



GUILDFORD ENVIRONMENTAL FORUM newsletter

www.gefweb.org.uk

DECEMBER 2012 – FEBRUARY 2013

The **Guildford Bike Project** is doing its bit for our local environment

John Thurlow

THE GUILDFORD BIKE PROJECT has only been running since May but is already making a great contribution to the local environment and lives of Guildford residents.

In summary, the project takes in donations of unwanted bicycles from the general public and fixes them up with the help of volunteers, young unemployed people and jobseekers, whilst at the same time providing training, life skills and work-based experience. It then sells the refurbished bikes to members of the local community for an affordable price, providing a healthy transport option. The

income from sales of the bikes makes the project sustainable.

It thus provides opportunities for people who may have missed out on learning in the past to engage in running a local enterprise, to acquire new skills and thereby to improve their employability and sense of wellbeing.

You can make a contribution by offering your time or by donating a bicycle. This way you will be encouraging more people to cycle, making Guildford greener and more sustainable.

The project is a perfect example of the 'repair, reuse,

The Guildford Bike Project at the Surrey Cycle Festival, demonstrating how it caters for all ages.





The showroom.

recycle' initiative. We don't waste anything. Wherever possible, donated bikes are refurbished or repaired to a roadworthy condition and then reused; bikes that can't be saved are stripped down and every reusable part or component is saved; and if anything at all is left, i.e. worn out tyres, badly bucked wheels or damaged frames, these are recycled.

The project has great plans for the immediate



The repair workshop.

future. It will start delivering accredited cycle repair and maintenance courses in January. Weekend 'cycling for health' sessions are also planned for the spring. We hope soon to open our own shop in Westborough from which we would offer a low-cost maintenance service and DIY maintenance classes for residents.

The big idea is that the project will provide a successful model for further social enterprises in Guildford perhaps involving horticulture, painting and decorating, or computer refurbishment.

To find out more, to volunteer your time or to donate a bike, please contact the project:

by email: info@guildfordbikeproject.org.uk

by phone: 07900 324495 or 01483 481789

website: www.guildfordbikeproject.org.uk

If you want to look at and try out a bike, please visit our showroom at Woodlands Place, Woodlands Road, Guildford GU1 1RN, or phone the showroom on 01483 506504 or 07917 148940. It is open from 10am to 4pm Monday to Friday, and buses 34, 35 and 38 go past the door.

Highly sustainable new HQ for WWF

John Bannister

WWF IS BUILDING its new UK headquarters on a site near the centre of Woking, sandwiched between the Basingstoke Canal and Horsell Common on a former car park. What a prize for Woking, boosting its already well recognised environmental credentials. It will comprise a workplace for 300 staff, a 150-seat conference centre and education facilities. A group of us were taken on a virtual tour and then shown round the construction site by the Sustainability Manager and the Site Manager of Willmott Dixon, the main contractors.

Stringent building criteria

As you can imagine, the charity which champions wildlife and One Planet Living is building to very high environmental standards. WWF drew up the design brief over a year ago specifying key criteria for all aspects of the build including build carbon, low embodied energy on every individual component, a

60-year life, very tight limits on construction waste (max 76 skips versus 250 normal for a project this size), low operating energy, FSC timber, low water use, minimal biological impacts, and so on. It claims the building will achieve an "Outstanding" BREEAM rating and will be zero carbon in operation (we will return to this). The project approach is: fabric first – high envelope insulation and air tightness; passive systems – natural light and heat; then top up from outside.

The building design is by international architects Hopkins Architects, based in London. Some excellent graphics of the WWF Living Planet Centre can be seen on their website www.hopkins.co.uk

The groundworks

The groundworks for the building have been very challenging. In order that the building can revert to a surface public car park on completion it stands

on stilts. In addition to the piling required there are several 100m deep ground source heat pump (GSHP) bore holes, and adding to the underground congestion there are massive concrete 'earth ducts' running under the building through the ground to pre-heat air for the building in winter and pre-cool air in summer. Ground temperature is fairly steady year-round at 12°C ± 3°C. These ducts are expected to give a 7% reduction in heating and cooling load over the life of the building. So it's pretty crowded down there, which presented quite a few problems. A condition of planning is that no public parking spaces are lost. Given the proximity to good public transport, no parking spaces will be reserved for WWF.

