

IN THIS ISSUE: The Value of a No Mow Month (or Year!), Let It Grow: Sharing Your Garden with Wildlife, Conserving and Exploring our Ancient and Veteran Trees, Why is the River Wey a pirate stream?, Waterways: How can we protect them?, AGM Summary, The Anthropocene: What are the implications for our grandchildren?, What to Read



*Guildford Environmental Forum*

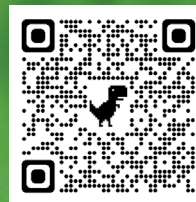
*newsletter*

June 2023 - August 2023

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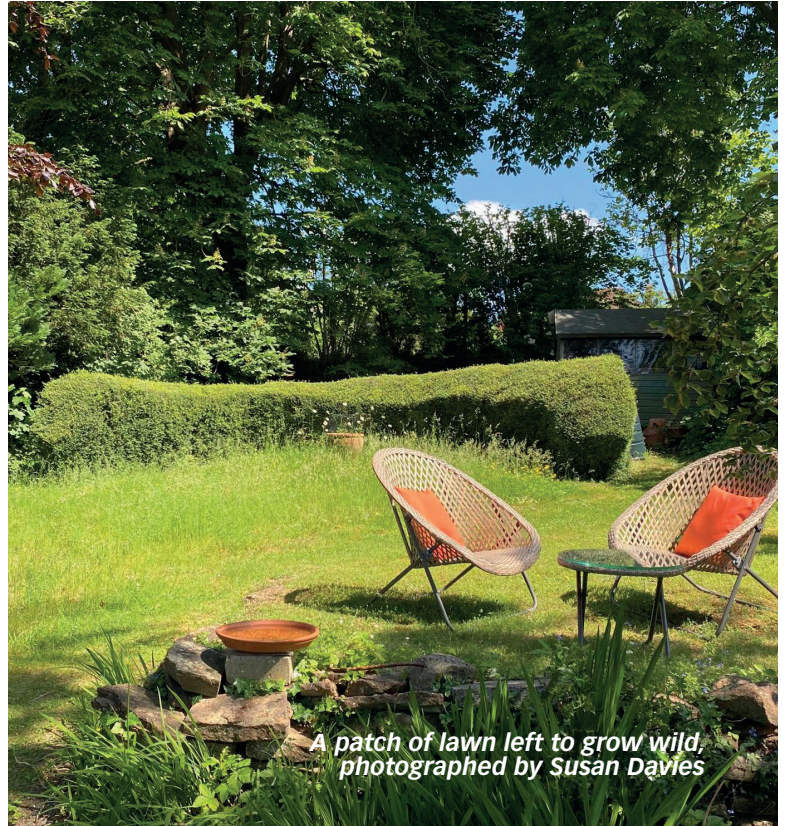
*Herb robert,  
photographed by Raymond Smith*

# The Value of a “No Mow” Month (or Year!)

By Anna Williams

THE HIGHLY manicured grass lawn came into popularity in the UK in the 18<sup>th</sup> century. Through colonial and cultural influence, this lawn style has spread across many other countries over the centuries. In fact, most lawns in the USA are not native to their own country, but instead grown from British species of grass.

But what if these lawns are bad for the environment? It might seem counterintuitive that a green space, with a plant that photosynthesises, could be bad for the planet. Unfortunately however, these lawns emit a lot of carbon dioxide, with the highest estimates stating that a hectare of grass lawn produces as much CO<sub>2</sub> as a flight halfway around the world. Not only that, but our increasingly hot and dry summers have shown the low resilience of grass lawns to drought. This means that with global temperatures rising, the aesthetic appeals of lawns are even diminishing.



*A patch of lawn left to grow wild, photographed by Susan Davies*

*So, what's the alternative?*

**It's simple: leave your lawn to grow wild!**



*A house cat explores the shared garden between tenement flats, photographed by Julia van Aart*

There are many small things you can do to improve the health of both your lawn and the planet. Allowing just a small section of your garden to become completely wild gives the chance for many new plants to grow and allows pollinators to thrive. It can be tempting to weed these areas, but remember that wild plants play an important role in supporting the birds and insects that we want to attract to our gardens.

Even halving the frequency at which you mow your lawn gives more time for diverse plants, such as clover, to grow. The longer grass also provides extra shelter for pollinators. Alternatively, raising the height of your grass to 7-10cm not only encourages pollinators, but allows grass to develop deeper roots, which ultimately makes them more drought resistant.



ARE YOU trying to attract pollinators to your garden? Are you gardening in other wildlife friendly ways?

There are many ways that gardening can be made more sustainable – no biocides, maximising wild areas, minimising hard surfaces, minimising light pollution (harmful for example to the life-cycles of some insects) and providing nesting sites for birds, bats and microfauna. At least using peat free compost has become easier than it was nearly twenty years ago when GEF and GBC ran a Gardening for Life programme. With the anticipated ban on peat based products garden centres are supplying peat-free alternatives.

