



# GUILDFORD ENVIRONMENTAL FORUM

## newsletter

SEPTEMBER 2005



## PLAYGROUNDS FOR WILDLIFE

The 'Playground for Wildlife' competition was set up for schools by Guildford Environmental Forum to show who can best demonstrate they have created habitats to attract birds, insects and creatures into their playground. This year's winner was Stoughton Infants School.

Children from Stoughton Infants School show off the prizes won in the competition. With them on the left is Mo Usher from the Forum, Peter Spriggs the school's caretaker, and joint head teacher Belinda Willia.

Four schools took part this year – Puttenham Church of England School, Sandfield Primary School, Stoughton Infants School and Tormead Junior School. This is the third year that the competition has been held, the inspiration of Mo Usher, who works tirelessly to make it such a success.

The prizegiving ceremony took place at the winning school on 21st July, with a short presentation by John Bannister, Forum Chairman. Mo then awarded the prizes, supported by Guildford Borough Councillor Pauline Searle and Julie Laing, one of the judges from Surrey Wildlife Trust.

First prize, for Stoughton Infants, was a cheque for £100. The judges, from Surrey Wildlife Trust, said that they were impressed at the amount of effort everyone had put into the grounds, which were excellent: full of good ideas, various habitats, well thought out and well used by the children.

The second prize of £30 went to Sandfield Primary and the judges commented on how much had been achieved on such a restricted site, particularly mentioning the raised beds, on how everyone was involved and on the delightful sew-on badges for the Head Gardeners. The two runners-up received cheques for £10. Additionally each school received a certificate and a bird-box from Surrey Wildlife Trust.

The *Surrey Advertiser* came along and took photos, and we were then shown round the beautiful grounds by Peter Spriggs, the school's caretaker, who is so inspiring and knowledgeable. We had a truly delightful morning.

Julie Roxburgh



## Wood Recycling

GUILDFORD Environmental Forum is a partner in a Surrey-wide initiative to encourage wood waste recycling and to provide shared facilities for chipping. The main objective is to help stimulate higher production of biomass fuel from wood waste, which can be used to displace coal, oil and gas for space heating in community and commercial buildings. Currently, most of Surrey's chipped wood is going to Slough Heat and Power's power station and to Didcot Power Station, which is at least a positive start.

In June, the Forum contacted Surrey Waste Management (SWM) to put the case for a dedicated skip for wood at the Slyfield recycling centre, and we are pleased to report that SWM have now provided this, saying that they are committed to maximising wood recycling as far as possible. However, they inform us that if they were to use reprocessors trading in wood fuel, only 40% by weight of the wood would count towards SWM's recycling targets as detailed in their contract with SCC. They have therefore decided not to deliver wood to reprocessors that produce biomass for burning. Instead they use two processors, one that chips for composting, the other that chips for landfill site cover.

The 1999 SWM contract with SCC is highly disappointing in the way it restricts sustainable options and provides so little incentive to recycle. The SWM target for recycling in the contract is only 25% by 31st March 2005, with no further targets beyond that.

*John Bannister*

## Success in Sydenham Road

*PEOPLE WALKING down Sydenham Road in Guildford in June were astonished to see that a much loved row of hornbeam trees had had tarmac laid right up to and touching their trunks. In the hot weather that followed, the tree roots could not receive any rain water. This damage had arisen in the course of developing the Odeon site, although protection for the trees is stipulated in the planning consent.*

*There was no organised group to protect the trees, but local tree-lovers and residents e-mailed and phoned and the site manager had a number of visits.*

*Within a month the space round the trees was reinstated with neat kerb edgings. So far the trees look in good spirits.*

*Many thanks to all those involved in saving the trees, especially Borough Councillor Sarah Creedy and County Councillor Sarah DiCaprio, and the Parks and Countryside Department of Guildford Borough Council.*

## Peter takes a break

**PETER SLADE has decided to step down from the Executive Committee of the Guildford Environmental Forum. Peter is one of the original founder members, and has done more to raise the profile of the Forum in the last 13 years than any other person.**

**He has been Chairman for two lengthy periods and has dedicated himself to a sustainable future for Guildford and for Surrey. We are all indebted to him for his lasting legacy and will miss his wise counsel at our meetings.**

**We hope he can be prevailed upon to contribute the occasional article for our newsletter.**

*John Bannister*



LIONEL SMITH

## Further work with schools

HOLY TRINITY School continues to have its "Fluffy Fridays" and I attended the last one, taking part in a "FISH/RABBIT" day. Tango the rabbit was let loose in one of the classrooms, and the children were incredibly careful in the way they handled him, learning about rabbits and their likes and dislikes. There were great shouts of "Shut the door" whenever anyone entered the room.

They listened with equal enthusiasm to information about invertebrates such as the habits of lobsters and the octopus.

We had another lovely day and I hope to be able to take our marine environment table into other schools next year.

