

Pathway to a More Sustainable Future: Increasing Biodiversity by Creating Wildflower-Rich Habitats for Insect Pollinators Norman Jackson



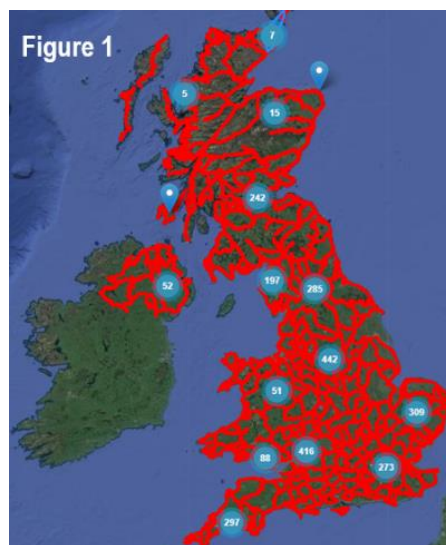
This article is based on a series of posts I made on my Garden Notes Blog between March 1 & 29. <http://www.normanjackson.co.uk/garden-notes>

Our significant biodiversity problem

SDG #15 (drafted in 2015) tells us we need to 'halt biodiversity loss' and target 15.5 calls for "urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species." It's now 2023 and there is no doubt that we are witnessing a massive decline in plant and animal wildlife in the UK and we all have to take ownership of this problem. According to Buglife, over 97% of all flower-rich grasslands have been lost in England since the 1930s, reducing pollen and nectar sources and leading to a serious decline in the wildlife depending on wildflower-rich habitat. Consequently, many insect pollinator species are in decline. A recent study demonstrated that between 1980 to 2013 one third of insect pollinator species experienced declines in terms of areas in which they were found.

B-Lines - the idea that grabbed my attention

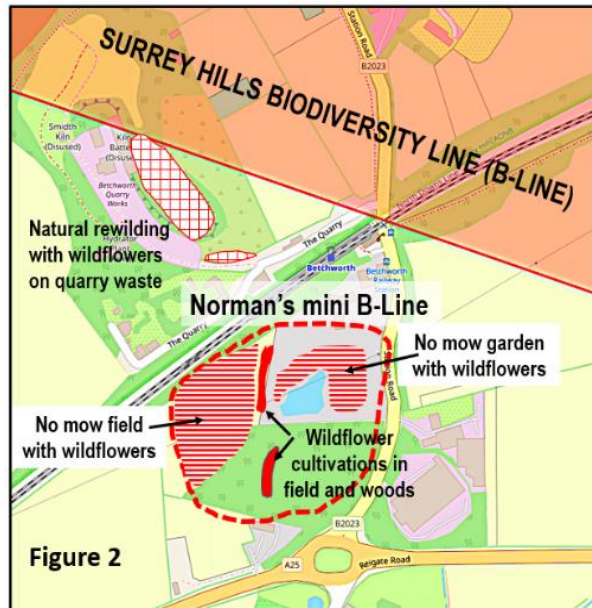
So what can I do to help nature with this significant reduction in biodiversity? The problem seems so large that it is hard for an individual to feel that they can do something useful to contribute to its resolution. In November 2022 I attended a webinar run by the Surrey Wildlife Trust. One of the speakers – Louis Harrington-Edmons, talked about Buglife's B-Line (enhancing biodiversity) project. I was immediately grabbed by the simple but powerful idea to create a network of 3km wide corridors across the UK within which people, communities and organisations are encouraged to cultivate more wildflowers to provide food for pollinators and enhance their ability to migrate. Flourishing populations of pollinators are essential for crop production for both human and animal food and we have to do something to halt their decline.



The idea of B-Lines caught my imagination and I searched for more information. The Buglife website has an interactive map that shows that the Surrey Hills B-Line is very close to my home: in fact its southern boundary lies on the other side of my boundary fence. I reasoned that bees and other pollinators did not know that the Surrey Hills B-Line terminated at my garden and they would happily fly into it if there was a meal: and that was how the idea of Norman's mini B-line was born.

I formed the idea of creating my own mini B-Line (Figure 2) by:

- 1) Leaving a large part of my garden and an adjacent field unmown so the wildflowers can grow
- 2) Cultivating new wildflower mini meadows in the field and woodland next to my garden
- 3) Observing, recording and evaluating my experiences and their effects on the environment and on me and learning more about cultivating wildflowers and insect pollinators



Caring for the bit of Earth where I live

An important reason for why the idea of creating a mini B-Line appealed to me is that I

love and appreciate my garden and the area that surrounds it: seeing and being in this environment is an important contributor to my sense of wellbeing. It provides me with the exercise I need to keep fit, but more than anything else it gives me pleasure, happiness and a sense of belonging and of doing something useful and worthwhile when I'm immersed in it. It enables me to express myself creatively and draws my attention to the beauty and ecology of the world around me. Because I know that my presence here is only as long as I live in this house I make short movies of the things that interest me and maintain a Garden Notes blog so that I might revisit my garden when I no longer live here. I decided to use my Garden Notes Blog <http://www.norman.jackson.co.uk/garden-notes/b-lines> as my diary for my Pathways to a Sustainable Future action learning project <https://www.lifewideeducation.uk/pathways.html>

Wildflower woodland pathway

Although I didn't know it at the time, I actually began my B-Line project in January. I had been digging a pond in the woods and as I dug I decided to make a pathway alongside it. This pathway then became a significant physical effort lasting 6 weeks. Eventually my pathway extended in an arc for about 50m. As I was completing it I had the idea of lining the pathway with wildflowers so I started adding a border which I filled with humus from the compost heap and some garden centre compost until I had a substrate for planting.

