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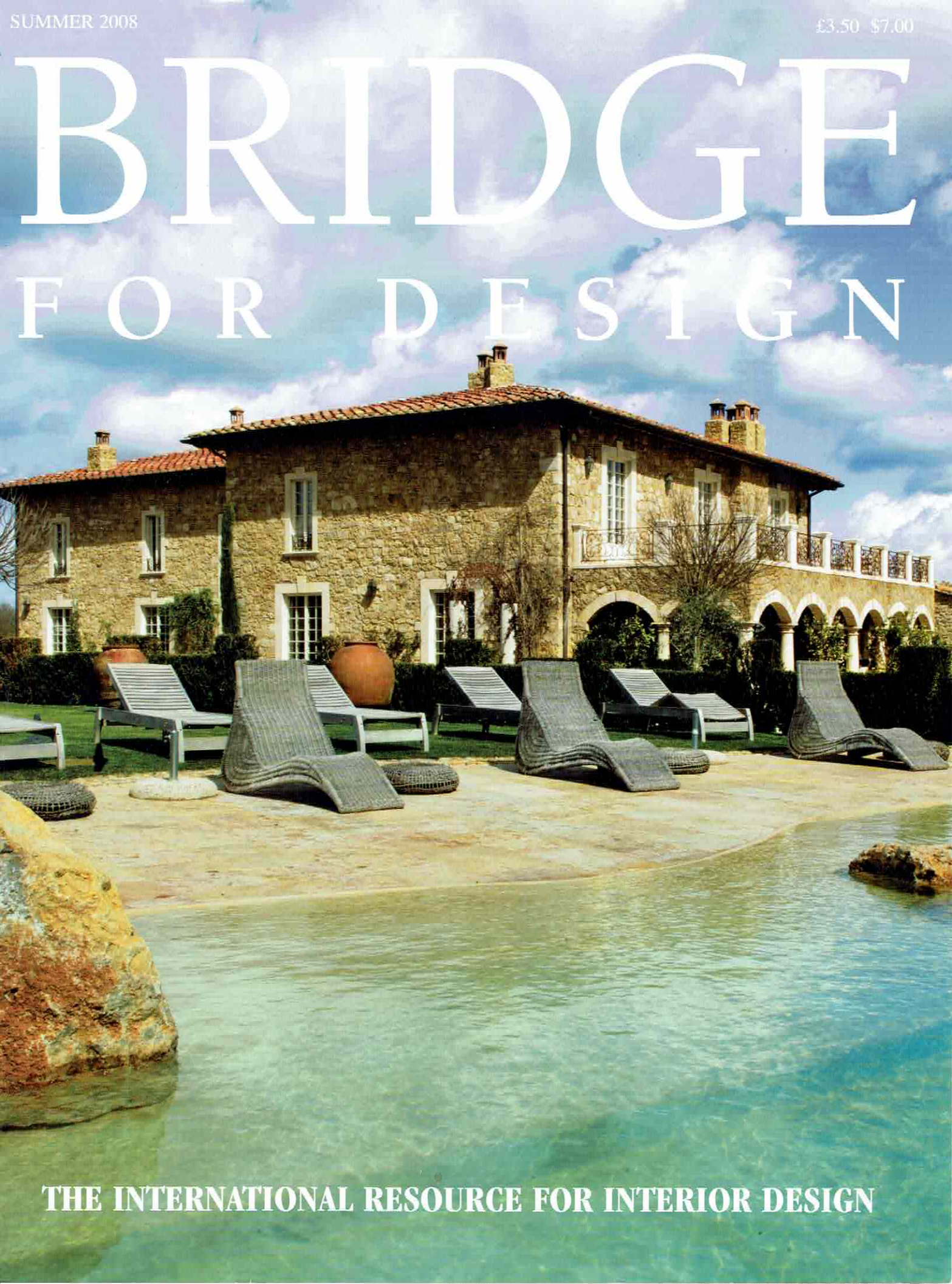


