees within *Prunus* family that could be considered for small gardens.

Amur Cherry (*Prunus maackii*). Hardiness zone 2.

This tree is notable for its ornamental characteristics, rich yellow fall colour and bronze exfoliating bark that adds all year round decorative value. Grows to 12 m (40 ft) in height and spreads to 9 m (30 ft) . The canopy is rounded. Excellent specimen tree recommended for residential gardens.



Pin cherry (*Prunus pensylvanica*). Hardiness zone 2.

This small tree or large shrub grows up to 9 m (30 ft) and spreads to 8 m (25 ft). The upright canopy is rounded. Native to British Columbia. Recommended for naturalizing and residential planting.

QUESTIONS & ANSWERS

Why and how to attract wildlife to a garden?

Why? When speaking of attracting wildlife to a garden, we most often mean birds, bees and insects. We are not talking about attracting large mammals like bears and deer that are dangerous for people and devastating for the garden. One can not underestimate the importance of a biodiverse private or public green space. Biodiversity in a garden refers to the richness of species living there. In the modern world, where little space is left for the wilderness as a result of human activity, it is essential for people to learn how to coexist with nature by providing shelter and food for various wildlife in places of human habitation. Attracting birds and insects to a garden not only helps to maintain a healthy ecosystem, crucial for human existence and well being but also improves aesthetic qualities of a garden and provides the opportunity to learn and explore nature.

How? There are several strategies for attracting wildlife to a private or public green space.

1. Provide more plants and less traditional lawn. Trees, shrubs, grasses and flowers provide a shelter and a food source for all kinds of life forms while turf grass has a smaller capacity to sustain wildlife. Trees and shrubs that produce fruit and flowers are especially attractive to birds, bees and butterflies.

2. Give preference to the native plants*. Many insects, especially pollinators consume only the native plants. In turn, many bird species are dependent on insects as their food source in spring when raising their young.



In addition, some introduced trees and shrubs become invasive due to their resistance to the local diseases and pests and harm the existing ecosystem by displacing the native trees and shrubs.

3. Create a water source. Water is vital for a healthy and effective wildlife habitat. A vegetated pond with shallow edges will provide habitat for frogs and newts. If there is no place for a pond, a bird bath will supply birds with the water they need as much as food.

4. Leave the debris. Dead trees can serve as a shelter for some animals. A stack of logs or a pile of fallen leaves left in a cool, shady spot consolidates all manner of wildlife.

**List of Native Plant Nurseries and Seed Suppliers is available at <http://www.npsbc.ca/> (Native Plant Society of British Columbia)*



Jay Lazzarin Landscape Architect

#202 - 1300 1st Avenue, Prince George, BC V2L 2Y3
(Tel.) 888-563-6158 www.jl-landarch.com