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GUILDFORD ENVIRONMENTAL FORUM

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ZERO a Volunteer's Perspective

Isabel Davis gives us an insight into Guildford's new and climate-focused community space

ZERO, Guildford's new and climate-focused community space, is both a first for our town and one of the first of what will hopefully be many more centres of its kind across the UK. For those of us deeply concerned about the climate crisis, the opening of ZERO feels like a landmark event. This is not because the centre itself offers some kind of magic solution; all it is, currently, is a multi-story business premises, artfully redone by a team of volunteers to resemble a large common room on the ground floor, with plenty of seating, a cafe and shop-in-progress, and a large TV screen. The reason ZERO feels so important to local residents like me is because it is the first physical location where people across Guildford who are in any way interested in or concerned about the environment and the climate can gather, network and - crucially - organise.

Having struggled with climate grief for many years while away from Guildford and moving between several cities, my only source of community while processing the climate crisis has been social media, communities in which the general sense is often of doom and despair, because the commenters are too far spread across the world to be able to unite in any meaningful way. Signing digital petitions with a click or using eco-friendly search engines starts to feel hollow after a while, and rarely eases my anxiety. Since deciding to start volunteering at environment events in Guildford only two months ago, to now sitting at the front desk in ZERO, the difference I feel in my outlook and attitude to the climate crisis is significant. Suddenly I am meeting other people who feel like I do, other people who love and care for our local



environment and the global climate and are willing to put it above profit.

Perhaps the most important thing ZERO offers the residents of Guildford is a place to go and not feel alone when thinking about the immense challenges of the coming decades. My time spent at the centre involves long conversations with people I probably never would've spoken to otherwise, of all ages and backgrounds, with different thoughts and opinions to me, but on the same problems. It is also my hope, however, that the centre will be able to help those already dedicated to the cause of environmental protection reach out to and engage those who are currently unaware of the need to change our way of life, or perhaps those who are unwilling. There are many steps between us and a better future and we can only take them together.

Being a community-led venture also leaves room for anyone to influence the direction of the centre. The purpose and goals of ZERO are clear-cut, but our path to achieving those goals is open to the guidance and expertise of anyone in the community. It's hireable for a range of different events, as well as a venue for speakers and film screenings. It's a fundamentally social space, where people can sit and talk and borrow books and read about local campaigns and developments. It's an inclusive environment, where all people are valued and our rights to a healthy and stable climate are being asserted. It's somewhere I can bring my friends and family, people who I used to feel like were miles away from me in terms of understanding the reality of our changing climate, and how it will effect our lives.

For me, ZERO is the first time an organised and community-driven response to climate change has manifested as something real, in front of me, that can become part of my life. It's only the beginning, but I believe it is a sign of bigger and better action in Guildford's future.



At COP-26, the 26th meeting the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC), in Glasgow in November, some useful progress was made, though not enough to satisfy everyone.

In the margins of the meeting the following positive developments appeared:

- i. Leaders from more than 100 countries, representing about 85% of the world's forests, promised to stop deforestation by 2030.
- ii. Similar previous initiatives haven't stopped deforestation, but this one is better funded. However, it's unclear how the pledge will be policed or monitored.
- iii. More than 100 countries agreed on a scheme to cut 30% of current methane emissions by 2030. Methane is a minor greenhouse gas in terms of concentration, but it has about 30 times the effect of CO₂, which is why we need to prevent 'fugitive emissions' of methane, e.g. from leaking pipelines and wellheads. Methane's large effects mean that it is important to phase out our use of it quickly. Some big emitters like China, Russia and India did not join this scheme but may do later

More than 40 countries, including major coal-users such as Poland, Vietnam and Chile - agreed to shift away from coal, which still produces a large amount of the world's electricity (37% in 2019). Some of the world's most coal-dependent or coal producing countries, including Australia, India, China and the USA did not sign up.

The main report was entitled the Glasgow Climate Pact, and the text is written in boiler-plate UN legalese. I found the following items particularly relevant, since they have the most bearing on whether or not we can limit global warming to 1.5 degrees C.

Pact item 3 "Expresses alarm and utmost concern that human activities have caused around 1.1°C of warming to date, that impacts are already being felt in every region, and that carbon budgets consistent with achieving the Paris Agreement temperature goal are now

Regarding COP-26.

Dr Colin Summerhayes

small and being rapidly depleted".

In other words, they agree we have a serious problem that requires action. By the way, the carbon budget refers to how much more CO₂ we can afford to emit before warming becomes catastrophic; it amounts to about 11 years of emissions at current rates.

Pact item 20 "Reaffirms the Paris Agreement temperature goal of holding the increase in the global average temperature to well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels".

However, the Carbon Action Tracker web site says that current pledges will only get us to 2.4 degrees C by 2050, which is nowhere near good enough.

Pact item 22 "Recognizes that limiting global warming to 1.5°C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases".

Yes, this is what is required. In effect we need CO₂ emissions to 'fall off a cliff'. During COVID we reduced CO₂ emissions by roughly 6% globally. We need to do that EVERY YEAR for the next decade. It will be hard, and costly. Petrostates like Russia and Saudi Arabia, and coal users like India and China will find this onerous, as will coal sellers like Australia.

Pact item 26 "Emphasizes the urgent need for Parties to increase their efforts to collectively reduce emissions through accelerated action and implementation of domestic mitigation measures".

Yes, we all need to 'do our bit'. But we need to apply a sense of urgency that has thus far been missing from the government's contribution and industry's contribution, which will do the most work, and our own personal contributions, which although much smaller, will still make a difference. We can insulate our homes better, eat less beef, use more public transport, walk and bike more, fly less, change our cars for hybrids or electric vehicles, get rid of our gas-guzzling SUVs, switch to green shares, plant trees and hedgerows, recycle more, and waste less, among other things.

Pact item 29 "Requests Parties to revisit and strengthen

the 2030 targets in their nationally determined contributions as necessary to align with the Paris Agreement temperature goal by the end of 2022”.