Guildford in Bloom ([www.guildfordinbloom.com](http://www.guildfordinbloom.com)) has had a wildlife garden award in its competition for well over 20 years. I was a co-judge for this class (2010 to 2018) and for us judging was not about seeing how gardens measured up against a prescribed ideal wildlife garden, but based on how well entrants were incorporating wildlife features into the sort of garden that they wanted.

On the other hand, gardens can be largely given over to wildlife, may be you could call it “rewilding”. It is not, however, just leaving everything alone and never gardening - some management will still be needed. We no longer have the complete ecosystem that evolved in the post ice-age period so we need to manage many wildlife areas. Brambles will often take over, for example, and have to be controlled. Even so, if you have space,

# Let it Grow: Sharing your Garden with Wildlife

By Raymond Smith

a bramble patch is valuable – for pollinators, for birds eating the fresh fruit or the seeds of uneaten fruit during the winter, and as a protected area for ground feeding. Of course, for those of us who have been practising “rewilding” on a small scale for decades without calling it that, the spread of this concept is welcome.

It is fair to ask, do you need to have a lawn? Obviously, they are great for children to play games, or if you want to play croquet. There is, however, nothing inherently virtuous in having a lawn and hacking the grass into submission on a fortnightly basis. Even if you do, though, accept that it will not only have grasses in it. Many flowers, including daisies, speedwell, clover and some wild geraniums (cranesbills) can survive mowing and still provide modest amounts of food for pollinators. In some cases lawns, can be managed to be good for chalkland wild flowers. Moss may stay green in a drought longer than grasses do. One cut a year in late summer may be quite sufficient to keep the area as an open grassland – the cuttings can be removed to a compost heap. Small areas of long grass are still helpful in any garden, and once you are used to this you can let it take over more of the “lawn”.

From formal to wild types, a garden is still somewhere to wander around in for relaxation – and maybe spot and identify new plants and animals that have arrived on their own. There is much to be said for allowing local flowers to drift in – but there needs to be a nearby source. Beware when buying wildflower or meadow mixes, some of these contain non-native species (which may be described as “naturalised”). Check the list of species before buying.



Here are some nice examples from past Guildford in Bloom competitions!



As the meadow brown butterfly is widespread across Europe, Asia and North Africa, it is no surprise that it likes Buddleia



A multi-story bug hotel



Hedgehogs need access between gardens



Successfully attracting bees

# Conserving and Exploring our Ancient and Veteran Trees

By Sarah Davis

IN DECEMBER we published an article regarding a local ancient yew tree, possibly 500 years old, at Waverley Abbey in Farnham, that won 'Tree of the Year'. This event sparked discussion on how to help protect our ancient and veteran trees. I am delighted to continue to introduce to you events that will help us learn more about these important trees and how we can protect them.

Surrey has some of the most beautiful woods in England, and much more woodland than most counties. This woodland is not distributed evenly, however; It's concentrated in the boroughs and districts of Waverley, Guildford, Surrey Heath, Runnymede, Elmbridge and Mole Valley.

Trees and woodlands enhance quality of life, giving those living and working here the advantages of green leafy surroundings, pleasant views and better quality air. There are many more advantages to being the most wooded county, but there are also many issues concerning the protection and management of our trees and woodlands.

Some of Surrey's woodlands are wonderfully healthy, well-managed, well-used and cherished, and we should celebrate them. However, others need much greater care if they are to survive for future generations to enjoy.

Ancient woodland is land that has been wooded continuously since at least 1600 AD. Because they have developed over such long timescales, ancient woods often have features such as relatively undisturbed soils and communities of plants and animals that depend on the stable conditions ancient woodland provides, some of which are rare and vulnerable. They are also living history books, with features such as medieval boundary banks, charcoal hearths and old coppice stools that reflect their past management and usefulness.

We are extremely lucky here in Guildford to live near some ancient woodlands. Join us for an upcoming event and learn how to make sure these ancient ecosystems continue to thrive on your doorstep.

***All our events are advertised via ZERO's website, [zerocarbonguildford.org](http://zerocarbonguildford.org), as well as GEF's monthly news & events emails.***



**A RECENT EVENT**  
**A Talk by Geoff Monck**  
**of Treecosystems Ltd.**

**Conserving our local  
ancient and veteran  
trees: understanding  
the pressures on  
tree health in the  
modern era, and how  
to meet trees and  
explore our woodlands**



Geoff Monck is a Certified Veteran Tree Consultant (VETcert). He has spent the last 13 years working with key populations of ancient and veteran trees, as well as working on various tree and soil health projects with organisations like Natural England and the Royal Parks.

Well-known in the arboriculture industry for his skills as a naturalist and for observing trees to 'read them like a book', Geoff has tackled complex problems such as oak decline in an intuitive way, presenting the first full hypothesis of oak decline for the Ancient Tree Forum in 2021, following 11 years of research, observation, and experimentation.

He has gone on to use this work as a springboard to pioneer the new field of Regenerative Arboriculture.

In this immersive presentation, Geoff explained the core factors underlying a general deterioration in tree health in modern times, and explained how we can all interact with our woodlands in a sustainable manner.

