


YOUR ENVIRONMENT

ISSUE 20 AUG–OCT 2008

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The water issue
Are we on the verge of a blue revolution?

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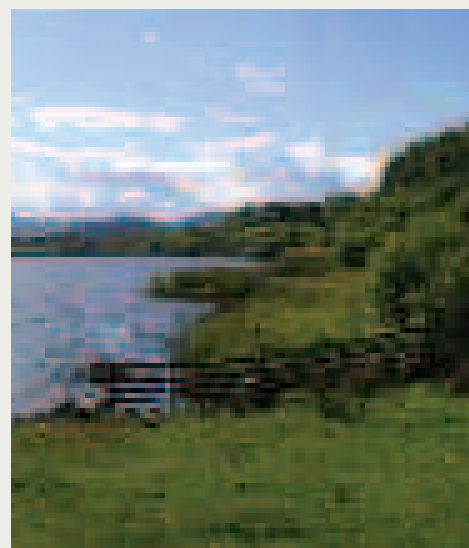
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Your Environment reports on the environmental issues that you care about, highlighting the need for change and action.

Views expressed in guest articles do not necessarily reflect the views of the Environment Agency, and we do not endorse products or services advertised in this magazine or featured in the 'Your Life' section.

Printed on Revive, a carbon neutral paper made from 75 per cent recycled stock.

GEH00708BOHY-E-P

Cover image: Nigel Cattlin/Alamy

THE BLUE HORIZON

by Paul Leinster



Paul Leinster is
Chief Executive of the
Environment Agency

Water is essential for life. It is also vital for people, industry, commerce and agriculture. It sustains a variety of wildlife habitats and species, and supports our enjoyment of life. Without enough water, and at times when there is too much, our quality of life suffers badly.

By 2030 a further 10 million people are expected to be living in England and Wales. The Environment Agency has a strategic role in managing water resources and is working with the water industry and others to safeguard water supplies for people and the environment well into the twenty-first century.

In November 2009, the Water Services Regulation Authority - Ofwat - will set new price limits that water companies can charge customers for the following five years. Since privatisation in 1989, the water industry has invested billions in improving water quality. And the Environment Agency has been working with them to clean up our lakes, rivers and seas. During this time, biodiversity has increased in many areas, fish and wildlife are returning to our lakes and rivers, and our bathing water standards have never been higher.

But there's still lots of work to do. On page 16 we travel to Wales to find out how contaminated minewater, an environmental legacy left by previous generations, is being cleaned up. We also look at the need to be mindful of the environmental legacies we could be leaving our children and making sure that we leave them with a healthy and sustainable environment.

The higher prices we are paying for fuel, food and other utilities are having a real impact on our lifestyle. We need to think again about how we use the many resources we have so often taken for granted. This issue looks at one of the most precious of those resources - water.



Flood alert

Fundamental changes are needed to the way Britain prepares for flooding, according to Sir Michael Pitt's independent review of the 2007 floods.

Urgent action is needed to avoid a repeat of the devastation that swept across Yorkshire, Humberside, the Midlands and the West Country last year, leaving 13 people dead and causing damage worth £3 billion.

Sir Michael Pitt was asked by the Government to carry out an independent review of the summer flooding. He spent 10 months investigating causes of the floods and how the country might cope better next time.

His report makes 92 recommendations and calls on the Government to declare how it will make progress. He calls for the risk of flooding to be treated on a par with other major threats such as terrorism and pandemic flu, with a new Cabinet Committee set up to tackle it. Extra funding is needed to make the country more resilient to flooding, he says.

He also calls for a 'step change' in the quality of flood warnings, with closer co-operation between the Environment Agency and Met Office. 'The public and emergency responders must be able to rely on this information

with greater certainty than last year,' he says.

Better planning and higher levels of protection for critical infrastructure are needed to avoid the loss of essential services such as water and power. The loss of a water treatment plant in Gloucestershire left 350,000 people without drinking water during the floods, while the potential loss of power in Sheffield would have seen 750,000 people without electricity, his report says. Pitt also calls for a fully-funded national capability for flood rescue led by the Fire Service.

He concludes that while last summer's torrential rainfall cannot be directly linked to climate change, major storms are expected to become more frequent. 'Climate change has the potential to cause even more extreme scenarios than were previously considered possible. The country must adapt to increasing flood risk,' he says.

He adds: 'I have received more than one thousand written submissions from members of the public, consulted widely and visited communities to see

for myself the extraordinary hardship so many families across the country are facing. It is unacceptable that one year on, thousands of people remain in temporary accommodation'.

The report was welcomed by the Environment Agency's Chief Executive, Paul Leinster. 'It has raised issues of importance and ways forward, not only for the Environment Agency, but for local authorities, utilities and emergency responders,' he

said. 'Recent flood events have highlighted the urgency of adapting to the potential effects of climate change to protect lives, property, the economy and the environment. It's clear that we are going to face less predictable weather and more extreme events such as flash flooding. Investment in flood risk management should continue to rise to keep up with the changing climate.'

Pitt also recommends:

- Publishing monthly summaries of progress during the recovery phase of major flooding events, including the number of households still displaced
- More money for flood resilience
- Setting up a new national body to plan for flooding and other emergencies
- Introduce proper financial plans, rather than ad-hoc arrangements, to deal with the financial burden of exceptional emergencies
- Councils to strengthen their technical capability and take the lead on local flood risk management
- Better advice on how to protect families and homes
- The Ministry of Defence should identify a small number of trained Armed Forces personnel who can be deployed to advise on logistics during civil emergencies
- The rail industry, working through Local Resilience Forums, should develop plans to provide emergency welfare support to passengers stranded on the rail network.

World's poorest kids threatened by climate change

Millions of the world's poorest children are among the principal victims of climate change, a UN report warns.

The UNICEF report *Our Climate, Our Children, Our Responsibility* – launched 10 years after the UK signed the Kyoto Protocol – calls on the UK Government to take immediate action to make children's issues a priority in fighting climate change. It also calls on companies to play their part in reducing emissions and helping people adapt to climate change.

The report says that children, especially in Africa and Asia, face a future in which disasters, violence and disease will be more frequent and intense, clean water and food supplies will diminish, and incomes and productivity will fall. It highlights how climate change already adversely impacts children's lives.

It also warns that climate change could cause an additional 40,000 to 160,000 child deaths per

year in South Asia and sub-Saharan Africa. And if temperatures rise by two degrees centigrade, up to 200 million people will face hunger – this figure increases to 550 million with warming of three degrees centigrade.

Environmental changes will also boost deadly diseases, such as malaria, which already kills 800,000 children every year and is now being seen in previously unaffected areas, such as the highlands of Kenya and Jamaica.

David Bull, UNICEF UK Executive Director, said, 'Those who have contributed least to climate change - the world's poorest children - are suffering the most. Many more children could die. It's clear that a failure to address climate change is a failure to protect children.'

www.unicef.org.uk



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NEWS
IN BRIEF**Burning off those calories**

The Indian Ocean island of Mauritius is planning to generate a third of its electricity from sugar waste. In the face of rising global energy prices, the island wants 40 per cent of its electricity to come from renewable sources by 2015. Mauritius already produces just under 20 per cent of its electricity by burning bagasse, a by-product of sugar cane processing. The island also wants to produce energy from wind farms, sea water, sun, and tapping landfill gas emissions.

A cuppa on wash day

Britons could soon be washing their clothes in as little as a cup of water. A washing machine designed to minimise water use is set to go on sale next year. The company behind the idea, Xeros Ltd, which is connected to the University of Leeds, says the machines will use only two per cent of the water and energy of a conventional washing machine. The machine uses plastic chips to remove dirt and stains from clothes.

The green roofs of Mexico City

One of the world's most polluted cities is turning to green roofs to help combat global warming. Mexico City wants to plant grass on 100,000 square feet of roof space on public buildings. It will also offer tax incentives for companies and individuals who follow suit. The city's mayor has earmarked £2.8 billion over five years to reduce greenhouse gases. He is also building a network of cycle paths and shutting some roads to cars at weekends.



Diana Blier Merida City/Alamy

The day the river turned blue

Pollution made a river in Ipswich turn blue at the beginning of June. Three miles of the Belstead Brook and one mile of the River Brett in Hadleigh were seriously discoloured by the incident, which the Environment Agency is investigating. Fortunately the colouring did not cause any problems for plants, animals, or fish in the rivers and is not a health risk – but it is still being treated as a serious pollution incident.

Eat your greens, don't bin them

As concern mounts over global food shortages, a new study reveals that Britons needlessly throw out £10 billion worth of food every year.

Some 1.3 million unopened yoghurt pots, 5,500 whole chickens and 440,000 ready meals are thrown away in the UK every day, it says.

The report, from WRAP - who help individuals, businesses and local authorities to reduce waste and recycle more - reveals that on average each household in the UK throws out £420 of perfectly good food a year. For the average family with children the figure rises to £610.

More than 2,000 households in England and Wales were interviewed and then had their waste collected for analysis – believed to be the first study of its kind in the world.

Researchers found that more than half the food thrown out, worth an estimated £6 billion a year, is bought and simply left unused or untouched. About £1 billion worth of that food is thrown away prior to its 'best before' date. Co-incidentally, it costs local authorities £1 billion a year to dispose of food waste.

WRAP says that the environmental impact of such waste is enormous and tackling it would provide a carbon benefit equivalent to taking one in five cars off UK roads.

Liz Goodwin, Chief Executive of WRAP, says: 'Food waste has a significant environmental impact. This research

confirms that it is an issue for us all, whether as consumers, retailers, local or central Government. I believe it will spark a major debate about the way food is packaged, sold, stored at home, cooked and then collected when it is thrown out.'

She adds: 'What shocked me the most was the cost of food waste at a time of rising food bills, and a tighter pull on our purse strings. It highlights that this is an economic and social issue, as well as about how much we understand the value of our food.'

Environment Minister Joan Ruddock said: 'These findings are staggering in their own right, but at a time when global food shortages are in the headlines this kind of wastefulness becomes even more shocking.'