An analysis of those national pledges, by reporters from the Washington Post, showed that a good many countries have only the woolliest idea of what their emissions are, and no realistic plans as to how they will control them in future. Not a pretty picture. But, countries must now bring back much more detailed plans in 2022 showing how they propose to cut emissions. This requirement is like holding their feet to the fire. It will inevitably involve some naming and shaming. There is hope that by keeping up the pressure year-by-year, this will help to get us where we really need to be. Even though we may not be satisfied with progress to date, there is room for hope.

Don't forget, the UNFCCC has no teeth. It can only move forward by consensus, which is why it has taken 26 COPs to get to the current agreement about coal and fossil fuel subsidies. The current trajectory is moving in the right direction, even though the pace is too glacial for many of us.

Pact item 36 “Calls upon Parties to accelerate the development, deployment and dissemination of technologies, and the adoption of policies, to transition towards low-emission energy systems, including by rapidly scaling up the deployment of clean power generation and energy efficiency measures, including accelerating efforts towards the phase-down of unabated coal power and inefficient fossil fuel subsidies, recognizing the need for support towards a just transition”. This is a good development - the first time that coal and fossil fuel have been mentioned in a COP report.

We are moving fast in this direction in the UK, but we are still talking about using more coal in the northwest, and drilling for more oil in the North Sea. As ever, our politicians are facing in two directions at once. Even so we are beginning to see signs of the end of coal in the UK (it is still at between 2-3% of our energy supply). Globally about 1/3 of electricity supply comes from coal (see earlier), and during COP-26 China's news agency announced that the country had just broken its record for coal production. It never fails to surprise me that one of the great sunshine countries, Australia, has just a tiny renewables industry. Coal is king out there.

Pact item 38 “Emphasizes the importance of protecting, conserving and restoring nature and ecosystems to achieve the Paris Agreement temperature goal, including through forests and other terrestrial and marine ecosystems acting as sinks and reservoirs of greenhouse gases and by protecting biodiversity, while ensuring social and environmental safeguards”. Great to

see climate change and biodiversity being connected for once. This is a charter for reforestation and the ending of deforestation.

Besides these main points there was much discussion of helping developing nations move in the right direction, although the \$100 billion dollars they had originally been offered still has not materialised. There was also much discussion on how to compensate developing nations for climate damage.

As a final point of interest, some 450 banks and other financial institutions were persuaded to agree to put their shoulders to the wheel to support green initiatives. We'll see how that pans out.

The Guardian reported on November 5th that India had signed up to achieve net zero by 2070 (i.e. 20 years later than the 2050 goal), but “the absence of a mention of an end to coal in Mr Modi's COP-26 speech, and India's refusal to sign the commitment at COP-26... to phase out coal-fired power, was seen by observers to highlight that the transition away from coal remains an unresolved problem.

On the scientific front, the scientists of the Global Climate Observing System (which I used to be part of when I worked for UNESCO) are telling us that 'net zero' means sustaining current levels of CO2 and warming at 2050 levels, which will keep the planet out of energy balance. In layman's terms that means that warming will persist, which will, of course, melt more ice, which will raise sea level more. They are calling for CO2 levels to be reduced (by 'negative emissions') from the current level of 500 ppm CO2 equivalent (i.e. CO2 plus methane plus nitrous oxide) down to 350 ppm, the level it was at in 1988, when the temperature rise above the baseline for 1900 was a mere 0.6 degrees C. Admittedly that would help, but if we want to save the world's ice (which acts as the world's refrigerator and helps to keep the planet cool) we will need to get CO2 down to 300 ppm. What a challenge that will be!

Negative emissions means sucking CO2 out of the air (trees are just one way of doing that). Net Zero means something different - you can keep putting CO2 emissions into the air provided you take them out. That is a licence for oil, gas and coal companies to carry on business as usual. We desperately need to start applying negative emissions NOW, not in 2050. This will be quite a challenge, as apart from growing more trees, most of the requisite technology is at the R & D stage.

If you are not talking to your MP about this, then you should be. We need to keep our local representatives knee-deep in mail and complaints about this issue in order for them to begin to take it seriously.

A list worth reading:

Colin Summerhayes gives us his pick of books to brush up your understanding of the Climate Crisis

- Tony Juniper, 2016, What's Really Happening to our Planet. The facts simply explained. Dorling-Kindersley
- Greta Thunberg, A Year to Change the World. TV Miniseries, 2021.
- David Attenborough, 2020, A Life on our Planet. Ebury Press (also a Nature documentary).
- Mark Carney, 2020, Values: Building a Better World for All. William Collins, London.
- Bill Gates, 2021, How to Avoid a Climate Disaster: the Solutions we have and the breakthroughs we need. Allen Lane, London.
- Kate Raworth, 2017, Doughnut Economics: Seven Ways to think Like a 21st Century Economist. Random House Business Books, London

- Russell, E., et al., 2021, Surrey Climate Baseline Study, Surrey Climate Commission (on line).
- Hawken, P., (ed.), 2018, Drawdown – the most comprehensive plan ever proposed to reverse global warming. Penguin, Random House, London
- Michael Bloomberg and Carl Pope, 2017, Climate of Hope. St Martin's Press, New York
- Mike Berners-Lee, 2019, There is no Planet B: A Handbook for the Make or Break Years. Cambridge University Press
- Dieter Helm, 2015, The Carbon Crunch. Yale University Press
- Dieter Helm, 2016 Natural Capital: Valuing the Planet. Yale University Press
- Ian Gough, 2017, Heat Greed and Human Need: Climate Change, Capitalism and Sustainable Wellbeing. Edward Elgar Publishing.
- Christina Figueres and Tom Rivett-Carnac, 2020, The Future We Choose: Surviving the Climate Crisis. Manilla Press, London

... and one more recommendation - The Singing Bowl, a novel by GEF member David Stokes

David Stokes, a local author and member of GEF, recently launched a novel, The Singing Bowl, Book 1 of the Warming Worlds series. Its theme is climate change, and he is donating all profits to local organisations working to reduce carbon emissions. Initially this will be Zero Carbon Guildford, the local centre that is helping the town to become carbon neutral by 2030 (see front page story).