He also talked about a key local project he has been getting involved with recently to conserve some of our most iconic ancient yew trees at Newlands Corner.



**AN UPCOMING EVENT**  
**A Walk & Talk led**  
**by Geoff Monck of**  
**Treecosystems Ltd.**  
**Walk & talk about our**  
**ancient yew trees at**  
**Newlands Corner**

***This event takes place***  
***on Wednesday 12th***  
***July at 11am; register at***  
***[zerocarbonguildford.org](http://zerocarbonguildford.org) &***  
***meet at Newlands Corner***

Come and learn about the work being carried out to protect our local ancient yew trees at Newlands Corner. Learn about the factors contributing to the decline of our ancient yew trees and the work being done to try and save them.

Two veteran yew trees have already died at Newlands Corner and several more are close to being moribund. We will be walking on the new boardwalk that has been constructed to protect the roots of these c. 1000-year-old trees and we will learn how we can all play our part to protect these trees when we visit them.

In addition, Geoff will share his expertise and general wealth of tree and woodland knowledge as we walk and talk around these amazing yew trees.



# Why is the River Wey a pirate stream?

By Richard Seymour

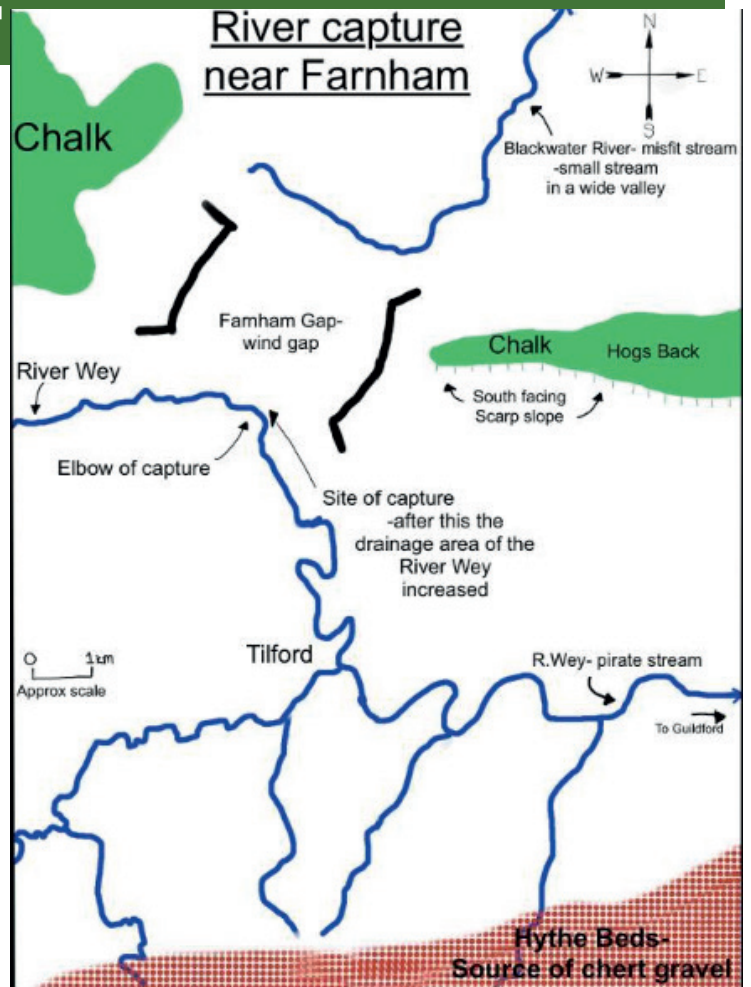
The term 'pirate stream' is used by geomorphologists to identify a river that has been able to capture the headwaters of adjacent streams by breaching the watershed between them. The processes include downcutting and headward erosion by the dominant stream - in this case, the River Wey - which has captured the upper reaches of the Blackwater River. The local structure of the scarplands between Guildford and Farnham provides ideal circumstances for river capture to take place, with parallel areas of harder rock (chalk) and the Upper Greensand, which is relatively softer.

The sketch map shows several distinctive features indicating that river capture has taken place in the area to the east of Farnham. South of the Blackwater River, there is the Farnham Gap, through the chalk ridge at the western end of the Hogs Back. This is roughly 2 kilometres wide, and is a broad dry valley once occupied by the River Blackwater. This is also known as a wind gap or col. This gap is orientated in the same direction as the River Blackwater today, which is a misfit stream, meaning that it is a small stream that now flows in a disproportionately large valley. Before the river capture took place, the catchment area of the Blackwater River would have been larger and responsible for creating the large valley in which the river now flows. The map also shows an elbow of capture where the course of the River Wey changes from flowing in a north-easterly direction to one which is broadly south-south-east. This is the approximate site of capture by the pirate stream. Authorities suggest that an earlier site of river capture took place at Tilford.

Further evidence of river capture at this location can be seen in the analysis of gravel deposits in particular hard chert, which can be found in the Hythe Beds within the Lower Greensand of the Weald. Chert gravels can be found in the Farnham gap and along the River Blackwater, which today is nowhere near the source, indicating that in the past tributaries would have had their origin in the Hythe Beds some distance to the south.