*Julie Roxburgh*

## More Surrey nature reserves

**EIGHT FURTHER sites in Surrey have been declared nature reserves. The new status has been given because of wild-life or geological features that are of special local interest.**

**All the sites are owned by Surrey County Council and managed by Surrey Wildlife Trust. Both organisations, together with English Nature, were represented at the official launch of the reserves in July, at Chatley Heath Semaphore Tower on Ockham Common.**

**Wisley and Ockham Commons**

**Sheepleas**

**Shere Woodlands**

**Rodborough Common**

**Hill Park**

**Chinthurst Hill**

**Bisley Common**

**West End Common**

# Climate Change Conference in Freiburg

**Just one example of the many ways in which Freiburg exploits solar energy: a design for a multi-storey car park topped out with photovoltaic (solar electric) panels supplying up to 90kW of power to the grid. The building will provide parking for nearby residents of a new traffic-free development.**

AS DEPUTY MAYOR of Guildford, I was privileged to accompany eight Guildford sixth-form students to a young people's Climate Change Conference in Freiburg in July. Freiburg is Guildford's twin town and the 'Solar Capital of Germany', and Peter Slade organised the representation from Guildford schools on behalf of the Town Twinning Association. The conference was organised jointly by Freiburg City Council and the British Council, with the objective of raising young people's interest in science and technology, using climate change as the focus.

The students were amazed and enthralled by talks from researchers about Arctic expeditions to examine how the land below the ice cap, and dissolved gases in the ice, revealed atmospheric changes. There were solar energy equipment demonstrations, showing how it is used for

heating and power generation. All the students participated in 'hands-on' workshops.

The students were from Christ's College, King's College and St Peter's School and were accompanied by science teacher Ian Reed from King's College. Alongside 80 students from Freiburg, they attended two days of lectures and workshops and also visited some of Freiburg's alternative energy systems.

The conference was held in the Solar Centre in Freiburg, a new building with many energy-saving features including solar panels, solar glazing and ventilation designed for optimum energy efficiency.

There was a formal welcome from Dr Dieter Saloman, Mayor of Freiburg, coinciding with the opening of an exhibition on the worldwide effects of climate change. The conference was very well organised, with lots of discussion about important issues relating to climate change.

The event proved just how concerned the younger generation is about its future and I was impressed by their enthusiasm to find out more about how they can make a difference.

The Guildford contingent all said they would like to see some of the renewable energy and solar installations, that are 'everyday' in Freiburg, being utilised here. Freiburg is as old as Guildford, with just as many historic buildings, but they have managed to install a range of environmentally sustainable energy solutions.

*Cllr Angela Gunning*



ROLF & HOTZ

## Can Thames Water be trusted with our water supplies?

**Thames Water has reduced leakage rates for the first time in four years, but has still fallen short of its target for 2004-05**

OUR SEPTEMBER 2004 newsletter carried a major article entitled "The South East a desert?" covering our use and management of water. This year's drought – the worst since 1976 – is a result of shortage of rain, rising water usage and a continuing high rate of leakage in the area managed by Thames Water. Water restrictions are in place across much of southern England (and the situation in southern France and parts of Italy, Spain and Portugal sounds even more dire).

There is so much we could do. Building a desalination plant in the Thames Gateway is not the answer. Ken Livingstone has vetoed the scheme on the grounds that it would be too energy-intensive and that fixing the leakages – near 30% in the Thames Water area – would be a better way.

Sustainable fixes are available: every water user should have a meter; buildings should collect rainwater from the roof to be used for flushing toilets and for garden irrigation (as at Holy Trinity School and Puttenham Camping Barn); Thames Water must cut its leakage rate.

OFWAT is very concerned, especially about unacceptably high leakage in London, and expects Thames Water to reduce the leakage rate to a cost-effective level by 2009-10. However, despite the company already carrying out 60% more repairs than two years ago, and starting a major upgrade of its water distribution network in London, progress is slow.

This is serious. Planners, householders, businesses please do your bit.

*John Bannister*

## "GAIA has 'flu, but a workable roadmap exists"

**THE AWARD-WINNING BedZED development by architect Bill Dunster is one of the foremost sustainable projects in the housing and commercial sectors in the UK. Bill Dunster came to speak to a packed Guildford Environmental Forum AGM at the Green Ark on 28th June and told us the very latest ideas and initiatives coming from his ZEDfactory post-BedZED.**

It is important to recognise that Dunster has been working on sustainable architecture ever since he was a student at university. What differentiates him is that his designs for buildings in the 21st century fully address the problems we face due to climate change, as well as the high cost, security and diminishing supply of fossil fuel energy.

He has demonstrated through the projects he has completed, starting with his own home, that ZED (zero fossil fuel energy design) can be achieved at reasonable cost. On the other hand, the approach to sustainable construction by the volume house builders and by government is much more cautious and seriously risks being too little, too late. The Prime Minister has been very outspoken about climate change, but the evidence is that the government is still in denial and is neither farsighted nor ambitious enough. The Office of the Deputy Prime Minister (ODPM) continues to turn a deaf ear to Dunster's determination to prove there is a better way.

### What are the facts?

- According to DEFRA and DOE, accelerating climate change will mean summer temperatures in the south-east will approximate to Marseilles by some time between 2050 and 2080. Affordable 'coolth' will become a bigger issue than affordable warmth – we have already seen many thousands dying from overheating in 2003 in the urban heat islands of Paris, London and elsewhere.
- The lightweight prefabricated buildings without passive cooling being promoted by the ODPM to provide the

160,000 new homes per annum required in the UK up until the early 2020s will need carbon-intensive air conditioning within 30 to 50 years to be habitable in a UK summer. There are no examples of lightweight homes or workspace in Mediterranean climatic zones.