THE INTERNATIONAL RESOURCE FOR INTERIOR DESIGN

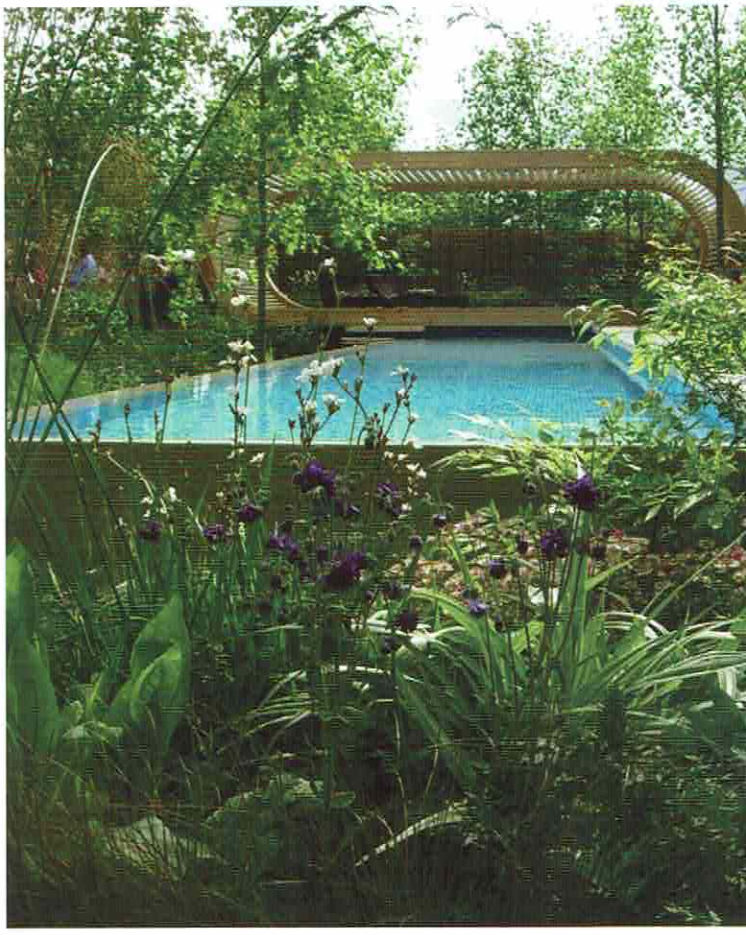
Garden by Garden...

by Andrew Fisher Tomlin

WATER HAS ALWAYS BEEN AN ESSENTIAL and defining element of our landscapes and gardens. It's a symbol of wealth and power, personified in the great European houses of le Notre's Versailles and Vaux le Vicomte and the great English parks such as Lord Carlisle's heroic Castle Howard. It's an expression of the art of garden design seen in the 20th century modernism of Thomas Church in California and Louis Barragan in Brazil. And it's a defining feature of architecture that so often sets a building in the context of the landscape. Aesthetically, water creates reflection; it often calms the spirit but can also create dramatic force and vitality. It brings stillness and movement, cooling and focus to a space. It is essential to the life of a garden, for plants and wildlife.

But for much of the past 100 years we have taken the availability of a ready supply of water for granted, particularly in the western world where we have become increasingly detached from where our resources come from. This is particularly true of the supply of fresh water and food. In our gardens we have had a ready supply of water with only moderate climatic changes that cause a little discomfort. Why worry about a brown lawn when there is a ready supply of irrigated water to keep it green? Indeed we have become so complacent about water that the 'water feature' has become a derided element of the contemporary garden.

In modern times our relationship with water, as individuals, communities and nations, is changing quite dramatically. We are quite rapidly moving from an emphasis on the aesthetic nature of water to a concentration on the practical power of water. Biodiversity has become a watchword in the future battle to save the planet from the destructive way in which we live our lives. Crucially it has been identified that the five major ecosystems: forest, coastal, agricultural, grassland and fresh water are all seriously threatened, and leading thinkers and bodies believe that the single issue of water will increase the likelihood of global conflict between countries. Water demand in the majority of European cities is now exceeding the rate at which it can be replenished. Major cities such as Mexico City, Bangkok, Manila and Shanghai are all reported to be at potential risk of major supply challenges and it has been predicted that by 2025 two out of every three people on the planet will live in water-stressed areas.