Figure 3 Five views of the woodland pathway and its margins prepared for wildflower bulbs and seeds



There is already a small patch of blue bells in the woods and I thought it would be great to expand these so I purchased 250 bulbs in the green and also 250 wild garlic bulbs – a plant that is absent from these woods. I planted these in early February to give them a chance of growing this year but I wasn't overly optimistic but by mid March I could see some green shoots poking through and that made all the effort worthwhile. March was very wet but in early April, we had some warmer drier weather and I scattered some wildflower seed along the edges of the pathway and in patches across the woodland that were not waterlogged. This seed mix was chosen for the woodland environment.

Making the path required significant physical effort over about a month. Adding the borders for wildflowers involved me in an additional 15hrs of work, including collecting and placing the moss covered tree branch and trunk edges, laying down decomposing wood chip brought by wheel barrow from a pile 100m away and adding farmyard manure and compost to the top of the woodchips to make a substrate for planting. In February I planted 250 bluebell bulbs and 250 wild garlic bulbs along the edge of the path and these were supplemented with woodland wildflower seeds in April.

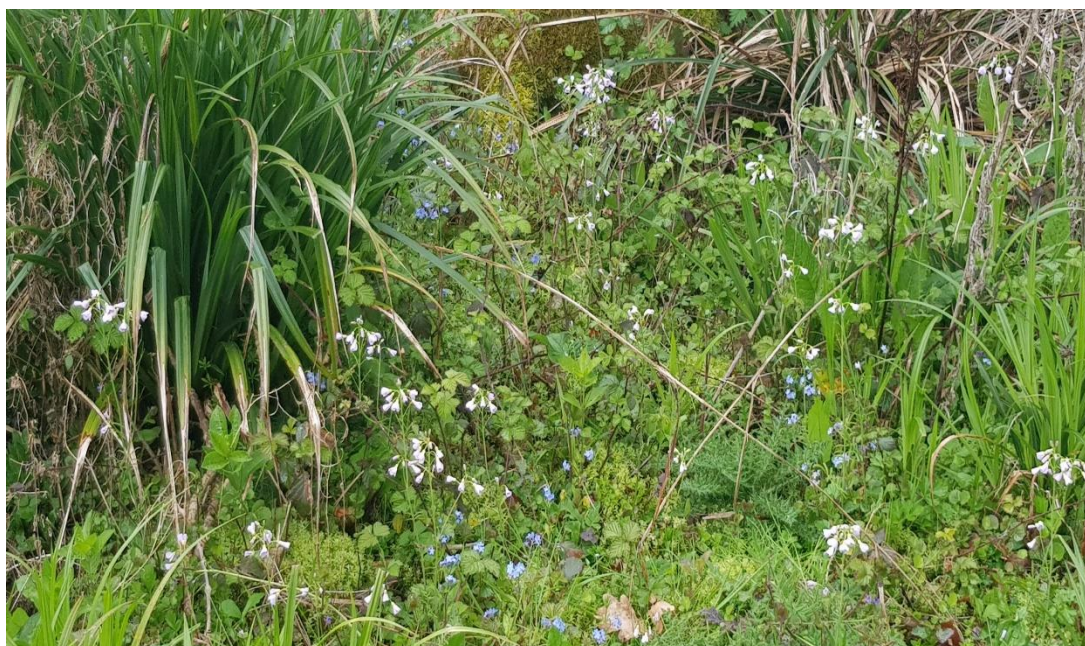


Figure 4 Flowering wild garlic bulbs along the edge of the woodland path (22/04/23)

Natural wildflower growth in the woodland

One of the issues we have in the ash woodland is that many of the trees are infected with ash die back – a fungal disease that will eventually kill upto 80% of ash trees in the UK. Experience in continental Europe, shows that older trees can resist it for some time until prolonged exposure, or another pest or pathogen, such as Armillaria (honey fungus), attacks them in their weakened state eventually causes them to succumb. Last year we began a programme of felling diseased trees and so far over 20 have been cut down. It is painful to see trees that are between 70 and 100 years old being chopped down and the only way to offset this is to plant new trees but these will of course take many decades to mature. The one benefit from this destruction is that more light is able to reach the ground and consequently ground flora is more likely to flourish. Through a combination of clearing brambles and more light reaching the woodland floor due to the felling of trees the central part of the woodland is full of sedges, cuckoo flowers and forget-me-knots (Figure 5)

Figure 5 Wildflowers growing in the woodland – white cuckoo flower and blue forget-me-nots (21/04)



Creating a mini wildflower meadow in the paddock

My woodland wildflower pathway was a happy accident it just happened out of something else I was doing. The wildflower meadow I am making in the field adjacent to my garden is intentionally planned and emergently designed. I imagined a strip around 40m long by 10m wide along the eastern side of the field close to the fence with the garden. The field is underlain by dense, clay rich soil and it is hard to dig. I began digging the field on February 23rd and wrote in my first blog post..

