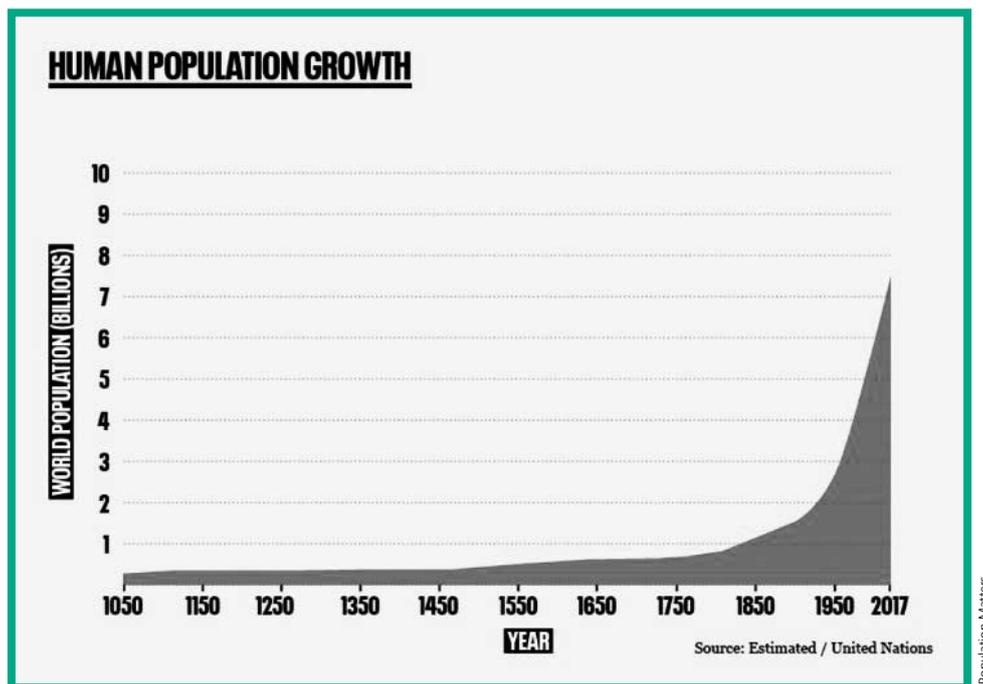




GUILDFORD ENVIRONMENTAL FORUM  
*newsletter*

[www.gefweb.org.uk](http://www.gefweb.org.uk)

MARCH – MAY 2019



## Population and Climate Change: More Feet = More Emitters

In January David Hepper, Population Matters supporter and Records Officer of the British Dragonfly Society, gave a thought-provoking talk to members, examining ways in which we and our policymakers may be able to avert the disastrous course we're embarked upon. Here he explores the issues in greater detail.

**A**MONG OTHER THINGS, I study the distribution and abundance of dragonflies in Britain. It's part of my day job. The take-home lesson from a paper to be published later this year on changes in dragonfly populations, communities, spatial distribution and phenology is that even dragonflies, a highly mobile insect group, are having trouble keeping pace with climate change right across Europe. Many species

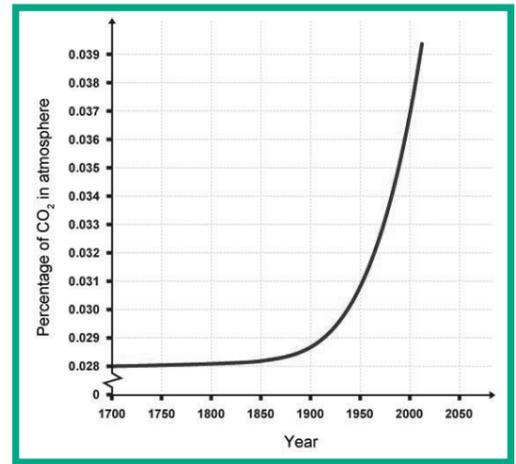
seem unable to find new habitat to the north of their current range, as temperatures increase. Another recent study showed a 79% decrease in insect life across the study area in Germany in the last 25 years. If we lose our insects we lose our food. Besides, nature is worth saving for its intrinsic value, in addition to the ecosystem services she provides to humans.

I don't think I need to prove to Forum readership that climate change is real, man-made, serious, life-threatening and urgent. Recently at GEF we heard at our 25th Anniversary from James Smith, former chair of the Carbon Trust, who was in no doubt that carbon reduction is urgent. However, although he promoted carbon capture and storage (CCS) as a technology for reversing the rising levels of carbon dioxide in the atmosphere, when challenged by a member of the audience about the rising population he just waved his hands in the air as though it's a topic he couldn't face. This isn't good enough.

We look forward to hearing in March from Colin Summerhayes of the Scott Polar Research Institute a talk entitled "Welcome to the Anthropocene", the age of humans, about the period since 1950 being written permanently into geological strata. Although I'm very interested in historic geologic-scale processes, I'm more interested in whether humanity, and especially society, survives this century than in what little green men will find on Earth in a million years' time. If humanity is toast by 2100 it will be an epic fail for this generation.

There isn't much doubt about what's going on but what are the drivers and where does human activity now fit into this? Specifically, what kind of factor is population in understanding the process of climate change? In the very simple IPAT formula, 'I' for environmental impact is found by multiplying together three factors: 'P' for population, 'A' for affluence or consumption and 'T' for technology or the intensity of resource use. So when P is increasing exponentially, or even linearly as is world population at a net +80 million people per year, we need to take notice. Imagine a Rubik cube with each of the PAT factors as one edge of the cube. Just to keep the volume ('I') of the cube constant, if the length of edge P is constantly increasing it is necessary to reduce one or preferably both 'A' and 'T' edges to compensate. If we really want to reduce, not stabilise, 'I' then wouldn't it be best to stop 'P' from constantly growing?

Average emissions in tonnes of CO<sub>2</sub> per person in the UK per year is around 9, but including goods manufactured elsewhere it is nearer 15 because we have increasingly exported our polluting industries to places such as China. However, earth's atmosphere is a shared 'common' and, although the effects of chemical pollution may affect China more than us, the warming effects of carbon emissions are spread rapidly around the world. We're being told to do a variety of things to "Save the Planet" to mitigate this. Many are all well and good but do they add up to enough to make a difference? Which ones make the greatest contribution? Let's look at some of them and concentrate on the important ones, in tonnes of CO<sub>2</sub> per person, per year.



Increase in percentage of carbon dioxide in the atmosphere caused by humans

**Upgrade light bulbs:** -0.1; **Recycle:** -0.2; **Don't tumble-dry the washing:** -0.2; **Wash clothes in cold water:** -0.3; **Go vegan:** -0.8; **Buy green energy:** -1.5; **Live car-free:** -2.4. By doing all of these perfectly we have clocked up total saving of 5.5 tonnes, or about half of average emissions, so far. Let's continue: **Turn down that return trip-of-a-lifetime to Australia:** -4.5 (deciding to take the trip after all would nullify most of the savings so far); **Have one fewer child:** -2 improving to -10, and as effective as -20 as he or she in turn has children. Who has heard this from government, nature conservation charities, development organisations or even friends? Sir Peter Scott is quoted (off the record) as saying that if WWF had spent money on reproductive health rather than on direct panda conservation they might have done a better job of the panda conservation.