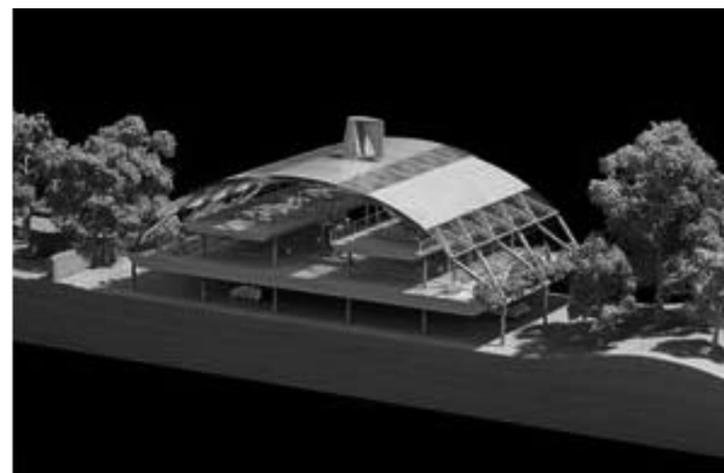
Timber sources

When we toured the site the elevated floor decking had been completed and the curved, wide-span, cross-laminated grid-shell timber overarching roof was just about to get under way. Roof timbers are being sourced from Austria (slower growth with truer, closer and stronger grain than UK) but the sections are being assembled here in the UK.

Another condition of the planning permission, is that WWF funds a new footbridge linking the town centre over the canal to a public piazza at podium level, connecting through to an internal public exhibition space. With a 60-year life requirement, the timber for this bridge is being brought from New Zealand. We were not able to get a % UK content for the project.

Power supply and carbon costs

The roof ridge runs east-west and sufficient PV panels will be installed both south and north to provide approximately 20% of the electricity demand, enough to run the GSHP, the mechanical ventilation and some of the lighting. The combination of GSHP and PV is expected to result in a 67% reduction in energy demand compared with a benchmark building that has no low- or zero-carbon technologies. That leaves



electricity for the balance of the lighting and the plug loads (laptops, etc). This will come from the Woking Town Centre Thameswey CHP plant. As this is fuelled by natural gas, zero-carbon in operation will not be

achieved in the true sense. We would have wished the electricity top-up to be sourced from Good Energy, to add credence to zero-carbon claims.

With ever more dire predictions for man-made climate change, which of course WWF takes very seriously, the building is future-proofed and extra capacity has been built into systems to cope with the expected worsening weather extremes. For example, the cooling requirements are designed for longer, hotter, drier summers. Use of thermal mass in the roof to ameliorate temperature extremes would have pushed up the construction cost. So a more compact, lightweight solution has been selected using Du Pont Energain phase change thermal panels (a thin sandwich employing a combination of paraffin wax and silicon wrapped in foil). This costs £40 per m² but has eight times the heat capacity of concrete.

The concrete used in the groundworks and decking serves as thermal mass, which reduces the mechanical ventilation energy demand and so reduces the whole life carbon impact of concrete compared to alternatives such as steel and timber. Also, the concrete specified has a roughly 40% lower carbon footprint than conventional concrete, due to high levels of cement replacement and the reinforcing being 98% recycled.

Roof lights needed for natural light have the potential to let in a lot of heat, so these will be fitted with complex blinds. The roof is due to be completed in January 2013.

Given the multiple and complex decisions needed to build a truly sustainable building in the 2010s, WWF hired Sturgis Carbon Profiling to assess the whole life carbon cost for every single material used in the construction. This clearly is adding complexity to the procurement process owing to the constant challenge and consequent iterations needed every step of the way. One of the interesting findings has been that triple glazing can not be justified over double glazing. The incremental embodied energy of triple glazing outweighs the lifecycle heat savings.

Maximum sustainability

Other key features are rainwater harvesting and re-use of grey water to limit mains water consumption to what is needed for drinking, cooking and washing. Six out of seven possible ecological credits under the BREEAM system have already been secured and it is hoped to achieve all seven. A new wetland area will be created to provide a wildlife corridor from the canal to Horsell Common.

Willmott Dixon, who pride themselves on being "the greenest construction company in the UK" will gain a great deal of vital knowledge from this project for future sustainable new build (and also for retro-fitting existing buildings to high energy, water and waste standards) and we look forward to learning more at the venue opening in July 2013 and from the actual performance of the building over the years to come.



OUR HOUSE MARTINS

by Forum member Alan Bowen

MARTINS HAVE NESTED under our eaves for a long time, certainly 20 years, and in 2007 I had taken advantage of scaffolding up at the front of our house to put up four artificial boxes to supplement the three existing nests. In 2009 six pairs nested and most of these double-brooded so that we estimated that at least 30 birds left our little colony that year, the last departing on 4 October.

2010 was a similarly productive year with six active nests and, again, about 30 birds left us for Africa.