The story features three teenagers who are given the mission to fight climate change on Thera, a sister planet to Earth. Like the delegates to COP 26, they find this no easy task! One early reader described the book as 'a wonderful blend of characters, realms and settings,' and another as 'a triumph of fact and fantasy that focuses on the most

important issue we have ever faced.' Although the book was written with younger readers in mind, it should appeal to a wide age group. It is available on Amazon and Kindle (where the first five chapters can be downloaded FREE

Here is the link: <https://amzn.to/3BLPhir>

It is also available on Apple, Barnes&Noble, Kobo, BorrowBox, Tolino, Scribd, Baker&Taylor and other platforms.

To keep costs down and donate more to climate charities, this is a self-published book. That means it needs reviews on Amazon to make it visible. So, if you like what you read, please post a review! If you would like a free paperback copy to do a review, please contact the author on drdrstokes@gmail.com

As the story implies, political leaders can only do so much; the rest is down to us.



My quest for a green home

Barrie Lloyd, MStructE, C Eng.



I have a great love of nature and this beautiful planet and have always been keen to reduce my environmental impact. Over the last 34 years, I've been lucky enough to be able to invest in my home, to make it as thermally efficient as possible. My ambition is to retrofit my home to as close to passivhaus standards as possible.

I started with small steps like lowering the set point on the heating system, wearing jumpers, simple controls, loft insulation and double glazing but have more recently moved on to external wall insulation and a heat pump. I thought I'd share my journey here in case GEF members find it of interest.

Loft insulation and cavity wall insulation

My house was built in 1952. When I extended it in the late 80s to give an overall floor area of 170m², I incorporated cavity wall rockwool insulation and 150mm rockwool in the loft. Over time, I increased this to 300mm, significantly reducing heat loss through the roof.

Windows

Back in 2007, I installed secondary double glazing, retaining the original Crittall steel windows. This immediately improved the comfort level inside and cut down on draughts. However, this year, I finally decided to replace the original Crittall framed windows with new double glazed panes, so I now have two sets of double glazed windows with a 100mm cavity between them.

Solar panels

In 2010 I installed solar panels on the south facing roof. I had the maximum number of panels allowed at the time; 18 solar panels at 3.96kWp. The panels were expensive at £16,000 but the feed-in tariff meant that my investment paid back over eight years. They qualified for the maximum feed-in tariff at the time (45p/kWh, tax free and index linked, so now eligible for 55p/kWh). There is no longer a government feed-in tariff for new systems, but solar panels are getting cheaper every year with the cost of a 4kWp system with solar switch costing around £5,000-£6,000. Thanks to the solar energy generated, I have cut my electricity bills roughly in half, excluding feed-in tariff.

Battery pack

In 2016, I had a PV battery pack and solar switch installed to store the solar energy in the form of heated water. This meant that excess solar electricity could be used to feed an immersion heater fitted to my hot water tank. This generated enough stored hot water to satisfy my summer hot water requirements. The cost was £6,000 and the pay back period is estimated at 6 years.

External wall insulation

In 2021, I decided to externally insulate the house to reduce heat loss through the walls. NuLook Insulation installed externally fitted expanded polystyrene panels, covered with a waterproof render. The total thickness of the walls is now 370mm and the U value of the cavity wall is calculated at 0.186W/m²K. This significantly surpasses the current requirement for heat loss through an external wall in a new build house (0.3W/m²K).

I had to extend the eaves of my roof in order to accommodate the thicker walls and this required Planning permission and Building Regulations approval. There was a Government Green Homes Grant, but I did not qualify for this as I already had cavity wall insulation.

The external wall insulation and new double glazed windows installed in 2021 cost £54,000, including VAT.

Heat pump and radiators

This month I am having a 12kW air source heat pump fitted by RHI Heat Pumps Ltd to provide central heating. Including installation and commissioning, the heat pump will cost £11,100. Heat pumps work better with appropriately sized radiators, so I've upgraded some of my radiators and installed thermostatic valves, which cost me £2,500, including fitting.

Following the installation of the heat pump, I will be eligible to receive the Renewable Heat Incentive (available for heat pumps installed before the end of March 2022). This will give a payment of £8,141 tax free and index linked spread over the next 7 years. Overall I expect my running costs with the heat pump to be lower than when I had a gas based system.

Overall EPC rating

The EPC for the house has recently been rated as band B. This was done before the heat pump had been fitted. The CO₂ emissions were calculated at 1.9 Tonne/year with an average for a similar property being 6 Tonne/yr. However, I am confident the rating is now higher than this because this does not take any account the "double" double glazing and solar switch for the hot water which are not recognised by the EPC methodology. All this work to improve the thermal efficiency of the house has resulted in a substantial increase in its value and comfort.

We are all being urged to take responsibility for the state of the planet and to take personal action to reduce our carbon footprint and secure a future for our children and grandchildren. I've been in the fortunate position to take advantage of some of the early government schemes to take these measures in my home, but we will need a lot more of these programmes if everyone's homes are going to get up to similar standards. Ultimately, more efficient homes will be more comfortable and cheaper to run, which will be better for everyone and the environment.

Rosamund Update: Our Community Garden Pond - by Helen Harris



Volunteers hard at work



Marginal plants in place at the edge of the pond

It was a misty October morning when four enthusiastic volunteers gathered at Rosamund Community Garden to do some maintenance work on the wildlife pond. The aim of the work was to enhance the habitat to encourage wildlife and increase biodiversity.

We had received visits earlier in the year by two ecologists including Ben Siggery, freshwater ecologist at Surrey Wildlife Trust. They advised cutting back some vigorous iris and sedge to prevent the dying leaves decaying in the water, and planting the margins with native wild flowers. The aquatic invertebrates that are currently present are of a detritus community, but by clearing the water it was hoped that other species would move in. We got to work with secateurs, and also planted native plants

we had raised from seed in the marginal zone – ragged robin, cuckoo flower, water mint, water avens and water forget me not. Five more of us met the following Tuesday to continue the work and also clear bramble from the adjacent dry bank where we will be planting chalkland flowers.