Lack of action over past decades has caused the climate crisis but can population restraint solve the emissions contribution to it? We need action now to slow future population growth and stabilise at the lowest possible figure, estimated to be around 9 billion people. A reduction in the average of only half a child per woman would make the staggering difference between peaking at this figure and peaking at 11 billion as late as 2100. (Conversely, an increase of only half a child per woman would see world population still accelerating above a barely-imaginable 16 billion in 2100.)

However, the urgency of climate change makes this a Climate Crisis. It may be necessary to go for extreme techno-fixes such as CCS just to make a difference in a short enough time-frame. The Sleipner gas field, off Norway, is reported to have capacity for 600 billion tonnes of captured CO<sub>2</sub>. However, the process of capturing the carbon emissions is expected to use between 10 and 40 percent of the energy produced by a power station, making the station less efficient, so this isn't a free lunch even if it can eventually be made to work reliably. Unfortunately, the population policy 'lever' of government is slow-acting. The age structure of each country has, substantially, already determined

its population for the next two decades. Action now can have a huge effect but only further down the line – often beyond the horizon of short-term politicians and commentators.

So what should we do? In the short term we have to cut down on our over-consumption and deploy whatever techno-fixes we can develop to prevent irreversible climate change, while redoubling efforts to reduce population growth and then reduce population to sustainable levels. We have to do both, or the benefit from short-term action is constantly nullified by the multiplier of population growth. So far, most of the talk has only been about consumption.

Population Matters campaigns for "A future with a good quality of life for all, a healthy and biodiverse environment, and a stable and sustainable population size." Sir David Attenborough, our patron, put it in his own words: "All our environmental problems become easier to solve with fewer people, and harder to solve with ever more people." Humanity is overdrawn at the Bank of Nature and needs to make urgent repayments. Population Matters is working to get politicians and the public to understand this.

But the issue is too big. What can I do?

- Campaign against cuts to family health services in the UK. These cuts are short-termist and will come back to bite us in future. Save a penny now and we'll have to spend a pound later.
- Don't accept that the subject is taboo. More and more people are speaking up.
- If it's too late for your own reproductive choices, avoid putting pressure on your children to provide grandchildren.
- Support safe sex, birth spacing and free reproductive services to all.
- Support women's education and rights. This includes the right not to bear children. Women can still "have a family" without children.
- Support efforts to spread modern, rational values, appropriate to the local culture.
- And finally, join Population Matters to learn more about the subject and support the cause. The more members we have, the louder our voice; the more donations we receive the more we can do, across campaigning, educating and in practical action.



image copyright Bigstock

## Significant local action on climate change

Guildford Environmental Forum has been pushing for urgent action on Climate Change for a long time and we announced at the 25th Anniversary presentation on 11th October that GEF was proposing to Guildford Borough Council (GBC) that the Borough formed a Guildford Low Carbon Forum, supported by GEF's Climate Change Group.

We were therefore very pleased to learn in January 2019 that GBC had set up a Climate Change Task Group with a view to slowing and, in time, reversing the damage of climate change locally. It advised that the Group would like to co-opt two members of Guildford Environmental Forum to sit on this Group, which is chaired by Cllr Nikki Nelson-Smith. Three meetings of the Group had been arranged by early March and GEF will attend those meetings.

There was further good news in that GBC had passed a resolution on 4th Dec 2018 which stated "This Council acknowledges that there is overwhelming evidence indicating that human activity has resulted in global climate change that threatens our future and those of generations to come. It is clear that we must all take significant steps to address our lifestyles immediately in order to slow and, in time, reverse this damage. In our position as a local authority, we have a crucial role to play in both leading by example and influencing the way that the residents and businesses of Guildford Borough live and work"... "We cannot expect residents to change their habits if we are not prepared to lead by example in the fight against climate change for the sake of everyone in the borough both now and in the future".

GEF fully supports this resolution and is keen to do all it can to add urgency.

GBC has asked the Climate Change Task Group to provide "informed policy input and practical suggestions of issues that this Council can and should be addressing going forward, and to make recommendations as appropriate to the Executive and Full Council". By the time this newsletter is published we expect GEF to have contributed significantly to those three meetings of the Climate Change Task Group in framing that policy input.

## Other GEF news

- 1 **Membership of GEF** has increased by about 30% over the last two years.
- 2 **Talks and events.** Attendance at our 6 main events in the year has averaged over 30 GEF members and guests. We are most grateful to

all our speakers who have given us so much information on topics as varied as Population, Climate change, Recycling, Swifts and the work of the Pewley Down Volunteers.

**3 New members of the Exec.** For some time GEF's work has been run by too small a group, so it is good news that new younger members are taking on important new roles. Two new members have agreed to stand for election at the next AGM as Membership Secretary and Marketing and Communications Officer respectively. We would welcome other members who would like to stand for election at our AGM on Mon 29th April, 2019.

**4 Guildford Green Drinks.** This social group is now meeting regularly at the Britannia pub in Millmead and over 25 attended the last event. If you would like to find out more then contact GEF member James Currie at [Guildfordgreendrinks@outlook.com](mailto:Guildfordgreendrinks@outlook.com)

**5 Surrey Wildlife Trust.** GEF are delighted at the news that Sarah Jane Chimbwandira is named as the new Chief Executive of Surrey Wildlife Trust. Director at Surrey Wildlife Trust for ten years, director and co-founder of the Surrey Nature Partnership and Trustee for the Surrey Hills Society, Sarah Jane brings a wealth of experience to the role with successful engagement and partnership working essential to the Trust's new five year strategy.

**6 Zero carbon Britain.** John Pletts and I were very pleased to meet Adrian Ramsay, CEO of CAT (Centre for Alternative Technology) in Guildford late last year. I would recommend readers of this newsletter to read their new report *Raising Ambition: Zero Carbon Scenarios from across the Globe* at [www.zerocarbonbritain.org](http://www.zerocarbonbritain.org) We would recommend your joining CAT, if only to benefit from their quarterly journal of sustainable living, which lists in the centre pages, 10 things the UK government must do and 10 things the rest of us can do. In summary the 10 things that we should be doing are:

1. Campaign for Change – encourage politicians and businesses to take action.
2. Change your travel – fly less, drive less and cycle more.
3. Switch to a green energy provider.
4. Buy less stuff.
5. Insulate your home better.
6. Eat less meat and dairy.
7. Challenge your local candidates on their climate change policies – local elections are in May.
8. Join your local community energy scheme.
9. Talk about climate change with friends, family and colleagues.