'This is costing consumers three times over. Not only do they pay hard-earned money for food they don't eat, there is also the cost of dealing with the waste this creates. And there are climate change costs to all of us of growing, processing, packaging, transporting, and refrigerating food that only ends up in the bin.'

'Preventing waste in the first place has to remain a top priority. WRAP's advice on the changes everyone can make to ensure they cut their own waste – and their own bills – makes sense all round.'

www.wrap.org.uk

A climate for change

Creating the climate for change is the theme of this year's Environment Agency conference – Environmental futures 08. The conference will be held from 24 to 25 November at QEII Conference Centre in London.

This year sees a rare line-up of speakers with both Environment Secretary Rt Hon Hilary Benn MP and Rt Hon John Hutton MP Secretary of State for Business, Enterprise and Regulatory Reform heading the programme. They will be joined by eminent

US climate scientist Dr James E Hansen who is Director of the NASA Goddard Institute for Space Studies in New York. Hansen is a vociferous advocate for far-reaching carbon dioxide reduction targets.

If you work in Government, Regional Development Agencies or Local Government, we'd love to see you there. The same goes for senior management from business, industry, the City, NGOs and academia.

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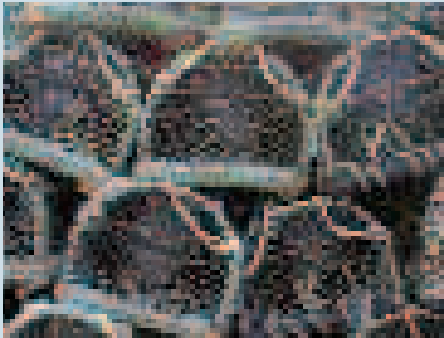

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NEWS IN BRIEF

Banned fishing practices

Damaging fishing practices were banned in 60 square nautical miles of Lyme Bay in Dorset from early July, to safeguard marine life. Recreational sea angling and diving, as well as traditional methods of harvesting scallops by hand and collecting lobsters and crabs in pots are unaffected. Sir Martin Doughty, Chair of Natural England, which called for the ban, said: 'This will provide important protection for sensitive marine wildlife including sponges and corals.'



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Ocean stocktake on course

A landmark census of the world's marine life has passed the halfway mark. Scientists on the Census of Marine Life project say they have gathered the names of 122,500 different species that inhabit the world's seas. Marine biologists estimate that 230,000 marine species are known to science, but say that up to three times that number may live in the world's oceans but still be undiscovered.

Saving Wiltshire's chalk grassland

The RSPB is working with the Ministry of Defence at the top secret Porton Down research station and on Salisbury Plain in Wiltshire to protect and restore England's chalk downlands. Four-fifths of England's chalk grassland has disappeared during the last century, with half of what remains in Wiltshire. In good condition, chalk grassland can support more than 40 species of plant each square metre and is also a rich feeding and breeding ground for a variety of farmland birds.

I spy jellyfish

If you saw jellyfish when you visited the British seaside this summer the Marine Conservation Society (MCS) wants to hear from you. The MCS Jellyfish survey has already received reports of large jellyfish blooms washing up on England, Scottish and Welsh beaches. Visit its website at www.mcsuk.org to take part.

Species decline

A third of the planet's ecosystems have disappeared since 1970, according to a World Wildlife Fund report.

World biodiversity, which reflects the health of the planet's ecosystems, has declined by almost a third in the last 35 years, largely because of loss of habitats and the wildlife trade, according to a new report from WWF.

The Living Planet Index tracked 4,000 populations of species and shows that land-based, marine and freshwater species fell by 27 per cent between 1970 and 2005.

Populations of marine species such as swordfish and scalloped hammerhead have been hit particularly hard, falling by 28 per

cent between 1995 and 2005. Populations of marine birds have also suffered a rapid decline of about a third since the mid 1990s.

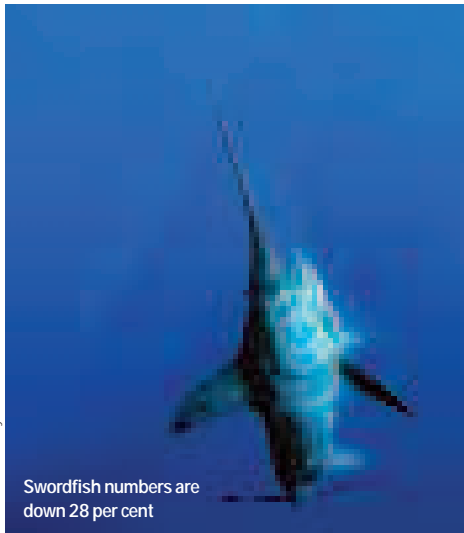
'Biodiversity underpins the health of the planet and has a direct impact on all our lives so it is alarming that despite increased awareness of environmental issues we continue to see a downtrend trend,' said Colin Butfield, Head of WWF-UK Campaigns.

WWF says that habitat destruction and the trade in wildlife are the major causes of the decline. It adds that over the next 30 years climate change will be an increasingly important factor affecting species.

WWF also warns that reducing biodiversity has important implications for humans as well as the natural world. 'Reduced biodiversity means millions of people face a future where food supplies are more vulnerable to pests and disease and where water is in irregular or short supply,' said James Leape, WWF Director General.

'No one can escape the impact of biodiversity loss because reduced global diversity translates quite clearly into fewer new medicines, greater vulnerability to natural disasters and greater effects from global warming.'

www.wwf.org.uk



Jeff Rotman/Alamy

Swordfish numbers are down 28 per cent

Flush the greenwash out

Scheme launches to help companies genuinely working to reduce their carbon footprint.

A campaign has been launched to challenge 'greenwash' and reward companies that take genuine action to reduce their carbon footprint. Greenwashing is pretending to be green without investing in green practices.

The Carbon Trust says its new initiative is 'the only way for organisations to prove they are tackling climate change and have made genuine reductions in their carbon emissions'.

It has developed the Carbon Trust Standard in response to both growing consumer mistrust of organisations' green claims and confusion among businesses

about what they can do to reduce emissions and improve efficiency.

The Trust says this is the world's first carbon award scheme that requires organisations to measure, manage and reduce their carbon footprint. Unlike other schemes, it requires action rather than off-setting.

Tom Delay, Chief Executive of the Carbon Trust, says: 'What business and consumers both share is a desire for one, credible way to prove an organisation has not only measured, but actually reduced their carbon emissions'.



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Wind, tidal and solar power form the basis for the UK's renewable energy future

£100 billion for renewable energy

The Government has unveiled a huge investment in renewable energy and hailed it a 'green revolution'.

Thousands of new wind turbines could be built across the UK as £100 billion is invested in renewable energy, reducing the UK's reliance on fossil fuels and creating thousands of so-called 'green collar' jobs. Tidal, solar and wind power will all have a part to play in meeting what the Prime Minister called an 'immense challenge'.

Under the plan, which has been published for consultation, 15 per cent of our energy will come from renewable sources by 2020 – so renewables will make up over 30 per cent of electricity supply, 14 per cent of heat supply and up to 10 per cent of transport fuels. The Government says this will save an additional 20 million tonnes of carbon dioxide a year.

'In the 21st century, the global low-carbon economy will be a key driver of our economic prosperity,' Gordon Brown said. 'This is the biggest prize of all: the chance to seize the economic future - securing our prosperity as a nation by reaping the benefits of the global transition to a low carbon economy.'

Achieving the new targets will mean new kinds of consumer behaviour and lifestyles,

he said, and 'creativity, innovation and entrepreneurialism' throughout the economy and society. All of us - government, business, civil society and individuals - have a part to play,' he added.

Friends of the Earth welcomed the plan but warned that Government policy still needs to shift up a gear if the UK is to tackle the dual challenges of spiralling fuel prices and climate change.

Meanwhile, an influential committee of MPs has recommended that Britain should do more work on the possibility of giving citizens a personal carbon emissions allowance to help the country meet its CO₂ emissions target.

Parliament's Environmental Audit Committee said that if the Government is serious about reducing carbon emissions by 60 per cent by 2050, it needs to target emissions from individuals and households as well as industry.

Under a carbon allowance scheme, individuals would surrender credits when they made purchases that resulted in emissions, such as electricity and fuel. Those who needed or wanted to emit more than

their allowance would have to buy extra credits from those who emit less than their allowance, rewarding low-emitters.

The Committee said that personal carbon trading has the potential to be a more effective means of cutting carbon emissions in the household sector than green taxes.

'Existing initiatives are unlikely to bring about behavioural change on the scale required, with many individuals choosing to disregard the connection between their own emissions and the larger challenge,' the Committee's report said. 'Personal carbon trading might be the kind of radical measure needed to bring about behavioural change.'

Tim Yeo, the committee chairman, said: 'Personal carbon trading has real potential to engage the population in the fight against climate change and to achieve significant emissions reduction in a progressive way. The idea is a radical one. What we are asking the Government to do is to seize the reins on this, leading the debate and coordinating research. The potential of personal carbon trading demands that we continue to pursue its development as a viable policy option.'

BLOW BY BLOW

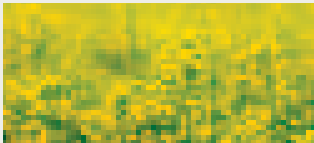
DRIVING SUSTAINABILITY

Road transport accounts for a quarter of the UK's greenhouse gas emissions and this figure is rising. Biofuels could play a part in reducing emissions, but are they the best choice for the environment and the economy?

1

Sowing the seeds

The most common biofuels cars run on are biodiesel and bioethanol that are made from crops like cereals and sugar cane, rapeseed and palm oil, animal fats and waste cooking oils. Bioethanol is a type of alcohol (also found in wine and beer) that is mixed with petrol to make fuel. Biodiesel can be used on its own or mixed. Bioethanol is nothing new – some of the first cars built by Rudolph Diesel and Henry Ford ran on it.