Our next plan is to raise funds for oxygenating plants to be placed in the water and for a second pond nearby which will increase the different microhabitats. Meanwhile we look forward to enjoying the flowers next summer - they will attract pollinators and provide habitat for amphibians which in turn will help the fruit and vegetables in the garden. Thank you to SWT for their partnership and support with this project.

The arrival of Autumn - *Pictures by Raymond Smith*

One of the best ways to motivate ourselves to make the changes required to tackle the climate crisis is to take a moment to appreciate the beauty of the natural world around us.

Here in our leafy corner of the Southeast we are nothing short of spoiled when it comes to the range and diversity of visually stunning green space on offer. It's with this in mind that, every issue, I ask for pictures to celebrate the coming season rolling in across our woods, heaths and fields.

This time round, as luck would have it, Raymond Smith managed to get out with his camera just as the leaves were turning and has captured the golden arrival of Autumn.

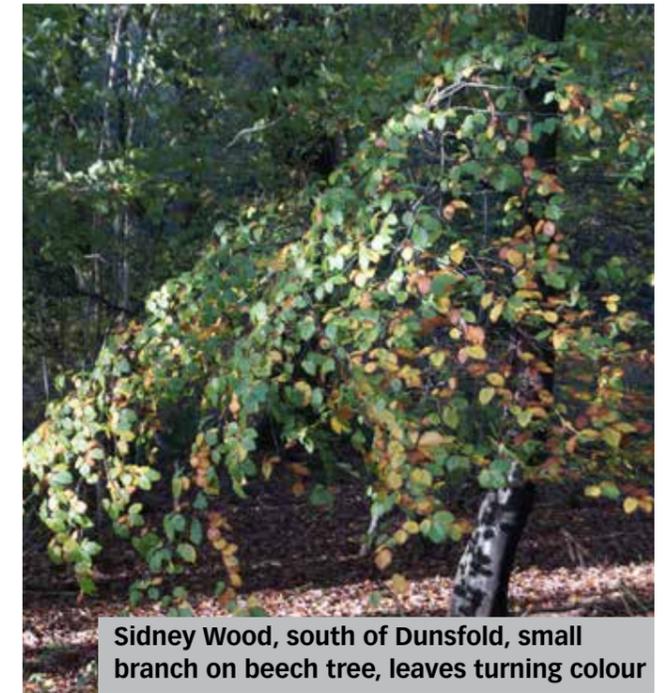
As winter sets in, bringing frosty mornings and the chance of snow blowing our way, please do take the time to send me your best snaps for our next issue.



Haydons Ball, various shades of bracken



Haydons Ball, birch tree nearly devoid of leaves, oak tree still green



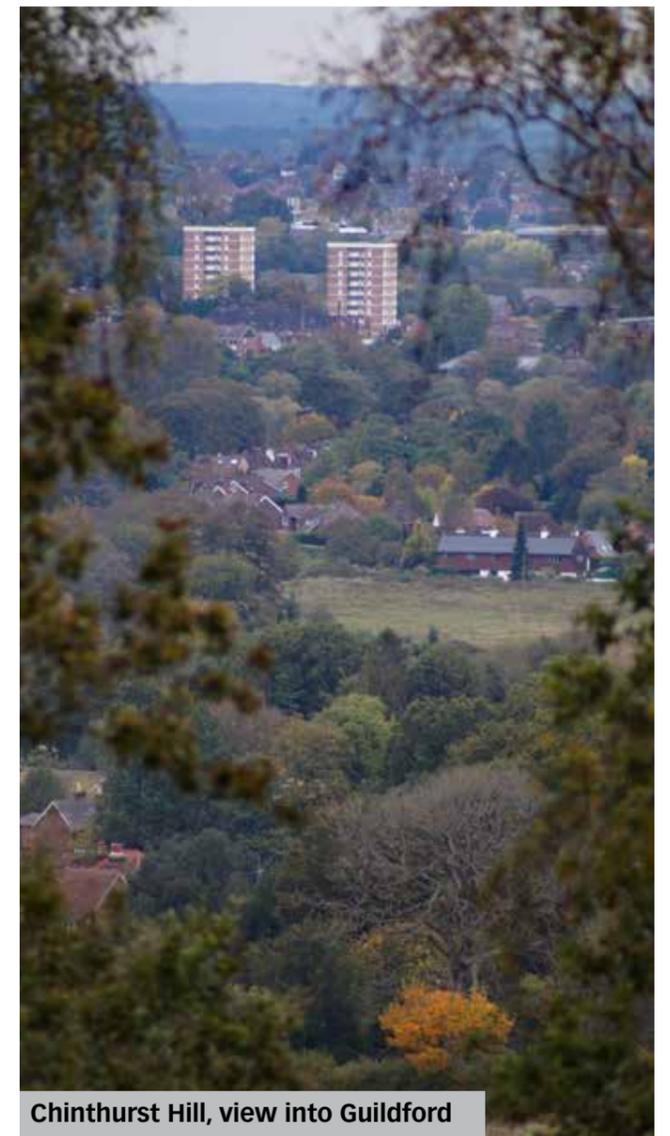
Sidney Wood, south of Dunsfold, small branch on beech tree, leaves turning colour



Sidney Wood, south of Dunsfold, row of birches



Hidney Wood, south of Dunsfold, row of birches



Chinthurst Hill, view into Guildford

The swift project update - Swift to Save Swifts

In 2020, the Pandemic limited our conservation work with swifts. We couldn't put up boxes until late Autumn but we did have time to observe swifts when they arrived in May 2021 and we are getting to know areas in Guildford where small colonies are nesting. People also became more aware of birds and perhaps the swifts also enjoyed our quiet skies more. The absence of planes, less pollution and clearer land marks making it easier to find their nesting site, and meet their faithful lifelong mate. With luck their nest holes under the eaves of an old houses, in old brick work, or in swift boxes are still there.