**10. Keep campaigning.** Many of these issues (but they do not include population issues) are highlighted in greater detail elsewhere in this newsletter and were previously covered by us in March 2018.

### Subscriptions

Subscriptions for 2019/20 are due on 11th April, 2019. The subscription rate is being maintained again at last year's rate of £10pa (£15pa for a household at one address). For those who have completed standing order mandates and gift aid declarations, there is nothing more to do to renew your membership, and we thank you very much for completing both returns in the past.

Most other members will receive a reminder by e-mail to pay their subscription and/or to complete a gift aid mandate. If we do not have an e-mail address for you, there will be a reminder form with your posted newsletter and we would be most grateful if these could be returned to me by 31st March, 2019. We encourage members to pay by standing order as it reduces our administration hugely, but if this is not your preference, then please send me a cheque and the gift aid certificate and I will confirm receipt.

If you know of anyone in the Guildford area who would like to become a member of GEF for £10pa, then please encourage them to apply for membership. This is an excellent way to help GEF to grow in the future. We hope you feel you are getting very good value for your membership.



### ZERO-WASTE IN FARNHAM

**'Keep' is the name of a new food retailer set up in the centre of Farnham in November last year by three enterprising young women.**

The full title is 'Keep Old Containers' – if you do this and take them to their shop they will fill them with new products. Currently available are some breakfast cereals, muesli, pulses, rice, dried fruit, nuts, pasta and much else. In addition they sell washing up liquid, hand wash, shampoo and reusable soap nuts for use in washing machines.

The shop is on the first floor above a delightful vegan café called Okomoko (complementary but separate organisations).

The shop is open from 9.30 to 2.30 on weekdays, from 9.00 to 5.00 on Saturdays, and from 10.00 to 2.00 on Sundays. It is located at 18 Downing Street, Farnham GU9 7PB. Telephone 01252 712225.

Also see [www.facebook.com/keepoldcontainers](http://www.facebook.com/keepoldcontainers) Please give them your support.

# SWIFT PROJECT

## 2018 / 2019

John Bannister

The GEF swift project still has a few months to run, which will take us up to early May 2019, when our swifts return to the Guildford area after spending nine months in Africa. Our target is to have 60 new nest boxes installed ready to greet them in May. I do hope readers of the GEF newsletter and their friends can help us reach this target. So far we have given away over 40 boxes and two swift bricks as well. Before going any further I must acknowledge help from Martyn in Farncombe, Angela and Rob in the Farnham area, Luca in Guildford (Luca has been a great help going up ladders to help fix boxes for



A desirable avian home



The swifts' migratory route

BTO

those no longer young enough to risk a ladder) and Rachel Harper, GBC's New Build Manager (see photo below with Rachel and a swift brick).

The swifts from our area are away just now. They left in early October and fly the long-established migratory route across the channel to France, down to the Straits of Gibraltar, crossing over to Morocco then right down to central and southern Africa as far as the Mozambique Channel. They return by the same flightpath. Many birds and insects use the same migration path, seeking the sun's life-giving warmth, but there are other routes depending on the starting points in Europe, Asia and North America.

One insect that makes a similar journey to our swifts is the Painted Lady butterfly that, like the swift, visits our shores in summer. This beautiful butterfly is credited with one of the longest migration flights of all butterflies. As I write this our swifts will still be way south in Africa near the Tropic of Capricorn, just at the point of



Painted Lady

British Ecological Society

turning north once more for the return journey to Britain. We used the map overleaf in last year's March-May newsletter to illustrate our feature about swifts.

So the balance of the original generous Community Foundation for Surrey's £1,000 grant, topped up with equally generous donations from GEF members, will be spent on another 20 swift boxes, which I would like to give away and install by the end of April this year. We need to get our skates on.

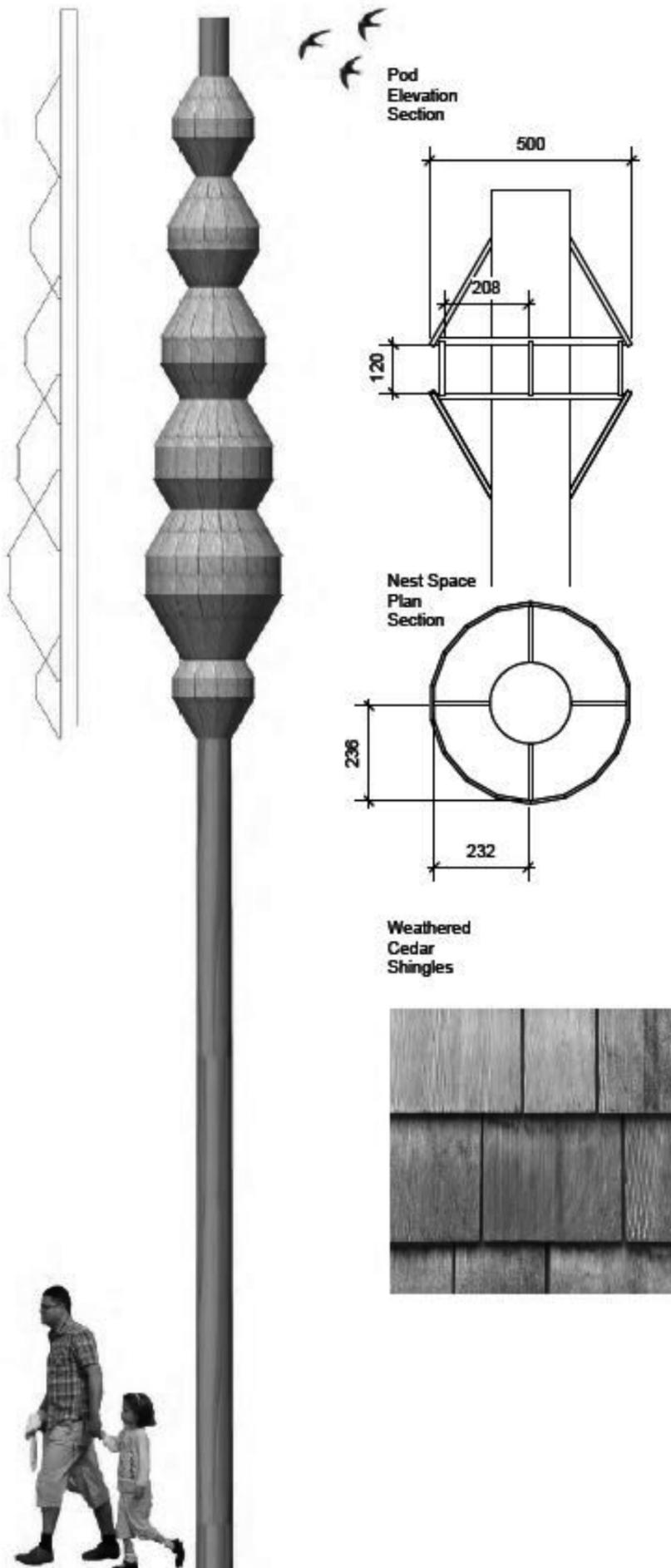
**My number is 01483 570468 or 07443 914347, so please call for a free nest box – that is assuming your house has a north wall, at least two storeys high, with no overhanging trees, so the swifts have a clear flight in and away.**

There is one other swift nest project in progress close to the centre of Guildford using a completely different concept. This will be a swift 'tower', which is being installed in Shalford just south of Guildford, and will be a single tall mast with a collection of swift boxes at the top.

