

Breathing life back into Wiltshire's rivers

Beccy Sims talks river restoration with Simon Cain. Photos by Andy Rouse.

THE WOODFORD Valley is undoubtedly one of Wiltshire's best kept secrets. Go there on a summer's evening. Catch the last of the sun as it slides slowly into dusk. Hear the breeze rising gently in the grass and watch the swans drift, pale as ghosts, along the banks of the River Avon.

Stand in this spot, at this time, and you will be reminded of Kenneth Grahame's *Water Rat*: "The river is my world, and I don't want any other. What it hasn't got is not worth having and what it doesn't know is not worth knowing. Lord! The times we've had together!"

Speak to Simon Cain and I guess he could tell you something similar. Simon is to rivers what Dr Dolittle was to animals. A self-made river doctor with 20 years of professional experience, he has devoted his life and his business – the Cain Consultancy – to restoring, repairing and nurturing degraded aquatic habitats.

Charismatic, articulate and passionate about rivers, Simon has the kind of personality that can, and does, attract widespread media interest. There is just one problem – he is sick of reading about himself. *The Independent*, *The Times*, *The Field*, *Radio Five Live* and the TV company Meridian have all profiled Simon Cain, the man. Now, he says, it is time to get down to business and talk about his first love – Wiltshire's rivers and their personalities, peculiarities and problems.

The sad fact is that the rivers Simon has restored – rich, vibrant, thrumming with wildlife – are the exception and not the rule. Wiltshire's chalk streams in particular have a long history of management, and for a time, everything was well. Man lived successfully off the land and agricultural practices were generally in sympathy with nature.

However, postwar changes in agriculture took their toll on the countryside. Farming became increasingly mechanised and the use of pesticides and chemicals rose dramatically. In this world, hedges and ponds were dismissed as a waste of space and rivers were viewed as wild objects to be feared, controlled and homogenised.

"The legacy of this has been damaged rivers all over the country," said Simon. "This is the first time that money has been made available and that rivers have been recognised as important habitats in their own right, and each with its own personality."

Today, changing economic and environmental imperatives mean that farmers are being steered away from the production of food, towards the production of countryside. Similarly, people are realising that our rivers and canals can offer great environmental and recreational benefits to society – if they are managed right. Conventional practices such as dredging and encasing channels in concrete are increasingly found wanting because they can be unsightly, costly and cannot meet the requirements for nature conservation.

Simon is one of a new breed of consultants

seeking to provide alternatives through 'green engineering', a type of environmentally conscious engineering that seeks to work with, rather than against, the laws of nature. "Engineering does not have to be about bricks and concrete," said Simon. Instead, he uses materials that would be found in healthy river habitats such as brushwood, coppiced hazel and stake posts made from chestnut wood. No two projects are the same, for the simple reason that no two rivers are identical. Whereas conventional techniques are applied uniformly across the board, green engineering recognises the need for context dependent solutions.

"As specialists, it is our job to come up with the ideas," said Simon. "We have the know-how to restore dredged rivers that have been straightened and left deep and featureless. We can put the gravel and the meanders back and redesign rivers so that they can help themselves. The capacity of rivers to heal is astonishing. You provide the stimulus and nature responds."

The Cain Consultancy has been called upon to restore a variety of aquatic environments all over the country, although some of its most notable work has been pioneered in Wiltshire. One example is the work that has been carried out on a redundant carrier, part of a water-meadow system of the Upper Avon Valley, just a short way upstream from Lower Woodford. Today, the river is a picture of health – clear, fast-flowing water, lush green banks, crisp clean gravel and an abundance of trout. Just four years ago, it was a different story.

Erosion and neglect had resulted in the river becoming too wide, shallow and slow. When this happens, *Ranunculus* – the bright green weed that is a key part of a healthy chalk stream – dies and trout and salmon cannot spawn. "The natural sediments carried by the river are dumped. It becomes like a dead-looking ditch – silt-covered with algae and diatoms," said Simon.

Following a plea for help from worried river owners, Simon went down the river with his camera, photographing and surveying. He invited all the landowners, as well as English Nature and the Environment Agency to a slide show in his barn, and The Woodford Conservation Group was born.

Progressing the scheme was far from straightforward. Simon's proposals were so unique that several landowners were unwilling to put their money into what they considered to be a risky venture and a substantial grant from the Environment Agency was needed to kick-start proceedings. "The project is a miracle," said Simon. "But miracles need to happen. I don't think that this could ever be repeated elsewhere in the same form, especially as it involves one of only two working water-meadow systems in the country."

The first step was to narrow the channel, speed up the flow and return the features to the river – a difficult procedure because flood defence laws prohibit river engineers from bringing infill material into the floodplain.

Simon's ingenious solution was to redesign the banks using structures made from woven hazel to create a new bankside access with raised sills and overspill channels on either side. In the event of a flood, water can escape down these channels while, at times of normal flow, the channels act as ponds. This is ideal because Britain is very short of such habitats.