Somewhat naively I had anticipated a large-scale return in 2011, even wondering if I should put up some more boxes. But we had a sharp lesson in not counting our Martins before they had hatched. Birds appeared sporadically, the first in late April as usual, but in all we had only two successful nestings. In mid-July we were visited by nine birds and three nests seemed to be occupied, but by early August only one pair remained and they left on 18 September. Reports from elsewhere that year, e.g. Albury, suggested that Martins had come back in reasonable numbers, so we were puzzled at the significant drop-off in our population. Perhaps they were not as wedded to their birth sites as we had hoped. In fact the RSPB website says that although Martins breed after one year, the male tends to return to the colony it fledged from while the female tends to settle several kilometres away. This makes sense since interbreeding from the same colony would be likely to cause problems. Maybe we had a disproportionate balance of female young in 2010!

This year, 2012, showed a slight improvement. Two pairs nested at the

start of the season in 'traditional' nests and one of those double-brooded. In early August eight birds arrived and were swooping in and around our artificial nests: for a while it looked as if three nests were being used. Eventually, as last year, only one pair stayed to breed and produced two young, the last of which flew and left on 1 October. In fact it's quite difficult to be precise when young have flown unless you see a sudden increase of birds in the air, because they go back into the nest to be fed after their first flights. I think that we can report three different nesting pairs and eight young this year.

We are left with so many unanswered questions. What was the origin of the groups of birds arriving in August each year? Clearly they weren't that year's young from our site – too many and each year they showed an interest in the artificial rather than the 'traditional' nests. Were they young from 2010 which had bred elsewhere but come back to the ancestral home? Probably wishful thinking since the RSPB says that most Martins only breed for one year. In fact this is a disturbing point because it suggests that most migrants are last year's juveniles rather than past adult breeders. Perhaps they were young from elsewhere which just happened to spot our residents flying in to the site and then used it for lodging with no thought of settling down.

So we hope for the best next year. But if the point about only breeding for one year is correct, then we can't rely on the young from our boom years of 2009 and 2010 to boost the number of our likely arrivals.

Ash disease reaches Surrey

Batches of ash seedlings at a wholesale plant nursery in Chobham were found to be infected with the deadly fungus *Chalara fraxinea*, and have been burnt. Meanwhile, thousands of larch trees in the county have been felled after infection by the *Phytophthora ramorum* pathogen. (Source: Surrey Advertiser, 16 Nov '12)

Clarifying genera

Three closely related genera of spiders from Chile were once lumped together in the genus *Nops*. They were subsequently given the designations of *Notnops*, *Tisentnops* and *Taintnops* in 1994 by the prolific American taxonomist Norman Platnick, to make it perfectly clear that they did not belong there. (Source: BBC Wildlife, July '12)

FACTS & FIGURES

World energy demand

World energy demand is expected to increase by more than 50% between 2005 and 2030. (Source: New Statesman, 2-8 Nov '12)

Incy wincy bee

The world's smallest bee is *Perdita minima*, a minute species under 2mm long and weighing only 0.333mg. It's native to the south-western US, where it constructs a tiny nest in sandy desert soils and feeds on the nectar and pollen of spurge flowers. (Source: BBC Focus, Mar '11)

Who knows?

A survey for the charity LEAF found that a third of 16 to 23-year-olds were unaware that eggs came from chickens or that bacon came from pigs. (Source: Waitrose Weekend, 5 July '12)

Earth Overshoot

The Global Footprint Network tracks humanity's demand for, and supply of, natural resources. It has calculated that, in 2012, August 22nd was 'Earth Overshoot Day', when we used up the renewable natural resources and CO₂ sequestration that the planet could sustainably provide for the year. (Source: Population Matters)

FACTS & FIGURES

Greedy appetites – 1

Of the world's available agricultural land, 70% is used for meat and dairy production.

Greedy appetites – 2

To meet the UK's demand for beef, and soy for animal feed, in 2009 alone 167 square kilometres of Brazil was deforested. This area is equivalent to twice the size of Greater London. (Source: Earthmatters, Spring '11)

Wind energy

The average wind farm will pay back the energy used in its manufacture within 3 to 5 months of operation. Given an expected lifespan of 20 years, that's 19 years and 7 months of carbon-free energy. (Source: Friends of the Earth, 2011)

What happens to our recyclables?

We visit Biffa Edmonton to find out

John Bannister

STEP BY CALCULATED STEP Guildford Borough Council's (GBC's) recycling services continue to improve. A few months ago GBC's Recycling Team extended kerbside collection of plastics to include a wide range of rigid plastic food containers, some plastic film, Tetrapaks and foil, in addition to the plastic bottles that have been collected for some time. These all go in your green box together with glass and cans. The mixed plastics and cans are sold to a Materials Recovery Facility (MRF) owned by Biffa, at Edmonton in north London. Here the different kinds of plastics and metal are separated to obtain the high prices paid by onward processors to be made into new products.