Given the evidence explained above, it is clear that the River Wey is the pirate stream which has been successful in beheading the Blackwater River of its upper tributaries. Since the River Wey has the hydraulic advantage, what are the local implications of this for Guildford and the river downstream?

***Since flooding has become more frequent, rivers that have enlarged catchment areas due to river capture could become more vulnerable to periods of higher discharge.***



Adapted from 'The Study of Landforms' by Small, map drawn by my granddaughter Zoe Inglis.



# WATERWAYS: how can we protect them?

By Sarah Davis

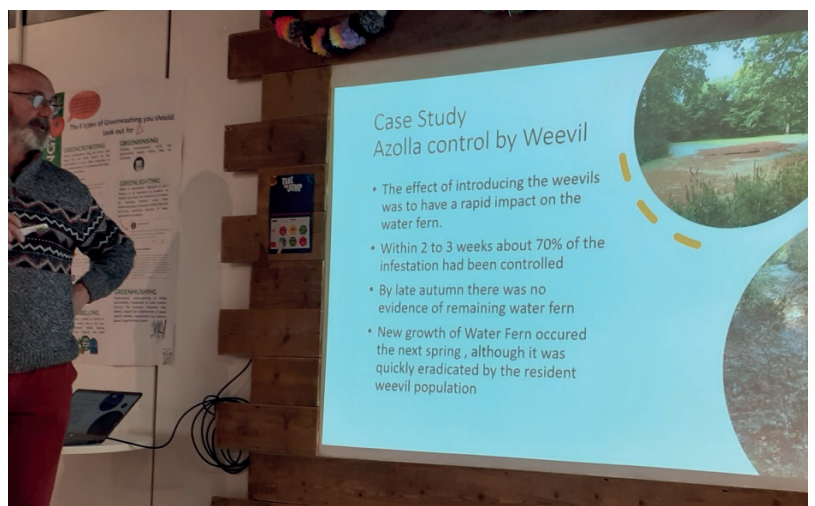
WE ARE all aware that our rivers, canals and wetlands are under serious threat. They are affected by stresses like pollution, climate change, poor farming methods, lack of biodiversity (a natural protector), neglect, overdevelopment and man's inability to see the bigger picture as to why our waterways are so important to ourselves and the environment.

England has an incredible natural river heritage. Our country is home to 85% of the world's chalk streams - some of the most ecologically rare habitats on the planet. Rivers provide two-thirds of our water supplies, give us sanctuary and adventure, plus they support a huge variety of wildlife. The public recognise our rivers as the national treasures they are, yet none of our rivers are in good overall health. They all fail chemical standards, and just 14% pass the bar for good ecological health. This has huge implications for nature and for all of us.

However, there is light at the bottom of the pond! Many organisations are working hard to collect data, raise awareness, and get active and knowledgeable about their own local rivers and waterways. One such organisation is 'Water Rangers', based at Zero Carbon Guildford, with a good number of volunteers collecting pollution data up and down the River Wey. Recently, they had a Bio-Blitz of the River Wey where a good 50 more volunteers signed up, trained in a workshop and were given sites to test along the river. A years' worth of data, collected by all the Water Rangers, was examined and presented.

On the back of this workshop, we felt it was a prime time to arrange a series of talks, walks, and visits across the year on our waterways and learn about their plight and how we can all get involved to help with the many conservation groups and projects going on. We are stronger and more effective all pulling together.

Our series started with two talks. In March we were introduced to The Wey and Arun Canal Trust. Ian Burton, their conservation adviser, described and illustrated the reinstatement of the Wey and Arun Canal - London's lost waterway to the sea. He explained that by undertaking this work, it provides the opportunity to enhance the Biodiversity of the canals' "green corridor" that passes through the counties of Surrey and Sussex.



We learnt that protected and invasive species are an ever-present challenge - and it was fascinating to learn about their groundbreaking work to control the invasive species azolla water fern by the use of weevils. We also were informed about Hunt Park Local Nature Reserve in Shalford, at the junction of the canal with the River Wey. We were amazed to discover that here is a very rare and important lowland wetland habitat, of which there is less than 2% remaining in the UK.

Private field trips are only allowed to access this area, but the visitors centre and walks and talks along the canal can be enjoyed, so do look on their website. We are hoping to try and arrange a walk and talk by the canal in Shalford in the summer, and a guided tour of the rare lowland wetlands.

**So keep an eye open for GEF emails and on Zero Carbon Guildford's [website](#).**

Our second talk was in April, titled "Taking care of our Wetlands and Rivers and using Nature Based Solutions", by SWT. Joshua Bower, the Wetlands Officer, talked about how, as our climate warms, Surrey's rivers are beginning to feel the pressure. 2022 saw a year of extremes with the dry weather causing many of our headwater streams to dry up, placing increasing stress on wetland biodiversity. He explained how nature based solutions can not only help us to adapt to climate change but can also help to address the biodiversity crisis.