Top right: Swimming pool at Chelsea Flower Show 2006, Andy Sturgeon
Bottom right: Dry gravel garden © Andrew Fisher Tomlin

We are only just starting to recognise the need to harness water in our homes. Whilst water companies struggle to replace worn out pipes we are preserving our own supplies by storing rainwater in systems as simple as water butts supplied from downpipes and as sophisticated as large underground filter systems. Commercially, the latter has been going on for many years but it is only now that a combination of lower costs, awareness and planning directives are causing us to install large storage systems within residential gardens. Ten years ago a client of mine, a water company executive, installed a 1,000 cubic metre tank beneath his lawn and we could not understand his reasoning. Now we get it.

Of course water catchment is only part of the story. We need to use the water and mostly that stored water has been used for gardens in periods of drought, and where metered, as an alternative to paying for supplies. However, we are increasingly seeing a wider use of it, not just for plants and lawns but also for secondary uses, taken into the home to flush toilets etc. What this means is that we are being asked to accommodate larger underground tanks within gardens.

Above: Museum of Modern Art, Edinburgh. Charles Jencks
Top right: Rose pool © Andrew Fisher Tomlin

In contrast to recent developments in water harnessing we have been aware of using water wisely since the 1970s. Efficient toilet systems are widely used throughout Europe but this alone is too little for today's challenges. In the garden our most important use of water is for plants, and of course plants are part of the solution to climate change. But the use of water for plants is a primary target for the water companies and politicians. Irrigation companies have been fighting a rear guard action for many years as they are often accused of inefficient use of water. As designers we actually find that our clients do not know how to water a plant properly and irrigation systems use water much more wisely than someone with a hosepipe.

The Royal Horticultural Society (RHS) in the UK does much to encourage efficient watering. Garden water use is estimated at less than 3% of the annual water consumption of an average household but at peak times as much as 70% of water supplied is used in gardens. Water supply records indicate that peak demand begins in the evening after two weeks without rain in summer. This surge in demand can lead to water companies being forced to deplete groundwater and streams, which can cause serious environmental harm. As the RHS says, "The cost of this peak demand has to be born by water users. In the wider interests of the environment and for the use of water in the garden to be acceptable to other water users, gardeners should use mains water as sparingly as they can."* The RHS urges gardeners to make economical use of water by understanding the needs of plants and taking steps to reduce the loss from plants and the soil.

The politics of water within different regions varies widely. In the UK there has been an ongoing debate about hosepipe bans for two years now. Promised reforms have led to a relaxed system but no actual legal framework, which leaves planners and gardeners in limbo. More encouragingly, garden designers and gardeners are taking the concept of water conservation and use into their own hands and using water wisely. Garden designers in particular are counteracting the lack of water and the cost of water supply by specifying alternative measures within their designs. At a basic level this includes mulching the soil around plants to conserve water in the soil. At a creative level there has been a surge in the design of dry gardens and waterwise planting.

Most importantly we are starting to understand this on an individual level because we are experiencing the impacts of climate change on our own lives. In the past 10 years climate change has been characterised for most of us by extreme weather. As a garden designer with offices in the UK, Mediterranean and the Caribbean I am experiencing these rapid, diverse changes in weather and water supply everywhere. In the UK we have moved from a drought in 2006 where hosepipes were banned in the south of England to one of the wettest winters on record in 2007. At the same time we are battling to establish plants and trees in Cyprus because there has been no rain for 12 months. And in the Caribbean, we are experiencing increased hurricane activity and sporadic rainfall.

Regionally we are experiencing extremes of flooding and drought within very short periods of time where one year we are banned from using hosepipes and cleaning cars and the next we are experiencing the destruction of homes and property from flood waters. It is this impact on our lives that has started to change our view of water as a limitless supply that arrives at the turn of the tap.