- We have to plan for the worst case scenario of the Scandanavian winter combined with the Mediterranean summer. The scenario that predicts interruption of the Gulf Stream such that we lose its warming effect could still take place, but experts predict this may happen after 150 years of intense warming, with the effects being felt over a 300 year period (source DEFRA).
- ZED buildings use a highly insulated envelope, passive solar gain, natural ventilation with heat exchange and renewable energy, with no recourse to fossil fuels.
- ZED-specification homes and workspaces can be built at no additional cost if economies of scale of around 5,000 units/year can be achieved within a UK-sourced supply chain. BedZED cost more than standard construction because it was a prototype. With 1,000 units/year, extra cost is reduced to 15%. This figure is easily matched by the increased sales value on private-for-sale units.
- BRE EcoHomes "excellent" standard, which is the best that most new buildings will achieve using the conventional approach, offers only 35% carbon reduction over a building regulations minimum specification. Most will be built to no better than "very good" standard with even less carbon reduction.
- There is a considerable public demand for aspirational ZED communities and there is already a long waiting list despite no advertising.
- Buildings account for 50% of our energy use. The ZED model is the best option if the government target of 60% CO<sub>2</sub> reduction by 2050 is to be met, and the only option if UK renewable energy is to meet all of our energy needs by the end of the 21st century.

***said Bill Dunster, BedZED architect, at the Forum's AGM in June***



**An apartment block in Bow designed by ZEDfactory. It has a zero-heating specification, and the potential to be upgraded to complete carbon neutrality.**

■ The proportion of renewable energy generated on site will become very important, as almost all of the green tariff electricity that can be generated will be required to support our historic urban centres where the heritage lobby requires preservation in the interests of historic continuity.

■ The ZED approach can achieve increased density without sacrificing amenity, providing good solar access and a garden for every home – 70 to 90 homes/ha using ZED versus a maximum density of 45 homes/ha (typical on English Partnership’s sites in Milton

Keynes). The densities found in the middle of a typical UK market town are 100 to 120 homes/ha.

■ Global agricultural production will be in crisis as climate change creates winners and losers, with desertification in southern Europe. The UK imports 70% of its food today, with the average UK meal having travelled over 2,000 miles from farm to dinner plate. Hence, losing agricultural land to housing is not the most sensible strategy. With the human population still expanding exponentially (100,000 per day), the UK would be unwise to sacrifice prime agricultural land to housing and risk not being able to feed its population from the international market.

## Current innovations

Bill Dunster went on to show us his latest designs and to explain how he has set up the “ZED in a box” approach, using standardised unit designs to reduce costs. He has also developed a range of 26 proven, fixed price “ZED-products” that can be used either individually or as part of a complete sustainable building. Examples are:

- pre-cast concrete floors and stairs
- a fully watertight, superinsulated and irrigated skygarden
- triple and double glazed roof lights
- a natural ventilation system
- an eco bathroom
- renewable energy solutions including biomass combined heat and power

What is equally exciting is that these same standard items can be retro-fitted into existing building and are not just for new buildings.

Clearly ZED has come a long way since BedZED.

*John Bannister*

## ZED postscript

BILL DUNSTER’s presentation on Zero Energy Developments was impressive. Such developments minimise resource use, and take into account the materials used in building. The energy needed is generated on site, and rainwater is collected and reused. Residents may work within the development, so reducing transport needs.

There were some interesting ideas including the use of house orientation to make maximum use of passive solar heating, with super-insulation to reduce heat energy needs. But I thought that too much concrete was used – cement has a high embodied energy with associated pollution in manufacture.

I would like to see a development using timber frame (as with the

RuralZED), with super-insulation in a sealed structure, along with lime and clay plasters and tiled flooring providing the thermal mass.

This I consider would be more sustainable. I also feel that to produce a zero energy development acceptable to planners, the property must look ‘normal’ to fit in with other buildings around.

*Stephen Rainbird (Forum member)*

# Biodiversity Group presentation, May 2005

by David Williams, Mammal Officer with Surrey Wildlife Trust

## WATER VOLES / DORMICE

### Water voles

WATER VOLES are declining rapidly in the UK, and in Surrey this has been especially noticeable over the last ten years. In spite of their alternative name – water rat – these snub-nosed, short-eared creatures are clearly voles. At 200g to 300g, however, they cannot be confused with the much smaller bank vole.

Their preferred habitat is emergent vegetation at the edge of water, where they are safe from predators like stoats or herons. They feed on the fleshy parts of plants, such as the flag iris, but they will also chew willow saplings during the winter when other food is scarce. The diet is almost entirely vegetation, which ensures that their droppings do not smell (although they may occasionally eat a frog). They have a huge appetite and, using their continuously growing incisors, they will eat nearly their own weight in food in a day.

