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/ Natural Swimming Pools: Beautiful & Chemical-Free

How natural swimming pools provide a chemical-free swim area and beautiful water garden

By Debra Maurer



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WHAT'S NEW

First introduced over 25 years ago in Austria and Germany, [natural swimming pools \(NSPs\)](#) are currently seeing a surge in popularity in the U.S. and Canada. Natural swimming pools are 100-percent chemical-free pools that are filtered through aquatic plants and helpful bacteria. They provide a natural water garden and are a wonderful eco-friendly alternative for those seeking a chemical-free way to treat their pools.

An NSP is composed of two parts: a swimming area and a regeneration zone. The regeneration zone looks like a small pond or water garden and provides a habitat for aquatic plants that filter the water. The plants take nutrients out of the water, which helps outcompete algae for available resources. A natural swimming pool is a living system, and because the water is not sterilized or disinfected in any way, there will always be a small amount of algae and sediment in both the regeneration zone and the swimming area.

“Additionally, there are aerobic and anaerobic bacteria in the regeneration zone and in the biological filter that take care of undesirable elements,” explains James Robyn, CEO of [BioNova® Natural Pools](#) in North America and owner of [Rin Robyn Pools, Bernardsville, NJ](#). “Water passes through the filter, into the regeneration zone, and back into the swimming area. The water is in constant motion as it passes through the filter, making it clear and safe for swimming.”

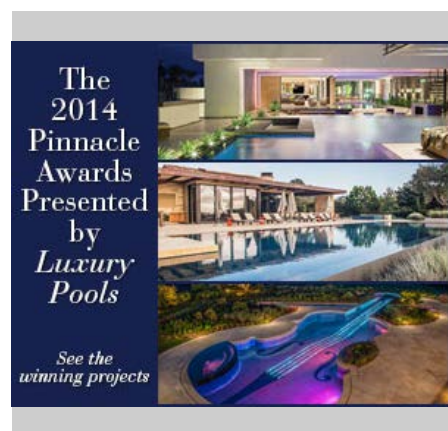
Above: A natural swimming pool can be seamlessly integrated with the landscape and designed to look like a naturally occurring water feature.

Photo courtesy of BioNova® Natural Pools

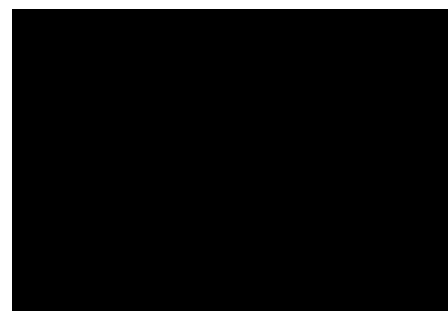
Eco-friendly Benefits



Natural swimming pools offer a great deal of benefits for eco-conscious homeowners. Operating completely free of chemicals, NSPs allow you to swim in a healthy, natural freshwater environment.



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(Note: Natural swimming pools should not be confused with [saltwater pools](#), which are sanitized with chlorine and do not have regeneration zones. Saltwater pools use a chlorine generator that converts salt to chlorine; these pools are not NSPs.)

“A common theme among all of our clients is sustainability,” says Alan Weene, head of marketing and technical support, BioNova® Natural Pools. “The constructed wetlands area (regeneration zone) provides a home for aquatic flora and fauna, promoting biodiversity and habitat restoration. Additionally, NSPs offer a much lower carbon footprint and are highly energy-efficient.”

A natural swimming pool can be seamlessly integrated within the landscape and designed to look like it is a naturally occurring body of water. The aquatic plants in a natural swimming pool are carefully selected based on climate zone and hardiness. “A variety of native and adapted annual and perennial aquatic plant species are used,” says Weene. “The regeneration zone consists of a combination of deep water, floating, submergent, and marginal plants, which create a lush and colorful aquascape throughout the growing season.” Examples include water lilies, cattails, American lotus, and pickerel weed.

Above: Maintenance for NSPs includes routine skimming of surface debris and care for the aquatic plants in the water garden. NSPs are living systems, which means some algae and sediment will always be present in the swimming area and regeneration zone.

