



Balancing Act

Michael Littlewood shares the benefits of the natural swimming pool system – for pool owners, people and the planet...

ABOVE: Children can enjoy playing in natural water – and their parents need have no anxieties about chemicals.

At a time when people are increasingly concerned about their health, anxious to avoid exposure to chemicals, keen to help preserve wildlife and the environment, and inspired by more holistic ways of living a natural swimming pool offers the perfect fit.

As well as offering a new and inspirational experience, the natural system has practical and financial benefits for pool operators.

Build costs for a natural pool are comparable to those of a conventional pool, and the conversion of an existing pool is also possible.

Maintenance costs are far lower, as a natural pool's biological cleaning processes does away with the need for chemicals, frequent water changes and much of the work of maintenance.

There are huge savings on water, as natural pools do not need to be emptied every year. Energy costs are much lower, as the natural system is not compatible with conventional pool heating. It relies instead on the heat of the sun and the circulation of the water from the shallower regeneration zone to raise the water temperature.

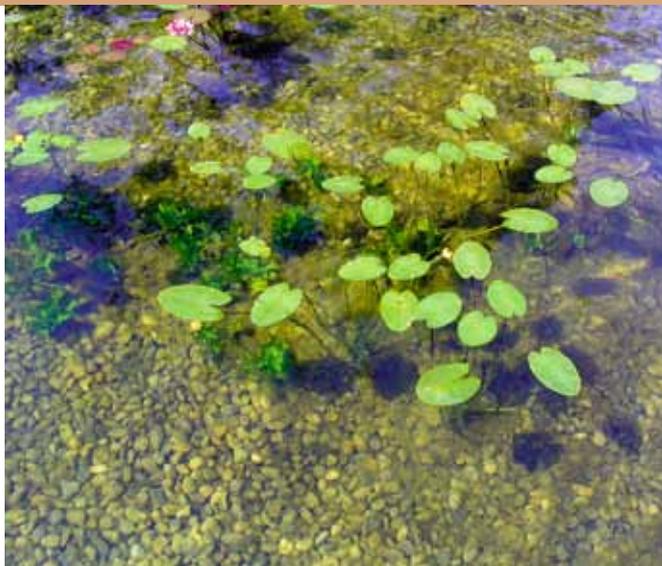
Because natural pools are aquatic gardens as well as places to swim, they can be developed as all-year-round leisure facilities,

offering guests a place to walk, relax, socialise and enjoy nature even when the British weather does not encourage outdoor swimming.

Natural pools are also of huge benefit to the environment; in addition to not using chemicals and saving on water, they are valuable wildlife habitats, offering a haven for a whole range of species threatened by the loss of wetland habitats in the countryside. People and frogs do not swim side by side, however; wild creatures stay mostly in the regeneration zone, which provides them with both food and shelter.

NATURAL CHOICE

Natural swimming pools were originally developed in Austria, where the health and wellness benefits of bathing in natural waters in the country's spa towns were widely recognised. In 1985, the first commercial models were created by the Austrian company Biotop, whose founder Peter Petrich came up with the idea of a self-cleaning biosystem for swimming pools. Other manufacturers, including Bioteich of Switzerland and BioNova of Germany, soon followed.



ABOVE: The beauty of the natural system is that the aquatic plants create a wonderful ambience and contributes to the functioning of the system.

I introduced natural swimming pools to the UK in 2000, and there are now many privately owned natural pools in this country. The UK's first commercial natural pool opened in 2006 at a spa in the Cotswolds. In Europe, there are already hundreds of public natural pools and advocates of the natural system are keen to share their benefits with local authorities and the leisure industry in this country. The expertise amassed by natural pool operators on the Continent over the past 30 years means that there is now a wealth of information on the subject for British contractors to utilise, and detailed health and safety guidelines have been developed by Austrian, Swiss and German authorities.

Natural swimming pools replicate the ecosystem of a healthy pond, making the use of chemicals unnecessary. They comprise two zones of roughly equal size: a swimming zone and a regeneration zone, in which the water is cleaned. The two



ABOVE: The aquatic planting allows a natural pool to blend into the surrounding landscape.

zones merge to create an ecologically balanced, self-cleaning environment, in which the natural cleaning properties of plants work in tandem with filtration and skimming systems. The result is a chemical-free swimming environment with, alongside it, a beautiful aquatic garden. The water is clear but not sterilised, so it is able to sustain the normal range of pond life.

NATURAL FILTERS

The water is cleaned biologically by the aquatic plants and their attendant micro-organisms, which break down organic waste into substances which the plants then use as nutrients. Acting as natural filters, the plants absorb decomposing materials as well as harmful bacteria and pollutants. The plants also contribute oxygen to the water, reduce the potential for algal growth and help to keep the pH value of the water neutral.

Plants are therefore at the heart of the natural swimming 

Converting Conventional Swimming Pools

The natural system offers the opportunity to revive an underused outdoor swimming pool or lido by converting it into an all-year-round recreational facility. Conversion of an existing pool to the natural system can easily be undertaken, provided that there is space to create a regeneration zone. Many privately owned conventional pools in this country have already been converted to the natural system.

