

Natural Origins

BY ERIC HERMAN

“Natural swimming pools,” or pools that replace chemical treatment with natural processes, have been around nearly 30 years. And while they are widely accepted in Europe and elsewhere, they remain obscure in the U.S. The man widely credited with inventing the Natural Pool, Austrian Peter Petrich, hopes that his firm, BIOTOP, will soon be able to crack open the U.S. market with new innovations and pools that qualify as “chemical free.”



Photos courtesy of BIOTOP

BY NOW, MOST POOL PROFESSIONALS in the U.S. are familiar with the concept of the “Natural Pool.” It’s an elegant idea based on chemical processes found in nature in which chemical absorption by plants, biological filtration and ecological balance generate water that is reliably safe for and appealing to bathers.

In many respects the natural pool is considered the antithesis of traditional pools where safe water is achieved by obliterating all life forms through chemical

treatment processes.

Proponents of this natural approach to healthy pool water are working hard to bring the concept to the U.S. through education and marketing efforts. Prominent among them is the man widely credited as the father of natural pools, Peter Petrich, founder of BIOTOP, a company based in Austria with a U.S. division in Denver. Petrich has been raising awareness for the natural pool and promoting a new, alternate version of the system, known as the “Living Pool.” (More on that below.)

His story, and that of the natural pool, is an inspiring narrative of genuine innovation and transformational product development that might just change the way many in the U.S. think



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BIOTOP's "Living Pool" system is designed to generate water that is comparable to that from pools treated with conventional chemistry.

about pool treatment.

"It all started back in 1984 when I was working with four other students studying landscape ecology and design at the University of Natural Resources and Applied Life Sciences in Vienna," he recalls. "We wanted to work in landscaping on one hand and environmental protection on the other. Originally, we were working with garden ponds and green roofs."

That changed in 1985 when Petrich read an article about an idea a group of students had for natural swimming pools. "I was really shocked," he says, "and couldn't sleep at night because I was so excited by the idea. Having experience in ponds and natural systems I was immediately fascinated by the idea of combining a pond and a swimming pool."

"We began developing the concept and soon found a client who was also excited by the idea. After we built the first one using an early version of our system, the idea caught on very rapidly. In the year after we built that first project, we received over 1,000 inquiries. It was amazing."

Although Petrich and the firm assert primacy in developing the idea commercially, Petrich stops short of laying claim to the very first one ever built. "I would say that the first natural pool that actually functioned was built in 1984 by the Austrian Werner Gameraith in a private garden. I even have a photo of his pool in my archive. I am happy to leave this honor to him."

"But," he's quick to add, "the first commercial natural pool system was developed by BIOTOP in 1985. And then for a long time there was nothing else. It was always obvious to me that sooner or later we would have competitors. Of course we



enjoyed being the only provider for the first 10 years, although our market was only a small niche at that time. Later, at the beginning of the 21st century, one system provider alone wasn't able to cope with the growing demand."

There's no question the concept has gained a strong foothold in Europe. Since that first one was built in 1987, more than 5,000 pools have been installed to date. Petrich reports that although the company received numerous inquiries from the U.S., as is often the case with ecologically minded products, it's been much slower going on this side of the Atlantic.

BIOTOP didn't install its first pool in North America until 2009. Today, BIOTOP has six U.S. partners and 66 licensees around the world.

"As in Europe we want to appeal to the upper end of pool owners. BIOTOP provides high-quality products and we don't want to make any concessions on the quality of the materials used," Petrich explains. "The investment in a Natural Pool or a Living Pool should be an investment for two to three generations. The grandchildren of our customers today should be able to say: 'Our grandparents were very forward-looking when they invested in the pool.' This can only be the case when one relies on high quality."

NATURAL & LIVING

Now with nearly three decades of experience, BIOTOP continues to refine the concept, especially with the practical realities of the swimming pool market in mind. The firm currently offers two versions of the system, both with different types of



When designed and installed correctly, Natural Pools effectively combine the natural beauty of a pond with the utility of a swimming pool, all the while utilizing natural processes to generate desirable water without the use of sanitizing chemicals.



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clients as targets.

The first is the Natural Pool, the system most familiar to the market. In planning Natural Pools there is generally a 1:1 ratio of the swimming zone to the regeneration zone with an average depth of 6 ½ feet in the swimming area.