Six Forum members paid a visit to Biffa's MRF plant in September accompanied by Liz Mockeridge, the new Recycling and Waste Officer at GBC, and two of her team. The long drive round the M25 was worth it.

Biffa's plant is housed in a gigantic warehouse and from the viewing gallery refuse trucks looked like Dinky toys. Incoming material waiting to be fed into the separation equipment was 15 foot deep over half the warehouse because a scheduled shutdown of part of the plant had been aggravated by an unscheduled shutdown of the plastics separation train. Waste on this scale was not a pretty sight, but viewed as highly valuable materials waiting to be recovered it was good to see.

Market prices for paper, card, PET*, HDPE**, glass, aluminium, steel, etc vary on a daily basis. For example, the 97% purity PET that emerges from Biffa's plant was selling, we were told, for £250 per tonne. Residual mixed plastics emerging from the process with only 65% purity sold for £5 per tonne. Paper, which makes up about 47% of the incoming 200,000 tonnes per year arriving at this plant (coming from all over London not just Guildford) has a consistently good price and is sold to an American company and shipped directly to China. The plastic film leaving the plant goes to Indonesia and India to be made into refuse sacks mainly. Glass has a consistently low price, because we drink a lot of imported wine and beer in green bottles.

Overall we were told that 95% of what comes into Biffa's MRF is recycled and 5% ends up as Refuse Derived Fuel (RDF). However, it must be understood that onward processors need to further purify some of the materials before they can be remade into new products. RDF is used as a supplementary fuel in Energy from Waste plants (incinerators) and in cement kilns, Holland being a big consumer. Textiles from an MRF handling glass cannot be recycled so end up as RDF. RDF is principally a fibrous mixture of plastic, textiles and paper but at least it serves some useful purpose and is diverted

from landfill. Textiles collected at kerbside in Guildford are kept separate and sold to specialist textile recyclers.

The equipment at Biffa's plant for separating out co-mingled mixed waste into more-or-less pure streams is American and noticeably heavy-duty and robust. In Biffa's experience German MRF equipment had not proved reliable enough and did not match the service backup from its American supplier.

Alan Solomon, the GM of Biffa Edmonton, helpfully answered our questions at the end of the tour. Because the mechanical MRF processes are only about 80% efficient, manual workers stand at rapidly moving conveyor belts picking out reject materials. There are over 50 such personnel at this plant standing for 5-day 9-hour shifts and covering 7 night shifts lasting 11 hours. They are allowed two 30-minute breaks in an 11-hour shift. Breathing masks are available but very few were wearing them. Mist sprays to knock down particulates have been fitted as well as fresh air systems. Biffa said they are thinking of adding additional dust extraction. Air quality on these picking lines is tested regularly every 6 months and, we were told, meets the legal limits.

Guildford Borough's current recycling rate is close to 52%, not including home composting. A limiting factor to further improvement is that only about 80% of borough residents use the kerbside boxes for collection of recyclables. According to careful research by GBC's Recycling Team, the key to increasing our recycling rate and cutting collection costs is to move us over to a fully co-mingled mixed recyclables collection sent to an MRF. This move will take place from September 2013. Specialist kerbside vehicle use and associated labour costs will be reduced and, although we will earn less per tonne recycled, total tonnage will increase with a net benefit estimated at £500,000 a year to taxpayers. The best performers use co-mingled collections, for example The Vale of the White Horse where the recycling rate is almost 70%.

It is vitally important that households and businesses present valuable post consumer end-of-life materials for recycling and recovery. **We in developed countries are using the Earth's resources at a rate as if we had somewhere between three to six planets to plunder – Europe's rate is around three and America's around six.** We don't have six Earths, and we are steadily eating our way into our natural capital and putting our planet into deep and serious debt, just as we have put ourselves into financial debt with ruinous consequences.

*PET: polyethylene terephthalate e.g. coke and water bottles
**HDPE: high density polyethylene e.g. milk bottles

Assistance with this article from the Recycling Team at GBC is greatly appreciated.

IN MY BACKYARD

by Forum member
Michael Tanner

What is happening in one part of My Backyard is so encouraging that it seems to me entirely appropriate to omit the NOT which would normally precede my title.

As the crow flies, that part is little more than 10 miles from Guildford.



Michael Tanner

I AM SPEAKING, of course, of the largely National Trust area at Hindhead beneath which the new tunnel has now been running north to south since the end of July 2011.

The planning and execution of the tunnel itself is a marvellous example of how experts and non-experts, planners, engineers, politicians, and environmentalists, not to mention the 'ordinary person', can work together and produce something much better than the expected 'camel'.