Nature based solutions now form the foundation of much of Surrey Wildlife Trust's work. We looked into how they can help to clean up our rivers, protect us from flooding and drought, and sequester carbon. We were informed on all current methods now being used by SWT as they engage and work with farmers and land owners and connected agencies. These included such things as river function, flood storage ponds, ditch management, sediment traps, buffer strips along water courses, grass management and soil health.

Finally, Joshua gave us ideas for what we can do at home in our own gardens. These included water butts half-filled, and local authority schemes to provide water butts, ponds and scrapes, rain gardens, bog areas, green roofs and walls.



*Here are some links that Joshua has sent to help you with sustainable water management in your garden at home:*

<https://www.wwt.org.uk/discover-wetlands/gardening-for-wetlands/how-to-build-a-mini-drainpipe-wetland/>

<https://slowtheflow.net/you-can-slow-the-flow-at-home/>

<https://www.rhs.org.uk/garden-features/rain-gardens>

<https://www.southernwater.co.uk/the-news-room/the-media-centre/2023/january/free-water-butt-initiative-expands-to-gurnard-on-the-isle-of-wight>

## Our next water series event will be a visit!

**Saturday 8th July. 10am; register at [zerocarbonguildford.org](https://zerocarbonguildford.org)**



## Tour of Unstead Nature Reserve by Keith Lightfoot, warden and ranger of the reserve

Unstead Wetland Nature Reserve is a 25.7 acre (10.4 hectare) site located in a rural setting in the River Wey valley. The reserve, at first sight, may not appear to be in the most idyllic location but in the recent past it was a rich haven for birds and other wildlife. The historic bird records show an impressive sightings list in excess of 200 species, making Unstead Wetland Nature Reserve one of the best small birding sites in Surrey in its heyday. The reserve is being restored by the newly formed (Sep-2020) Unstead Nature Community Group, in conjunction with Thames Water Biodiversity

team. On the 8th July. 10am (see Events page) three rangers will be giving us a guided tour with up to 10 people in each group. This will allow for a more personal experience where there will be time for us all to ask our questions. As we will have a maximum of 30 people for this event it is recommended that you book your free place sooner rather than later. Booking is as normal at [zerocarbonguildford.org](https://zerocarbonguildford.org).

# Chairman's Report to the AGM

## 30<sup>th</sup> May 2023

By Adrian Thompson

ALASTAIR ATKINSON, the Chair of GEF, welcomed about 25 GEF members to the 2023 AGM of the Guildford Environmental Forum, which was held live at the ZERO Centre in North Street, Guildford. Apologies were noted from a number of members and the minutes of the previous AGM, (which had been published in the June 2022 newsletter) were approved.

Alastair started by reminding the audience of the GEF Mission, which is quoted to the right:

*"To encourage and help Guildford's Leaders, Residents and Community to live and work sustainably within our share of our planet's resources for the benefit and wellbeing of people and our environment in present and future generations."*

**How do we do this? Through a programme of campaigns, events and communications focused on three core areas:**

**CHERISH:** working to protect and improve our natural environment

**ENGAGE:** engaging our local leaders and influencers to help them drive change

**INFORM & INSPIRE:** raising awareness of the issues and inspiring each individual to play their part

Alastair reminded the members that environmental organisations tend to operate in only one of the options below, but that GEF operate across all three work areas:

**CAMPAIGNING:** engagement at a policy level

**MEMBERSHIP ORGANISATION:** engaging with the members through

**PROJECTS & ENGAGEMENT:** inspiring the public to change

quarterly newsletter

programme of talks, both in-person and online

supporting the rosamund garden

Alastair went on to state that GEF was active in helping to support policy development:

- GEF was a member of the Guildford Borough Council Climate Board - responding to the declaration of a climate crisis and the recent addition of the Biodiversity Crisis, which had been signed off in March 2023
- GEF had helped ZERO to arrange the environmental hustings before the recent local Council Elections - GEF was lobbying and actively engaging with Surrey County Council on ash die dack and nature recovery plans
- GEF was now pressing GBC and SCC to close the gap between setting policy and achieving actual delivery.

In setting an example, GEF had been very active during 2023 in forming The Mount Volunteers to help restore this important downland site. They had also supported the Rosamund Garden hub project, which is likely to be finished over the summer. GEF are currently lobbying Surrey County council about Sheapleas ash dieback, and helping them form a policy and recovery strategy. In Merrow, GEF have supported the pollinator reserves project with the Merrow Residents Association.

Visit our website at [guildfordenvironment.org.uk](http://guildfordenvironment.org.uk)

## Membership

Alastair reported that GEF membership had fallen slightly since the AGM in May 2022. GEF now have some 360 members, compared with 142 some five years ago.