This is both an ecological and a community art project. It is being funded by the Surrey Hills Trust Fund, Shalford Parish Council and GBC Section 106 developer contributions. Will Nash, the artist and designer based in Lewes, is building the tower, which will be a beautiful sight.

A second swift tower is being talked of for the centre of Guildford. See the internet for Will Nash's preliminary designs. As many as 50 nesting places could be provided by each swift tower.

Watch this space.



Will Nash

*Holy Trinity Church in Guildford is well on the way to achieving Silver in the Eco-Church scheme. Among other green initiatives, in the last few months it has undertaken a questionnaire for parishioners on assessing their environmental footprint, installed a swift box, undertaken several improvements to its buildings and started to publish a page in the monthly newsletter outlining ways in which members can increase their efforts to alleviate climate change. This short article is reprinted from the church's February newsletter, with Alwyn's permission.*

## Making a difference – one plate at a time

Alwyn Marriage

OUR PARISH eco-questionnaire indicated that most people at Holy Trinity & St Mary's are trying to adapt their lives and homes in order to lower their carbon footprint, and there is one simple way in which we can all make a difference – which is through what we choose to eat. It's undeniable that excessive meat production is responsible for land and water degradation, biodiversity loss, acid rain, coral reef degeneration and deforestation. Livestock farming, by itself, contributes 18% of human-produced greenhouse gas emissions worldwide. This is why so many people have recently adopted vegetarian or vegan diets, the other reason being for health.

Before considering how we can help save the planet, it's worth noting a few facts:

- The carbon footprint of vegetarians is roughly half that of meat-eaters
- 1kg of beef releases greenhouse gases equivalent to 36.4kg of carbon dioxide
- 70% of the Amazon's deforestation is to provide land for cattle ranches
- As well as producing huge amounts of CO<sub>2</sub>, the digestion of cattle and sheep produces methane and nitrous oxide, even more potent greenhouse gases.
- Animal farming is the world's largest source of water pollution, killing entire river and marine ecosystems, destroying coral reefs, and bringing sickness to some of the world's poorest communities.

For those who find it difficult to imagine living without meat, I'd suggest, first, that most people new to vegetarianism are astonished when they actually try it, by how delicious and varied vegetarian food is; and secondly, if one adopts a vegetarian diet for *environmental* reasons, it's not necessary to give up meat altogether. Just imagine how much CO<sub>2</sub> would be saved if all carnivores decided to eat meat no more than once or twice a month! So flexitarianism is OK.

By buying local food we can cut down on transportation emissions; and it's important to buy organic food whenever possible, because that's better for the environment – in 2003 a Swedish study found that raising organic beef on grass rather than feed reduced greenhouse gas emissions by 40% and consumed 85% less energy. For those with gardens, it's worth trying to grow some food at home.

It's good to know that vegetarianism and veganism are now so popular particularly, but not exclusively, among the young. There are hundreds of vegetarian cookbooks to help new recruits, there's generally a good range of vegetarian options in restaurants (which wasn't always the case) and vegan restaurants are proliferating.

If you want to look into this in more detail, there are countless websites outlining the damage meat production does to the environment; so get surfing, and if you can, experiment a little with a veggie lifestyle. You're not likely to regret it.

**Livestock farming contributes 18% of human-produced greenhouse gas emissions worldwide**



agilford.co.uk



# Small Blue Butterfly Project – Great Progress!

Adrian Thompson

WITH SURREY'S BIODIVERSITY under such threat, it is great to be able to record some significant successes as a result of the Small Blue Stepping Stones project, where funding runs out in July 2019. In our March 2018 newsletter, we reported that Fiona Haynes had been appointed as Project Officer (part-time) by Butterfly Conservation in 2017 and that funding had been provided mainly by Veolia. Much of this material and the photographs have been provided from a talk given by Fiona to the Surrey and SW London Butterfly Conservation AGM recently. Specialist expertise has been provided to the project by, amongst others, Gail Jeffcoate of Dorking, Bill Downey, Transect Co-ordinator BC (Surrey and SW London) and Harry Clarke (BC County Recorder).



Small Blue on Kidney Vetch

Martin D'Arcy

## IMPACT

As a result of nearly two years of well-organised effort, the project is now moving swiftly towards the final phase, the following having been achieved:

- a Invasive species such as coarse grasses, Clematis, Buddleia, Brambles, Dogwood and Hawthorn saplings, which easily smother herb-rich chalk grassland, have been controlled at about 20 project sites across the chalk downs from Guildford to Box Hill. Contractors have been



Searching for eggs at Box Hill

Martin D'Arcy

- used where machinery was needed and access for volunteers too limited, but about 3,300 hours of volunteer effort has been essential, especially on the steeper slopes.
- b Over 120 bare ground scrapes have been established along the North Downs to enable Kidney Vetch to be seeded and to become established. These are expected to provide the stepping stones to enable the Small Blue and other species to re-colonise the North Downs. Sixty of these have been created using contractors with a digger, and 65 have been created by volunteers with spades and mattocks.
- c Overgrown quarry sites have been improved significantly by removal of invasive scrub, and have been seeded with Kidney Vetch.
- d Close liaison has been essential between Butterfly Conservation, the National Trust, Surrey Hills AONB, Surrey Wildlife Trust, Guildford Borough Council, the Lower Mole Partnership and local landowners. This will help future vital conservation work on the North Downs.
- e The headline species is the Small Blue, Britain's smallest butterfly which was common in



Sowing Kidney Vetch in a new scrape at White Downs

Martin D'Arcy

Surrey about 100 years ago but is now only found at just 26 small sites. However, just as important are other species which are expected to benefit. These will include the Adonis Blue, Grizzled, Dingy and Silver-spotted Skippers, the Chalk Carpet, Lace Border and the nationally rare Straw Belle moth. Important larval food plants such as Bird's-foot Trefoil, Horseshoe Vetch, Creeping Cinquefoil, Barren and Wild Strawberry, Agrimony and Salad Burnet are growing well in many of the scrapes already. Additional plants to benefit should include Man Orchid, Fly Orchid, Wild Liquorice and Juniper.

