

PISCINAS NATURALES

Las piscinas naturales son un sustituto para los sistemas de tradicionales de depuración de piscinas, presentan inconvenientes fácilmente subsanables y muchas ventajas ecológicas, energéticas y de mantenimiento. Consisten en la introducción de una zona de plantación con plantas acuáticas que serán las encargadas de mantener el agua apta para el baño sin ayuda de la tecnología ni productos químicos.

Cuando instalamos una piscina natural el equilibrio biológico todavía no se ha establecido, esto provoca que el agua esté ligeramente turbia al principio. La incorporación temporal de un filtro ultravioleta elimina las algas que crean esta turbidez, una vez la piscina ha logrado su equilibrio biológico el filtro ultravioleta se vuelve prescindible.

El agua se devuelve a la piscina mediante arroyos, cascadas y juegos de agua, esto no es solo un recurso paisajístico, responde a la necesidad de oxigenación del agua antes de ser devuelta al vaso principal.

Es aconsejable tener peces de pequeño tamaño que son los enemigos naturales de las larvas de mosquito y otros insectos, sin embargo el número de peces y su tamaño debe estar controlado ya que un exceso de peces provoca un exceso de detritos y el enturbiamiento del agua.

Existen varios tipos de piscinas naturales dependiendo del grado ayuda tecnológica que damos a la piscina para ayudarla a mantener su equilibrio biológico.

Tipo 1. Funcionamiento completamente natural.

El mantenimiento de la calidad del agua se realiza solo por medios naturales sin ningún tipo de mantenimiento ni energía eléctrica. Por un lado la profundidad de la piscina debe ser mayor de 2m lo que crea una corriente de renovación entre la zona más profunda y las más expuesta, lo que evita la eutrofización y la aparición de algas. 2/3 de la superficie serán para plantación y el 1/3 restante será la zona de baño. Esto garantiza no utilizar ningún aparato o medio de control y limpieza.

El agua estará turbia cierto tiempo hasta que se alcance el equilibrio biológico, quedando perfectamente apta para el baño. Con el tiempo, se deposita lodo en el fondo y al nadar se remueve y se enturbia. Añadiendo una bomba limpiafondos eliminamos este problema.

Tipo 2. Ayuda a la circulación del agua.

1/2 de la superficie zona de baño y 1/2 zona de plantas requiere la circulación artificial del agua para mantener el equilibrio biológico. Una bomba programada lleva un máximo del 25% del agua de la zona de baño a la zona de regeneración cada 8 horas. Un lecho de grava y guijarros filtran por gravedad el agua que retorna a la zona de baño, ayudando a mantenerla clara sin aditivos de ningún tipo. La bomba puede funcionar con energía solar.

Tipo 3 – Piscina natural con Skimmer.

La reducción a 1/3 de la superficie de plantas acuáticas requiere una ayuda adicional en la limpieza de la piscina mediante un skimmer que filtra los objetos que caen a las piscina. Cada 6 horas se genera una corriente de agua en superficie que arrastra y recoge hojas y otros restos que flotan en el agua. Al reducir la aportación externa de nutrientes reducimos sedimentos y evitamos la eutrofización.

Tipo 4 -Piscina natural con sistemas de filtrado.

Para lograr rápidamente la transparencia del agua se utilizan diversos sistemas de filtrado: filtros de carbono, filtros ultravioleta... en la zona de regeneración de modo que el agua que devuelva a la piscina sea absolutamente transparente. En este caso también hay plantas pero hay mucha técnica a base de filtros y bombas. Dado que tienen que estar en constante funcionamiento los gastos de energía también son muy elevados.

The Natural Way to Cool Off

Swimming can be great exercise and a lot of fun, not to mention an exciting sport at the Olympics. But the chlorine used in most pools can have some negative side effects, not the least of which is reliance on toxic (and finicky) chemicals.

Chlorine's damaging effects on hair are well known, but few people realize that a number of studies have linked inhalation of the chemical by swimmers to [increased asthma rates](#) (in fact [a new Irish study](#) published this April reported a significant link between the number of years a boy had been swimming and the likelihood of the child being wheezy in the past year.) A [Norwegian study](#) also documented an increased risk of wheezing among children who swim in pools before 6 months of age. Further, in an unpleasant reaction, pee and sweat in water can react with chlorine to form [toxic breakdown products](#) known as chloramines.

For health, environmental and aesthetic reasons, a lot of people have expressed interest in alternatives to chlorine pools, and luckily there are more and more options to get wet without smelling like cleaning products. A company called [TechnoPure](#) offers alternative pool systems that treat water by pumping it through a chamber containing coated titanium plates and copper and zinc ions. The units cost a relatively affordable \$5,500. [DEL Ozone](#) makes ozone injectors that can reduce the need for chlorine up to 90% -- there's been one installed at the White House for years! Some systems rely on a combination of ozone and copper and silver ions, while others are saline, though saltwater pools result in the formation of chlorine in the water.