Photo courtesy of [BioNova® Natural Pools](#)

Design and Construction of Natural Swimming Pools



Natural swimming pools are built in either one- pot or two-pot designs. In one-pot designs, the regeneration zone is contained within the same chamber as the swimming area. The water flows over the top of a shallow retaining wall between the two areas.

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In two-pot designs, the swimming area and regeneration zone are their own separate vessels. The regeneration zone can be built adjacent to the pool or in a nearby part of the yard. The water is filtered and purified as it is pumped between the two areas.

Both one-pot and two-pot NSPs can be built with a PVC pool membrane or EPDM rubber liner, or constructed from concrete or gunite. They can also be finished with pebble plaster as well as a number of other materials and interior finishes. The many options in construction techniques allow for modern rectangular pools or fully customized designs, in addition to the natural freeform shape desired by many NSP owners.

Above: A blend of formal and natural elements are combined to create this outdoor living space. Natural stone coping, a wooden deck, and lush terrestrial plantings complement the NSP in this tranquil backyard setting.

New Construction vs. Renovation

If you are a current pool owner looking to renovate, an NSP is a great environmentally-friendly option to consider. “Most of our projects are new construction, but almost any traditional pool can be converted into an NSP,” says Weene.

Since NSPs are typically twice the size of a traditional pool, the property must allow enough space for the addition of a planted regeneration zone. The surface area of the regeneration zone is roughly equal in size to the swimming area. “When converting a traditional pool to an NSP, the regeneration zone can be contained within the boundaries of the existing pool walls, located adjacent to or surrounding the perimeter of the existing pool, or completely separate in its own contained vessel,” Weene explains. Conversion also requires modifications to the plumbing, plus installation of biological filtration equipment.

Photo courtesy of [BioNova® Natural Pools](#)

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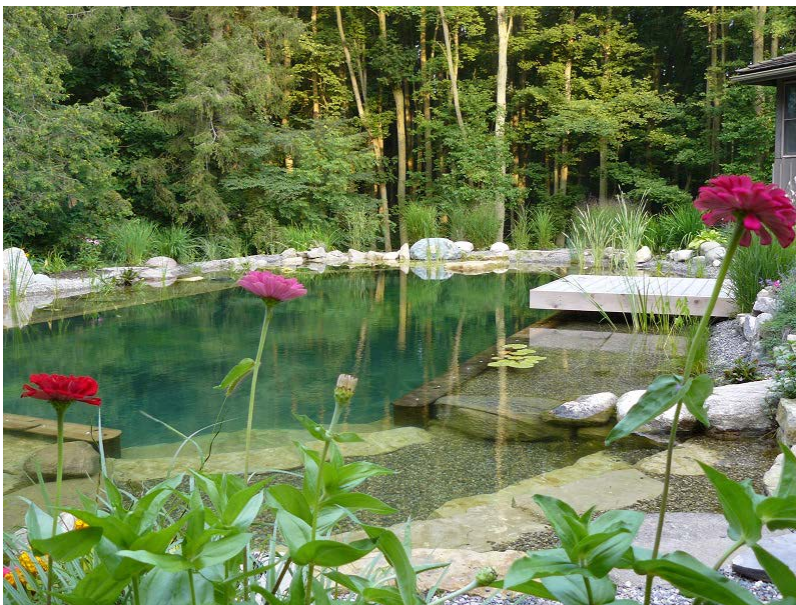
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Above and below: This pool is the first BioNova® natural swimming pool ever built in Ontario, Canada. It is a one-pot design, meaning the regeneration zone and swimming area are separated by a submerged retaining wall, but are part of one contained vessel. The regeneration zone is planted with Canada native aquatic plants and flowers. The natural look of the cedar coping and decking blend nicely with the architecture of the home.

Photos courtesy of [BioNova® Natural Pools](#) Dealer Partner John's Pools & Ponds Inc., St. Marys, Ontario; Photography by Pat Menary



If the idea of a natural swimming pool has piqued your interest, you're not alone. "NSPs are growing in popularity every day, and for all of us at BioNova® it is very exciting to be the driving force behind the introduction of natural swimming pool technology to the North American market," says Weene. "We are pleased to report several successful NSP installations from 2013, and construction has started at Webber Park in Minneapolis,

site of the first public NSP in North America.”