All too often however they will find their nests gone. Roof maintenance, insulation and the building of thousands of new houses often give no thought in design to help these amazing birds nest. Where will our swifts go? After an exhausting migration flight of 7,000 miles from Africa, will it have the energy to find a new nest site and build its nest from scratch again? Sadly many do not. swift rescue centres soon fill up at the start of the season, with dehydrated, exhausted swifts.

The number one cause of swifts decline is loss of nesting sites and our Swift project here at GEF can make a difference. Late Autumn in 2020 due to the pandemic, we only managed to install 29 boxes. Better than nothing for sure, but there was going to be a lot of catching up to do for the following year.

2021 Targets and a new Swift Box Project:
I set up a new swift box project called 'Swift To Save Swifts'. This was in collaboration with Hampshire Swifts. Hampshire Swifts have a small team that make their own boxes and install them. Their team includes Tim Norris, who offers advice on box placement and designs bespoke boxes to fit in awkward places, and Roger Maynard, who makes the boxes and installs them with great skill. They are well practiced, having done this in Hampshire for a good number of years now. This collaboration means once a month we put up as many boxes as we can in a full day. We also provide advice and education on swifts to those who show interest.

People who want boxes go on a waiting list, and I organise our monthly installation days. Where possible we try to put up as many boxes as we can close together, on neighbours houses etc, as swifts are colonial birds. We also try to aim for areas where swifts are already seen, or have been seen in the recent past, as this will be more successful, given the swifts are already established.

Swifts eat on the wing, catching aeroplankton, flying insects, airborne spiders, butterflies etc. Swifts will catch and carry in one feed a staggering 1,000 insects. These are eaten, or carried back to feed chicks or used to build a nest, woven together with saliva. When they have chicks to feed, they can gather up to 100,000 insects in a day.

People often believe the decline of swifts has to do with the decline of our insect population and while this may have some effect, together with issues like climate change (frequent storms and growing deserts make for more challenging migrations) without a doubt, loss of nests sites is the most significant factor. There is nothing more heart breaking than seeing a swift return to a nest site that is now blocked up, and seeing it fly at the wall trying to enter.

Our next best hope is to mitigate and put up boxes. Patience is then needed by the receiver of the box. It can take 2 to 3 years before a swift will occupy the box. We can also provide advice on 'Swift Callers', which when set up and played at dawn and dusk, will often call in swifts to explore and potentially speed up the process of getting your nest box occupied.

People often ask me when to expect nesting swifts, but the honest answer is that there is no guarantee as it can take more than a year for interested swifts to nest. We encourage those with boxes to report to us if they do get swifts and we will upload the data on to 'Swift Mapper', an app by the RSPB. Hampshire Swifts have had very good uptake of their boxes in Hampshire.

An ambitious target was set to put up a 100 boxes across Guildford this year and I am pleased to report we surpassed it with a total of 120 boxes.

We have been delighted with the amount of interest we attracted from such a wide variety of residents and organisations. Among these was an opportunity to install boxes at Cherry Trees Respite home for Children in East Clandon. This made the local news and helped spread awareness of how exciting and educational swift boxes can be.



- In Charlottesville Guildford, Gina a GEF member, had 8 boxes put up on her property. Amazingly in the same year, after the boxes had only gone up for a week, some swifts were prospecting her boxes. This bodes very well for next year, so we hope to put up more in this area in 2022.

- John Bannister GEF member who has dedicated many years to the GEF Swift Project, finally got some bespoke made boxes, painted white, so they could go on to his listed house. They look fantastic, let's hope they get occupied soon.



- A big thank you must go to Stephen Rudd of Merrow Residents Association, who organised a large list of residents keen to have swift boxes. 46 boxes went up across Merrow over 2 days. Again the enthusiasm from Merrow residents and the take up of boxes was outstanding.
- I am very pleased to report that out of the three boxes I had put up on my own house, last year I noticed one box being explored by a non-breeding swift and this year, sparrows nested in all 3 boxes early season and then I had two breeding pairs of swifts move in to 2 of my boxes after the sparrows had left. One of my boxes was new and had only gone up last year. I had been using a 'Swift Caller' this year, but even so this was a quicker uptake than expected.
- Our very last boxes for this year were put up at Pewley Down Vineyard, just before dusk this November, it was a beautiful setting. The Surrey Wildlife Trust's herd of Belted Galloway Cows had just arrived and was grazing on Pewley Fields. The swift boxes went up on the outside of the barns and will be excellent company for the swallows that already nest just inside.



- In East Clandon Adrian Thompson (GEF), had rallied the troops and assisted with the first days organisation with military precision. A freezing cold day, with snow on the ground, but we soon felt the enthusiasm, support and warmth of the East Clandon residents.

We were notified that there were also plenty of swallows visiting this village in the summer, making their mud nests in barns. Swallows and house martins are also struggling in numbers. Due to climate change we are having drier months, just when the swallows and house martins are building their nests. Their mud and vegetation supply becomes much less available. A climate warming scenario of 1.5 c, would mean spring heat waves, endangering the young birds in the nest.

Though our project is nominally focussed on swifts, we are concerned for many other endangered species and made efforts to educate residents in ways that help these animals survive. We talked to the residents about the importance of leaving barn doors open if you can, and supplying a mud pool mixed with vegetation if it's a very dry spring. The RSPB recommend digging up the edge of your wild life pond and keeping it muddy, and making mud and putting in a shallow container like a dust bin lid. One positive of a longer dryer

Spring, is it will lengthen the breeding time for swifts, swallows and house martins which may result in more chicks.

These are the challenges we face for the future. Salisbury and Wiltshire Swifts are now putting up house martin pre made nests, as well as swift boxes and I am sure many organisations that protect birds will soon be doing the same.



Saving a colony of Swifts on the Epsom Road
For some readers you will know of, or indeed may have taken part in the Epsom Road project. This was a project where renovations were being done on a large victorian house, but unfortunately scaffolding had been put up just as the swifts had arrived and were trying to nest. It is illegal to block any wild bird from getting to its nest. After several meetings the scaffolding was brought down, and GEF volunteers monitored the swifts over the summer season. From this monitoring we discovered exactly where the nests were and how many, which was vital to know for the future maintenance work.