One elegant, eco-friendly solution that has had enthusiastic supporters in Europe for decades is the so-called natural swimming pool, which is slowly beginning to gain buzz in the U.S. Natural swimming pools, often called swimming ponds across the Atlantic, can be beautiful oases of greenery and sustainability, as well as safe, fun places to take a dip.

Managed properly, natural swimming pools have crystal clear water and require no chemicals to maintain, as they are self-cleaning mini-ecosystems. "You can drink the water if you want to, and you don't necessarily have to take a shower," says Morgan Brown of Idaho-based [Whole Water Systems, LLC](#). The natural pools designer says the systems also have lower maintenance costs than conventional pools, and their installation costs are not much more than standard designs.

Read on for more info on natural pools -- sometimes called green pools or organic pools -- and photos of some of the most gorgeous designs around.

Read more: <http://www.thedailygreen.com/green-homes/latest/natural-swimming-pools-460908#ixzz2lh8CD6sg>

How Do They Work?

The materials and designs of natural pools can [vary widely](#). Many are lined with rubber or reinforced polyethylene. In most popular models, such as those offered by Kansas-based [Total Habitat](#), the swimming area is separated from a zone planted with aquatic vegetation, which acts as a biological filter. A small waterfall can add ambiance as well as

valuable aeration. A skimmer may be used to collect large debris. Total Habitat typically adds a UV sterilizer to assure any germs are killed.

Worried about mosquitoes? Don't be! According to Total Habitat's president Mick Hilleary, natural predators and moving water make a natural swimming pools practically mosquito free. Hilleary says four tires stacked in your backyard will create 100 times more mosquitoes.

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Smart Green Design

"Conventional pools that use ozone or chlorine are upsetting a natural balance. In fact it's hard to keep a chlorinated pool biologically dead, because nature gets in there," says Morgan Brown of [Whole Water Systems, LLC](#). "With natural pools the living system takes care of itself."

Brown says he knows of a public natural swimming pool that opened in Europe 15 years ago, yet managers have never reported any instance of a health problem there. "That's astounding, because that's not the case for chlorine pools," explains Brown. "If a *Caddyshack* instance happens with a toddler in a conventional pool you shock it with chemicals, and it takes 12 hours before it is safe to go back in. That doesn't happen in natural environments because good bugs take care of the bad."

Brown says the hardest part about designing natural swimming pools is getting the water circulation right so that the water stays as crystal clear and appealing as a fresh alpine lake. When pools are first installed they sometimes take a while to settle to that level, and occasional growths of algae can discolor the water, even though they don't pose any health concern. Experts note that the longer the system has to stabilize, and the more established the plants in the filter zone become, the more likely it is that the water will be transparent. The reason wholly natural ponds are usually murky is because of nutrient overloading (often because of runoff from farm fields and treated lawns) and seepage of minerals and sediments from groundwater -- something blocked by a pool's liner.

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Is Natural Pool Water Safe?

According to Brown, people always ask the health question first. He says people just need to think about pools a little differently. "Instead of creating an abhorrence of nature where everything is dead, it's creating natural healthy water that takes care of itself," says Brown.

Brown believes properly designed natural pools provide virtually no risk of dangerous contamination, provided they are used reasonably, and not constantly stuffed to capacity with bathers. He says most health departments don't have any regulations on residential pools, so consumers have little worry about breaking any local codes. However, that's not necessarily the case with public pools, which often do have strict requirements.

"Some of the current regulations for public pools are things natural pools would never be able to do, like zero *E. coli*. There probably isn't a natural body of water anywhere that has zero *E. coli*," says Brown. Instead, Brown designs to German regulations, which he says are twice as stringent as the rules that govern beach closures in the U.S., in terms of acceptable levels of contaminants.

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Where Did the Idea Come From?

Morgan Brown says he first experienced natural swimming pools when he was living in Germany. In Munich a large public natural pool was his daily haunt, and it has safely supported sizable crowds for years.

"Natural pools evolved from ponds that people swim in," explains Brown. "People started gradually making them better for swimming, and fixing problems with water. Europeans have decades worth of experience."

The idea has admittedly been slow to catch on in America, some say because of our obsession with everything being clinically clean, and our apparent need to be in control of things. The well-heeled chemical industry certainly has had its stake in the popularization of pools. More Europeans, on the other hand, have been attracted to a back-to-nature mentality, and a people that has long popularized natural spa vacations, mineral water and walking for good health has found an appealing way to cool off.