I began a week ago by digging up some turf with my grandson and stacking the turf into a low mound. It really is 'back breaking' work and progress is very slow. Two things sustain me. The first is the thought and feeling of what this will eventually look like when the seeds I sow grow into wildflowers. I think that what I am doing will be worthwhile both at an aesthetic level and at a practical and scientific level in terms of helping nature. The second thing relates to creativity... as I dug up the turf to expose the subsoil, what seemed at first to be random diggings began to morph into a pattern with intentionality and having established a pattern my mind and body engaged in extending the pattern. After several days of slogging I can begin to see how my B-Line will look when it is completed, with curved pathways, bare soil and grassy mounds for the wildflowers and a couple of flowering cherry trees which I will place on the mounds. As I was digging I decided to add two small trees in memory of my first wife and my second wife's husband both of whom died 23 years ago. In doing this I realise I am adding new layers of meaning to this patch of land.

Figure 8 My completed mini wildflower meadow (36m x 8-10m). Waiting for the flowers to grow!



By April 11th all the groundwork had been completed and the seeds sown and I'm now waiting in hopeful anticipation for nature to work its wonders.

Investing in nature

I am completing this essay on 'Earth Day' (April 22nd) – a movement of environmental activism that began in the US in 1970 and which has grown into a global phenomenon. Its mission is formed around investing in our planet. As owner of a 9 acre property which includes a garden, a field and a small woodland, I accept responsibility for the investments of time, effort, materials and financial resources necessary to maintain and sustain it. Indeed the ideas of sustainability and regeneration are morally baked into this sense of responsibility.

Some of my effort is undoubtedly concerned with how my garden and the surrounding area looks. I care about its appearance and therefore invest time and effort cutting grass, weeding in areas that are highly visible and cutting brambles so they don't overwhelm other species. But in maintaining a lawn I am mindful that I am not seeking to create a mono-culture. My 'lawn' is more like a cropped meadow in the sense that it is full of weeds, flowers and mosses and many species of grasses. A few years ago I decided not to mow the grass until late July and what resulted was a beautiful wildflower meadow. It taught me a valuable lesson that sometimes just leaving nature alone is all it needs to regenerate.

SUMMARY OF COSTS & OTHER INVESTMENTS	
Woodland wildflowers – pathway & beyond	
<i>Resources</i>	
1 My labour (time & effort – 15hrs)	
2 Woodchips and garden compost (recycled garden materials)	
3 Peat free compost	10 bags £70
4 Farmyard manure	6 bags £36
5 250 bluebell bulbs	£70
6 250 wild garlic bulbs	£70
7 Woodland wildflower seed mix (250g)	£57
8 Forget me not seeds (100g)	£30
	TOTAL £333
Field mini meadow	
<i>Resources</i>	
1 My labour (time & effort – 30hrs)	
2 Peat free compost	20 bags £140
3 Bees and Butterfly Mix (1kg)	£160
4 Seed mix for clay soils (500g)	£96
5 RHS mix for insect pollinators (100g)	£30
6 2 Flowering cherry trees	£100
	TOTAL £526
	GRAND TOTAL £859

But increasingly I am expending efforts that are not aimed at the aesthetic appearance of my garden and surrounding areas they are consciously trying to encourage a healthy environment and increase biodiversity – for example removing diseased trees and planting new saplings. Or cutting/removing invasive plants so that other plants might have space to grow. My mini B-line project falls into this

category of action. It is an attempt to enhance biodiversity and specifically to increase populations of pollinating insects.

As temporary steward of this landscape I accept the cost of caring for it but rarely count the cost, unless it is a big project like felling trees or replacing a fence. But for this project I want to consider the economics of trying to help nature and the environment by estimating costs alongside my attempt to show the impacts and benefits. The table lists the costs of my mini B-Line work so far.

Next Steps

This essay describes the work I have done to create the foundation for my personal pathway to a more sustainable future. Over the next few months I will describe in my blog posts additional activities aimed at nurturing the wild flowers and observing and recording the effects of my actions on the biodiversity of this little patch of Earth. There are a number of themes I want to explore:

- Motivations – where does the will to participate and commit to such a project come from?
- Creativity – what does it mean and how is it manifest in this environmental project?
- Learning – what does it mean and how is it manifest in this environmental context?
- Health and wellbeing – what effects are these activities having on me?
- Costs and benefits – can costs and biological or social benefits be quantified?

Reference

Louis Harrington-Edmons recorded talk on B-Lines <https://www.youtube.com/watch?v=3nj6vkw6JG4>