Adrian Thompson, Hon Treasurer, described how the General Fund (effectively the ongoing operations of GEF) had shown an ongoing surplus in the year of £1,069, taking the General Fund to £6,099. He highlighted the further key points:

- Subscription income had reduced in 2022.23 by £205 to £2,660.
- Donation income had increased by £50 to £594 and gift aid recoveries totalled £612.
- Ongoing expenses had fallen by 13% to £2,153, helped by lower printing costs.
- During the year GEF had invested £653 in tools to help the biodiversity projects at the Mount and at the Rosamund Community Garden.
- Under Restricted Funds, GEF had spent £6,698 on the Rosamund Hub project and also raised a net £3,764 from the Crowdfund in late 2022 to fund the final stages of the project, which was expected to be completed in 2023 with further costs of just over £4,000.
- £1,000 was generously donated to the Mount project by Credit Agricole in the last year. This will all be spent on the project, which has already made a significant impact on the invading hawthorn and other scrub on the Mount. It's been amazing to see over 30 helpers at every work party through the winter.
- The pond project at Rosamund is nearly complete.

Adrian summarised by advising that the GEF Balance Sheet shows healthy reserves, which are needed to finance the significant projects at the Community Garden, The Mount and the Swift projects. GEF is doing well financially despite the COVID crisis and the current challenging economic situation here in the UK.

In conclusion the accounts were approved and the following Trustees were elected to the Executive Committee and to help run the Environmental Forum over the coming year.

## Election of Executive Committee

Alastair thanked Adrian Thompson for his contributions to the Guildford Environmental Forum over the last 14 years as successively, membership officer, Treasurer, Chairman and Vice Chair. He also thanked all members of the Executive Committee for their great work over the last year.

Alastair welcomed Janice Bennett to the Executive Committee as Treasurer and for standing for election to the Executive Committee. The following were then duly elected to be the Executive Committee for the coming year and Alastair closed the meeting, thanking all those who had attended to enable the votes to be carried out.

### New Executive Committee

**Alastair Atkinson (Chair/Climate Crisis Chair)**

**Helen Harris (Biodiversity/Rosamund Chair)**

**Janice Bennett (Treasurer)**

**GBC Representative (TBA)**

**Keith Chesterton**

**Richard Seymour**

**Sunethra Mendis**

**James Sinclair**

Additionally, Alastair thanked the following for continuing to support the Executive Committee in the following vital roles:

***Sarah Smithies - Membership Officer***

***Isabel Davies - Newsletter Editor***

***Sarah Davis - Events Officer***

***Rachel Worlock - Website***

Following the formal AGM, Alastair took comments and questions from members, which included strong appreciation for the GEF Newsletter (Anne Wright), discussion on the future structure of the GEF as a charity (to be taken forward by the Exec) and a request for volunteering opportunities to be better publicised. Trevor Jones also asked the Exec to review whether 18.30 was still the best start time for the AGM.

***Email enquiries to [info@guildfordenvironment.org.uk](mailto:info@guildfordenvironment.org.uk)***

# A possible new geological epoch: the Anthropocene. What are the implications for our grandchildren?

By Colin Summerhayes, Scott Polar Research Institute, Cambridge University (Trustee of ZERO)

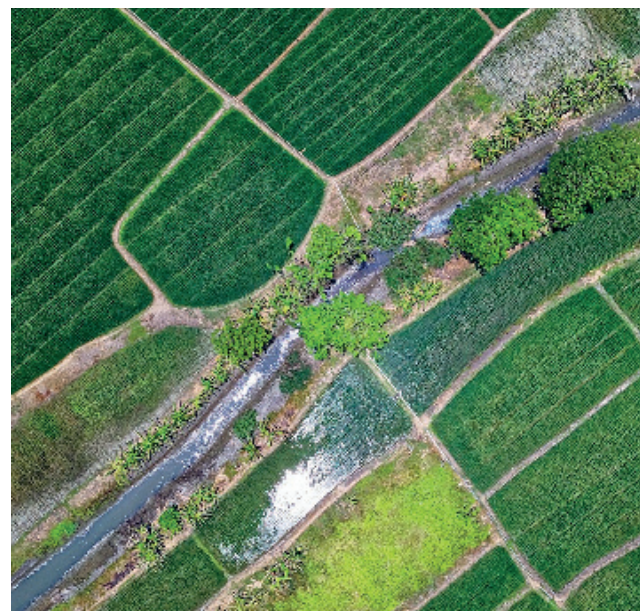
*This article has been split in two; part two will appear in our next issue.*

HUMAN ACTIVITIES have ramped up enormously with the growth in population from 2.5 billion in 1950 to 8 billion now, with a possibly 10 billion expected by 2050. These activities increased dramatically at the end of World War II, when a many of the factories dedicated to the production of military equipment were no longer required and turned instead (with the growth of Madison Avenue type advertising) to the production of 'stuff' to satisfy supposed consumer wants. The resulting acceleration in human impacts on the environment is known as 'The Great Acceleration' (McNeill & Engelke, 2014), and led to Nobel Chemist Paul Crutzen realizing that things have changed so much we must be in a new geological era – the Anthropocene. He recognized that - with our inadvertent planetary engineering - humans had become equivalent to a geological force on the face of the planet.