- f Views from the North Downs Way and other footpaths, long-lost due to lack of scrub management, have been restored at many such places as Netley Park and Blatchford and Wholecomb Downs (White Downs).
- g Scrub has been cleared from all the sites and this will be easier to maintain by carefully considered grazing on some of the sites.
- h Not least of the benefits is the enjoyment given to so many volunteers, working in the open, learning more about the wonderful landscape on our doorstep, keeping fit and strong without the cost of gym subscriptions, and benefitting from working with so many other enthusiastic and interesting helpers.

## LEGACY

It is now vital that the legacy of the project is sustained for many years to come. Bill Downey, who introduced GEF members to this project at our AGM talk in May 2017, will be co-ordinating volunteer scrape stewards to do this. He has enlisted volunteers to look after their patch by weeding out unwanted

or invasive species, recording grazing effects by rabbits and livestock, seeding with more Kidney Vetch and listing other important species. Work parties led by BC Surrey Branch will continue beyond the life of the project on many of the key project sites.

For more information on the project or to find out about work parties, email [fhaynes@butterfly-conservation.org](mailto:fhaynes@butterfly-conservation.org), ring Fiona on 07483 039323 or look up <https://butterfly-conservation.org/in-your-area/surrey-and-sw-london-branch>



Above: Other butterflies, such as this beautiful Dark Green Fritillary, will benefit from the project  
Below: "Popping" at Denbies – removing tiny saplings

Geoff Pierce



Martin D'Arcy

This is a crucial success story, like that of the return of the peregrine falcon and the building of swift homes, and shows what can be achieved here in Guildford by volunteers with expert guidance. However, we need many more projects like these and many more volunteers. Don't hesitate to contact me on [adrian@lampcottage.net](mailto:adrian@lampcottage.net) if you would like to suggest other projects or are able to help without being regularly committed.

# OCEAN POLLUTION

Janek Czarnek, Third Year, Royal Grammar School

IN THE MODERN WORLD pollution in the ocean, particularly that of plastic, is becoming a big issue when it comes to marine eco systems, as well as the aesthetics of the oceans, seas and beaches. Plastic is used in many products and often ends up getting dumped in rivers or falling from ships. Other sources of ocean pollution include oil from large ships carrying crude oil: when it washes up on beaches it can kill marine wildlife such as seabirds and affect local economies and tourism. In addition, fertilisers used by farmers wanting to maximise their crop production get into rivers, and can eventually cause eutrophication.

However, plastics can cause harm in many ways to the environment, both as pieces of plastic in rivers, seas and oceans but also increasingly as microplastics. These can be eaten without knowing – which can then be in turn digested by predators of those animals – and can cause the death of a lot of wildlife. In 2014 it was estimated that there were between 15 and 51 million individual pieces of microplastics in our oceans, which proves that this is a large-scale global issue that needs to be addressed



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to prevent great harm to marine ecosystems. Larger coloured pieces of plastic are also eaten by marine animals as they believe it to be food, instead of which it fills their stomachs with plastic and leads to death. This can severely damage the marine ecosystem, being the cause of death of millions of creatures each year. This applies in particular to albatross chicks on Midway Island that have died as a result of being fed pieces of plastic by adult birds.

To prevent this from continuing to happen we need to control and reduce the amount of plastic used and to monitor where it goes afterwards; we need further current laws and to implement new laws to ensure this is controlled. Perhaps some sort of plastic tax can be put in place by governments across the globe to discourage and lower the usage of plastics, instead using materials that can be disposed of or recycled without causing harm to our environment and the oceans. If steps are not taken soon, we risk permanent damage to marine ecosystems as well as affecting our own fishing industries and the aesthetics of the ocean.

**Successful clean-up**  
The Marine Conservation Society said almost 15,000 people collected 8,559 kg of litter during its Great British Clean event in September last year, when 494 beaches were cleaned.  
*(Source: mcsuk.org)*

## FACTS & FIGURES

**Elm, ash ... now beech**  
A mysterious disease that's killing beech trees has been recorded in Ohio, Pennsylvania and parts of Ontario. Scientists are anxious to identify the pathogen responsible, to halt the spread of the disease. Initial studies suggest that there is no sign of insect infestation or the presence of other vectors, adding to the mystery of how the disease is spreading.  
*(Source: bbc.co.uk, 19 Feb '19)*

**Fast transport?**  
Engineering firm Bosch has calculated that by 2050 traffic speeds in the centre of London will be just 2.8 mph – less than the average walking speed.  
*(Source: i Weekend, 9 Sept '17)*

**Mending – the new fashion**  
Schools have been urged to revive the 'make do and mend' attitude to tackle the environmental damage caused by fast fashion and the throwaway clothing culture  
*(Source: The Times, 19 Feb '19)*

## FACTS & FIGURES

**Salt marshes**  
Our salt marshes are unsung heroes: they bring huge benefits. They help protect coastlines from storms and erosion, trap silt during floods and add new soil from their decaying vegetation. They take CO<sub>2</sub> out of the atmosphere through their plant leaves and store it in their roots. And of course they provide a refuge for birds, fish and invertebrates.  
*(Source: The Guardian, 19 Feb '19)*

**Tiny ladders**  
Lewes District Council officers have installed tiny ladders in roadside drains. Saved – more than 80 toads plus a handful of frogs and newts.  
*(Source: i, 18 Oct '18)*

**Failing our children**  
The Soil Association has reported that the results of the 'School Fruit and Veg Scheme' are shameful. This scheme spends over £40 million a year giving a piece of fruit or veg to 4-6 year-olds each day. It was found that the children were being given fruit and veg so lacking in flavour and texture that they ended up actively disliking it. Shockingly, only 13% of apples and 5% of pears are sourced from this country. Long supply chains mean that produce is shipped around the world, so it's far from fresh and there are high levels of waste.  
*(Source: Soil Association, 16 Nov '18)*

lies told by some companies and politicians to conceal the truth in the name of profits, growth, competition and greed. It is not good enough to say that this is the way it has always been. It has to change and it is good to see young people are starting to stand up and challenge the status quo.

The thing that caught my eye that prompted this article was that one of my favourite animals is being driven to extinction. It is a whale, Orca, the killer whale. Like the peregrine falcon it sits at the top of its food chain. Thanks to Rachel Carson, a US scientist working nearly 60 years ago, who led the fight against the agrochemical companies (they swore she was lying) until the day finally came when persistent agrochemicals like DDT and DELDRIN were banned in the west. Of course the profit motive won out again and an export market opened up and stocks of these toxic chemicals were exported to Africa and other developing countries with less demanding legislation, and maybe still are. In the case of mammals, like whales, persistent chemicals accumulate in their fatty tissues, such as their milk, which of course is fed to their newborn calves. Orcas take 20 years to reach peak sexual maturity and 18 months to gestate a calf. What is harming and killing Orcas is another class of persistent toxic chemicals, used in electrical transformers, which are everywhere, on every street. These chemicals are polychlorinated byphenols, or PCBs for short. They were used in electrical transformers, which

range from very small (a box up a pole) to very large. Happily, PCB's were banned decades ago in the 70s and 80s. But the PCBs were not destroyed, they were dumped and some are still lying in landfills. Like all man-made structures landfills are not designed to last for ever and over time they leak and the contents find their way into the water table and thence into the sea. One million tonnes of PCBs were produced in the decades during and after the 1930s, of which about 80% was never destroyed. The US, which produced about 50% of PCBs, is doing a reasonable job because of a piece of legislation called "Superfund", which is assessing the history of every single landfill in the US and identifying which company put what wastes where and charging them for cleanup. It has been running for decades but slowly the job is getting done. Nothing like this exists in the UK, Europe or Asia, where legislators hope that by banning PCBs they just go away!