In addition to the regeneration zone, the system consists of a specially designed curved-sieve surface skimmer, the BIOTOP plant filter, the carbonator

and the cleaning kit, all powered by a single pump. A brook and a fountain can also be added. The hydraulics are designed so that on request, even solar-powered systems can be used to create the "greenest" pool possible.

"A natural swimming pool visually enhances the garden all year long," explains Petrich. "Besides being able to enjoy it in summer, this combination of natural pond and swimming pool

opens up a whole new world to the user: dragon flies, frogs and little water salamanders populate the Natural Pool just a few days after the planted zone is finished. And in winter the frozen "pond" turns into a private skating rink."

A FILTRATION INNOVATION

The second version offered by BIOTOP, the company's latest innovation that has grown to about one third of sales, is the Living Pool. It is a biological swimming pool that looks like a classic pool; it has no regeneration zone but still uses no chemicals.

"The Living Pool generates water that is treated naturally but looks like traditional swimming pool water," Petrich explains. "The system is also perfect for the retrofit market. With Natural Pools it's helpful to design the entire system as new construction in order to incorporate the regeneration zone to the greatest advantage. The Living Pool doesn't require a regeneration zone and all the components can be housed out of sight under a deck."

In other words, BIOTOP's Living Pool looks like a conventional swimming pool, but has the characteristics of a Natural Pool. While the filter function is carried out by plants and microorganisms in a Natural Pool, the Living Pool features a special phosphorus filter with granules that bind phosphorus, the main source of nutrients for algae. Thus, the algae are literally starved, unable to grow and removed by an automatic pool-cleaning robot.

In this new filtration process, the water first runs through a biological filter, where impurities are filtered and bacteria are removed. The phosphorus contained in the impurities is broken down into dissolved phosphate. Subsequently, a pump draws water from the bio-filter and pumps it through the PhosTecUltra filter, where the dissolved phosphate is bound by adsorption.

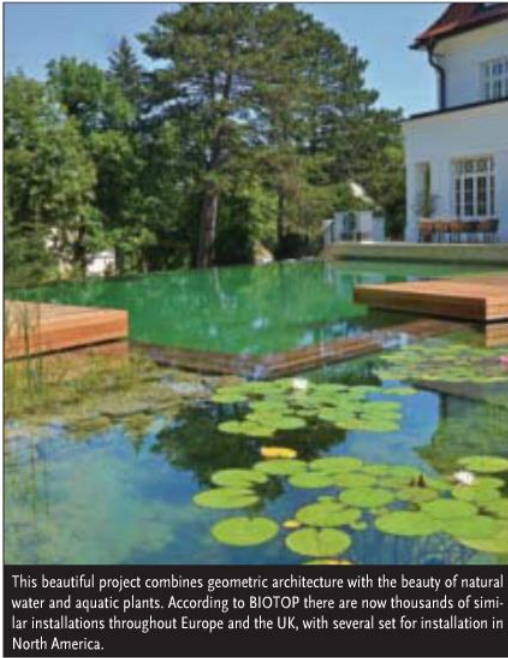
During the swimming season the pump runs constantly under low power.

AFTER THE AFTERMARKET

This process and equipment need not be part of the original pool construction. With BIOTOP's Converter System, the renovation needed to transform a traditional pool into a Living Pool is kept to a minimum. The existing skimmer, pump and sand filter can remain in place; only the chlorination or other



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This beautiful project combines geometric architecture with the beauty of natural water and aquatic plants. According to BIOTOP there are now thousands of similar installations throughout Europe and the UK, with several set for installation in North America.

chemical treatment is discarded. The biological filtration system is then added, consisting of the biological filter, a small pump and a phosphorus filter, all plumbed in line.

After water is first pumped through the biological filter where it is mechanically and biologically cleaned, water is fed through a special anion absorption filter, where the orthophosphate is bound. Every few years, the filter material becomes saturated with phosphate and has to be changed.

THE POWER OF PURPOSE

Having seen the system gain widespread acceptance in markets where water quality and bather safety are maintained to strict standards and consumers are actively looking for chemical-free options, Petrich is confident BIOTOP's system is poised for success in North America.

"The big selling point is that you can have crystal clear water without the use of any chemicals," Petrich says. "You can have a wonderful lifestyle secure in the knowledge that you are doing the 'right' thing. You can protect the health of your children and family, and simultaneously contribute to the preservation of natural resources."

"Anyone who has taken a dip in our show pools notices that natural, living water feels different on your skin. But," he concludes, "that can't be described in words. Ultimately you have to swim in our pools yourself to experience it." ☞

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