2

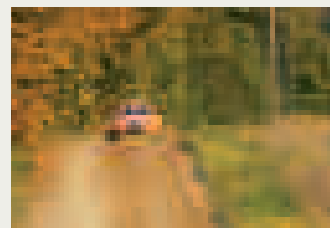
Growing pains

In an attempt to cut greenhouse gas emissions across Europe the EU introduced the Biofuels Directive. In order to meet its targets, the UK government responded with the Renewable Transport Fuels Obligation (RTFO), which states that five per cent of fuel sold on UK forecourts must come from renewable sources by 2010.

3

On track for success

Biofuels became the new buzzword a couple of years ago and looked set to become crowned saviours of the environment. Drivers looked ahead to a clear-conscience future, coupled with better performance. After all, racing drivers had been using them for years. When oil prices rocketed biofuels became a plausible replacement.



4

Emergency u-turn

The case against biofuels spiralled amid concerns that their environmental impacts outweigh any benefits. Demand for palm oil has already led to global deforestation. And closer to home, the Gallagher Report said Britain should 'slow down' its Biofuel production amid environmental and food price fears. Environment Secretary Hilary Benn said: 'We will need to develop new, cleaner fuels - but that doesn't mean pushing forward indiscriminately on biofuels that may do more harm than good.'

VERDICT

Filling up with biofuels is no guarantee when it comes to reducing greenhouse gas emissions. There is a compelling case to use them for heating. But we will have to proceed with caution and make sure they are grown and produced in a sustainable way that limits environmental impacts and does not threaten food supplies.



Non-native: the American mink

RSPB

Block entry to non-native species

A special rapid response unit is being set up to tackle the threat to Britain's native plants from foreign invaders.

The Department for Environment, Food and Rural Affairs (Defra) says invasive non-native species such as Floating Pennywort, American Mink, Azolla fern and the North American Signal Crayfish are having a serious impact on our native wildlife and economic interests. Controlling their spread is key to conserving our native wildlife.

It has drawn up a new plan to identify potential problem species that may already be here or on their way, and the best ways to handle them.

Defra Minister Jeff Rooker says: 'The introduction of species

over thousands of years has shaped British wildlife and the countryside that we love. But non-native species that are invasive can have a serious impact on native wildlife and are estimated to cost the British economy at least £2 billion a year. And with climate change the threat becomes greater.'

Invasive non-native species are considered to be one of the greatest threats to wildlife worldwide, and estimated to cost the world's economies hundreds of billions of dollars. A study in 2005 showed there were 2,721 non-native species in England, two thirds of which were plants.

Green is good for business

Many businesses have improved their environmental performance, but there's still lots to do - despite the economic slowdown.

Unveiling the Environment Agency's annual *Spotlight* report on the environmental performance of business – which this year celebrates its tenth anniversary - Chief Executive Paul Leinster said: 'This year's findings show that we have been getting on with our job. Regulation has reduced the impact of industry's activities on people and the environment.

'However, looking after the environment is a shared responsibility. Now we need to see more companies striving to do their bit by becoming greener, leaner and ready for the future.

'Business leaders may be concerned about the tough times ahead. But, a difficult economic period is not an excuse for poor environmental performance. As *Spotlight* demonstrates, progress can be made without stifling growth. And that's because addressing environmental issues can protect a company's bottom line.

'Better energy efficiency alone could save UK businesses as much £1.8 billion, while cutting the amount of waste produced could save them up to £3 billion in operating costs. There are growth opportunities open to companies too. Environmental goods and services markets in the UK, for example, will be worth £34 billion by 2010.'

Among the key findings of *Spotlight on business: 10 years of improving the environment* are:

- Serious industrial pollution incidents in 2007 were the lowest since current records began, down 884 to 462

- 31 per cent of sites are now classified as well managed
- Businesses in sectors the Environment Agency has always regulated have reduced waste by about 14 per cent since 1998.

But *Spotlight* also shows that:

- More than a third of sites are now rated as being poorly managed
- Illegal waste sites remain a problem – for legitimate waste management businesses, the environment and for the people living nearby. Last year, the Environment Agency closed 277 illegal waste sites
- More individuals and companies are being prosecuted for environmental offences than ever before.

Paul Leinster added: 'When we published our first *Spotlight* report it was clear that businesses needed to clean up their act. In turn, we needed to develop a more effective, risk-based approach to regulation – making it easier for companies who take the environment seriously.

'We have kept our side of the bargain and cut through red tape. Changes we have made will save businesses about £25 million a year in administration costs by 2010. But if boardrooms want us to take a lighter touch we need to see further improvements. More companies need to look at their environmental impact and provide information to decision makers and the public.'

www.environment-agency.gov.uk/business

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Eco martyr?

I can't help but feel that Richard Cookson spent a pretty miserable 'week as an eco saint' (*Your Environment*, Issue 19) for no valid reason, other than to give ammunition to the climate change deniers and nuclear fuel lobby.

In a greener economy, there would be more local shops and services reducing the need to travel. Rising food and fuel prices will make UK agriculture and manufacturing more competitive, reducing transport emissions. When travelling is truly necessary, major investment in public transport, cycling and infrastructure would make the kind of experience Richard endured the exception rather than the rule. Our houses would be better insulated as a result of investment in existing housing stock and district heating and power plants would provide our energy needs from renewable sources.

The Green Party is not expecting people to live in hair shirts, rather if we're serious about living in a green society, we have to demand communal and state action at the ballot box rather than relying on

individual effort and well-meaning, but largely ineffective, sacrifice.

John Macefield,
Sandwell Green Party
West Midlands

Peace of my mind

Thank you Fred Pearce. After reading your article, I did indeed 'wake up and smell the coffee beans' (*Your Environment* Issue 19).

We are living in a world where climate change becomes more apparent as each day passes. As a result, simple decisions like which vegetables to buy for tea, often unleash a minefield of thoughts based around trying to do the right thing. Are they locally grown? Are they Fairtrade? Did they arrive by boat or plane? Does it say 'Organic'?

I read Mr Pearce's article over my morning cuppa. And as I did so the beginnings of a smile appeared at the corner of my mouth. By the time I'd finished it had spread right across my face. What a great start to the day.

The next time I went shopping I felt like treating myself to some delicious fruit

from some far away island. So I bought the Fairtrade version and sent a thought of thanks to the grower and their family. Thank you for helping me to discover my social footprint.

Pauline Owen
Cumbria

Shiver or shade?

The Department of Health (DoH) warning on heatwaves threatening UK health (*Your Environment*, Issue 19 page 4).

But I wonder how many 'regular' people out there consider heatwaves and a new 'Costa del Britain' to be appealing propositions.

I accept that climate change is happening – and that humans are the likely cause – but I'm really confused as to what the effects will be and what I need to do to prepare for it.

On the one hand this 'state-of-the-art' science (that the DoH seems to agree with) points to heatwaves that we'll find hard to cope with. On the other, some scientists are pointing to evidence that the atlantic conveyor (the ocean current that keeps Europe warm) is slowing and could switch-off – plunging us

into a colder snowier climate. With so many conflicting theories it is really difficult to know which to believe and how best to prepare for it.

Do I buy some factor 50 and a new pair of Raybans - or a duck-down duvet jacket?

Looking on the bright side, if the DOH is right, at least it will mean I shall have a legitimate reason for a siesta after lunch. Shrouded under a mosquito net of course.

Reggie Brian
Herefordshire

Wombing lessons

As a child of the seventies I was delighted to see the velvet nosed Wombles making an appearance in the last issue of *Your Environment* (Issue 19).

How before their time they were indeed. And wouldn't children love them today?

I think someone should start a campaign to bring them back. Their lessons are as relevant and important as ever. Incidentally, I walk across Wimbledon common each day. Maybe I should keep an eye out for Uncle Bulgaria and co?

Sara Brand
Wimbledon

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Court in the act

Find out who's been breaking environmental laws in this run-down of the latest prosecutions, from illegal waste dumping to a speeding boater.

Down in the dumps – illegal waste business owners end up behind bars

Two men have been imprisoned for their part in a highly organised criminal illegal waste dumping operation, which netted them an estimated £1.2m. Patrick Joseph Anderson, 51, of Ireland, received 22 months and James Gerard Kelleher, 39, from Dagenham, was sentenced to 14 months. Both will serve half of their sentences in jail with the remainder on licensed release.

A three year investigation uncovered an elaborate operation in London and Essex to illegally dump more than 14,600 tonnes of waste – equivalent to around 750 lorry loads – on at least 15 different sites.

The men created legitimate-appearing businesses to launder the money earned through their illegal waste business. They went to considerable efforts to present their activities as legitimate – wearing reflective jackets and hard hats, carrying surveying equipment and in some instances displaying fake company logos and health and safety signs.



Around £340,000 has been spent on cleaning up these sites, some of which came from the public purse, as well as private landowners.

The case was the first time the Environment Agency used a European Arrest Warrant to bring back a defendant from abroad to face charges. It was used to bring Anderson back from Ireland to face justice in the UK. It was also the first conspiracy charge the Environment Agency has taken through the courts, enabling it to secure a tougher conviction.

home. He also even denied being John Froud. And he failed to turn up for earlier court hearings and was eventually arrested by police at his home.

The drain the fuel went into is connected to the River Stour. Fortunately it was blocked at the time, which prevented any pollution of the river.

Cheap as skips

A waste criminal has been fined and electronically tagged for running an illegal skip company. Martin John Hudson, 34 of Wirksworth, Matlock, Derbyshire received a five month suspended prison sentence, 250 hours community service, an electronic tag and was ordered to pay £5,000 compensation and £4,308 in costs, after being found guilty of operating a waste company without a license. He was the director of Cheap Skips Limited, at Ripley Road, Derbyshire.

Damien Ashby, an Environment Agency officer involved in the investigation said: 'This is not his first offence and the sentence reflects this. We hope this sends a clear message that businesses must operate within the law to protect the local environment.'

Drunken boater crashed into police launch

A speeding boat owner has been fined £500 and ordered to pay £190 costs, after he crashed into a police launch. Dan Casson of Hollingworth Road, Maidstone, was found guilty in his absence.