They also use their teeth to dig their holes, which are well hidden in grass or reeds, usually in steep banks. Unfortunately, mink are able to enter these holes, so the water vole has very little defence against these predators. Access to water is needed throughout the year, so there must be some deep sections available to cope with dry spells. Water voles are very buoyant in water and are strong but smooth swimmers, although they do not have webbed feet. They do have (small) territories which they “mark” but are not strongly territorial.

There may be up to five litters per year, but the water vole only lives for one to two years. Its rapid breeding does, however, mean that it responds well to captive breeding programmes.

The water vole has faced many new problems in recent decades, apart from the addition of mink to its list of predators. These include: more droughts and flash floods, the channelling of rivers in concrete to control floods, and the extension of farming closer to river banks, including poaching of the banks by cattle.

On the positive side, their habitats (although not the animals themselves) are protected. Some farmers are more aware of the need for bankside management – for example, trees need to be kept clear of the banks in order to allow low-level vegetation to flourish (an exception is pollarded willows, which are good for the water vole). Improved river water quality also helps and there is hope that if otters do return to the county they will help to control the mink.

Raymond Smith



### Dormice

THE DORMOUSE is a very attractive and placid creature, that was even kept as a pet during the 19th century. Now, by contrast, it is necessary to have a licence to handle them.

The males normally weigh 16g and the females 15g (when not pregnant). They occur mainly in the southern parts of England. Their ideal habitat is ancient woodland, and they prefer an interlaced canopy of trees so that they can remain arboreal for most of the active part of their lives, but preferably with an understorey of smaller wood. Hedgerows are also good locations.

They have a variety of food sources including nuts (for which they compete with squirrels), flowers and berries. Hazelnuts are an especially important food source. These are eaten green and typically it takes a dormouse 20 minutes to open the nut.

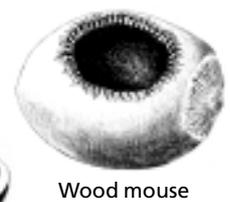
They hibernate at ground level, from November to April, and will re-hibernate if the weather is too cold. Being nocturnal, they are predated by owls. Squirrels may also take the young, but are not a major threat.

Dormice only produce one litter per year, and the young take two months to develop, but they can live for up to seven years. Normally they nest in holes in old trees, but these are frequently felled. As population levels drop, the risk of the total loss of the colony increases disproportionately. Populations can, however, be helped by installing nesting boxes for raising their young, and they also take advantage of bat boxes. On the other hand, although the dormouse nesting box is designed with its entry hole against the supporting tree, these are still used at times by birds.

Dormice can be successfully reintroduced, although it is necessary to release 70 in order that 20 to 30 survive.

**A reliable indicator of the presence of dormice is the remains of hazelnuts they've eaten. A distinct pattern is left behind, as it is by other mammals. With a little practice, you can detect which creature has been having a nibble.**

Raymond Smith



### Awareness of Ratty at last

Magistrates in Devizes recently fined a developer £3,000 for "recklessly" destroying water vole habitat. Ratty's numbers have fallen nationally by 90%, from more than 7 million in 1990 to below 1 million in 1998.

(Source: BBC Wildlife, Nov 04)

## FACTS & FIGURES

### Getting there

Organic and in-conversion now accounts for 4% of all UK agricultural land.

(Source: Living Earth, Winter 04)

### Recycling in the home

At Orford Ness in Suffolk, the nests of lesser black-backed gulls are quite conspicuous. As well as employing the usual vegetation, the birds are incorporating colourful strands of plastic washed up by the sea.

(Source: National Trust magazine, Spring 05)

## UK Lorry Road-User Charging merged with Road Pricing Scheme

THE FORUM'S Transport Working Group held a public meeting in May at which Roger Smith, from HM Revenue & Customs, explained the ill-fated UK Lorry Road-User Charging Scheme. Set to start in 2007/08, the scheme was to charge all lorries over 3.5 tonnes using roads in the UK, according to a number of parameters including vehicle type (combination of size and emissions), time of day, the type of road and the distance travelled. A rebate would have been given for tax paid on any fuel bought in this country. Procurement had begun and final bidders shortlisted, with award of contract set for the end of this year.

The origin of the scheme was the fuel protests in 2000. Non-UK EU truck drivers have an advantage over UK hauliers because they can fill up before arriving here with lower-taxed fuel and need never refuel in the UK. The charging system was to have been revenue neutral, but with winners and losers. There are 26 million cars on our roads and ½ million lorries, but lorries spend much longer on the road and therefore have a disproportionate effect.

On 5th July the government scrapped the scheme, to the annoyance of UK road hauliers, companies bidding for the project and environmentalists. Nearly five years' work by a team of 200 people was unexpectedly canned.

Alistair Darling, Transport Secretary, signalled the government's determination to press ahead with a national road-pricing scheme for ALL vehicles. However, this won't be introduced for another 10 to 15 years.

*John Bannister*

## The oil price and your energy bills

THE OIL PRICE seems set to remain high. Our gas and electricity suppliers are telling us that prices will have to rise, again. With about 40% of the UK's electricity supplied by gas-fired power stations, the price we pay for electricity is bound to follow the market price of gas, which is linked to the price of oil.

We should expect worse to come. The oil supply situation is so tight now that it only takes a fire at a refinery or an incident on a production platform somewhere in the world for the oil price to spike. Studies predict that the current price of around 60 dollars per barrel could rise to 70, 100 or even 150. How would the global economy fare then?