It seems that the old adage that dilution is the

answer to pollution still persists in our minds. Our seas and oceans are now a horrible cocktail of sewage, all manner of chemicals, drugs, traces of metals, leachates from plastics and every man-made substance that we have discarded. It is no wonder that the marine environment is in such a parlous state. And no-one knows how to begin to clean it up, assuming we ever want to.

Climate change has not only warmed the oceans (80% of the heat from climate change is absorbed by the oceans) but the absorbed CO<sub>2</sub> is also acidifying our seas. Scientists are now saying that the combination of temperature and acidification is a real problem. Research by the Arctic Monitoring and Assessment Programme predicts that rising temperatures will benefit cod stocks initially up to 4.5 degrees C, after which stocks will crash, possibly before the end of this century. The poles are heating much faster than the rest of the oceans and more of our fish are having to move north because of climate change. But scientists have also found that the combined effects of warming seas and acidification increases cod larvae mortality by 75%.

Then along comes another problem. The world wants to legislate to cut the specification for marine fuel from 3.5% sulphur content to 0.5% sulphur, because for far too long shipping has been allowed to burn the residues from crude oil that nobody else wants. Shipping – here think massive container ships, crude oil tankers, bulk carriers,

massive cruise ships, ferries, etc – and that lot adds up to the emissions from a large country! To solve the emissions from shipping one likely solution is to scrub the exhaust gases on board with, guess what, sea water. Then, dump it in the oceans. Dilution is again seen as the solution. In the process this will increase acidification of the oceans. The system is failing us because nothing is ever joined up. We just keep digging a bigger and bigger hole and losing life on our planet.

Lucy Babey, deputy director of the conservation group Orca said "our abysmal failures to control chemical pollution in our oceans has caused a killer whale catastrophe on an epic scale. It is essential that requirements to dispose of PCBs safely under the Stockholm convention are made legally binding at the next meeting in May 2019 to help stop this scandal". Let's lobby for that. It won't just be killer whales that are being affected either, and are we just going to pick off one chemical at a time from the tens of thousands that man has created?



Wikipedia

# NO PART OF OUR WORLD IS FREE OF BAD POLLUTION

John Bannister

LIKE EVERYWHERE IN THE UK Guildford lies within about 50 miles of the sea. We are a maritime nation and have always lived from the sea. Cod and chips is our national dish and many of us buy fish, usually every Friday like our mothers did before us. Yet we treat our seas like the air we breathe, as a dumping ground. Every molecule or substance we make ends up being released and spreading inexorably around the earth, driven by winds and currents or deliberately dumped by us. From the deepest ocean trench to the highest mountain, to the furthest rainforest, to the widest steppe, to the earth beneath our feet, we are leaving our mark. This is the Anthropocene! So, just one example, mercury has long been found in both penguins and krill in Antarctica. Then there is plastic ingested by sea birds and sea mammals in all our oceans and seas, pesticides in raptors

and otters from our agriculture, a cocktail of chemicals in our drinking water and wherever we look we find more such evidence. We have contaminated ourselves and every other living thing on the planet. If we are lucky enough to be fit and well it may only take a few months off our human lifespan; but for the poorest and less fortunate, that is not the case. We must never, ever forget this awful record when talking up our successes. As we are learning from Brexit, environmental legislation is a national responsibility and varies around the world from next to nothing to quite detailed and rigorously enforced. From my own experience one thing it never covers is the impacts of cocktails of chemicals – it's always only single chemicals in isolation that get tested; so hardly real world conditions. And then you have the blatant  
*(continued opposite)*

# Oilseed Rape

by Forum member Michael Tanner

ANYONE WHO TRAVELS almost anywhere in the south of England has encountered this fellow – how might they not? There he stands on the undulating slopes of Surrey, Hampshire, Wiltshire and counties to the east, west and north of these; stands in the merry month of May in that strident yellow waistcoat, curving over a vast paunch, louder and larger than any John Bull. Some would say a sign of the times! Impossible for an Englishman to be indifferent to him. Then almost as suddenly, he is no longer there. Do I hear a long drawn-out sigh from those thousands of acres recovering a threatened decorum?

## Over-coloured and over here

Stifling, as you may detect, more than a hint of prejudice from one grown accustomed to the watercolour tones of oats, wheat and barley, I decided to make closer acquaintance than viewing from a dual carriageway and, must also confess to moments of surrender when taken by surprise on a typical English day of intermittent sunlight – for a good two hours you have been on automatic pilot, studying shades of grey through a rain-spotted windscreen – when, breasting yet another horizon, you are suddenly greeted by a fanfare of brilliant yellow fields on both sides of the dual carriageway and, taken so unawares, have no time to erect your palisade of ingrained tastes. There is no doubting the efficacy of this immigrant's tactics. He knows when a man is down.

Yes, 'he' is listed amongst those many plants that have established themselves amidst English/British flora (e.g. Himalayan Balsam, Japanese Knotweed, Buddleia, Thorn Apple, Oxford Ragwort and a host of others) in the last 130 years or so; the majority of them with perfectly good 'visas' one might say.



Many of these were or are regarded with degrees of suspicion and, it must be confessed, ignorance. I would have to include myself amongst the ignorant and suspicious, certainly in the botanical realm.

## What do we know?

Here are a few facts, as far as they are available: *Brassica napus* conveys the plant's connection with the Brassicaceae family and with oil. A sniff of the tough broken stem will certainly bring cabbage to mind and if between your fingers you crush the small hard seed of the mature plant they will bear a trace of oily juice.

The cultivated plant may reach at least the height of an average man. It seems possible that its forebears arrived on these shores well before the first crop was planted in this country. The uncultivated seed is hardly bigger than that of the poppy seed sprinkled on some bread rolls and could easily have travelled by boat, rail or truck as a stowaway from the European continent. The cultivated seed may be as much as three or four times bigger, depending on soil and weather in particular.