In July 2007, four officers from Kent Police Marine Unit were waiting to use a slipway on the River Medway when Casson's boat, which did not have any navigation lights, hit their launch and sped off.

The speed limit on that stretch is five knots, but Casson was estimated to be travelling at 20 knots. The magistrate took into account the damage to both boats involved and the fact that the defendant was considered to be drunk. PC Robert Dadd of Kent Police said: 'It was extremely fortunate that nobody was hurt'.

Abattoir blues – company fined £10,000 for contaminating stream

An abattoir was fined £10,000 after it allowed blood and sewage to leak into a stream, turning it red.

Alec Jarrett Ltd, of High Street, Oldland Common, Bristol, pleaded guilty to causing the pollution in November 2007.

On 2 November 2007, a member of the public saw what appeared to be blood in a watercourse at Oldland Common and alerted the Environment Agency. The stream, a tributary of the Siston Brook, runs through a housing estate.

A water sample gave a Biological Oxygen Demand (BOD) reading nearly 80 times

above the normal limit and contained 16 times more ammonia than expected. BOD is a measure of how much oxygen a pollutant removes from the water.

Driver fined for dumping fuel down drain

A driver who deliberately emptied fuel from his car into a drain after he mistakenly filled it with diesel instead of petrol has been fined.

John Froud, 58, of 30 Station Road, Wimborne, was fined £50 and ordered to pay £50 costs and £175 compensation to the Fire Service, which had to clear up the diesel.

Despite being caught on CCTV, Froud denied he was driving the car, when Environment Agency officers visited his

Changing rooms

After the South East drought in 2005, Helen and Simon Bullock treated their guesthouse to an award-winning H₂O makeover.

As owners of The Malvern Hotel, Helen and Simon Bullock's decision to dramatically cut water delighted their bank balance, educated their guests, inspired fellow hoteliers, kept their local reservoir topped up and won them top place at the 2007 Water Efficiency Awards.

'Simon and I go abroad two or three times a year and we've always noticed these little cards in the room asking you to reuse your towels,' explains Helen. 'It's not something we saw a lot of in this country. Certainly not in the independent hotels.'

When the couple returned to their 10-bedroom guest house, above their Blues Brothers themed bar and restaurant on Margate seafront, their renovation project took a new direction. 'All our appliances needed updating so we bought AAA rated ones', says Helen. 'We removed the baths and installed showers. That saved a huge amount of water. Before this we'd had to leave the hot water on all the time.'

'From a maintenance point of view Envirowise [the government-funded programme that gives free, confidential advice to help businesses increase profits and reduce their environmental impact] made us go round and check everything worked OK. It's amazing how much water a dripping tap uses. And when we changed our hot water tanks we were amazed.' Because the hotel is in a hard water area lots of chalk had

accumulated in the bottom of the tank. 'We were paying to heat up the chalk instead of the water,' she says. 'So we put in a brand new tank and it is much more efficient.'

Leaks and dripping taps were also fixed. Save-a-flush bags were fitted to toilet cisterns and water efficient practices, such as washing salads and vegetables in a bowl, rather than under running water were introduced.

It took two years to make all the changes. During this time Helen and Simon launched their *Every Drop Counts* campaign through a simple leaflet left in guests' rooms. It explained the problems we'd had in the South East with our water supply and asked guests to help us conserve water by reusing towels, requesting less linen changes, not overfilling kettles and turning taps off while brushing their teeth.

The campaign soon evolved. And Sharon shared it with colleagues through the Margate Hotel and



Guesthouse Association by speaking at one of their meetings. Now everybody in the Association reaps the benefits.

Benefits I hear you ask? Well, yes. And there are lots, despite the couple's initial outlay. 'My goodness we've saved thousands over the last couple of years,' says Helen. 'We've halved our water bill alone. We used to pay over £100 a month but that's gone down to £46 a month.'

And they didn't stop at water. Double glazing has dramatically cut their winter heating bill. Recycling anything and everything has halved their waste contract bill. The inside of the hotel is lit with energy efficient light bulbs. The heating system runs on timers and so do the illuminated signs outside. And at night, when Economy 7 kicks in, the washing machine and dishwasher whirr into action for the graveyard shift.

Despite all this, Helen and Simon were astonished when they won top place at last year's Water Efficiency Awards. 'We were absolutely amazed. We'd been up against city councils and huge, huge companies. We didn't think we'd stand a chance.'

FIND OUT MORE

To find out more about the 2009 Water Efficiency Awards visit www.environment-agency.gov.uk > water resources > are you saving water? > WEA2009. The hotel website is www.malvern-hotel.co.uk. Call the Envirowise Advice Line on 0800 585794.

NEED TO KNOW...

10 things you need to know about protecting your business from flooding

Floods can result in devastating losses for companies. Businesses are more likely to be flooded than burned down and too few have proper plans to deal with flooding. Here's what you should do to protect yourself, your staff and your customers.

1. Visit www.environment-agency.gov.uk to find out if your property is at risk of flooding.
2. Call 0845 988 1188 to sign up for flood warnings.
3. Write a floodplan. This outlines how your business will respond to an emergency. You can download a template from our website.
4. Find out if you are insured against flooding. And what information your insurer would require to support a claim.
5. Compile a list of useful phone numbers, including Floodline, your local authority and insurance company. Keep it in a safe but accessible place.
6. Find out how to shut off your gas, electricity and water supplies in case of a flood. Ensure staff members also know.
7. Think about flood contingency plans with suppliers and clients.
8. Find out if your stock, fittings and valuable equipment are stored above flood level. If not, can they be stored elsewhere?
9. Ensure all staff are aware of correct flood safety procedures and are properly trained to evacuate buildings.
10. Do you know where you and your staff can go to stay safe once you have evacuated the building?

For more information read our *Business Flood Guide* on www.environment-agency.gov.uk

The next generation

Richard Cookson uncovers the eco-legacies of our grandparents and sees what kind of environment we are leaving for our grandchildren.

It's the early 1990s. In a quiet corner of West Cornwall, a time-bomb is ticking. The tunnels of a 250-year old mine that once produced tin and other metals has flooded, creating a major environmental problem. Hundreds of metres below ground, the ores that once provided important livelihoods for local people are seriously polluting the groundwater. The Wheal Jane mine, between Redruth and Truro, contains hundreds of millions of gallons of this mix, which would prove extremely damaging if any escapes.

Then in January 1992 about 10 million gallons do. The minewater, loaded with cadmium, zinc, arsenic and iron, pours into the nearby Carnon River and Fal Estuary, staining them bright red and killing tens of thousands of fish and birds.

The threat from Wheal Jane is now firmly under control, but across the UK, scores of abandoned mines still pose a similar threat to our environment.

Thirty years ago, the main causes of water pollution were pretty clear: heavy industry and sewage plants were discharging millions of gallons of harmful material into our rivers, lakes and seas. Since then, thanks to tighter laws, better regulation and billions of pounds of investment, water quality has improved considerably (see panel). Sewerage companies and other polluting industries now operate under much stricter conditions, and our waterways are much cleaner and healthier.

Today, perhaps surprisingly, one of the main threats to the quality of our water comes not from what we are doing now, but the actions of our ancestors. With contemporary industries operating under tight control, serious attention is now being paid to the present-day impact of industries

that operated hundreds of years ago with little or no awareness of their environmental damage. Old mines and industrial sites may have closed long ago, but many of them have left a legacy that will need considerable time and money to put right.

After the Wheal Jane incident, a treatment plant was installed which uses lime to remove toxic elements from the water. It is now the largest minewater treatment plant in the UK and prevents 670 tonnes of iron and 150 tonnes of zinc from entering local rivers each year.

Wheal Jane is only one of thousands of potentially problematic UK mines. While the threat of another catastrophic discharge only exists at recently closed coal mines that have yet to fully flood – and these are being closely monitored by the Environment Agency and Coal Authority – many other mines slowly discharge contaminated water and have been for centuries.

Dave Johnston is the Environment Agency's Technical Advisor for Minewaters. 'Abandoned mines are one of the biggest pollution threats in Britain. The impact on our rivers and groundwater is considerable, such as poor quality fisheries and reduced drinking water resources,' he says. 'The treatment plants for most coal mines cost between half a million and two million pounds each to build. To build and run them all until 2027 is going to cost about £274 million and we can assume something similar for non-coal mines.' That may sound like a lot of money, but it's a price worth paying for cleaning up the pollution from minewater.

And while we may be dealing with the challenges bequeathed to us by previous generations, are our own actions creating water pollution problems for our children – and if so, what are we doing to prevent them?



A good example can be found down on the farm. Sheep are susceptible to disease-carrying pests such as scab, blowfly, ticks and lice and need to be treated with chemicals to keep them healthy. But some of the insecticides in sheep dip have been seriously polluting streams and rivers in recent years. These chemicals are highly poisonous not only to insect life such as stoneflies and mayflies, but also aquatic species such as crayfish. In fact, less than one teaspoon of one sheep dip called Cypermethrin can wipe out insect life for hundreds of metres and may ruin fishing. One survey on the Afon Teifi River in west Wales revealed signs of pollution damage from sheep dip along a 30km stretch. Recovery may take many years, so it's important that the pollution is prevented now, rather than being left for the next generation to deal with.

Investigations by the Environment Agency revealed that this is a nationwide problem, but especially acute in Wales where there are many more sheep farms. And poor practices by farmers, such as allowing sheep direct access to streams and rivers shortly after they had been dipped, were widespread.



State of our water

Water quality has improved considerably in recent years and much of that is down to better regulation of industry, particularly sewerage companies improving the quality of the water they discharge. Since 1990, British industry has spent huge amounts of money on environmental improvements. The water industry, for example, has committed £8 billion over 20 years to improving inland waters and is negotiating how much they will spend after that.

The Environment Agency monitors water quality in several ways at about 7,000 sites representing some 40,000 km of rivers and canals in England and Wales. The latest figures, from 2006, show that 72 per cent of rivers were in good biological health – up three per cent from 2000. But five per cent were still judged to be poor or bad quality.