The only way to protect yourself from increasing energy prices, whether you are a business or a householder, is to do some or all of the following. Insulate your premises a lot better – loft space and cavity wall – stop draughts, turn down your central heating and wear more clothes, install thicker curtains and radiator reflector panels, don't be tempted to install air conditioning (if you have got it turn it down), switch to a fuel-efficient car and when you've bought it leave it in the garage. Invest in renewable energy – a wood stove, solar hot water, a roof mounted wind turbine, for example.

These and other ideas as well as who to turn to for advice are contained in the Greenlife brochure, which was distributed to all homes in Guildford last year. This contains the offer of a £50 incentive towards the bigger energy saving schemes. Joining the Forum is one way you can get the £50 voucher.

We all have to adjust urgently to the end of cheap hydrocarbons.

*John Bannister*

## Weeds – who needs 'em?

DOUGHT WE TO value 'weeds' more, for what they offer? Clearly there are conflicts of interest. How can humans keep the landscape tidy, cultivate farmland, and at the same time meet the expectations of a riot of small creatures – bugs, beetles, bees, birds, and organisms too small to see – so many of which depend for their daily life on their relationship to anything which we call a weed?

By what names shall we know them? Wherever they grow, Coltsfoot, Feverfew, Evening Primrose, Melilot, Wild Carrot, on waste ground and roadsides, they scent the air. Of distinctive growth habits, they know their place in the landscape, all of them interestingly devious in their capacity to sustain wildlife, whether or not invited into our gardens.

Wildflowers survive, but against the odds. Last year, the Council's consultation paper on street cleansing called for "...removal of weeds and vegetation and maintenance of grass verges and pathways" (a Cleaner Borough Strategy). The Council's strategy document when it appears early next year should reassure us that public spaces and roadsides around Guildford will indeed continue to be wildlife-friendly, within Surrey's generally herbicidal landscape.

Meanwhile, good management work is evident amongst the trees and wildflower meadows in Onslow Village arboretum, and on Pewley Down.

Likewise in my garden? Weed-patch managers like myself take heart – we do our bit!

*Richard Stephens*

## **Turning the traffic tide**

THE PERCENTAGE of journeys by bicycle in the UK (2%) is far lower than Sweden (10%), Germany (11%), Switzerland (15%) and Denmark (18%). Also, there is a worrying inverse relationship with the incidence of obesity in these countries.

The organisation Sustrans (which stands for **sustainable transport**) has been slowly turning the tide since the early 90s. With a massive injection of funds from the National Lottery, it has created to date 10,000 miles of cycle routes across the UK for commuting, getting to school and leisure use. Many sections are traffic-free and interesting works of art are a feature of the network.

Sustrans Regional Manager for the South East, Simon Pratt, gave a fascinating talk at the Puttenham Camping Barn AGM in June. You can support this work by joining Sustrans.

## **Chances of . . .**

... a powerful stellar explosion bathing the Earth in radiation

**1 in hundreds of millions**

... a volcanic super-eruption

**1 in a few hundred million**

... an asteroid striking the Earth

**1 in 10 million**

... being struck by lightning

**1 in a million**

... a viral pandemic that will kill millions

**almost certain**

These grim statistics were set out by Dr David Whitehouse, writing about the SARS virus this year in *Focus*, the science magazine.

## **Wind friendly**

THE AMSTERDAM municipality wishes to increase the number of wind turbines in the city to further reduce emissions of carbon dioxide. Currently, Amsterdam has 23 with a total power of 22 MW, and plans are in place to increase this to 38 wind turbines by 2007. They are invariably built on industrial sites and the most recent ones are each capable of generating 3 MW.

The UK has many industrial sites where the same policy could be followed. Meanwhile, planning permission has been given for five roof-mounted 2.5 kW wind turbines to be installed on the roof of Camden Town Hall, the first town hall in the UK to have them.

They will be used to power 13 electric cars used by council staff, making them carbon neutral and saving 9 tonnes of CO<sub>2</sub> each year.

Full marks for Camden and London, but a bit of a contrast with Amsterdam.

## **Organic farm sees spectacular wildlife recovery**

IN 2001, a conventional 130 hectare farm near Polperro was bought and its biodiversity surveyed before a change to organic farming.

Regular monitoring over the following three years recorded rises of 78% in flowering plants and 35% in birds.

The National Trust, who conducted the surveys, believes the most significant factor is the introduction of crop rotation. Where

the farm was mostly grass, it now runs on a 6-year cycle – 4 of clover, 2 of arable. There is no spraying before ploughing, and pasture species and arable species survive side by side, which you don't get in a conventional system.

This confirms what many of us instinctively knew, and what research by the Soil Association has also shown. It is a very good reason for buying UK organic produce.

## **Lost at sea**

IN DECEMBER last year, *BBC Wildlife* magazine reported the world's growing alarm over the number of containers, many holding radioactive materials or hazardous chemicals, that are washed overboard. Only 1% carry devices that allow them to be tracked by radar or satellite. Sunk containers may release toxic contents into the sea, or if they come ashore they create problems for emergency services and coastal communities.