In the earlier years of its cultivation in this country it was mainly regarded as a break crop in the rotation of the traditional cereals: oats, wheat or barley. It would help to suppress weeds and to maintain soil fertility and just about paid for its lodging. Then a succession of wet and less sunny years hit the crop in Germany, Poland and the Ukraine and elsewhere on the continent, at a time when more sunlight and warmth were being experienced in the UK. The profit from the crop in this country rose quite suddenly, by a good 6%. A tonne of the seed in 2010 might fetch £240 but already by 2012 this had risen to £388. Compared

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with other break crops such as beans, the number of hectares devoted to this new break crop soared, and the bright yellow flowers in May/June became 'overnight' an unavoidable early summer feature of the English/British countryside.

## Many advantages

It was a plant relatively easy to sow, sustain and 'reap' with the existing machinery slightly modified. You could plant it in autumn or spring and, with reasonable luck, gather it in July. Like all crops it required rain and sun at conducive periods, and it took to a range of soils. Some fertiliser might be needed and definitely some spraying with a desiccant to render the crop dry enough not to clog the harvesting combines. BUT you had to be alert to the flea beetle which insidiously and rapidly might strip your plants, literally in a week or two. This happened to the Hertfordshire and Bedfordshire crop in 2016, where 7% of the crop was destroyed, and around the country an area of 30,000 hectares was lost owing to the flea beetle. Infestation by flea beetle has been attributed largely to the ban on the use of neonicotinoids.

In conjunction with the increased profit, the plant did not require the quantities of fertiliser that maize or wheat demanded and the combine, with modification, could leave the crop field with all the seeds taken away in trailers and the remainder of the bulky plant (chopped up into very small pieces) inconspicuously left on the field, later to be cut back into the soil; this helps to sustain a soil favourable in texture and fertility to further cultivation for a variety of crops. And what then? What happens to that seed and what is its future?

## Processing

The seeds are 45% oil and 55% high-protein animal feed. The chief NFU arable adviser has stated that oilseed rape is "an amazing piece of Nature". I think I know what he means even if I regard all of Nature as 'amazing'.

The animal feed consists of the crushed seed husks formed into convenient pellets, while the oil separates simultaneously during the cold-pressing process. No 'cooking' is involved; no chemicals are added. The oil is then filtered twice to take out any particles, leaving a totally clear, light honey-coloured liquid which lends itself to a range of culinary purposes. It has a delicate nutty flavour and combines easily with infusions of other flavours if desired.

The whole process is remarkably clean, unpolluting, quiet and surprisingly rapid, even the bottling or storing in other containers. It is reliant on skilfully designed but compact machinery, mostly imported, at the moment, from Italy where it is manufactured. Evidently this requires operating and supervision by skilled engineers, but two such persons can operate a plant able to produce 320

litres of refined and bottled oil in a comparatively short time.

## Visiting Clare Park Farm

I was fortunate enough to speak with such a person, who operates with his co-director such a plant only 20 minutes' or so drive from the centre of Guildford. Quite an education for me and on site, in the midst of some lovely countryside.

The design and systems engineer who gave me so freely of his time is Charlie Gardner, founder and Director of The Cold Pressed Oil Company Ltd., based at Clare Park Farm, Crondall. One cannot be anything but impressed with this gentleman's commitment and various skills, which range from converting a Hampshire barn into a 21st century Cold Pressing Plant with his own two hands, then equipping the prepared rooms and space with the latest pressing, bottling and capping machinery. This has been done with such energy, combined with mechanical and commercial skills, that one's faith in the restoration of British industry receives quite a boost simply from visiting the site and speaking to Charlie Gardner.

One may imagine he encountered even greater problems than that of having to install and operate



Bringing in seed

the highly intricate machinery imported from Italy, with all the instructions printed in Italian!

The process on this site is virtually without any kind of pollution, from chemicals, emissions or sound, and has not been detrimental to the landscape, since it all takes place in the confines of a traditional barn. The oil seed arrives at the plant from crops on the farm, in white reusable half-ton bags, and is processed into the oil in a fluent operation, starting with crushing and finishing with double filtration. It is then bottled into 500ml, 5ltr or 25ltr containers prior to being delivered to retailers, and to direct consumers, many of them in neighbouring towns. (continued overleaf)

It is most encouraging to see a local product processed and sold without involving air miles or excessive road transportation. Moreover, this oil, cold-pressed from rape seed, has now won the acclaim of experts in the field and been awarded plaudits from famous chefs and dieticians, many of whom prefer it to other oils such as sunflower and olive on account of its constituent factors – these include omega 3 and vitamin E and a lower saturated fat content than other vegetable oils – not to mention its pleasant flavour and attractive, ultra-clear golden colour. One ton of the seed will produce 320 litres of oil. A very small amount of this is used as an industrial lubricant.

I apologise for not being able to produce the latest figure for rapeseed oil production in the UK but hope to do so in a subsequent issue. Certainly from pure observation in the South of England the amount of land given over to the rapeseed oil plant would seem to have increased annually over the last



Filtering plant

six years, though the prolonged period of flowering this year might have added to that impression.

**Thank you**

I am happy to acknowledge information gained from a number of sources in writing this article: in particular the *BBC News Magazine* of 29.5.2012 (available on Google). Above all, I am indebted to Charlie Gardner, Director of the local Cold Pressed Oil Company in Crondall, (Hants), who willingly gave me a most valuable insight into the raison d'être of all those bright yellow fields of May. He also simultaneously and instinctively gave me new faith in what a young Englishman can achieve, even when governments in this country have not exactly encouraged the skilled hands-on man or the English farmer amongst others. Finally, my grateful appreciation to local expert botanists, Anne and Jane Bradbeer of Guildford, who kindly scanned my document for those insidious metaphorical bugs which tend to pick on the writings of poor amateurs.

**W A S P**



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**FRIEND OR FOE?**

**Wasps are one of the many disliked and irritating insects as every summer we shrink back as they are drawn to the sugars in our picnics.**

Wasps are known for their painful stings which can take up to 24 hours to wear off, but wasps usually only sting when provoked. Unfortunately, a small percentage of people are allergic to wasp venom and can go into anaphylactic shock, which can be fatal.

However, not all wasps sting and wasps are actually a very important species as there are many benefits to having these small creatures around.

**They are beneficial because they are predators and nearly every pest insect on the earth is preyed upon by a wasp species.**

They spend much of their time hunting smaller insects to feed their larvae. Many of their prey are crop- and flower-destroying bugs such as grubs, caterpillars, grain fly, aphids and weevils. The presence of wasps can be so beneficial to farmers that some farmers ship wasps in as a natural pest control for their crops. These wasps are either relocated from other areas or are reared and sold to farmers to aid them in cutting the use of pesticides on their crops.

Around 80 percent of the wasp population nest, feed and overwinter near areas of agriculture.

Wasps are also pollinators. Although not as effective as honeybees, wasps are drawn to nectar, the sugar-rich liquid produced by plants. As they feed they pollinate the plants, allowing them to reproduce and create seeds. Over 80 per cent of the world's flowering plants require a pollinator to reproduce. As the number of honeybees declines, we will be looking more and more to these insects for the successful reproduction of our natural food sources.