The cleanliness of estuaries is assessed every five years and the most recent tests, from 2006, gave the best results on record – 73 per cent were of good quality.

Bathing water quality has also improved. Between 1997 and 2007 the number of bathing water numbers meeting the European standards increased by more than a third. A new European Union Bathing Water Directive in 2015 will set even stricter water quality standards.

Working with farmers, the Government's Veterinary Medicines Directorate and wildlife and angling groups, the Environment Agency implemented a pollution reduction programme. Cypermethrin sheep dip was suspended, farmers were sent guidance on dipping sheep in a way that prevents insecticides polluting local watercourses, intensive river monitoring was introduced and research begun for a permanent solution.

National Nature Reserve and home to a rare fish called Vendace. But the build-up of a chemical called phosphate, originating from septic tanks and agricultural land, has led to a heavy growth of algae in the lake that smothers other plants and threatens animal life. Since 1995, the local sewage works has incorporated a phosphate removal plant, but this cannot prevent it from getting into the lake through run-off from nearby fields.

'Less than one teaspoon of one sheep dip... can wipe out insect life for hundreds of metres'

Farmers have also been central to another project to stop the pollution of a scientifically important lake in Cumbria. Bassenthwaite Lake is part of the Lake District National Park and large parts of the surrounding area are designated a Site of Special Scientific Interest. The lake is also a

The Environment Agency and Natural England have been working with more than 100 local farms to make them aware of the problem and come up with solutions. As well as one-to-one consultation and advice, officers have coordinated workshops and discussion evenings with farmers to

encourage them to become involved and help tackle the problem. The most severe pollution to the lake has been linked to the River Greta and its feeder rivers, Glenderamackin and St Johns Beck. All 43 farmers whose farms are connected to these three rivers have been contacted and given advice about reducing soil erosion and phosphorous run-off.

Emma Lyons, a Natural England officer working on the project, says: 'Over 95 per cent of local farmers have taken part. We're not expecting to see measurable differences yet, but management practices used by farmers are definitely changing and we hope that, over time, this helps to reduce the nutrients and sediments going into the lake.'

Both of these projects show that, with a little forethought, we can ensure that we don't leave future generations the kind of water pollution problems our ancestors have presented us with.

We need to look to the past not only to deal properly with the impact of our industrial heritage, but also to understand how our own generation is damaging the environment and what we need to do to stop it.

Come the blue revolution

Life cannot exist without water. So how much of a threat is climate change to supplies? And how can some areas of the country be experiencing hosepipe bans whilst others are underwater? **Fred Pearce** explains.

Global warming doesn't matter. There, I said it. It doesn't matter, that is, on its own. Because, taken by itself the odd degree of warming is neither here nor there for most of us. What matters is what happens next. Because an extra degree of warming puts a huge amount of extra energy into the weather systems of the world, and that's where the fun starts.

Extra energy to evaporate water from parched soils, but also to create rain clouds. Extra energy to spin up hurricanes and melt ice, but also to dry out lakes and rivers. More heat means more energy, which means more weather of all sorts.

Climate change can be confusing. One year we in Britain gets floods; the next we get drought. Last year we got both, with half the country subject to hosepipe bans while the other half was under water - both blamed on climate change.

And most of our weather is less about temperature and more about water. Especially about dramatic changes to the hydrological cycle, the way water moves round the planet.

Here is my bet. We will experience climate change mostly not through subtle changes in thermometer readings, but through really big changes to water. Because a small temperature adjustment can play havoc with rainfall patterns. And when the two elements are combined, you have even bigger changes in what happens to the water after it hits the ground.

Take a recent example. June saw big floods in the upper Mississippi in the US. Much of Idaho was under water. That may or may not have been due to man-made climate change. And in truth nobody knows whether the American Midwest will get wetter or drier as the century progresses. Some climate models predict one; some the other. What the models predict, however, is that the change in precipitation, whether up or down, will be magnified in the flow of the world's rivers.

In the case of the upper Mississippi, an additional 10 per cent of rainfall in the catchment will, thanks to saturated soils, deliver 25 to 30 per cent more water in the river. Subtract 10 per cent of rainfall and, thanks to evaporation and the desiccation of soils, you will get 25 to 30 per cent less water in the river.

This hydrological amplifier of climate change - which will apply from the Orinoco to the Thames - will matter a great deal. Engineers are having to rethink their designs for flood defences that can handle a flood likely to occur once every hundred years. But what does a hundred-year flood look like in the light of what's happened in recent years? Likewise, it is not your imagination that we keep getting record droughts. Weather is not just getting more extreme; it is getting more unpredictable.

And for farmers and river engineers and people living near water - whether in Gloucestershire or Bangladesh - that matters. We live our lives and run our societies by calculating the odds.

All this remember, will be happening in a world where we are already using water resources close to, and often beyond, the natural limits.

Two thirds of the water in our rivers is captured for some purpose - mostly irrigating fields to grow food or to squeeze through hydroelectric turbines. As a result, some of the world's great rivers no longer reach the sea for much of the time. The Yellow River in China, the Indus in Pakistan, the Colorado in the US, the Nile in Egypt, the River Jordan in the Middle East: all are running on empty. This is already creating huge tensions. If we now roll the climate dice, the risk of outright water wars grows.

Underground water is also being heavily over abstracted. Indian farmers pump from beneath their fields each year more than twice as much water as the monsoons replace. Water tables are plummeting as a result. Worldwide, up to a billion people are eating food grown using underground water that is not being replaced.

In Britain we like to think we are immune from such problems. Our rainfall may be modest, but so are our demands for water. In

many hot countries 90 per cent of the water goes to irrigate fields; but in our equable climate, we don't irrigate crops much. We shouldn't be complacent, however.

We may not quite realise it, but we import very large amounts of water. Not physically, but through the trade in 'virtual water'. This is the water needed to grow the imported crops on which we depend for our food, cotton clothing and much else.

By one UN assessment, Britain imports nearly 50 cubic kilometres of virtual water a year. Or about 800 tonnes of water for each of us. This is fine while the world is selling. But as rivers and underground water reserves dry up, who will sell us the virtual water?

Arguably, we can see the first signs of this emerging crisis in current soaring food prices. There are other causes of the food crisis, of course, like biofuels. But two prime causes have been drought in Australia (the world's largest exporter of virtual water) and China's growing demand for food imports, which is largely a result of the desiccation of its breadbasket in the Yellow River basin.

Till now we have rightly regarded water as a very local resource, too heavy to move far. So droughts and food shortages have

'Our problem is not that we are running out of water. It is one of mismanagement.'

been local, too. But the virtual water trade is globalising water, turning local water crises into something none of us can escape.

What to do? The solutions to climate change are beyond the scope of this article. But what about the way we use water? The bad news is that the world is hopelessly inefficient in the way it uses water. The good news is that this means we can do things many times better. We need a blue revolution to turn water from the most disregarded resource on the planet, into the most precious. If we looked after our water properly, we could escape the worst consequences of flood as well as drought.

The biggest savings can be made on farms, where simple systems to irrigate by dripping water close to roots rather than flooding fields can cut water demand by 70

per cent or more. Rather than trying to capture water behind large dams on rivers, we can harvest the rain where it falls, on fields, which dramatically reduces the losses to evaporation in tropical lands.

Water is the ultimate renewable resource. We never destroy water. It always comes back in the rains. Our problem is not that we are running out of water. It is one of mismanagement – made worse by our interfering with the predictability of the water cycle through our influence of climate.



Fred Pearce is Environment Editor for *New Scientist* magazine





Wizards with water

Imagine conjuring up your own water supply. The residents of Hockerton Housing Project do. Penney Poyzer reports.

As you walk down the long drive towards five earth sheltered houses, you pass allotments and a small orchard. Butterflies and a myriad of insects dance above beds of mallow, and ranges of tall quaking grasses hem the yellowstone road.

The road curves and a four metre tall brace of handsome bulrushes, fabricated from scrap metal, marks the entrance to the terrace of homes reflected in the man-made lake to your right. Carp blip and flap out of the lake and a small kayak is moored on the handsome jetty - interlocking circles made from rescued timber.

I have history with this place. I was involved in the very early stages of Hockerton Housing Project so excuse me for waxing a bit lyrical. But it is a bit like the realisation of a dream that becomes more complete each time I return. It is also where I met my second husband Gil - it's a long story.

I've come to meet up with one of the residents, Nick White. He is also one of the directors of the business arm of Hockerton.

He, his wife Trudi and three daughters have lived here for 12 years. It is quite a strange feeling, very, very familiar and a bit tantalising to be sat in the huge, homely conservatory overlooking the lake. Nick says why the site is so special to him, 'it is

about a sense of connection with the place. It needs to be healthy for us and the abundance of the nature here helps that. We use systems that work with nature; it is our partner not a drone to be worked unnaturally.

'The herons, kingfishers, ducks and dragonflies are all part and parcel of an integration of our human needs and the animal kingdom.'

The terrace of houses is like a long bright stream of light - long conservatories with photovoltaics on the turf roof reflecting the sun.

For all its shared resources, this is a community - not a commune.

As a Hockerton member you have to commit to work on site for a number of hours a year - this was part of the 106 Agreement when planning was granted. The site is around 25 acres in total and the land management plan is very detailed.

It is a gentle way of life not just a lifestyle.

Beyond the houses and handsome turf roofed education and training centre are two strapping turbines, delivering six and five kilowatts. On the sunny, very still day of our visit, they are quiet. With no hint of just how difficult it was to obtain their planning consent.

The lake is the most dramatic expression of Hockerton's man-made watery eco system. It is a natural filtration system - at its head is a reed bed that works like a kidney, which purifies sewage water from the houses to European bathing standards before flowing into the main body of the lake.

Hockertonites use 48 litres of water per person each day over a year in comparison with around 150 litres for UK average use.

Water is harvested from the site just like a crop. A large area of land and the conservatory roofs are used to meet all the water needs of five families. The five

'Water is harvested from the site just like a crop'

conservatories capture about 200,000 litres a year. This provides high grade water for drinking and food preparation, and medium grade water for washing, bathing and toilet flushing.