Some lost cargoes are more benign. A container of 80,000 Nike trainers went overboard in the western Pacific, the contents ending up on the coast of Vancouver Island. Disappointed beachcombers discovered that the ocean had sorted the trainers into clumps of left or right feet, their track having been influenced by the curvature of the soles.

## **Recycling, 2004**

### **Top countries**

Austria (63.6%)  
Belgium (49.6%)  
Netherlands (48.4%)  
Germany (41.7%)  
Sweden (38.7%)

### **Top UK Councils**

Lichfield (46%)  
Daventry (42%)  
East Hampshire (36%)  
Isle of Wight (35%)  
St Edmundsbury (35%)

## **What's that tree?**

Fewer than one in ten British children is able to identify the leaves of native trees.

(Source: *BBC News Online*, 29 Apr 05)

## **FACTS & FIGURES**

### **Imbalance -1**

The world's three richest people control more wealth than all 600 million in the world's poorest countries.

### **Imbalance - 2**

For every dollar given to poor countries in aid, they lose two dollars to rich countries because of unfair trade barriers against their imports.

### **Imbalance - 3**

As a result of the Common Agricultural Policy, the annual income of a European dairy cow exceeds that of half the world's human population.

(Source: *The Independent*, 1 June 05)

### **Have a cuppa**

If everyone making just one cup of tea boiled just one cupful of water, enough electricity would be saved to run the entire country's street lighting.

(Source: *Radio Times*, 13-19 Aug 05)

### **GM scare**

Results have been leaked of Monsanto's research into the effects on rats of a diet rich in genetically modified corn. The rats were found to have smaller kidneys than normal and variations in the composition of their blood. These problems were absent from a control batch of rats fed non-GM food.

(Source: *Independent on Sunday*, 22 May 05)

THE FIELD was a tangle of undergrowth six feet high, made up almost entirely of brambles and nettles; but it was in the sun all day long and it offered superb views over the surrounding countryside. If no one else loved this field, perhaps this was our chance to increase the local biodiversity and leave a tiny corner of Britain more beautiful than we found it.

The first task was to discover who owned this piece of land, so a letter was despatched to the Land Registry, and when the reply came we approached the owner with an offer to buy the field. Unfortunately he was not prepared to sell; but he was happy to rent the field to us for a peppercorn rent, recognising that he would reap the benefit of someone else hacking through the undergrowth and trying to tame his unruly land. We knew that this arrangement meant we would have no rights to the field and might find ourselves putting in a lot of work and a certain amount of investment with no guarantee that it would not be claimed back; but we decided that it is sometimes necessary to exercise blind trust, and we were keen to start work.

Firmly rejecting the well-meaning advice we were given that 'What you need to use is Round-up', we set to work on cutting down the brambles. We hired a tractor from a local farmer, which topped a large part of the field, so that at least we could find our way in. This was probably necessary at this stage, but I was not happy about compacting the earth with the heavy tractor wheels, and wondered what life might have been threatened by the exercise. A few weeks later a friend brought his much lighter tractor to plough the bit we had cleared; and from then on it has been up to us to make what progress we can, using forks and clippers, gardening gloves, a strimmer and lots of muscle.

We introduced new wild flowers by gradually clearing and sowing zones, on the basis that we could then leave the flowers to seed themselves more widely in future years. This worked well, as it meant we did not have to work at too large an area all at once, and within months of starting the project we had wonderful colourful swathes of wild flowers. There appeared to be a good and attractive range of grasses already, so we concentrated on introducing suitable wild flowers that would be at home in the area.

One of the potential difficulties of the site was that the soil is incredibly rich – in fact there used to be a slurry heap there – and wildflower meadows need poor soil otherwise the grasses outperform the flowers, with disappointing results. We decided to tackle this by depleting the soil through growing vegetables. The proof

of the rich soil was not long in coming: I threw down some pumpkin seeds that I'd saved from a meal the previous Autumn, and was rewarded a few months later with 100 pumpkins. Soon the larder shelves were groaning with jars of pumpkin jam, the freezer was stacked with soup and other tasty pumpkin dishes, and all our friends

and relations were busy eating their way through our bumper harvest. Fortunately Hallowe'en brought a lively demand, but by the time November dawned, friends and family were beginning to run away if they saw us arriving with yet another pumpkin gift.

There were plenty of surprises that first year. The meadow woke up from its winter slumber much earlier than we expected, and we were greeted with carpets of snowdrops. Before January was out we found primroses, heliotrope, campion and ground ivy, and these were soon followed by cowslips, celandines, violets and a wide range of daffodils: apparently flowers used to be grown there for market years ago. As we have moved on through this first year of cultivation, the number of species has grown at each visit. We have introduced some flowers that have been seriously in decline in recent years, including the corn cockle which seems to have settled very happily into the meadow.

In terms of fauna, badgers take a short cut across the meadow and hares cavort through the grass and nibble the top third of most of our beetroots – which I'm quite happy to share with them. We intentionally kept plenty of nettle

patches – which would probably be impossible to eliminate anyway – for the butterflies, and we allow flowers and grasses to go to seed to feed the birds. We have been rewarded with the sound of birdsong and the constant colour and movement of countless butterflies and moths.