In fact, BioNova® has more NSP projects currently under design or construction across the country than it has had in the last five years combined. “With the growing interest among consumers in leading green and sustainable lifestyles, we fully expect this trend to continue,” says Weene.

In October 2012, the first BioNova® NSP built in Ontario, Canada (*above*) was completed by John’s Pools & Ponds Inc., St. Marys, Ontario. “The customer was contemplating either purchasing a cottage or bringing a cottage-like setting to their home backyard,” says Johnathan Riehl, president and CEO, John’s Pools & Ponds Inc. “The pool owners are award-winning gardeners who attended the Stratford Garden Festival in 2012 and found that our booth displayed what they had been searching for—a natural pool.”

Riehl proposed a one-pot pool design that would fit their home, existing garden, and landscape. After testing the water, making the grade elevation, and estimating the cost, a contract was signed, and the pool took about four months to build. It is 4 feet deep in the shallow end and goes up to 8 feet in the deep end. The shallow water areas that encompass the swimming zone act as a passive solar heat collector, providing above average temperatures throughout the swimming season. “The pool owners chose cedar coping, which adds

to the natural look, but there are many coping options with an NSP, including natural stone coping, timber, and even concrete,” says Riehl. The flagstone deck provides a place for entertaining guests and enjoying the view of the entire poolscape. “The owners told us that their daughter loves the pool so much she refuses to get out from it!” says Riehl. “They also have had family and friends visiting them, and they all had fun swimming in the pool.”

Natural Swimming Pool Maintenance



Because there are no chemicals, you may wonder what kind of maintenance a natural swimming pool requires. You'll still need to keep the pool clean by emptying skimmer baskets once a week, skimming debris from the water's surface, and vacuuming the floor with a pool cleaner. Some algae will grow naturally in the regeneration zone, and any algae in the swimming area can be safely removed with a brush, vacuum, or a robotic pool cleaner. An in-floor pool cleaner can also be installed on new construction.

While NSPs require no chemical maintenance, you do need to care for the water garden. "Plants should be trimmed and pruned throughout the growing season, and organic debris should be removed from the water in order to minimize the nutrient load on the aquatic ecosystem," Weene explains.

Like a traditional pool, NSPs in cold climates should also be winterized by blowing out the plumbing lines and plugging the returns to keep water from re-entering the pipes and freezing. Instead of adding winterizing chemicals, however, you'll just have to do some plant maintenance. "You'll need to cut back the perennial aquatic plants so they'll grow back in the spring time. Some replanting might be necessary when reopening your NSP the following spring," says Weene.

Photo courtesy of [BioNova® Natural Pools](#)

Cost of a Natural Swimming Pool



How does the cost of building a natural swimming pool compare to a traditional pool? “The cost per square foot is about the same as a traditional pool, but an NSP is roughly twice the size of a traditional pool, so therefore they can be more expensive,” says Weene. “However, the long-term operating costs are typically less. By removing chemicals from the equation, hundreds if not thousands of dollars are saved each swimming season. Plus, the increased energy efficiency of the mechanical circulation system means less money spent on electricity.”

Hiring the Right Pool Builder

If you are interested in building or retrofitting your pool into an NSP, be sure to hire a qualified professional. “A natural swimming pool is a well-balanced wetlands ecosystem that incorporates hydraulics and modern pool construction methods. The whole system needs to be planned and crafted by an experienced landscape architect or pool builder who is knowledgeable in this very precise art,” advises Robyn.

Photo courtesy of [BioNova® Natural Pools](#)

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See more photos and pools by [Rin Robyn Pools, Bernardsville, NJ >>](#)

Read our Q&A with Rin Robyn Pools: [How Does a Natural Swimming Pool Work?](#)

Upcoming TV spots: You can catch the first NSP built in California (built by California BioNova®) on Animal Planet’s new series “[The Pool Master](#)”

hosted by swimming pool build-designer Anthony Archer-Wills. Set your DVR for Friday 6/27 9:00pm ET/PT on Animal Planet.

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