Drinking water points are in the bathroom and kitchen of each house. Drinking water is screened, mineralised and conditioned through a range of filters and finally sterilised with UV light to kill off bacteria and viruses.

Medium grade water is collected from the road surface and surrounding fields. It passes along culverts and down the side of the road to the rear of the homes. It is channelled into an underground tank and pumped to a reservoir higher up the site. This back up capacity can be used in dry periods - if there is too much water it can be sent to the lake. The stored water goes through several filtration processes before

being used in the homes for three baths, eight showers 10 toilets and 30 taps.

Water for irrigation is also provided but with an untreated water supply system. The supply comes from water harvested off the roof of adjoining large workshops. It is collected in underground tanks then pumped up to a raised tank on the allotment area. This takes a very small amount of solar derived energy.

Grey water recycling is not used at Hockerton because the water goes straight through the reed bed system.

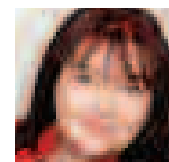
The homes feature a range of conservation measures such as dual or low flush toilets, flow restrictors in shower heads, water efficient washing machines. Water for horticultural use comes from a pond close to the main growing area and water for the private gardens comes from the lake.

The systems have not come cheap, but pay back comes in many forms. After all, how do you calculate the value of being neighbours with reed warblers, dragonflies, kingfishers and the sight of a swan taking off from your lake?

The way they use water at Hockerton is as Tony Soprano might say 'a good system'.

For a comprehensive pack covering all technical aspects of Hockertons independent water supply, I recommend their technical fact sheet number 10. Well worth a tenner.

For general information visit their website: www.hockertonhousingproject.org.uk Hockerton Housing Project also run a range of fantastic workshops and tours. For more information telephone 01636 816902.



Penny Poyzer is a writer, eco-queen and a matron of the Women's Environmental Network



Better than chocolate

Who: Andrew Walker

What: Runs Get Hooked on Fishing (GHOF) Midlands

Where: Bournville, South Birmingham

When George and Richard Cadbury's chocolate empire took off in 1900 they bought some land in the countryside near Birmingham, built themselves a chocolate factory, created a village called Bournville for the workers, and founded a village trust.

Skip to just over a century later and a modest and enthusiastic Andy Walker is working as the Trust's Youth and Community Worker. It's

2002 and part of his job involves setting up an angling club. This soon becomes a roaring success and it's ready to evolve into much more.

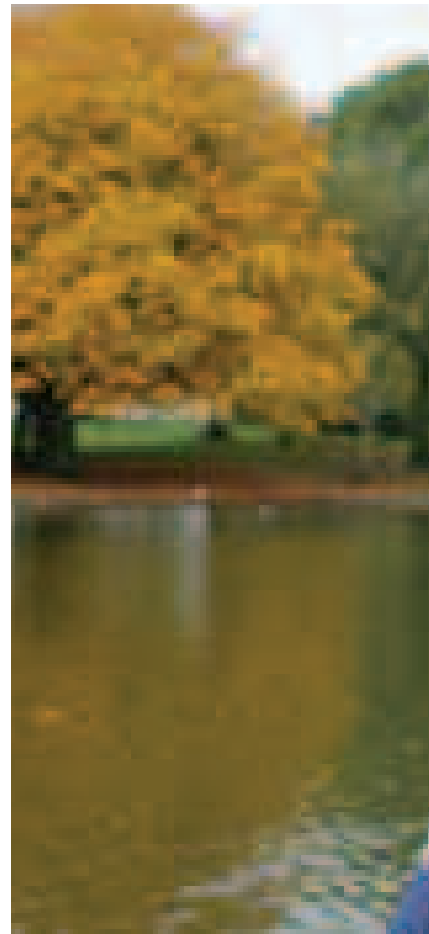
Andy calls Get Hooked on Fishing (GHOF) founder Mick Watson and no sooner has he put the phone down than he's hotfooting it to Durham to find out more. 'Soon after that Mick asked me if I'd like to set up a scheme,' says Andy. A few months later funding was

secured and by 2004 he became full-time manager of the newly formed GHOF Midlands.

GHOF Midlands has thrived during the last five years. Once a 'youngsters only' scheme it now runs weekly fishing sessions for people of all ages, as well as four Open College Network courses for local schools and a volunteer scheme.

Over 3,000 young people have fished their way to contentment at Rowheath Park.

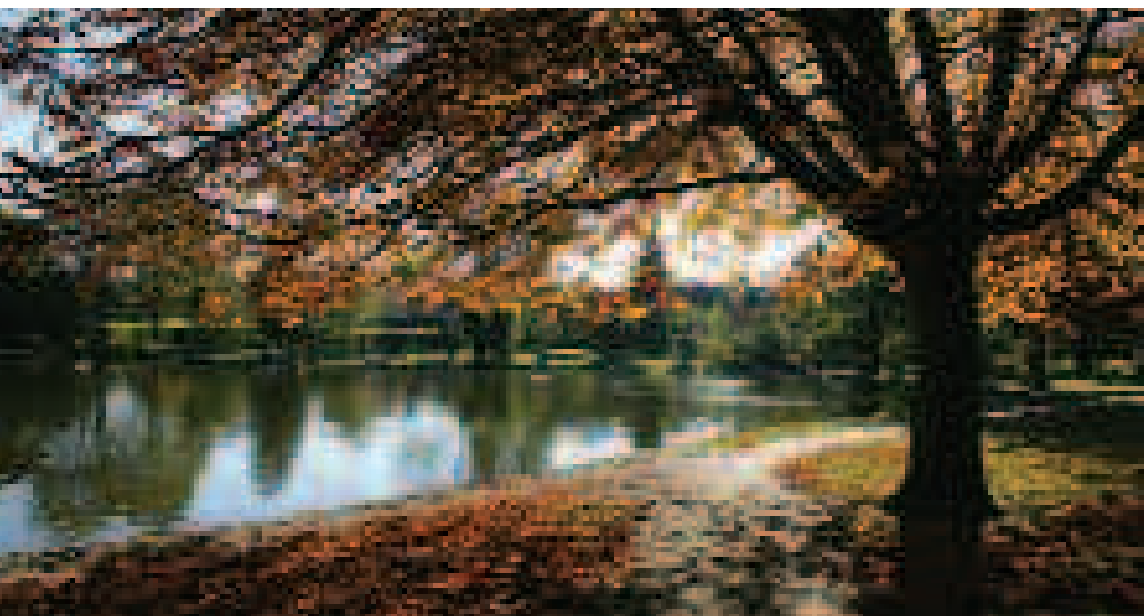
'Over 3,000 young people have fished their way to contentment here'



Many with conditions such as dyslexia, autism and attention deficit hyperactivity disorder. Social services and the police refer others who are at risk of committing crime or antisocial behaviour. The area is quite affluent compared to some parts of Birmingham, but there are still pockets of deprivation in Bournville. So some local schools receive funding for taking part in GHOF.

'Elderly people also come along,' says Andy. 'We've set up a *Totally Hooked* scheme for people in their fifties and sixties. They range from people suffering with mental illness to those who have had strokes, or who are bereaved. A lot of people are referred to us by organisations like MIND or their local Primary Care Trust.

'We recently had a 39 year old man come along who was suffering from Multiple Sclerosis. He was very depressed. But now he comes fishing once a week and it's





totally transformed his life.'

His isn't the only story. The scheme has touched the lives of so many youngsters. Heather Foulkes's son Alec is one of their greatest successes. 'Coming here changed his life,' she says. 'Alec is severely dyslexic. He's had lots of problems. When he started angling his reading age was eight years and three months. But in a year it leapt to age 11. In that year he devoured fishing magazines. It was absolutely amazing.'

Alec started coaching other youngsters in 2006. But you won't find him at Rowheath much these days.

That's because he's at nearby Rodbaston Agricultural College where he's studying hard on a course in fishery management. 'He still comes back to us in the holidays and helps out as a volunteer coach,' says Andrew. 'We're trying to get him to come to us for his level two training later

Andy Walker: the man behind Get Hooked on Fishing in the Midlands

this year.' Watching these youngsters perched at the water's edge, eyes fixed to the water, it's apparent what they see in this fishing lark. All is quiet, relaxed and soothing - almost hypnotic.

And it's all thanks to one man's steadfast commitment over the years that began with his beloved fishing club.

'I am always amazed at the impact angling has on the people who come here,' says Andrew. 'Folks say to me 'what is it about fishing?' And I say, 'I'm not sure but it works.'

FIND OUT MORE

For more information visit the GHOF Midlands website. Just go to www.ghofmidlands.co.uk. Or find a scheme near you on the national site at www.ghof.org.uk

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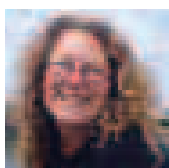
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Tracey Smith is a writer, broadcaster, downshifter and author of *The Book of Rubbish Ideas*.

THE REAL STORY

Sky to tap

We are so lucky here in the UK. We don't have to walk all day to get water. The furthest we ever go is our kitchen or bathroom. Then we just turn the tap and out it comes. So how does it get there?



And so it transpires

Most of the UK's rain is driven by the southwestern trade winds, following the Gulf Stream currents. The sun shines and water from land, rivers and oceans is drawn up into the sky to form water vapour. This process is called evaporation or transpiration.



Full steam ahead

As the vapour rises back up into the sky, it starts to cool down and eventually condenses to form clouds; condensation



Here comes the rain

The clouds are carried by winds across the land and as the temperature falls, the vapour turns back into water. The water then falls to the earth in the form of rain or snow; precipitation.



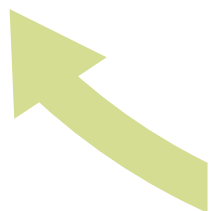
Soaking wet

Some of this water soaks into the ground and a proportion of it drains into rivers and streams, eventually running back to the sea.