The ordinary local person, like myself, was probably hugely impressed when travelling by car through the newly opened tunnel, and now, not much over a year since, he/she will be even more impressed: impressed by the engineered beauty of the portals, by the attention to the sloping margins, by a different and more striking view of the surrounding forest, which even from the pair of dual carriageways to one travelling at speed affords a notion of another world that has nothing to do with petrol, steel and sat.navs. It is this 'other world' which I wish to focus on here.

I refer to the terrains lying above the tunnel, one stretching roughly to its north-west and the

other to its south-east: respectively, the area of The Devil's Punch Bowl plus land stretching almost to Thursley, and the more forested and more uneven landscape running down to Grayswood and beyond. Here Gibbet Hill towers to nearly 900 feet out of a watershed ridge which plunges on the north to the depths of the Devil's Punch Bowl. In total this must be a good four square miles.

The major intention of having a tunnel instead of a huge, unsightly cutting in the same place, was only partly aesthetic, as the environmentalists made it clear that vertebrate and invertebrate life inhabiting the Punch Bowl side would no longer suffer the separation from the Haslemere side imposed by the old A3. I need hardly mention here that the old A3 was long past its sell-by date because of constant traffic jams formed in Hindhead and because of the dire accident rate on that stretch of road (at least 40% above the national average for that class of road.) The wildlife I refer to ranges from moths and butterflies to deer and dormice, and on the flora side from towering redwoods and Douglas firs to the flowers of the marsh scabious.

The third vital part of this complex equation of the users of the total area affected is of course

human beings – probably less predictable and more complex than the other users and certainly in potential, incalculably more influential than the other life forms (bacteria not included). Already it is very apparent to those who have managed to navigate themselves by the new system to Hindhead that there are more humans about than B.T. (before the tunnel). The National Trust Car park is likely to be crammed full, likewise that small length of A3 remaining which has escaped yellow lines. These are some of the early indications of greater use following the increased accessibility not only to Hindhead but into the forest itself, by some hard-surface footpaths.

It will be very important to see how this increase in numbers of visitors is managed and can be controlled so that at least one of the basic aims in making the tunnel is not eroded. Already, those walkers who have known the area for a long time have registered the growth in numbers of visitors and also noticed the extension of what visitors have come for: there are not many surprises so far – unless the numbers of mountain bikers, horse riders, dog walkers (of whom several varieties), mushroom collectors, joggers and runners have surprised some. Can all these be so skilfully managed as to avoid cautionary notices cropping up everywhere, patrols of wardens, a variety of barriers and the extension of internally reserved areas? It would be odd indeed if a place so close to densely inhabited areas as this 'Forest' did not suffer at least as much from overuse as the Lake District or the Norfolk Broads, which have the apparent protection of some remoteness.

Much will continue to be expected from the Surrey Hills Board representing influential but diverse interests – their ambitious aims include conserving and enhancing the landscape, promoting public understanding and enjoyment, and strengthening the rural economy of the whole Surrey Hills area, not simply the Hindhead area, some seemingly awkward bedfellows!

However, it is heart-warming when walking in the newly accessible Hindhead forest to see people with children out of their cars, running, walking or cycling (even horse-riding) and able to do so without the constant reminder by 'tyre surf' that a big road is never far away. It uplifts the spirit sometimes to walk in a place where no-one else is visible; even the experience of being lost (though not irretrievably) can remind a man that he is still part of the animal world and not always the biggest factor in the equation. (In certain areas, to some, the newly accessible forest has proved a miniature Bermuda Triangle, but only to those who can resist sat.nav.)

As I implied earlier, I am optimistic against some big odds. After all, there are still those who do not credit climate change, do not understand sustainability, and who place their own demand for

instant gratification above the needs and wishes of others. The tunnel enterprise, its aims and results to date should provide in the UK, and internationally, a fine example of what can be achieved and hopefully sustained if the will is there. The Surrey Hills Board has the honour and the responsibility of looking after the future of its beautiful woods and valleys in this, the most densely wooded county of England. Is my optimism justified in the face of so many contemporary pressures, not the least being population growth, commercial opportunity, and the not infrequent abuse of newly available technologies?



Nigel Meze

Above: The view in February 2009 looking from Hindhead towards Gibbet Hill and the Punch Bowl bend.

Below: The view in March 2012 from much the same spot.



Nigel Meze

We regret to report that the *Surrey Advertiser* has ceased its 'Get Surrey Blogs' pages. This means that we can no longer enjoy Michael's Country Diary – his fascinating accounts of Guildford and its environs.