If we are going to take individual responsibility then the place to start is in our homes and gardens. Essentially this means catchment and conservation – harnessing the water we have and then conserving and using this water in the most efficient ways. >>

Top: Domestic garden with shaded pool © Andrew Fisher Tomlin
Above: Residential garden with contemporary pool © Andrew Fisher Tomlin

Dry gardens use plants efficiently to reduce, or often remove, the need for artificial irrigation. They rely solely on rainfall and good examples are Mediterranean aromatic gardens. Waterwise planting is a concept that is taking on more importance in the conservation of our water and soil. If you visit a South African garden you will notice much denser planting that encourages stronger root systems and retention of moisture in the soil.

Both of these planting methods are essentially for ornamental plantings. Forest gardening on the other hand has many of the same principles but is a method of planting on different levels from low growing ground cover to tall trees capable of providing a sustainable, low maintenance environment for food production. It is essentially a great source of food, a sustainable method of conserving resources including water and, whilst used for centuries in countries such as Indonesia, it is relatively new to the western world. In a time when we are all worried about the supply of food it is predicted that this system of gardening will become wider spread.

We should not forget that there is still a place for the aesthetic use of water in our gardens and landscapes. Ponds and water fountains, swimming pools and spas will still have a role to play. And whilst we are swapping the outdoor patio heater for a sweater as a necessary contribution to halting global warming, we are not prepared to give up all the pleasures of the garden in the name of climate change. We are, however, changing the way in which we design these elements. Most notably, natural ponds and pools have become the latest must have for those wanting the ubiquitous trophy garden. Natural pools harness the power of plants to clean their water without chemicals. In a world where we are more aware of the toxic effect of chemicals, we are seeing clients moving towards natural pools in increasing numbers and, in some cases, converting existing pools to natural systems.

Water is essential to life in a garden. We cannot expect to enjoy birds and wildlife in our gardens without it. Our gardens are the largest free wildlife sanctuary we have in many countries, especially crowded countries such as the UK where we are steadily losing space and greenbelt agricultural land provides too few wildlife habitats. We are finding that demand for formal ponds is starting to fall but, conversely, natural wildlife-friendly ponds are in great demand, accompanied by wild, often native plants and local varieties of plants that encourage insects and wildlife.

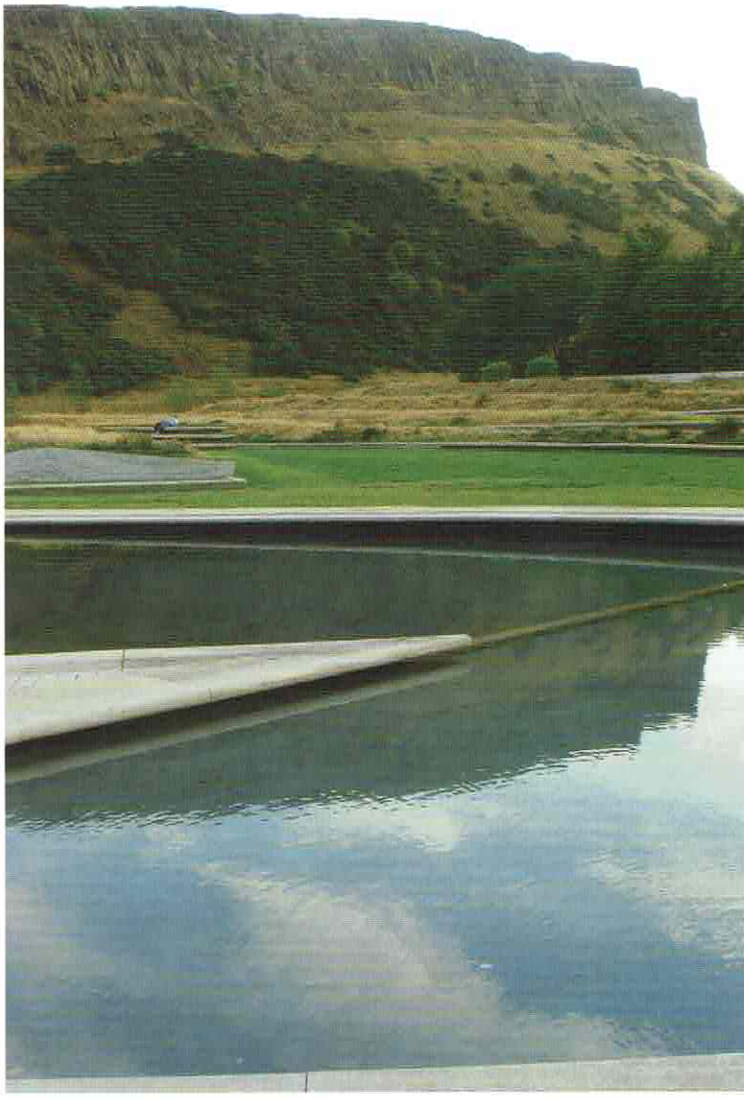
One area that is still vastly unexploited however is the use of reed bed systems in conjunction with natural ponds and pools. Reed bed systems are designed for the treatment of sewage and polluting wastewater effluents to create recyclable water. A secondary advantage is that they can provide wildlife habitats and natural swimming pools and, using a combination of horizontal and vertical plantings, they look great. They do however need larger gardens and a challenge for the future will be to see how we can all harness this natural power in our small gardens. >>