Harvesting the rain

We also capture this water in our reservoirs. These are specially built lake type constructions, designed to trap and hold vast quantities of water; collection.



70%

We use 70 per cent more water today than we did 30 years ago

THANKS:

To Wessex Water for their help in putting this article together.

ANORAK'S CORNER

No butts about it

Wayne and Gerardine Hemingway have designed a range of water saving 'bottoms' for the garden. And if you haven't harvested any rainwater from your roof yet the *Butt Butt* is for you.



Rainwater harvesting isn't as complicated as it sounds. All you need is a collector and a little cleverly directed guttering and you should be able to keep your garden hydrated and happy.

Apparently, warmer, drier seasons are on the cards, although I'm currently writing this to the backdrop of a freakish storm. And there's no question about it, drought has become a serious problem in the UK and we are becoming more accustomed to hosepipe and car-washing bans.

The solution to curing climate

chaos is a little tricky, but we can find simpler answers for keeping our gardens and allotments in good order by making the best of the abundance of rainfall we do get and by collecting it in water butts.

But it needn't be a dull process, in fact eminent eco-designers Wayne and Gerardine Hemingway, have come up with a contemporary solution with their *Butt Butt* pictured above; it's even available in three colours!

For those who wish to take a more conservative approach to conservation, there are many more

conventional harvesting kits on the market and the experts at *Original Organics* offer a good selection. You can cut into your down pipe and easily intercept and divert everything that was heading towards the drain. It can be stored in anything from a tall and slim fitting collector to a plumpious, faux oak barrel and you can top up the levels by using a simple siphon and draw off your bath water. A non-toxic water treatment should be used to keep the conditions good for re-use.

The Royal Horticultural Society

reports that even in the dryer parts of the country, 24,000 litres, or the equivalent of 150 water butts, could be collected from the average roof each year. There are approximately 18 weeks from May through to September when our plants' needs exceed the rainfall we get. Initially, this shortfall is met from soil reserves, but deplete as we creep through to July, eventually leading to about six weeks when watering is urgently needed.

FIND OUT MORE

www.WaterButts.com

www.OriginalOrganics.co.uk



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GREEN CHALLENGE

BUCKETS OF ENTHUSIASM

We challenged two leading lights from Transition Town initiatives, to come up with three easily measurable, water-saving ideas for the home. So who saved the most during our competitive week?



SAVING WATER VERDICT

Hassle rating: 1

Conscience rating: 2

Name: Sophie Graves
Occupation: Founding Member of Transition Town Thorncombe, West Dorset
Approximate savings: 110 litres

I'm an eco-thoughtful girl as a matter of course, so I wasn't sure if we could ramp things up a notch with water savings, but you can always go that extra litre when you put your mind to it.

We have an old semi-detached house and it never had efficiency at the forefront of design when it was constructed, so we've had to use creative ideas to save money and utilities across the board.

We already measure out the amount of water we put in the kettle by tipping in a mug for each person who wants a drink and our water butt provides all the water we

need for the garden. So this was going to be a challenging week. Our ideas were:

Idea one: I use a hot water bottle to warm up our son's bed and in the morning I tipped the bottle's contents onto plants that needed a drink - 7 litres.

Idea two: Our conservative five-minute shower uses around 100 litres of water - this week I ditched one for a wash at the sink - 99 litres.

Idea three: I skipped washing the kitchen floor this week and put the broom around it a little more often instead - three litres.

So it just goes to show how small savings can soon add up.

Name: Nick Ross
Occupation: Founding Member of Transition Town Bruton, Somerset
Approximate savings: 80 litres

The whole 'saving water thing' has been part of my family's make up for ages. Hopefully, at some point in the not too distant future, my wife and I would like to do our own green build from scratch and that would allow us to embed solutions into the fabric of the building, in the meantime, we have a regular house and have to go with the more imaginative options.

It was difficult to think of anything we could do that would make a markable difference. We don't run the taps to brush our teeth, or leave it running to peel the vegetables, we rarely bath, we shower and we have short ones at that. Our water savings were going to have to be well

planned. This was a going to be a challenge and a half.

Idea one: I rarely wash the car but it was looking particularly filthy. We had a cracking downpour earlier in the week, so I gave it a good wash while it was bucketing down with rain - six litres.

Idea two: We hung up and aired any clothes that were not too dirty, or hadn't been worn very much and put them back in the wardrobe to use another day. We have a reasonably efficient machine but over the week I reckon we saved one full load of washing - 70 litres.

Idea three: We reserved any spare water used for cooking the vegetables and used it to make and flavour the bread we bake in the bread machine - four litres.



SAVING WATER VERDICT

Hassle rating: 2

Conscience rating: 2

FIND OUT MORE:

www.TransitionTowns.org

The Transition Handbook by Rob Hopkins is reviewed on page 28.

KEY

Hassle rating:

1 = no trouble

10 = pain in the neck

Conscience rating:

1 = Mother Earth is loving me

10 = I'm bad news for the planet

AMAZING IDEAS

THE INTERFLUSH

Some years ago, passionate inventor David Wilkes demonstrated an innovative product to a pack of dragons in their den. It was a flush inhibitor called the Interflush and it could save up to 47 per cent of our daily water use.

Recently, it earned a place in Julia Hailes' *New Green Consumer Guide*, as her favourite water saving device.

Toilet flushing is responsible for between 30 to 40 per cent of our household water consumption and in offices, this figure rises to a startling 90 per cent.

We 'average Joe's' use around 150 litres of water every day, with 60 litres of this earmarked for toilet flushing and for those held in the clutches of a water meter, this little device would soon pay its way retailing at around



£20 per unit.

Essentially, it's a small device that fits on top of your toilet siphon and connects to a front mounted flush handle and with competent levels of Do-It-Yourself skills you should be able to fit one in around half an hour without too much of a fuss. All you need is a cordless drill and a pair of cutters or pliers. There's even a step-by-step video to guide you through the installation.

For further information on this wonderful little device visit www.Interflush.co.uk.

KNOW YOUR WORLD

Top wet tips

Spray that again – reduce the amount of water you use by up to 33 per cent by fitting spray inserts just inside the mouth of your taps.

Dishwasher efficiency – a standard automatic dishwasher uses up to 40 litres per load. Use one with a 'AAA' rating and reduce this figure to around 18 litres per load and your dishes will still be sparkly clean.

No half measures – load your dishwasher and washing machines with a full load for maximum efficiency and water conservation, or press the half load button.

Almost free and very easy – tap water can be up to 1,000 times cheaper than bottled water, soft fizzy drinks, tea and coffee. So fill up on 'council pop'. Ten litres of tap water cost about 1p.

Weather, or not – check the local forecast before you water your garden. An overnight deluge may save you the job.

Razor sharp ideas – rinse and clean your razor in a plugged sink with a little hot water in it, as opposed to under a running tap, or do it while you are standing in the shower.



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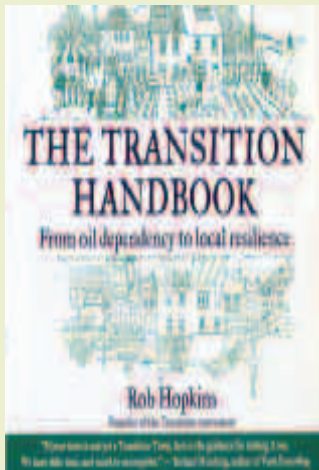
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IF THERE'S ONE...

ALSO TRY...



... BOOK TO GET

The Transition Handbook
Rob Hopkins
£12.95, Green Books

There has never been a better time to endorse this crucial guidebook. It's packed with encouraging and community-strengthening solutions to the multitude of problems we are faced with as oil stocks continue to deplete.

Penned by the founder of the Transition Town movement, it's an illuminating read with an upbeat spin on rising food, petrol and utilities costs. The down to earth advice contained in

the 240 pages of this outsize read, will enable you to get your town or village onto the ever growing map of locations who are preparing for 'life post oil'.

There's not an ounce of doom or gloom in sight and the solutions it presents for our current crisis will get neighbours talking to each other, growing food in community projects, car sharing and perhaps even developing their own currency, as in the documented example set by Totnes in Devon, the very first Transition Town.

You can also visit the website at www.transitiontowns.org.

The Real Toy Story
Donnachadh McCarthy
£7.99, Octopus Books

An accessible read that walks you through the fundamentals of why eco-auditing matters and tells you exactly how to go about it.

A Women's Guide To Saving the World

Karen Eberhardt Shelton
£17.99, Book Guild Publishing

Collective work from remarkable ladies including Dame Anita Roddick and Rosie Boycott, putting a woman's touch on how we can all 'tread more lightly' and solve some of the most concerning worldwide predicaments.

... EVENT TO GO TO

Organic Food Festival
Bristol Harbourside
6 - 7 September

The Soil Association has organised lots of mouth-watering events to celebrate this year's organic fortnight. It aims to encourage those new to organic food and drink, to try it and there's also a range of organic beauty and textile products to find out about too.

It's a complete celebration of chemical-free delights and it raises awareness of the environmental, health and social benefits of organic

production, starting with the Organic Food Festival, which takes place in Bristol from 6 to 7 September.

Celebrity chefs from River Cottage among others will show you how to prepare many simple, green recipes in the demonstration kitchen and over in the gardening area, you'll be able to find all kinds of interesting exhibitors, plus a range of stimulating talks and workshops. Visit the listings page on the Soil Association's website, for details of foodie events being held near you.

www.SoilAssociation.org

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... TV PROGRAMME TO WATCH

OCEANS
BBC 2
October

We know more about the surface of Mars than we do about the depths of the earth's oceans and in this groundbreaking eight-part series, intrepid explorer Paul Rose, environmentalist Philippe Cousteau Jr, maritime archaeologist Dr Lucy Blue and marine biologist Tooni Mahto reveal the oceans' secrets, using underwater archaeology, geology, marine biology and anthropology.

The team travel to the Bahamas,

the Atlantic, the Indian Ocean, the Red Sea, Tasmania, the Sea of Cortez, the Arctic Ocean and the Mediterranean and using cutting-edge technology, they explore ancient wrecks with tales of piracy past and present and search for some of the world's most endangered species.