NEONICOTINOID INSECTICIDES – THE NEW DDT?

by Forum member Robert Palgrave

EVIDENCE FROM AROUND the world points to falling and increasingly unpredictable yields of insect-pollinated crops, particularly where farming is most intensive. A clear example is the orchards of south-west China, where wild bees have been eradicated by excessive pesticide use and a lack of natural habitat. Farmers now hand-pollinate their trees, climbing the highest branches carrying pots of pollen and paintbrushes to reach every flower. This is simply not feasible for most crops.

Without insect pollinators, our diets would be depressingly poor. No raspberries, apples, strawberries, peas, beans, courgettes, melons, tomatoes, blueberries, etc. We would have to subsist on wind-pollinated crops: wheat, barley and corn, and little else. Bees and other insects have provided free pollination for our crops for millennia. Neonicotinoid insecticides are now a very real threat to this ‘free lunch’.

What are neonicotinoids?

They are systemic insecticides routinely used in modern farming systems to help protect crops such as oilseed rape, maize, sugarbeet, sunflowers and potatoes from sap-sucking insects like aphids. The most common treatment is by seed dressing and root drenching, i.e. a prophylactic approach. Farmers appreciate neonicotinoids because they not only reduce wastage and appear to limit ‘collateral damage’, but they work for a long time – usually one application can last for months, and sometimes over a year. Measurable amounts of residues have been found in woody plants up to six years after application.

Neonicotinoids were licensed in Europe in 1994. Use in the UK is still on the increase. Figures from 2010 give a total use in Britain of nearly 80 tonnes on 1.27m hectares compared to 42 tonnes on 0.8m hectares in 2007. (The UK has about 6 million hectares of land under arable crops.)

Neonicotinoids are also on sale to the public. A US study reported that, “Products approved for domestic use have manufacturer-recommended application rates up to 120 times higher than rates approved for agricultural crops. Many neonicotinoid pesticides sold to homeowners do not have any mention of the risks to bees.”

Neonicotinoids act on an insect’s nervous system causing overstimulation, paralysis and death. The targeted nicotinic acetylcholine neural pathway is more abundant in insects than mammals and birds, so the effect is much more injurious to insects.

However, research has shown that neonicotinoids do also act on mammalian pathways and could damage human health.

Systemic pesticides are indiscriminate: insects feeding on any part of the plant, including the flowers, will ingest them. Consequently, all pollinators and insects feeding on nectar such as honeybees, bumble bees, hoverflies and butterflies are exposed to a small (albeit sub-lethal), prolonged dose of the toxin.



Unintended consequences for bees

The neonicotinoid Imidacloprid only needs to be present at 10 parts per billion to kill bees outright, but honeybees exposed to lower levels may suffer nerve damage, and be less likely to return to their hives, meaning they die of starvation out in the field and no longer support their colony.

In some European countries, concern over the connection between honeybee Colony Collapse Disorder (CCD) – when bees suddenly disappear from the hive – and neonicotinoids has led to a partial or full ban. As early as 1994, French beekeepers noticed that over the course of a few days, a substantial number of their hives in sunflower growing areas were collapsing. They believed the root cause was the new insecticide Gaucho®, an Imidacloprid-based neonicotinoid then being applied for the first time. Beekeepers took nearly 10 years to get Imidacloprid banned in France for use on sunflowers and maize. Germany, Italy and Slovenia have now also banned some neonicotinoid products.

Recent research considered whether sub-lethal doses of neonicotinoid could cause behavioural difficulties in bees and thereby cause homing failure

in foraging honeybees at levels that could put a colony at risk of collapse. The study concluded: “exposure of foragers to non lethal but commonly encountered doses of Thiamethoxam can affect forager survival, with potential contributions to collapse risk.”

Another study this year found that bumblebees also suffer decline when exposed to neonicotinoids. Stirling University researchers exposed colonies of bumblebees to miniscule doses of Imidacloprid. Treated colonies had a significantly reduced growth rate and suffered an 85% reduction in production of new queens compared with control colonies. Conclusion: “there is an urgent need to develop alternatives to the widespread use of neonicotinoid pesticides on flowering crops wherever possible.”

Other unintended consequences

Neonicotinoids cause permanent and cumulative damage – their toxic effects are progressive, no matter how low the level of individual exposures. They are water soluble and mobile in soil, where they are also very persistent.

The large-scale use of this group of highly toxic, systemic and persistent insecticides is in danger of sterilising fields of much soil-invertebrate life including earthworms, beetles and ladybirds as well as bees, butterflies, moths etc. This has profound ecological consequences, especially for insectivorous birds and mammals.

Neonicotinoids are concentrated in honey made

“Don’t it always seem to go, that you don’t know what you’ve got ‘til it’s gone”

from treated plants. It is also likely that they will be present in sunflower and rapeseed oil – even if in small quantities. As a neuro-toxin this may have implications for the food chain and human health.