During the summer evenings the volunteers enjoyed watching the swifts and it was a great opportunity to learn about them.

There were 8 nests on this house, but sadly one failed early on, so we monitored the 7 surviving nests all through the season until they migrated back to Africa. We were rewarded with being able to see the last chick with John Banisters telescope, before it too left for Africa. It is a mystery how a young swift will know its way to Africa on its first maiden flight, when it has never been there before, and astonishing that once leaving the nest, it will stay on the wing, continually for the first 3 to 4 years of its life, until its ready to mate and nest.

We knew we had to make sure that at least 7 nests were kept accessible for the following year. If a house must have their nest holes blocked up, then sadly the best you can do is mitigate with boxes, but it is always better to try and find a way to conserve the original nest holes where possible. The scaffolding went back up after we informed the contractors that the swifts had left. Myself and Tim Norris from Hampshire Swifts continued to make visits to the nest sites. We took measurements and Tim designed bespoke platform boxes to fit in under the roof gable. The Building contractors were helpful throughout this process, and they offered to actually build in the Swift platform boxes.

In the summer when monitoring the Swifts, we had noted that although there was no nesting on one side of the house, in the middle of June for two weeks a crowd of swifts arrived, all looking and prospecting that side of the house. These were Juvenile Swifts who fly over together from Africa mid June, just for a few weeks to check out potential nests for when they reach breeding age. When we were checking the nest

sites after they had gone, the builders took us to that side of the house and showed us all the holes under the roof eaves, where swifts could make potential nests. They said they would do their best to keep that area accessible.

Left - Tim Norris and myself, checking nest entrances



Below - Wally and George, the Builders, with our new nest box drawings.



Simon Lynas, Director of Farrow & Lynas Ltd. is keen to emphasise how his team will do all they can to build with wildlife conservation in mind. So if you are thinking of doing roof maintenance or building work and you are concerned about swifts or want to add nesting space as part of your build, you are invited to contact them. simon@farrowlynas.co.uk

On 13th June 2021 a resident at the house reported seeing the swifts returning to their nests, and for the first time ever they were seen on the side of the house not normally used for nesting, where the juveniles were seen looking last year. This bodes well for more breeding swifts to use this house, so although a long project, it was all not in vain. A big thank you to the residents of the house for their patience while we monitored, to the contractors, to Hampshire Swifts and to all the GEF volunteers.

Shalford Swift Tower

Many people ask me if Shalford Swift Tower has had swifts yet. Some have reported hearing swifts call nearby, however there

is no evidence of any actual nesting. Shalford Swift Tower is now only in its second year of being on site and it is not unremarkable in not being occupied yet. Swift towers can take many years to get swifts. Some will have more success than others, as they



tend to vary in design. The reports of calls were likely to be the tower's inbuilt caller, powered by solar panels on top of the tower. This 10 metre tall steel tower has 45 individual wooden nest boxes, all numbered for helping monitor their occupancy.

A Swift Tower was installed at Tices Meadow in 2018 and for some time it stayed empty, but it is pleasing to report that this year it has its first two pairs of breeding swifts. Further discussions are being had on how we can make Shalford Swift Tower more attractive to swifts, but fingers crossed maybe next year will be the time they choose to nest there. In the mean time this is also a very impressive piece of public art, to admire and to help raise awareness about our swift population. It is relatively early days and we remain optimistic swifts will eventually settle here.

Ockford Ridge Swifts- Godalming

Ockford Ridge Swifts Project is a five year project. This is a social housing estate in Godalming with some private housing, which is being regenerated. A large number of houses are being demolished in stages and more new houses being built to replace them. A large colony of swifts have been nesting here in the old houses being demolished since the 1930s. Many nest under the old roof eaves, but also in-between broken brick work and crumbling pointing. On a summer's evening it's a sheer joy to witness the swifts, sometimes up to 30 or 50, screaming and swooping over the roof tops. It's one of the rare places to see large numbers of swifts and is reminiscent of days gone by, when our English skies were full of swifts.

When the first lot of housing was pulled down and new houses built, they became totally sterile to any form of wildlife and certainly nowhere for swifts to nest. We started to have many meetings with Waverley Borough Council and luckily the manager of the development was also keen to get the new housing as green and wildlife friendly as possible. John Bannister and I explained how to mitigate the loss of the nest sites, by putting in swift bricks in all the new houses going up. Once it was seen how inexpensive and easy it is to put a Swift brick in each dwelling, it was agreed by Waverley to include them in their plans.

We also ran an awareness campaign for the residents. A swift advice stall was held at some summer fairs, a swift quiz, information booklets were given out and we wrote about the swifts in the Councils news letter. This spring the first lot of new houses were completed with residents moved back in. They arrived back to houses not only with swift bricks built in, but bat boxes, and other bird boxes. It was a joy to see the start of our hard work on paper and in meetings, finally being built for all to see.

In 2019 we were invited to mark out where we thought the best places were for the swift bricks in the next phase of houses being built. We will continue to do this for all the new building phases. This second site is going up fast and as I type this, the swift bricks are starting to go in. This development should be ready by the time the swifts arrive back in May 2022. Once developers start thinking more about nature and maybe include just one habitat or environmental change, this in my experience, so often starts to snowball, and more nature friendly adjustments are made.

Alongside their cooperation with our project there are

additional plans to help conserve other forms of wildlife on the estate. Hedgehog Highways, Pollinator plants and a Community Orchard to name but a few. Waverley Borough Council and Thakeham's (the building contractors) are to be congratulated on the work they have achieved so far, to help make this emerging housing development go beyond the expected environmental net gains. Let's hope other Councils and Developers will take on their example

Raising awareness

As soon as restrictions were lifted this year, we set about raising awareness at local events. Next year I am planning to start doing talks on swifts to small local groups. In the new Zero Carbon Centre we will be creating a swift display with information leaflets.