Half of the area of a natural pool needs to be given over to the regeneration zone, but where an existing pool is too small to be subdivided, it is sometimes possible to locate the regeneration zone nearby and develop it as a separate natural pond feature.

Converting an existing pool is a much shorter, simpler and less costly process than building a new one, since a large part of the construction work has already been undertaken. The excavation, the removal and disposal of



ABOVE: Failing outdoor pools like this derelict lido can be converted to the natural system.

surplus soil and debris, the drainage and the groundworks have already been undertaken. Existing plumbing and electrics can be adapted to the new system, and materials such as paving slabs, edgings and copings can be reused.

Community Opts For Natural Approach

The pool at Lindenthal near Leipzig was Germany's first natural public swimming pool. Built by Wassergärten in 1997/8, it measures 5000m².

The community decided to opt for a natural pool because of the moderate costs (a conventional pool would have cost five times more) and because of the benefits for nature.

Special consideration was given to the needs of families in the design. The pool is surrounded by large lawns with shade-giving trees; there are extensive gravel beaches, a non-swimming area, areas for babies and small children, facilities for various water games, fountains and a waterslide.

The swimming and non-swimming areas are bordered by a wide bridge which also serves as a sunbathing area. In the swimming area, a basin 27m long was built for water sports, so that competitions can be held there. Adjoining it is a huge swimming area with a depth of about 4m.

The technical innovations of this pool have made it a model for public pools in Germany. The water is cleaned by a unique purification plant and returned to the pool by a stream in which children are allowed to play. Other innovative features include an external planted gravel filter, water removal by overflow spillways, the creation of surface



ABOVE: Showers double as an additional play area in the family-friendly Oeko-Bad.

currents, an integrated gravel filter and external fine filter, and a swell wall at the slide.

Its most remarkable feature is that through the use of heating pump technology, energy is gained from the pool. This supplies hot water for the showers and heating for the restaurant, sauna and other facilities. The system functions throughout the year. On 900m² under the foil, some 4000 lfm of PE ducts have been laid for energy provision in winter. In summer, water is conducted directly from the pool to the heat exchanger.

pool system. Not only are they vital for the biological functioning of the system, they also provide habitats for wildlife and an inspirational swimming environment for pool users. While technical factors are of the utmost importance in planting up the pool, the wide range of aquatic plants available provides considerable scope for the creation of a wonderful water garden. This will enhance the attractiveness of the facility for guests – whether or not they are actually swimming.

Good design is crucial to achieving all of the aesthetic and environmental potential of a natural pool. The first step is to employ a fully qualified landscape architect with experience of

water-related projects to plan and design the project. Careful planning and good ecological design are essential in order to ensure that a natural pool is aesthetically pleasing, in harmony with its surroundings and environmentally benign.

INSPIRATIONAL ALTERNATIVE

The size of a public pool can start from 1000m², but some as large as 7000m² have been built. The ratio of the swimming and regeneration zones has to be 1:1 to ensure good water quality. Most natural pools work on a two-pool system, where water circulates between the lined swimming zone and the planted regeneration zone. For larger public pools this can be extended to



ABOVE: A natural pool is far more than a swimming pool; it is also a place to relax, unwind and enjoy nature.

a three-pool system incorporating a reed bed, to ensure that the water is cleaned to the highest possible standard.

Natural pools on the Continent have found that, even with upwards of 1000 users a day, the water quality remains stable. Oeko-Bad in Lindenthal, the first public natural pool in Germany, has been studied extensively since it was built in 1998. It is subject to rigorous checks by the relevant German Department of Health, the University of Leipzig and the Institute for Water Preparation in Linz, Austria. No increase in bacteria has been detected, which shows how well natural swimming pools are able to cleanse themselves. In most samples taken, the water has been found to be of drinking quality.

Natural pools are an inspirational alternative to the conventional 'blue rectangle' swimming pool with its insidious chemical tang.

The many advantages of the natural system for people and planet will find a ready market with ecologically aware guests keen to maximise the health benefits of a visit to a pool or spa. Meanwhile, the track record of public natural pools on the Continent – some of which are now approaching 20 years of successful operation – proves that the natural system is both very efficient and extremely popular. It is time that British pool operators took the plunge. ■



ABOVE: A German public pool in winter; even when the weather is not suitable for swimming, a natural pool is still a beautiful landscape feature.

Find Out More!

Michael Littlewood is a chartered landscape architect with over 50 years' experience of planning and designing sustainable and holistic projects, ranging in scale from new gardens to new towns. He introduced natural swimming pools to this country and has overseen over 50 successful projects to date.

Michael is also the author of four books on natural pools: *Natural Swimming Pools – Inspiration for Harmony with Nature*, *Natural Swimming Pools – A Guide for Building*, *Natural Swimming Pools – Conventional Pool*

Conversion Guide and Natural Swimming Pools – Care and Maintenance. These comprehensively illustrated books are an essential resource for anyone considering a natural swimming pool, guiding you through planning, design, biology, materials, construction, planting and maintenance.

Go to www.ecodesignscape.co.uk to find out about his services and publications and to download his brochures on natural pools, including the recently published *Natural Swimming Pools – Public and Community Projects*, or call 01460 75515 for more information.