We positioned a plank in an old sink of rainwater to provide a safe watering hole for mammals; small tunnels and tracks have appeared through the foliage; and something is camping in the small cairn igloo we built with stones dug from the vegetable bed. The only sounds are the wind in the trees, the mew of buzzards and chatter of birds, and the bleating of sheep in the surrounding fields.

There is plenty of work still to be done in the coming years, and we shall continue to develop our muscles and learn more about wildlife. There is no doubt that the biodiversity of the area is richer and more varied than it was when the field was a nettle and bramble patch, and we have reaped enormous enjoyment from the project.

Oh, and if anyone has any more exciting recipes for pumpkin, do please let me know.

## Creating a wildflower meadow



by Alwyn Marriage

# NOW THERE'S A THOUGHT . . . WIND TURBINES FOR GUILDFORD

IT WAS INTERESTING to see in its AGM annual report that Merrist Wood Campus expect its energy bill to rise 60%, from £150,000 to £240,000, over the next year.

This would be a similar case for other establishments, business and homeowners. We have to face reality and accept that fossil fuels are running out, with prices rising. What are we going to do about it?

Renewable energy, energy efficiency and reduced energy demand are the answers, with each County and Borough responsible for the energy needs of their own area – you simply could not cover Scotland and Wales with wind turbines to serve all the UK.

In Norfolk, Swaffham installed a 1.5MW turbine in 1999, and another 1.8MW turbine in 2003 – with local community support – which together now supply 70% of Swaffham's electricity needs.

I propose that Guildford installs 1.5-1.8MW wind turbines, on 65-75m towers at around 60-70m rotor diameter and spaced at ½ to 1km apart, on a line from Runfold/ Tongham, through Ash (where I live) to Warnborough and beyond.

This would go some way to achieving energy self-sufficiency for the Borough, with establishments such as the Merrist Wood and Surrey University installing turbines of their own.

Companies such as Powergen are offering £5,000-£8,000 per year on each site for a turbine, providing money for the borough, and with each turbine requiring just 0.18 hectare of land use.

The turbines would have a life of 25 years, and decommissioning would leave no trace, no radioactive waste or other pollution.

*Stephen Rainbird (Forum member)*

# . . . AND ANOTHER! EDIBLE FOOD PACKAGING

ALL THOSE GLOSSY pizza cartons; the polystyrene case inside an outer box with a window displaying a delectable gâteau; the wooden boxes, the moulded fruit trays, the packages of six perfect tomatoes... who has not wondered whether there is too much packaging around our foods? Certainly the food industry is guilty of producing much of the packaging waste that enters our dustbins. So it's interesting to read of some research into edible packaging.

Of course it's not entirely new: we've all had a go at rice paper sachets filled with sherbet. But using food waste up in this way seems to have promise. Research is going on in many places but I spotted the following in [eFood.www.scientistlive.com](http://eFood.www.scientistlive.com)

The University of California is developing edible food coatings made from whey proteins (a milk by-product which often goes to waste) or waste starches from wheat, potato or corn. The coatings can be differently textured, shiny or smooth, and apparently make the foods spoilage-resistant.

My first reaction is 'brilliant idea'.

But wait a minute.

Which foods will they be used for, I

wonder? Cucumbers are often shrink-wrapped so they would be a candidate. Could apples, carrots, or maybe cakes or pieces of meat be next? And what if the coating gets dirty (part of the idea of packaging is to keep the food clean); do you eat the dirt too? Or put another package round it?

Scientists at the University of Oregon have gone one better and added in vitamins and nutrients to boost nutritional value. They have also developed a food wrap made from the lysozyme in egg whites mixed with chitosan extracted from crab and shrimp shells. They don't say which foods this is destined for, but I wonder if they'll coat the peeled shrimps in this material? Or maybe it could be used for ready-to-microwave burgers to sell out of slot machines? I suppose an edible drink can could be sold as a ready meal. And maybe things could get to a point where the wrapping is more nutritious than the food inside?

And while you're thinking about this problem, sorry must dash, got an egg box for tea!

*Rosa Pawsey (Forum member)*

## FACTS & FIGURES



### Manchester's mountains

The picture above shows just a fraction of one of four mountains of discarded refrigerators in the Manchester area. Inability to cope with the required "environmentally acceptable destruction" means that about 120,000 fridges have accumulated in the heaps there.

*(Source: Focus, Apr 05)*

## BAT FACTS

Bats are the only flying mammals. They have fur and give birth to live young.

British bats eat only insects – they act as a natural insecticide. The pipistrelle can eat up to 3,000 small insects in a night.

Female bats gather in 'maternity colonies' in the summer to give birth and rear their young. They usually have only one baby each year.

Bats aren't blind, but use sophisticated echo-location systems to fly and feed in the dark.

Bats are clean animals and groom frequently.

Fourteen bat species breed in Britain.

Bats do colonise church towers, but generally prefer the less draughty environment of domestic houses. People are usually unaware of bats living in their roofs, yet in the 1980s about half of all known bat roosts in this country were in houses less than 25 years old.

The noctule, our largest species, weighs about 30g (the weight of three £1 coins) and has a wingspan of about 35cm.