*“The question as to whether or not we should classify the modern world as belonging to a geological new epoch, the Anthropocene, is being considered by the Anthropocene Working Group (AWG), of which the author is a member. The AWG is a sub-unit of the sub-commission on Quaternary Stratigraphy, a body of the International Commission on Stratigraphy, which will examine the evidence for forming the new epoch, and pass its recommendation to the International Union of Geological Sciences (IUGS). Currently, AWG teams are examining sites around the world in the search for a possible Global Stratigraphic Section and Point (GSSP), which will define the base of the Anthropocene and be marked by a so-called ‘golden spike’”; Zalasiewicz et al, 2019].*

Early humans were hunter-gatherers, with no fixed abode. To get their meat they followed herds on their migrations in response to seasonal change. We are different – we now have fixed abodes like cities, which can't be moved if the climate changes. Farming began around 10,000 years ago, displacing hunter-gatherers and creating fixed settlements. Herding and agriculture expanded along with population. More than 75% of the planet's land is now directly affected by our activities, including the degradation of our soils.

To encourage soils to do their work we apply increasing amounts of nitrate and phosphate fertilizer. While phosphate is still largely mined, most nitrate fertilizer now comes from an industrial process and has a unique isotopic signature. Half of the nitrogen in our bodies comes from that industrial process. We have modified Nature's nitrate and phosphate cycles in the cause of our consumption of food. The run-off of fertilizer from farms takes these nutrients to the sea, stimulating algal growth. Death of the algae deplete oceanic oxygen creating 'dead zones' where no fish can live – e.g. off the Mississippi Delta.



We have also modified Nature's carbon cycle, by our growing burning of fossil fuels. This has put excess CO<sub>2</sub> (a greenhouse gas) into the environment. 50% of it stays in the air, 25% is absorbed by plants and 25% is dissolved in the ocean. This ocean absorption makes the water slightly more acidic, causing problems for creatures at the base of the food chain that build their skeletons from calcium carbonate. Our emissions of CO<sub>2</sub> are joined by our emissions of methane (CH<sub>4</sub>), much of it as a by-product of the processing of grass in the 4 stomach chambers of cattle (beef and dairy) and sheep. Today, we farm 5 billion hectares of land, 4 billion of which is for meat and dairy (much of it as crops like soy for animal feed). 60% of global farmland supports beef, which supplies a mere 2% of humanity's protein needs. The farming of cattle produces 1.9 billion tonnes of greenhouse gases per year. In contrast, sheep and goats, pigs and chickens produce very few such emissions.

In Palaeolithic times the wild mammal biomass totalled some 20 million tonnes of carbon. By 1900 this had fallen to c.10 million, and by 2015 to 3 million. By 1900, following the development of agriculture and livestock herding, our livestock grew to 35 million tonnes of C and our human population to 13 million tonnes. By 2015, these amounts grew to 100 million tons of C in livestock and 60 million tonnes C in humans. So now the wild land mammal population is just 2% of mammal biomass, livestock represents 63% and humans represents 35%. These are radical changes.

We have also radically changed the hydrological cycle by damming most of the world's rivers. Very little of the silt that formerly reached the sea now does so. As a result, many deltas, formerly fed by river-borne silt, have now sunk by at least 1 metre since the 1930s. Deltas like the Mekong are breadbaskets for the interior, so their loss will have a serious impact on food supplies.



Our human activities have produced vast volumes of new materials that will form techno-fossils enabling future geologists to identify Anthropocene deposits. Since 1950 the production of aluminium has increased from near zero to 35 million tonnes/year, while that of concrete has increased from near zero to 27 Gigatonnes/year (equal to the total annual flux of all sediments from rivers, winds, glaciers and coastal erosion). Half of the concrete ever produced was produced in the past 20 years. The production of plastic has increased from c.1.7 million tonnes in 1950 to 300 million tonnes per year now, and we find macro and microplastics in sediments across the world.

We also use vastly more metals of different kinds than were used as recently as 1700, along with multiple synthetic mineral-like substances compared with the 5,000 produced by Nature. All of these end up in the environment, along with other techno-fossils like Bic pens and toothbrushes, to act as geological markers. Markers of human activity also include long-lived plutonium – the fallout from atomic weapons tests. Many of the rising signals of human activity like this coincide with the co-called 'Great Acceleration' (McNeill & Engelke, 2014), roughly taken to begin in 1950.

Humans have also affected biodiversity. We love our local plants and birds, so when we move across the world we often take them with us. For instance, Maoris and Europeans introduced some 1570 invasive plant species to New Zealand to compete with its natural plants. Many of our own gardens are replete with foreign plants. We are globally changing biodiversity, something that will be obvious to future geologists.

McNeill, J.R., & Engelke, P., 2014, *The Great Acceleration: An environmental history of the Anthropocene since 1945*. Harvard Uni. Press.