The hoverfly is another insect known as an aphid-eating pollinator. Wasps and hoverflies cohabitate, as the nests of social wasps provide homes for hoverflies.

**DID YOU KNOW?**

**There are over a hundred thousand species of wasps around the world that we know about. There are also over 900 species of fig trees (mostly in the tropics) and almost each one of these trees has its own fig wasp. The wasps use the figs to reproduce and also to effect pollination.**

**INTERESTING FACTS:**

- Wasps do not swarm
- In the spring a queen will be born and start building a nest, lay eggs and produce enough workers to complete the nest while she continues to lay eggs and produce workers
  - Wasp nests are most active from July to October
- Wasps are most aggressive in August and September in the UK as they feed on fallen fruit. The alcohol in the fermented fruit makes them angrier and bolder than usual and they are more likely to sting without being provoked
- In winter the queen and workers die and the nest becomes deserted
- The size of a wasp nest is determined by how close the nest building materials are from their chosen nest site
- An average size wasp nest will consume hundreds of kilograms to tons of insect pests throughout their season
- Wasps are carnivores and eat a large amount of high protein foods including dead animals!
- Wasps nest in rabbit warrens, holes in the ground and within hedges, not just houses!
- Leaving wasps inside a property can cause the following risks:
  - Damage to plaster board.
  - Aggressive behaviour if disturbed.
  - If the nest is in or near down lights they can catch fire where the nest overheats on the down light and wasps die and cook in them.
- Blocking of gas flues in chimneys.

Wasps need only to be destroyed if they are harmful to you because you are allergic to them or they are too close to your home.

To avoid being stung try not to wear heavily scented soaps or fragrances when you are in an area of wasp activity. Always wear shoes when walking in flowered areas and keep a lookout for nests. If a wasp happens to land on or near you, remain calm and still and it will eventually fly off.

Wasps are pests to us, but their life cycle is very short and their benefits far outweigh their negative points. We are often afraid of what we do not understand, and so hopefully by knowing a little more about these little insects and their valuable roles in the ecosystem, we will find it easier to live with them.

**Honeybee or wasp?**

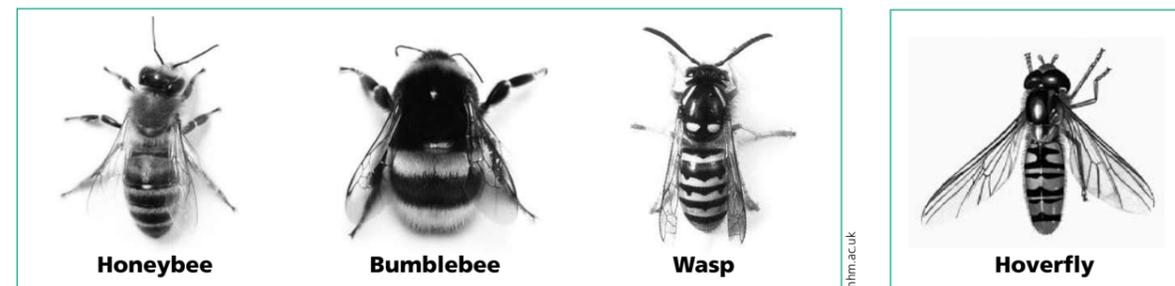
Wasps are often incorrectly identified as honeybees and vice versa. Honeybees are of similar size and shape, they are not jet black and yellow like wasps. We deal with this oversight on a daily basis as we run a specialised live bee removal service called Beegone.

Beegone will correctly identify the bee or wasp while actually removing honeybees from building fabric for pest controllers and people with this type of issue.

Beegone also carry out presentations to bee-keeping clubs and organisations about this important work. For more information about this contact [savebees@beegone.co.uk](mailto:savebees@beegone.co.uk)

*If you have any questions please contact Beegone about honeybees or PGH Pest Control about wasps. We would be very happy to help you out.*

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Honeybee

Bumblebee

Wasp

Hoverfly

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**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 email [adrian@lampcottage.net](mailto:adrian@lampcottage.net)



# CALENDAR



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

## Monday 18th March

A talk by Colin Summerhayes of the Scott Polar Research Institute, Cambridge:

**"Welcome to the Anthropocene".**

We humans have greatly modified the Earth's surface and the water cycle, but with the development of advanced industrial practices in World War II, a 'Great Acceleration' began in the spread and deposition of multiple new materials, which grew exponentially as the consumer society took off. We believe that the beginning of the 'Great Acceleration' can be dated to about 1950, and a formal case is being built to propose that this marks the lower bound of a new human-influenced geological period – the Anthropocene. Among our human influences now are global warming and ocean acidification.

1900. Council Chamber, GBC Millmead Offices.

## Tuesday 19th March

Geographical Association of Guildford. Talk by Mr Alan Kinder, chief executive of the Geographical Association: **"Cities in the 21st Century"**.

1730. The County School, Farnham Road, Guildford.

## Monday 8th April

GEF Transport Group. Talk by Gordon Frost, Operations Director, Stagecoach South Ltd:

**"What does the Future Hold for Bus Travel?"**.

Gordon will cover issues such as low carbon fuels, rural services, meeting the needs of the community in terms of fares, for example, and the all-important modal shift from cars to public transport.

1900 to 2100. Room 6, Hurtmore, GBC Millmead Offices.

## Monday 29th April

GEF AGM, and talk by Professor Helen E Roy MBE:

**"The Role of Citizen Science in Understanding the Ecology of Non-native Species."**

Biological invasions are large-scale processes driven by humans. Global collaborations, ensuring knowledge is shared, are essential to advance understanding and enable successful implementation of strategies to manage invasive non-native species. Helen will provide an overview of the importance of citizen science in raising awareness of biological invasions while also enabling people to contribute to research for the benefit of society, science and nature.

1830 AGM, 1915 Talk. Council Chamber, GBC Millmead Offices.

## Saturday 1st June

**Scything Course for Beginners and Improvers.**

Mark Allery is back again to teach us. Learn or improve your scything skills while managing our grass at the Rosamund Community Garden. Everything is provided, including refreshments, but please bring a packed lunch and wear suitable clothing.

Cost £35 per head, discounts available.

1000 to 1600. Meet at Rosamund Garden, top of Longdown Road, GU4 8PP. Park along the grass verge. Please register with John Bannister on 01483 570468 or 07443 914347 to discuss arrangements.

## Saturday 8th June

Farnham Community Farm's **Sustainability Fayre.**

Hot food, wildlife talks, children's events, games, delicious fresh produce. Our stall will showcase various GEF projects including our Swifts Project. Please come and support us. Stagecoach bus 65, Guildford-Farnham, stops right outside.

1100 to 1600. Gostrey Meadow, Farnham GU9 7RT.

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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.**