Will neonicotinoids be banned or more tightly controlled?

Buglife, the Soil Association, Pesticides Action Network, The Wildlife Trusts and the Bumblebee Conservation Trust are calling for the suspension of all UK approvals for products containing neonicotinoids used outdoors and a review of all neonicotinoid approvals.

DEFRA’s position is that neonicotinoids are safe if properly used. “Neonicotinoid insecticides meet the standards set by the regulatory system and suitable legal restrictions are in place to ensure that bees are not exposed to excessive doses.

However we recognise the importance of considering all the available evidence. ...the body of evidence assessed so far supports the conclusion that neonicotinoids do not threaten honey bee populations. We will continue to review the science and will act if new evidence shows the need.”

Powerful business interests would likely oppose the restriction or banning of neonicotinoids. Farming without them would undoubtedly reduce the yields of intensively and inorganically grown crops. But surely this is a price worth paying to assure the long-term viability of insect pollinators?

Lucy’s letter – from Tuvalu

Lucy McSherry

TUVALU IS THE FOURTH smallest country in the world by land mass, with only 10 square miles spread between the nine islands that make up this South Pacific nation. It’s also the third smallest country by population, with just over 10,000 people living here.

So what, you might ask, am I doing here? I’ve been living on Funafuti, the capital island of Tuvalu, since July, volunteering and providing technical assistance to the Tuvalu Association of NGOs (TANGO) which is the overarching, umbrella organisation of all the non-governmental organisations based in Tuvalu, totalling about 48 organisations.



Tuvaluan lifestyle is laid back, which can be attributed to the fact that it’s approximately 30°C and 85% humidity almost every day! The Tuvaluan people take great pride in their traditional culture and governance. This includes feasts and dancing, as well as the local decision-making structures of Falekaupule and

island chiefs and elders.

One of the most precious commodities to the local people is their pigs. Almost every family has pigs and, when asked if they were worried about the smell of pigsties next to the airstrip putting off tourists, local people say they’d rather have

more pigs than more tourists! At the moment approximately 500 tourists a year visit Tuvalu, and mainly stay on Funafuti as travel to the outer islands is time-consuming and unreliable, with the risk of getting stuck out there for a lot longer than anticipated. I was lucky enough to visit the three islands of the central group and they were stunning.

So again, you might ask “what am I doing here?” Well, sadly Tuvalu faces a number of threats to its ongoing development which are hindering its opportunity for improving the standard of living of its people. There are numerous international donors contributing to the various initiatives across the country – these include the EU, AusAID, NZAID, and the Taiwanese Government. There are also a number of students carrying out research here, and a handful of volunteers. The main areas of concern are water scarcity and sanitation, land availability in the wake of rising sea level and food availability.

Water management

There is no groundwater available on Funafuti, which is home to almost 50% of Tuvalu’s population. This is partly due to the nature of Funafuti as a coral atoll with an incredibly small water table, but also the water is brackish and highly contaminated due to poor sanitation practices. The main culprits are septic tanks that most households have, a large proportion of which are leaking and not regularly emptied. There is no treatment facility on the island and so when household tanks are emptied the contents are pumped into the ocean, adding further issues. So the population of Funafuti relies completely on rainwater. Luckily it does rain a lot – the average is 3,000mm annually – but this is affected greatly by the El Nino and La Nina events, such as the event that caused the severe drought in the later part of 2011, when the Tuvalu Red Cross commented that Tuvalu had not received normal rainfall for 6 months. There were serious shortages and a state of emergency was announced, with water rationing and international partners donating desalination facilities.

Work has been ongoing to increase the resilience of the water supply for residents of Funafuti and a number of the other outer islands which also struggled during the drought last year. This has mainly been in the form of providing water storage tanks to households, with 98% of homes on Funafuti now having some form of water storage. This requires guttering and catchment areas to be maintained, which is an ongoing problem.

Land management

Land availability is mainly a problem on Funafuti, with the migration of residents from outer islands to

the ‘capital’ placing additional pressure on the very limited space and resources on the main island. In addition to living space being limited, there is also very little land suitable for growing crops. The main crops that local people rely on are pulaka, taro and coconut. The land that is available to grow these things is being reduced due to pressure of sea level inundation, and the majority of Tuvalu’s food supplies are imported. The highest point across all nine of Tuvalu’s islands is 5 metres above sea level, so rising sea levels are a constant threat.