So far most of Whole Water System's natural pool business has been aimed at eco-resorts and new planned communities. However, Brown says he is also excited to begin getting more into the residential pool market. He hopes green pools will resonate with eco- and budget-conscious Americans.

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From Eco-Resorts to Homes

Whole Water Systems works with technology from the European firm **BioNova** (designs pictured), which also supplies many natural pools on the other side of the Atlantic.

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Hybrid Pools

Taking up the natural pools banner in California is Vista-based [Expanding Horizons](#), which has been designing and installing water features, gardens and other projects since 1978.

The approach of Expanding Horizons founder Bryan Morse is to construct what he calls a "hybrid pool," which incorporates technology commonly found in conventional pools such as pool cleaners, surface skimmers and main drains. The designs often include beach entries, and water plants are seeded into the nooks and crannies between the perimeter boulders to enhance the natural experience.

The regeneration zone is separate and forms an additional water feature in the garden -- what Morse calls a bog. In one design, a 70-foot long stream feeds purified water from the bog into the pool. Expanding Horizons digs a depression for the bog, lining it with a distribution network of pipes and washed aggregate. Then water-loving plants are seeded, such as cannas, dwarf horsetail, water cress, pennywort, rushes and umbrella palms. The result is a gorgeous garden that attracts wildlife and beneficial insects.

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Across the Pond

Based in Bristol in the United Kingdom, [Clear Water Revival](#) makes some of the most appealing, sparkling, drool-worthy natural pools anywhere. The company's goal is to bring back an essence of Victorian England, with modern understanding of science and ecology. The gorgeous pools can even replace some of the ecological functions lost with the vast destruction of wetlands, particularly in the form of habitat for plants.

Clear Water Revival tends to focus its natural pool designs around maximizing biodiversity and the educational value of the space, creating a very natural look and feel. There are a number of options offered, from simple clay linings to more advanced systems. Customers can even order DIY kits.

As an added bonus, many Clear Water Revival designs can also be used for ice skating in the winter!

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Clear Water Revival

Clear Water Revival works with a network of partners across the UK, and also offers renewable energy systems for pool heating and homes. The company has partnered with the Aqua Viva group of Austria and Germany in many of its pool designs, allowing for high efficiency systems. Affected pools can function well with fewer plants and only 20% of the area taken up by the regeneration zone (50% is more common).

Aqua Viva systems have long-term filtration, with little maintenance needed, a unique substrate for plants and several advanced pumps and skimmers. The result is a lot of clean, healthy pool in a small space, if needed.

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Green Pools by gartenART

Another British leader is [gartenART](#), which boasts innovative, beautiful natural swimming pools.

Have your own unique design built, or convert your conventional swimming pool to a natural one, keeping the original swimming area (or altering it if you wish). You just need to add a shallow plant area around it to enable natural purification. Another option is to keep the existing structure of the swimming pool and create the two areas inside that, giving you more flexibility.

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Green Pools by gartenART

gartenART Director Tim Evans explains that the company's international design and consultancy service does a good business with English ex-pats abroad, including in France, Italy, Spain, Greece, the Caribbean and elsewhere. "We have had a lot of interest but not much actual business from the U.S. so far," says Evans. "We consistently get more website hits and email enquiries from the U.S. than from any country except the UK, but this has not yet translated into real action."

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Woodhouse Natural Pools

Will Woodhouse of UK-based [Woodhouse Natural Pools](#) has been developing and building natural swimming pools since 2000. Woodhouse has partnered with Austria's [Biotop Natural Pool](#), which is one of the industry's original pioneers.

Woodhouse points out that, besides being beautiful, his natural pools naturally warm up fast and efficiently in the sun, meaning they don't cost a fortune to heat (like many conventional pools). Woodhouse also touts the "softness" of the water, which he promotes as being especially gentle on skin and hair.

Michael Littlewood Designs

Natural landscape architect and garden designer [Michael Littlewood](#) of Somerset in the UK also has extensive experience in successfully designing natural swimming pools. In fact, he even wrote the first book in English on the subject, *Natural Swimming Pools, Inspiration for Harmony with Nature*, available on his [website](#).

Do it yourselfers can get help from Littlewood's guide [Natural Swimming Pools, A Guide for Building](#).

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Michael Littlewood Designs

Michael Littlewood and [Total Habitat](#) in the states are the founding members of the nascent Natural Swimming Pool/Pond Association. The small association has launched their own certification program to provide consumers with greater confidence. In addition to Littlewood's book, Total Habitat offers a handy e-book on natural pools, with 80 some images and step-by-step guides.

Remember it is possible to convert a conventional swimming pool to a natural one. Add a shallow plant area around the original (or in a sub-divided section) for natural purification.

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