

Hannah's natural swimming pool



## Natural swimming

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Hannah set up her landscape design business twenty years ago, she has a passion for creating beautiful gardens that are sustainable and wildlife friendly. She holds a degree in Landscape Design, Diploma qualifications in amenity horticulture and grade 2 Braille. She is a Chelsea medal winner and BALI National Landscape Award winner.

was then covered with more shredded synthetic fibre and a series of pipes to take the water to the roots of the plants in the regeneration area. The basic principal is then to circulate the water from the area that is used for swimming and allow the plants to take up the nutrients from the water, particularly nitrates and phosphates, which cause algae growth. The water needs to be turned over slowly and constantly during the day to allow this process to take place. The more nitrates and phosphates that can be removed from the water the clearer and cleaner the water will be.

The shallow area, which is planted, has different depth zones on my pool and the plant combinations are very important. As it is essentially a reed bed system, you need a bulk of reeds, especially *Cyperus longerus*, commonly called 'Sweet Galingale', to do the cleaning work. *Cyperus longerus* is native to the UK and has long, bright green, strap-like leaves; the fronds appear in the summer. Ideally this should be planted in a depth of up to 12cm and it basically forms the lungs of the pond. It is a very vigorous plant and I cut mine back hard in the spring to get the growth when it's needed most (more algae blooms happen in the spring when the plants are growing more slowly) and again in the late summer when the seed heads appear.

The root system in these pools is soil free, allowing the plants to take the nutrients only from the water, so each plant root system must be washed when it is planted to avoid any nitrates or phosphates entering the water. The second plant that needs to be included in the main reed bed section is the common wildflower seen growing on roadsides in our summer months, purple loosestrife or *Lythrum salicaria*. This is a tall

perennial, grown in a similar depth of water to the *Cyperus* and has spikes of attractive purple, pink flowers for most of July and August. It adds an attractive colour to the pool margins but is also does an important job of cleaning.

The regeneration zone on my pool then moves into one deeper section, which is lined with an inert clay. This I've planted with water lilies and in the shaded area underneath I have introduced some oxygenating plants, particularly water milfoil, *Myriophyllum spicatum*. Another native of the UK, it has soft fern-like leaves and helps add oxygen to the water. It is also the plant preferred by newts to wrap their eggs in during the spring months and it grows well under the water lilies. This deep section (around 90cm) is an excellent habitat for newts and pond life but in a swimming pond it also helps to reduce the nutrient levels even further by allowing the microorganisms that keep the water healthy to thrive.

I've touched on the idea that, for me, the wildlife factor was always as important as the swimming and so my pool is designed with this in mind and the wildlife is abundant. We have two types of newt, both the common newt or smooth newt; *Lissotriton vulgaris* and the aptly named *Triturus cristatus* or great crested newt, which is much larger, in fact about three times as large, and is a protected species. Newts are amphibians and so are only in water from around April to October and the crest is only on the males in the breeding period in spring. During the winter months they need a place to hibernate and so alongside the pool we have built a 'hibernacula' – a dry place that the newts can crawl into and be undisturbed until spring.

Our pool is not yet finished, although it is working well and the water quality is good.

I need to fit a wildlife-friendly filter system and add some more plants to completely fill the regeneration area but, as I reflect on the journey of building this pool and learning about natural swimming, I have to say I am completely hooked and an enthusiastic convert.

Imagine my delight, therefore, to be invited to the first UK natural swimming pool open to the public. It is situated in Kings Cross and is run by the Kings Cross Pond Club. The pool was built by a Biotop company called Kingcombe Aquacare Ltd (details below). The Biotop system has been used to build pools all over Europe and is a much more sophisticated version of what we have built but the basic theory is the same. The swimming area at Kings Cross is, of course, much larger, allowing one hundred and fifty people in to swim each day. The whole pool is raised, allowing no contaminated run off water to ever enter it (rainwater is fine) and bathers must have a shower before entering the water to make sure they take no oils (usually sun tan oil) into the water with them. The water quality was very impressive, even with such a high usage. There was less apparent wildlife than I have in my pool but it still had the same feeling of being at one with nature and swimming in clear, unpolluted, soft water - and that, in the middle of Kings Cross on a busy weekday, is simply wonderful.

I do believe these pools and this type of unpolluted swimming alongside nature is the way ahead. If you are intrigued and want to find out more about natural swimming pools, visit:

- [www.bio.top](http://www.bio.top)
- [www.kingscross.co.uk/kings-cross-pond-club](http://www.kingscross.co.uk/kings-cross-pond-club)
- [www.hannahgenders.co.uk](http://www.hannahgenders.co.uk)

**When we moved into our current property seven years ago the garden was one of the main attractions, as it is with most gardeners. It was south and west facing, about one acre in total and had lots of untapped potential.**

One of the main eyesores in the garden was a large building containing a heated indoor swimming pool, a chemical one, so chlorine was the main way of cleaning it. The building was a solid shed with patio doors on the south side but otherwise had little light coming in; this meant several things. First, the sun never reached the water. The pool was set up to be heated by oil but because it was so expensive we never turned the heating on. Without the sunshine on the water it gave the impression the pool was cold, even on a hot day. Secondly, as we swam there was no experience of the garden or the sky. Thirdly, the building blocked all the evening sun as it faced west up the garden. And finally, but by no means least, a chemical pool meant handling and swimming in chlorine, which I soon came to realise was really toxic.

So the solution was to remove the building and turn this chemical pool into a natural swimming pool – in effect a pond where the swimming zone is separated from the planted area or regeneration zone and the water is cleaned by

the plants, removing the need for any chemicals. As I was also very keen to encourage the wildlife associated with a pond it would serve two purposes.

The first step was to remove the building, something we did with a few good friends. Even though we did this in the short days of winter, straight away as the evening sun shone through it felt right. As I wanted to undertake this project as sustainably as possible we recycled the whole building. The doors and windows were sold on, the roof went to a woodland co-operative in Bristol and all the wood has been re-used in other buildings.

The next step was to mark up and dig out the regeneration zone. This area needs to be one and a half times the swimming zone, with different depths to allow for a mixture of plants to take up nutrients from the water. We marked this, dug the profile and lined it with a heavy duty pond liner, one of the most expensive parts of the project. We had the advantage of a hole already dug for the swimming pool so it required less excavation than digging the entire project.

The liner needs plenty of protection to stop any plant roots or rocks puncturing it. We used layers of synthetic rather than natural fibre to ensure that no nutrients would enter the water. The liner



Dismantling the original pool building



The regeneration zone is marked up and dug out



Marginal plants take up nitrates and phosphates to maintain water clarity



The UK's first public natural swimming pool at Kings Cross