Subsequent stages of the plan involved the restoration of a parallel carrier stream – an historic salmon spawning site – and making further refinements to the river and its surroundings. Ingenious hazel lattices called snowshoe mattresses were used to anchor *Ranunculus* to the river bed, nurseries were created for fish and invertebrates, and shallow brushwood weirs added to create areas of more turbulent flow – all of which helps to oxygenate the water and protect younger fish from herons. Finally, the newly constructed bank margins were planted with a variety of native marginal plants and a special chalk stream meadow-mix was sown along the banks, to return ox-eye daisies, thistles, meadow sweet and wild grasses to the site.

All the plants used came from Glyn Onione of British Flora in High Wycombe. Glyn collects seeds from the Avon Valley, cultivates them and then sells them to English Nature, the Environment Agency or contractors such as Simon, so that the species planted are native to the area being restored.

According to Dagmar Junghans, English Nature's deputy team manager for Wiltshire, the diversity of habitats created is one of the reasons that the project was given an SSSI award last year. "We liked the fact that a lot of the material for the project came from local coppicing, so that you are helping one habitat at the same time as helping another," she said. "Simon uses natural materials in a sympathetic way that allows wildlife to colonise quickly, and we were also pleased that the project pulled together lots of landowners."

Allan Frake of the Environment Agency agrees. "Simon has been super in taking on board innovative ideas," he said. "I think the greatest value has been to bring conservation interests and fishing interests close together. The project made it clear that, if you got the habitat right, the fishing interests would follow suit. It is great to see English Nature and the Environment Agency sponsoring projects stimulated by fishing groups."

This is an important point. Modern conservation work relies upon reconciling the interests of different stakeholders, which is demonstrated by the work Simon has carried out on numerous stretches along the Kennet & Avon Canal. Two examples of this can be seen at Seend Top Lock and on the stretch by Seend Park Farm, which is owned by Freddie Giles.

By introducing woven edges to the channel, backfilling these with brushwood and soil and planting with native species, Simon and his team have been able to reclaim up to three metres of eroded bank and towpath. As a result, the canal can now be enjoyed safely and



‘The capacity of rivers to heal is astonishing’

water voles, a protected species, can flourish along the new margins without destroying the very habitat on which they depend.

“Simon’s enthusiasm for these projects is almost as good as what he does,” said Chris Leggett of British Waterways. “It is a very difficult balance to strike between making the canals safer for people to use and increasing their value for wildlife, but the Kennet & Avon can now act as a flagship for future projects.”

Visit the restored sections and you will find walkers and cyclists indulging in a relaxing excursion along the towpath, anglers sitting peacefully amid swathes of meadow sweet and purple loosestrife and boat owners enjoying the sunshine. One of these boat owners is Arthur Currie. Arthur has been travelling the Kennet & Avon in his boat for the last four years and he has had first hand experience of the work carried out by the Cain Consultancy.

“Many people don’t realise the work that goes into putting all this in,” he said. “It is all done by hand and it is amazing the way it stabilises the bank and blends in with the surroundings.” Arthur has also been impressed by the friendly and non-disruptive way in which the installation was carried out. “The chaps doing the work would stop and explain what it was they were doing. There are a lot of elderly people who walk along the canal and

they want to know what is going on.”

Many other users share Arthur’s opinions. “It’s beautiful here,” said one angler, out for a quiet evening’s sport. “I do a lot of fishing on rivers and this is much more natural than those metal banks that they often put in on canals.”

Making sure that the general public feels informed and included in the projects is something that is very important to Simon. “When we first started work on the canals, local people were so keen to help that they would turn up with all kinds of cultivated plants, fish and frogspawn taken from their garden ponds at home,” he said. Apparently, English Nature became quite concerned that alien species would be introduced to the area!


Sadly, our rivers have become so degraded that many people have no idea what a healthy one looks like, and Simon is keen for people to be able to enjoy access to the restored environments. In the past two years, he has tackled bank erosion in Salisbury’s Queen Elizabeth Gardens and transformed what he describes as “a dreary concrete flood defence channel” into a thriving natural riverbank as part of an Agenda 21 initiative. Both projects have enabled large numbers of people to experience the transformation of the river.

Simon is currently working to restore another stretch of the River Avon so that it can be accessed by people in wheelchairs. The inspiration for this was Simon’s friend Rob, who is a paraplegic. “It all started because we

tried to go fishing together and got hopelessly stuck in the boggy bankside,” he said. “When completed, it will join up with another project to create the longest stretch of restored river in the Avon catchment.”

However, money remains a crucial issue. Green engineering is very cost-effective because it delivers long lasting results, but it must still be paid for. At present, the Environment Agency and English Nature are involved in what is known as the Life project – a European fund that has the potential to help river restoration take one big step forward. In order to obtain funding, a conservation strategy is prepared for the river in question, and a project cost is put forward. If the EC is happy with the proposals, it will then pay half the amount needed to complete the project.

Substantial sums of money are involved and Simon is hoping that Life will make it possible to instigate projects involving as much as five miles of river.

In the meantime, the Cain Consultancy will continue in its work of breathing life back into Britain’s rivers. Work with nature and the results will last a lifetime. Treat the river right and it will repair itself. Educate people and they will support you in your work. I think the Water Rat would have approved... 

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Above: Checking the woven hazel edges.
Main picture: Simon at work in the River Avon.