Swimming Ponds: A dip in the pond

No chlorine or chemicals are necessary in a natural swimming pond — the plants do all the work

By Brian Slemming

There's something refreshing about swimming in natural water, whether in the sea, lake, pond or river. For those who prefer to cavort in fresh water, away from lane markers and the smell of chlorine, there is an alternative to heading out to the local swimming hole. Welcome to the world of natural swimming ponds, where the magic of growing plants makes it possible to enjoy a safe dip in clean, fresh water.

Europe leads the way in creating natural swimming ponds and converting a typical swimming pool to a natural swimming pond where plants maintain a clean swimming environment.

Natural swimming ponds first appeared in the mid 1980s in Germany and Austria. Since then they have become increasingly popular in Italy and Spain. Although firm numbers are difficult to obtain, the common speculation is that Europe now boasts between 25,000 and 30,000 swimming ponds. They have been constructed in private gardens for family use, in hotels and, particularly in Germany, by municipalities for public swimming. The German municipal facilities are used year-round, summer for swimming and winter for skating — a concept well-suited to the Canadian climate. In the past three years the idea has spread to the U.K. and there are now a handful of companies and architects constructing natural swimming ponds in North America.

It only looks natural

So, what is so special about natural swimming ponds? Ironically, they aren't really all that natural. The ponds are carefully designed and constructed. Although the continual cleaning of the water by the surrounding plants is a naturally occurring event, swimming ponds also use pumps and aeration to improve the performance of the plants. Nevertheless, a well-constructed swimming pond displays no evidence of the plumbing and allows its owner to enjoy all the attributes of a garden pond. It offers a variety of water plants, an opportunity for a cool dip in the summer or a brisk skate through the winter.

Tumber and Associates were commissioned to design this inviting swimming and recreational area where both adults and children could enjoy a natural setting.

A natural swimming pond is a chemical-free water feature.

How does it work?

A natural swimming pond is one large pond divided in two by a wall that separates the larger and deeper swimming area from the more shallow vegetative area. This dividing wall extends from the pond bed to within one to two inches below the pond's surface. The water is continually circulated between the two areas by a circulating pump. Water is forced from the swimming area to the planting area where it passes through a skimmer to remove floating debris. Then the plants take over and the roots take their nutrients out of the water. Nature receives a mechanical helping-hand from the pumping system, which draws the water down into the gravel bed of the plant area. The water is then discharged back into the swimming zone. Drawing the water down through the root systems allows the plants to take up the nutrients which would otherwise create unwanted algae. The most important thing is to maintain the circulation from the swimming zone through the vegetative area and back into the swimming pond.

Will Woodhouse of Woodhouse Landscape Ltd. has become quite a specialist swimming pond construction. His business is based just outside of Cambridge, England. He was one of the first in the U.K. to recognize the potential for constructing these garden features. "One of the biggest misconceptions that potential buyers have is that natural swimming ponds can be created from existing water features. They cannot. The ponds have to be dug, graded, lined and have extensive plumbing installed."

Woodhouse uses a skid steer loader to dig out the initial pond which is sloped ó one foot rise for every three horizontal feet will keep the sides from collapsing. The top of the excavated hole will be the area for planting. It should taper from a depth of 18 inches to two to three inches around the pond's edge. The two halves, for swimming and plants, should cover about the same surface area. This will ensure that the planted area is capable of cleaning the swimming area. Lining is the next step. "It's complicated to line," says Woodhouse. "The pond will often have unexpected shapes and bumps. then it has to go up the vertical wall which surrounds the swimming area, over the top and down to the bed of the vegetative area." There is a continuing debate about the most efficient liner. "Many people are using rubber, but I find that is more likely to sag. We use a PVC material which is harder wearing but it does require special welding expertise," Woodhouse explains.

Once the liner is in place the bottom should be covered with four to five inches of gravel. The gravel bed in the planting area is mixed with a substrate to form a growing medium for the plants. It also carries the aeration system and the pipes which, when connected to the pump, pull the water down through the plant's roots, thus forcing the plants to take up the available nutrients and, in effect, clean the water before the pumping system returns the water to the swimming area.

Backyard oasis

Renate Heidersdorf is one of Canada's foremost artists. She runs her own gallery as well as a school for artists in Beaconsfield, Que., on the westernmost part of the island of Montreal. Some years ago she and her soon-to-be husband traveled through northern Europe. "I couldn't help noticing how many gardens had natural looking ponds in them. I said to my future husband 'I would really like to have a pond like these.'" The wish became reality when he built a pond in the garden of their home in Beaconsfield. "It really is in a residential subdivision. We have about a half-acre lot and our swimming pond is 48 feet long by 12 feet wide." In the centre of the swimming area the pond is six feet deep. The pond was designed and built by a fellow artist Sylvain Racine and Renate's husband. Rather than sloping the sides, Racine opted to use a series of terraces. The pool is lined and has been operating without any artificial cleaning for the past five years. "I just love my pool. We have a group of koi in the pond. I swim with them and over the years they have become very friendly and they swim alongside me." The pond operates with the assistance of three pumps. The Heidersdorfs do not use the pond for skating in the winter because of the location. "The pond is between two old and large trees and every fall we rig a large net over the pond to stop the leaves falling into the water. The net makes skating impossible," explains Heidersdorf.

Pool or pond?

The cost of constructing a natural swimming pond is as variable as the cost of installing a traditional swimming pool. It will depend on size, terrain and complexity. However, a good rule of thumb is that there will be very little difference between the cost of a swimming pond and a similar-sized traditional pool. Apart from the aesthetics, the real advantage of the swimming pond is the minimal maintenance required. Woodhouse suggests that a once-a-year cleaning of the pond is sufficient. Woodhouse is also opposed to the idea of fish in the swimming area as they could become a pollution creator, but the experience of the Heidersdorfs appears to refute that position.

On one thing everyone agrees — there is no requirement for chlorine or other chemicals, nor is weekly or monthly cleaning required. It is as close to lake swimming as one can get without driving to the lake. An added plus is that swimmers have no concern over whether the lake is polluted or not. Keep your plant area healthy and you can dive headfirst into a project that you know is free of pollutants and chemicals and which will never need emptying and repainting.

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Some images courtesy BIOTOP Natural Swimming Pool, www.swimming-teich.com