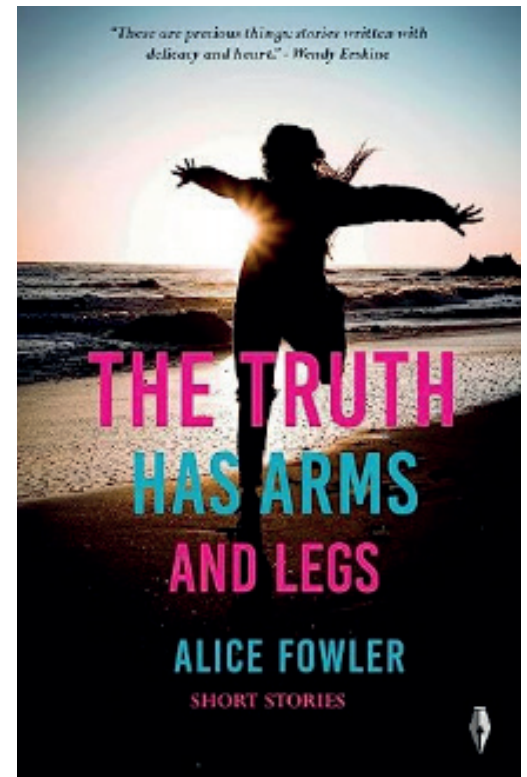
Zalasiewicz, J., Waters, C., Williams, M., and Summerhayes, C.P. (eds.), 2019, *The Anthropocene as a geological time unit*. CUP. 361pp

## WHAT TO READ: *The Truth Has Arms and Legs* by Alice Fowler

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GUILDFORD RESIDENT and GEF member Alice Fowler is preparing for the release of her debut short story collection, *The Truth Has Arms and Legs*. We are pleased to share with you the official press release for this collection (see the box below) as well as a short piece written by Alice herself (below) about how she was inspired by the Surrey Hills AONB.

*Delve into a world of change and reinvention. Where relationships are as delicate as turtle eggs, and just as easily smashed. This poignant short story collection explores pivotal moments that transform our lives. Jenny, whose life is defined by small disasters, discovers a more generous version of herself. A traveller girl might just win her race and alter her life's course. A widow, cut off in a riverside backwater, opens her heart to a stranger. In this captivating collection, readers will be moved by the raw vulnerability of human connection, and the resilience that enables us to thrive and grow. In change, Alice Fowler's characters find the ability to be truly free. Available at [www.flyonthewallpress.co.uk](http://www.flyonthewallpress.co.uk), Waterstones and Amazon.*



As I write, I'm preparing for publication of my debut short story collection, *The Truth Has Arms And Legs*, on 14th July. Of course, in the book's acknowledgements, I thank friends and family for their support. But perhaps the biggest influence on my writing journey doesn't get a mention. It's the wonderful landscape that surrounds us: the Area of Outstanding Natural Beauty that is the Surrey Hills.

Let me explain. When I arrived in Guildford ten years ago with my family, I'd been trying to write creatively for a while and was stuck. Some three decades spent as a print journalist meant the editing muscle in my brain was far too big and critical. As a would-be writer of fiction, I was blocked.

Leaving London and discovering the wonderful chalk grassland landscape on my new doorstep changed all that. Of course, I'm not the only creative person to draw inspiration from the Surrey Hills. There are artists, illustrators, potters, quiltmakers, embroiderers and many more, all around the country, doing the same thing. But for writers, I believe, there's a particular, physical benefit to living close to nature: the connection between the steps we take out walking, and the rhythm of our words.

Even more importantly, walking through our stunning local landscape helps me sort my thoughts. If I'm stuck on something in my writing, the best thing I can do is take a walk. I can still pinpoint the exact place on a path, for example, where the idea came to set my story about the gypsies (as they were known then) within a race, run against the local village children. Suddenly, I had a beginning, middle and end on which to pin my thoughts. That story went on to win the prestigious Historical Writers' Association short story competition in 2020, and set me on the path to publishing *The Truth Has Arms And Legs*.

As GEF members, we already know the huge benefits of access to nature to our physical and mental well-being. How unspoilt landscapes such as the Surrey Hills foster creativity is yet another reason they must be protected. Perhaps, with the consultation on extending the Surrey Hills AONB now drawing to a close, it's time to make a fresh acknowledgement. Surrey Hills: thank you. My book would not exist without you.

# EVENTS

*All the forum's events are open to the public!*



**JULY 12TH, 11AM, Newland's Corner  
Ancient Yew Tree Walk & Talk**

Geoff Monck of Treecosystems Ltd. will also be hosting a walk-and-talk at Newland's Corner, where he will explain the factors contributing to the decline of our ancient yew trees and the work being done to try to save them.

**Please register via [zerocarbonguildford.org](http://zerocarbonguildford.org).**

**JULY 8TH, 10AM, UNSTEAD NATURE RESERVE  
A Tour of Unstead Nature Reserve by the its  
warden and ranger**

Join Keith Lightfoot, warden and ranger of Unstead Nature Reserve, for a tour of this 10.4 acre site in the River Wey valley which is being restored by a community group.

**Please register via [zerocarbonguildford.org](http://zerocarbonguildford.org).**



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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 around 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 or Sarah Smithies with any queries.



**Please send all newsletter submissions for our autumn edition (articles or photographs) to Isabel Davies by August 13th at the latest!**