Top: Waterfall fish sculpture © Andrew Fisher Tomlin
Left: Residential garden with principles of water-wise planting © Andrew Fisher Tomlin

On a global scale the supply of fresh water will define the security of nations. On a local scale the reality for our gardens wherever we are in the world is that there will likely be long-term water shortages. How we cope with these shortages as individuals will be a defining issue. Principally, we need a new relationship with water and how we value it. For our gardens we need to harvest, conserve and use efficient systems. As designers, we already give good advice on planting effectively to minimise our impact but we now need to take a holistic view of the issues of harvesting not only rainwater but also wastewater and build these into our schemes, creatively and realistically.

Education is key. We need to understand the issues and take personal responsibility. We cannot all afford reed beds and green water systems but we can take small steps by mulching soil, planting drought resistant plants and recycling water. There is a huge opportunity for new homes builders to act on these issues, but they are caught between profitability, the limited requirements of planners and the need to provide affordable homes. In many countries there is no long term planning by our politicians and so we are learning how we can help ourselves. That's where community ties, whether physically in the form of allotments, community gardens and front garden food growing schemes or through shared values where a wider audience can meet via organisations such as the RHS or over the internet, become important.

We have short memories. My UK clients have forgotten the drought of just 24 months ago because of the wet winter of 6 months ago. Many cannot see the use for the simplest water harvesting methods yet they will be crying out for them when the next dry summer arrives. Meanwhile, my Mediterranean clients are worried that their boreholes will dry up.



Top right: Scottish Parliament. Interesting use of water in wild environment © Andrew Fisher Tomlin
Above: Waterfall, rock feature detail © Andrew Fisher Tomlin

It can be depressing to feel that we can only ultimately solve this crisis by the will of politicians and global leaders, knowing that their short-term visions will not solve long-term challenges. However, I have faith in the individual; I see the influence of their beliefs everyday in how we design their gardens and support their efforts to create a better solution to future water shortages and climate change. With the support of garden professionals like us we can educate and disseminate the best solutions to make a difference and help solve the water crisis, garden by garden.

Andrew Fisher Tomlin's company creates gardens across Europe and the Caribbean. He is a Fellow of the Society of Garden Designers, the UK's professional body for garden design and amongst many awards was Garden Designer of the Year 2006-7. He can be contacted on +44(0)20 8542 0683 or at www.fishertomlin.com

Bibliography
Useful sources
**www.rhs.org.uk*
www.cresswater.co.uk
www.naturalswimmingpools.com
www.ukrha.org
www.fairwater.co.uk