Waste management

Waste generation is also a major problem here. The remoteness of Tuvalu means that shipping costs are high, and prohibitively so when trying to ship waste materials off and between the islands. There is very little waste management; there are two landfills on Funafuti, but they are more like illegal dumping sites (see the picture) and 16% of people claim they are disposing of their own rubbish – which constitutes dumping in the ocean or burning it.

So that’s a brief summary of the work I’ve been getting involved in. If you are interested in hearing more about my adventures – and certainly some of the more positive things about Tuvalu which is a tropical paradise after all – feel free to have a look at the blog I’ve been writing since I left home in June. You can visit it at: <http://tuvalutraveller.blogspot.com> or email me (address on page 12) with any questions you might have.

Apple pressing success again this year

Text by John Bannister, photos by Emma White

THIS YEAR has not been a good one for apples as it was cold and wet at critical times in April and May when blossom was out. RHS Wisley said their apple crop this year was 30% down on last year. Many of us suffered from a dearth of apples in our gardens. It was very patchy, maybe depending on the apple variety. Even so we launched into another full season of public apple pressings at three events – “Live Local Love Winkworth” on 16th September, the Surrey Hills Wood Fair at Birtley House on 6th and 7th October and then the five-day marathon at RHS Wisley “Taste of Autumn” event 17th through 21st October.

It is a huge task to organise volunteers to cover such a commitment and satisfy the public’s enthusiasm for fresh juice, one we will need to think carefully about if we repeat it next year. Twenty-two of us gave up time to help and I am sincerely grateful to all of you – a mammoth effort all round and well worth it in terms of raising the profiles of Transition Guildford and the Forum, recruiting new members and raising much needed funds from donations.

We must have produced over 300 litres of juice over the eight days and we gave away 80% of it. The cloudy, brown appearance made quite a few people stop and consider before sipping but the moment their lips touched juice their eyes would light up. We frantically garnered every plastic bottle we could find to satisfy demand, with the reminder that it was unpasteurised so had to be drunk within about a week if kept in a fridge.

Every year we plan a little better. To avoid too much stress we really need eight people all the time at an



event like “Taste of Autumn”, the pressure is so great. Apart from the setting up, taking down and cleaning of the equipment, there are continuous questions to answer, water to fetch, bottles to fill, thousands (literally!) of 2cc sample cups to fill, keeping the area clean, hauling out the ‘cheese’ (the crushed apple residue*), keeping a close watch on children operating the equipment, taking a break for lunch, etc. It’s very hard work but really satisfying if there are enough of us helping. Once again, thanks to all who did.

*A stall selling sausages and hamburgers welcomed our ‘cheese’ for pig feed, in exchange for some of their wares!



Guildford Environmental Forum aims to improve the environment in and around Guildford for wildlife and for people and to build a sustainable future.

Join us in our work for the town and have this newsletter posted to your door four times a year. Forum membership costs only £10 per year or £15 for a couple, and new members are warmly welcomed.

Please contact Adrian Thompson on 01483 222687 or e-mail adrianthompson46@talktalk.net



CALENDAR



All the Forum's Group meetings are open to the public

Monday 17 December

GEF Transport and Energy Groups.

Graham Hibbert, EGRA Acting Chairman and member of Guildford Vision Group:

"What Sort of Guildford Will We Leave for Our Children".

This is a vitally important question, given the number of new developments planned for Guildford.
1900. Committee Room 1, GBC Millmead Offices.

Thursday 24 January

Geographical Association of Guildford.

An illustrated talk by John Widdowson, Urban Geographer: **"The Legacy of the 2012 Olympics"**.
1630. The Auditorium, Royal Grammar School.

Tuesday 29 January

GEF Biodiversity and GEF Sustainable Construction Groups.

Martyn Phillis, of Surrey Bat Group: **"Introduction to Bats and How We Can Help Them"**.

Bat numbers in the UK have fallen by 90% since WWII, mainly due to man's interference.
1900. Committee Room 1, GBC Millmead Offices.

Monday 18 February

GEF all Groups.

Hilde Bartlett is a guest lecturer on entrepreneurship at Surrey University and mentors young entrepreneurs. She is also a campaigner on **Population Growth**, the subject of her talk.
1900. Committee Room 1, GBC Millmead Offices.

Tuesday 12 March

Geographical Association of Guildford.

An illustrated talk by Prof Andrew Jones, City University: **"China, an Emerging Economy"**.
1630. The Auditorium, Royal Grammar School.

GUILDFORD ENVIRONMENTAL FORUM

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Sustainable Construction – Position vacant (John Bannister pro tem)

Food Group for Transition Guildford and GEF – Position vacant (Raymond Smith pro tem)

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Guildford Environmental Forum's newsletter is published in March, June, September and December.

Please send contributions for the next issue to Clare Windsor by Monday 13 May.

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