The pipistrelle, our smallest and commonest species, weighs about 5g (less than a 2p coin). It fits neatly into a matchbox, but can spread its wings to about 20cm.

(Source: *The Bat Conservation Trust*)

## Hydrogen here, carbon dioxide there

HYDROGEN IS the clean fuel of the future. Burn hydrogen and you get pure water. The big question is how do you generate hydrogen in the first place without releasing damaging climate change gases such as CO<sub>2</sub>?

BP and partners, including Scottish and Southern Energy, propose to press ahead with a demonstration project showing one way of doing this. Natural gas (CH<sub>4</sub> for you chemists) will be used to produce hydrogen (H<sub>2</sub>) using the standard steam reforming catalytic process (CH<sub>4</sub> + 2H<sub>2</sub>O = 4H<sub>2</sub> + CO<sub>2</sub>). The hydrogen produced will be used to power a combined cycle gas turbine producing 350 MW of electricity – enough to power a city the size of Manchester or Glasgow.

The carbon dioxide produced will be re-injected through existing pipelines into a North Sea oil reservoir, where it will not only be stored safely but will also increase oil recovery at the BP-operated Miller Field. Each component of technology involved is already proven and re-injection is commonly practised to extend the life of oil fields, but combining them like this will be a world first. Oil and gas deposits are found beneath impermeable rock strata, having accumulated over millions of years.

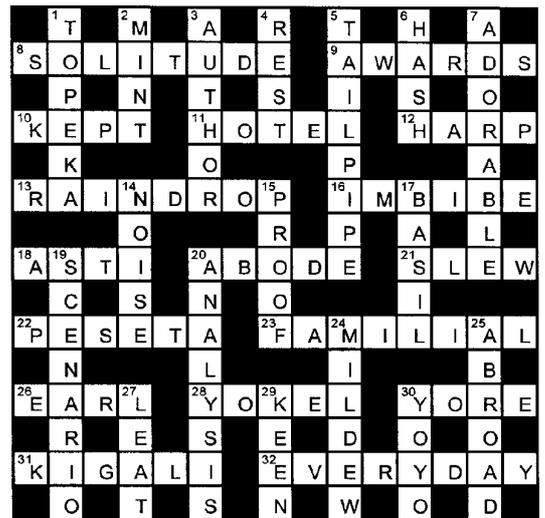
Feasibility studies have been completed and now detailed engineering will take until 2006 with start-up in 2009. The project will reduce by 90% the amount of CO<sub>2</sub> emitted to the atmosphere from power generation, and in the process extend the life of the Miller Field by 15 to 20 years.

The BP project will have an effect equivalent to taking 300,000 cars off the road. Power stations account for approximately 33% of global CO<sub>2</sub> emissions and, worldwide, new power stations are being built at an alarming rate. If this type of combination can be utilised by China, India, Brazil as well as in the developed world, then huge emissions of CO<sub>2</sub> can be avoided.

Some will argue that this just prolongs the life of fossil fuels and the only sustainable solution is to drastically cut energy demand and rely solely on renewables. Perhaps the right approach is to do all these things including decarbonisation and sequestration.

*John Bannister*

### JUNE 05 CROSSWORD SOLUTION



THE OPEN SPACES REVEALED WERE  
ST MARTHA'S, PEWLEY DOWN AND  
STOKE PARK



### *Pipistrellus pipistrellus*

Frail flitterer,  
Pipistrelle,  
spreading your sails  
at dusk  
beneath emergent stars,  
on fingers  
fine as veins  
in a dead leaf.

*Michael Tanner*



# CALENDAR



## Wednesday 14 September

GEF Biodiversity Group presentation. **Joanne Porter, Surrey Urban Biodiversity Officer: "Urban Biodiversity Looking to the Future"**.  
1920. Millmead Offices. (Coffee from 1900.)

## Monday 19 September

GEF Executive Meeting. 1830. Committee Room 2, Millmead Offices.

## Thursday 6 October

GEF Waste and Pollution Group presentation. **Rachel Gray of WRAP (Waste and Resources Action Programme): "Aiming for Maximum Recycling"**.  
1900. Millmead Offices (to be confirmed).

## Tuesday 11 October

GEF Transport Group. **Open discussion: "Transport – Issues of Concern"**.  
1900. Millmead Offices.

## Tuesday - Thursday, 18 - 20 October

**Renewable Energy and Energy Efficiency Expo.** Olympia.

## Monday 31 October

Joint GEF/FOE public meeting. **Mark Goldthorpe, Programme Manager for the South East Climate Change Partnership: "Adapting to Climate Change – Challenges for the South East"**.  
1900. GBC Council Chamber. (Refreshments from 1830.)

## Monday 21 November

GEF Biodiversity Group presentation. **Trudy Thompson, Company Director, Naturally Amazing: "Green Roofs"**.  
1920. Millmead Offices. (Coffee from 1900.)

## Wednesday 7 December

GEF Transport Group presentation. **David Moxon: "Our Rights of Way. A Project to Develop and Extend Access to the Countryside"**.  
1900. Millmead Offices.

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Please send contributions for the next issue to Clare Windsor by Monday 31 October 2005.

The views expressed in this newsletter are strictly those of its contributors and Guildford Environmental Forum.