If you would like a swift box installed please contact me on the below email. Your full name, address and Tel contact number will be needed.

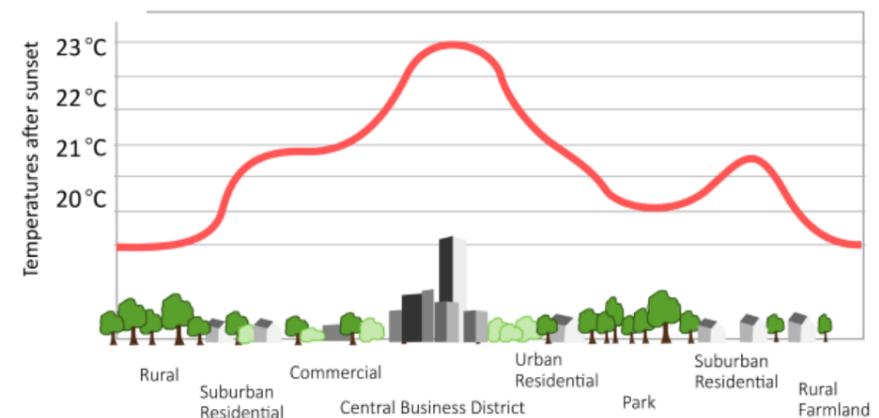
swift2saveswifts@gmail.com

Photos and article by Sarah Davis GEF Swift Project.



The Urban Heat Island Effect - An explanation by Richard J Seymour

URBAN HEAT ISLAND PROFILE



The diagram above shows the difference in temperatures after sunset between the centre of a town or city and the surrounding suburbs and rural areas. In particular this heat island effect is most marked under anticyclonic (high pressure) conditions in summer and autumn when there is little wind to disperse the accumulated heat energy. Having worked in the centre of Guildford for over 40 years and commuted on a daily basis from the NW edge of the town to the High Street I have noticed the temperature contrasts at first hand, and they have been as much as 2 or 3 degrees C. It is clear that urban areas modify the climate of the surface and the atmosphere.

A piece of research done by T.G Chandler in the late 1950s using climatic data from meteorological stations throughout London showed big differences in the minimum temperatures recorded between Westminster 11 .1 degrees C and the rural fringe at 4.4 degrees C. There are a range of factors that are responsible for these temperature differences such as the effect of atmospheric pollution on outgoing radiation. In addition there is the direct production of heat from industrial sources, transport systems and central heating systems for example a blast of hot air can be experienced when you enter certain shops in the High Street in Guildford. The most important factor is the release at night of heat accumulated in the urban fabric as bricks, tarmac and concrete act as giant storage heaters. There is a tendency for building elevation to increase in the urban centre as shown in the diagram above and in this context it would be interesting to see the impact of the new tower blocks in Woking on the local urban heat island.

It is known that people have a significant role in climate modification and the urban heat island phenomena is a good example of this process which planners and decision makers should be mindful of.

From Glasgow to Guildford

By Michael Tanner

As we sit in our private corners, in the heart of stockbroker country, resigned to November drizzle, and hardly clutching the edge of our seats as matters draw to a conclusion in Glasgow, things in general appear to be much as expected round here.

Quiet flows the Wey: they are playing Julian Barnes at The Yvonne Arnaud; jets apply their air brakes in the flight path above the city; queues for petrol and diesel have disappeared; the vulnerable have had their booster jabs. What of any consequence remains to be said? What words are likely to achieve anything in the realm of CC? Is our Joan of Arc (Greta Thunberg) hearing properly when she declares that Bla Bla is the dominant sound emanating from Cop 26? There is no lack of interesting and informed opinion on the matter but it all leaves most of us suffering from tennis match spectator syndrome - a pain in the neck.

However, a few of the major speakers let a shaft of sunlight strike through the lowering cloud with just a few words of incontestable truth.

One such was Farhana Yamin, an Environmental Lawyer who represents those places on this planet which will become largely uninhabitable when the sea surrounding them has an altitude higher than theirs, to put it bluntly. In particular she pointed to Barbados in the Atlantic and to the Maldives in the Indian Ocean.

There will certainly be a sprinkling of persons locally who know all about the azure blue water around the hundreds of coral islands which constitute the Maldivian Archipelago and over the past twenty years or so have become the 'cream of the crop of secluded beach holidays.'

But Farhana did more than remind her audience of these facts. She spoke also of the 'remedies' and

knocked the easy and ignorant one on the head: some had suggested a concrete wall to resist the abnormal rising level of tides. This was the kind of uninformed quick fix approach so prevalent, unfortunately, and typical of supposed solutions which show ignorance of ecology and failure to work with Nature. All the islands of this archipelago are



Environmental Lawyer - Farhana Yamin

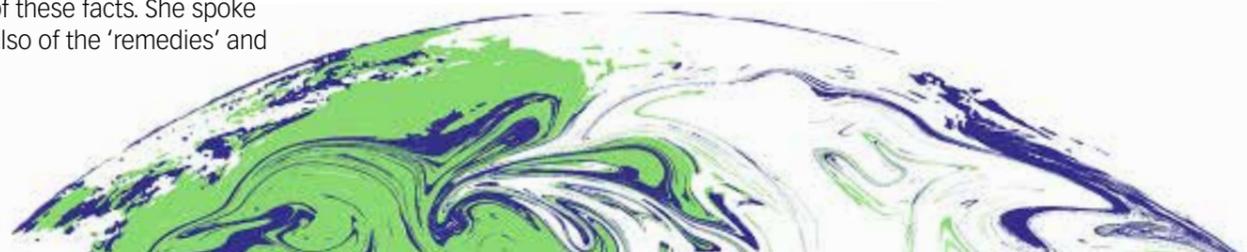
based on coral, a miraculous form of life which we are quite capable of restoring with assiduous patience, but a species which is threatened by many human practices.

Once again we have an example of probable collision between those after quick financial profit and those who have long known that the path to reaching 1.5 degrees above preindustrial temperature by 2030 is beset with the anti-personnel mines of selfish and misguided investment.