They venture into some of the planet's most challenging environments, plunging deep into the oxygen-starved lair of the Humboldt squid and dive the tannin stained waters of the Southern Ocean, where rarely seen deep water creatures live.

AMAZON
BBC 2

Autumn
Explorer Bruce Parry embarks on an epic journey to the source of the Amazon – the world's greatest river, its largest forest, the most bio-diverse habitat on the planet and home to some of the last un-contacted tribes.

MAX'S BIG TRACKS
Discovery Channel
Sunday 7 September 9pm

Follow explorer Ian 'Max' Maxwell as he heads into Pantanal, the world's largest wetland area, to track the elusive jaguar.

environmental futures 08 creating the climate for change

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ONE LAST THING...

HOLY WATER

Penney Poyzer has been finding out why *The Qur'an* could be the ultimate guide for green living.

I've been working with some Muslim women and it has been a revelation for me.

I was asked to give the ladies a talk on green household tips but for the first time, I was asked to link it with religious teachings.

This meant doing some research and all of a sudden I got really interested in theology ecology, or ecological theology, (not sure which way round it is).

We covered why we should reduce waste in all its forms, but why the waste of water in particular is a very serious thing to do. *The Qur'an* (or *Koran*) teaches that man, animals and anything living was made from water. It also teaches that cleanliness and washing are central to religious practice. But wasting water - even when it is abundant is non-negotiable. Water is life.

Religious scholars of all denominations have been re-reading the scriptures and finding a message of deep ecology. It seems a lot has been forgotten in this respect in terms of teaching students.

We are all aware how easy it is for mistrust and prejudice to arise between cultures - particularly when the rich west is now telling emerging nations to put the breaks on development and to curb carbon emissions. That does seem a pretty big ask of nations whose natural resources have been plundered by us lot.

Mix up this deep mistrust with climate change events such as flooding, the loss of

agricultural land, the lack of good potable water and you have a tinder bed at flash point.

It is easy to be diverted from the basics, that we share one planet and one set of dwindling resources. The more equitably we share resources the longer we can make them last.

The Qur'an teaches that Allah gave mankind dominion over all living things but the deal was this, that in exchange for this bounty, every human being was to be a guardian of the planet, to care for it and to avoid waste of all kinds.

Access to drinking water is a basic human right but this right is being challenged by global shortages - and big time investors who are climbing over themselves to own the lion's share in water companies - in the fierce race for 'blue gold'.

A global water crisis is all but inevitable. It is likely to affect everyone on the planet. It will not recognise, race, colour or creed and if humanity is to survive we have to get over our prejudices and preconceptions and work together. The human race is in a race against time and dwindling water supplies.

We all need to think very, very carefully about the future management of water, it is a moral and for many a spiritual issue that water should be shared not bought as shares.

In *The Qur'an*, Allah calls the faithful to recognise the mischief we make on 'land and sea' and learn from our mistakes.

We should all hurry along with



this learning curve.

The Qur'an is the holy book for well over one billion people. Three million Muslims live in the UK and it is the second largest religion in the world.

Just think, if a sixth of the world's population were living consciously green what an extraordinary and positive impact that would have on everyone.

I'd like to end on this quote from *The Qur'an* followed by a comment from Frederick M. Denny, Professor Emeritus of Islamic Studies and History of Religions at the University of Colorado:

'Do you not observe that God sends down rain from the sky, so that in the morning the earth becomes green?' (Sura 22:63).

'The colour green is the most blessed of all colours for Muslims and, together with a profound

sense of the value of nature as God's perfect and most fruitful plan, provides a charter for a green movement that could become the greatest exertion yet known in Islamic history.'

FIND OUT MORE

To find out more on moves to create a green groundswell among the Muslim community - have a look at the Islamic Foundation for Ecology and Environmental Science website at www.ifees.org.uk

This NGO is run entirely by volunteers. IFEES networks world-wide with NGOs, international organisations, academic bodies and grass roots organisations and invites collaboration from organisations and individuals from all persuasions who are also dedicated to the maintenance of the Earth as a healthy habitat for future generations of humankind and other living beings.

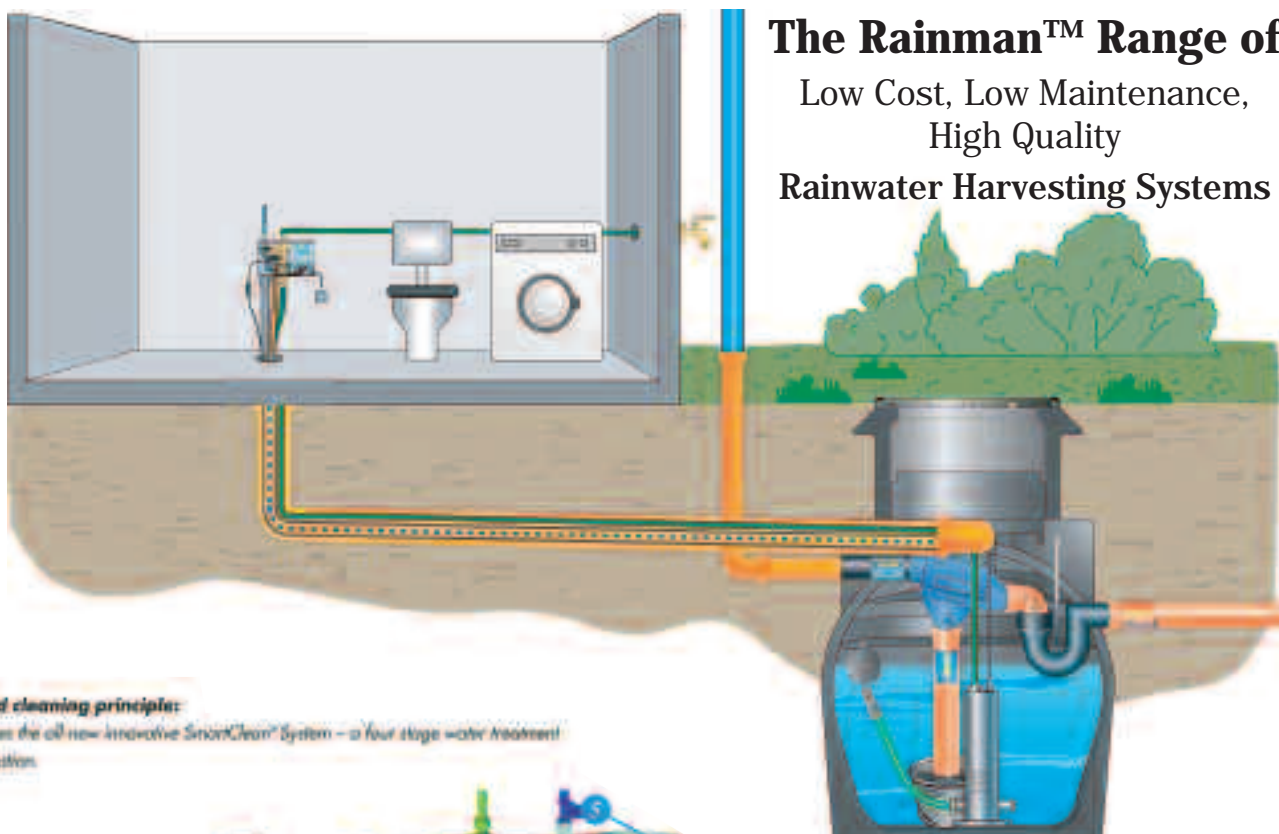
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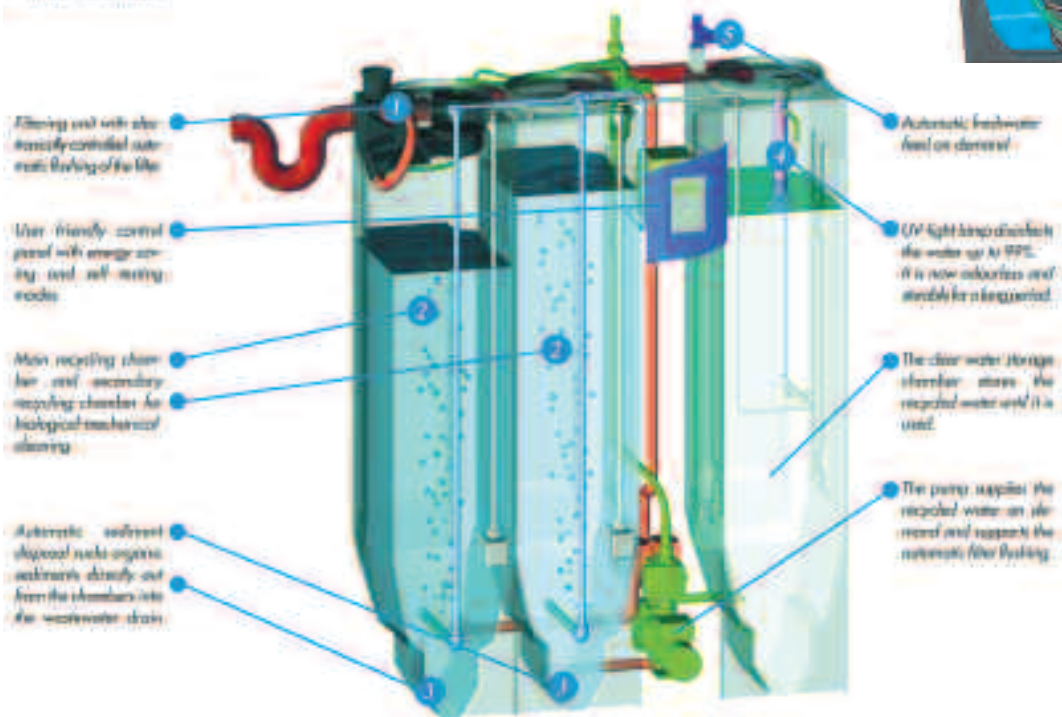
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