Every time I pass by or through the unbuilt-on water meadows of the local Wey I give a thanks to anyone who has had a hand in their maintenance and survival.

Of course it has also become clearer that solutions must not have fatal flaws as, for example, not accurately forecasting future demands on energy: just imagine the bills in twenty years time for air conditioning in the inevitable stifling summers and the problems of producing the extra energy demanded.

We all shall have, it seems certain, to adjust our view of what produces anticipation of happiness in our human spirits.



If we want to save the planet, we need to rethink how we build -

By Caroline Scott

Visit Caroline's blog to read more of her work <https://regreentheplanet.blog/construction/>

If we want to save the planet, we need to rethink how we build. All across the country – and the world as a whole, communities are facing struggles to protect the places where they live from some kind of development. That place, that environment, can be life-giving for local residents – a habitat. A place that provides sources of drinking water, food, and shelter. In the industrialised world however, where our water is piped into our homes, and food sourced from supermarkets, and our houses built by other people, with an array of materials, the environment represents something that is less to do with direct survival, and more to do with wellbeing. While the ecosystems around us are crucial to all life on earth, for many people, the places under threat represent a sanctuary from the noisy, often polluted, world in which we live. Even if the sounds of traffic or building work can still be heard, a walk through a woodland can be accompanied by birdsong, and occasionally the rustle of deer running for cover. It's the sound of life, and being able to immerse ourselves into that, to reconnect with the elements of the earth, is something magical.

Wildlife is not as abundant as it once was. But across the world, species are still busying themselves with survival, rearing their young, at the edges and pockets of habitat humans have left them. This is something that we don't get so much of in urban environments, places that have erased much of the natural world.

Loxwood

A forest in Loxwood, West Sussex, is one of those remaining green spaces under threat. Maybe to many it's no more special than any other woodland, but that's just the point. Every woodland is special and hosts life. Every ecosystem is worth saving for both its importance as habitat, and as an ecosystem, and for importance to the people that hold it dear. The local community in Loxwood have been aware for over a year of plans to create a waste disposal site – and a mine for clay. Finally in July 2021, an application was submitted.

As an area visibly rich in clay, the company putting forward the proposal – Loxwood Clay Pits – say that nearby land has historically been the site of small-scale brick-making in the 1800s and early 1900s.



The construction industry and its footprint

What is proposed today, however, may be considered small scale by current industrial standards, but it is still a considerable area – 33 acres in total. 33 acres of habitat. 33 acres of vital green space. 21st century machinery and HGVs are a far cry from the technology available 200 years ago when the site was first said to be used for brick making, and from an environmental perspective, that spells bad news.

Two centuries of rapid industrialisation, globalisation has changed the dynamic considerably. More machinery adds up to much more destruction. The scaling up of the construction industry has been a response to the demand for building across the world, and the destruction of the living world has been largely due to the choices made when it comes to how to build.

This building boom has a huge ecological footprint. 35% percent of endangered species globally find their habitat threatened by urban development – the land to build on. But even more significant is the over-exploitation of materials – a lot of which are used in the construction industry. A staggering 72% of endangered species are at threat from loss of habitat.

Britain relies heavily on imports of natural resources to sustain its lifestyle (which is calculated by Global Footprint as a three planet lifestyle). Mines are generally thousands of miles away, and the energy used to manufacture the materials constitutes a more abstract type of pollution, taking place in factories mostly nowhere near Britain. Timber, bricks, and concrete (made up of sand dredged from across the world) arrive on trucks ready for building, with little connection to the forest or the beach that has been left depleted, or worse, lifeless.

The Loxwood Clay Pit proposal therefore throws three questions into sharp focus – where we source building materials (mining), where we put the buildings (on green space), and where we put the waste materials (in landfill, incinerators, recycling plants etc.). All three impact ecosystems – and the living environment for local people. If ocean floors rich in clownfish, anemones and a host of

other life are being dredged to their extinction to mine sand, or forests home to deer and nightingales are being razed for mines, it's time to rethink how we build.

How we build



"Hut (explored)" by Navaneeth K N is licensed under CC BY 2.0

Humans have been building their own homes for centuries – and still do in many parts of the world. But over time, in the developed world, that practice has been lost. Housing materials have also changed. 20th and 21st century building is more elaborate, more energy intensive – and hugely reliant on concrete (made up of sand) and clay. Concrete, and much of the synthetic building material now used, does not melt

back into the earth as traditional dwellings would have. Part of the plan for Loxwood, is for a waste disposal and recycling plant. If we started building more sustainably, with materials that biodegrade, such a site might not even be needed.

The people of Loxwood now continue their campaign to save their woodland, and wait apprehensively to see the report from planning department. If the application is granted, the roe deer, owls and so many other plants, animals and insects, will lose their woodland habitat. Local people will face a loss of a precious space they use to walk and relax. With multiple new housing projects in progress around Loxwood (as in almost every part of the UK), public space to enjoy nature is more valuable than ever. Let's hope that this place can be saved, but even if it is, how long will it be before another site is identified – and another ecosystem is under threat? Unless there are changes to the way we build, and use space, there is little hope that Loxwood will be the last place under threat.

After 40 years of rapid globalisation, we are seeing the dire consequences for nature. It's no great surprise that the extractive model of mining, manufacturing and disposing of things (combined with chemical poisoning) has been catastrophic for the living planet. Wildlife populations have plummeted – they are a third of what they were in 1970 – and the trend looks set to continue unless the ecological emergency is addressed. With just 3% of wild spaces remaining intact, it's crucial that what remains is protected, and restored.

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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 or emailed to you four times a year. Forum membership is only £10 per year or £15 for a couple, while for age 21-25 it's £5 and for under 21s it's free. New members are warmly welcomed. Please contact Adrian Thompson on 01483 222687 or email adrian@lampcottage.net

Guildford Environmental Forum's newsletter is published in March, June, September and December. Please send contributions for the next issue to Ellie Morgan (details above) by 14th Feb 2022. The views expressed in this newsletter are strictly those of its contributors and Guildford Environmental Forum.