

# **A Pesticide – Free Bradley**

## **Project Overview**

### **Introduction**

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Pesticides are a range of manufactured chemicals that have been used intensively over the last 80 years to control unwanted plants, insects and other invertebrates. There is now an overwhelming body of scientific evidence showing that pesticides poison our wider environment and therefore contribute to the breakdown of our local and global ecosystems that we are seeing today.

In the Bradley ward area of Newton Abbot a group of local people, Green Futures, has begun The Pesticide-Free Bradley initiative to encourage every householder, business and public sector organisation across the ward to go “pesticide-free”. This project overview sets out the background to this work and its aims and objectives.

### **The Global Decline of Insect Species**

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Across the world today an extreme loss of species and habitat is occurring which, if allowed to continue, would become more severe than the mass extinction event of 75 million years ago, when the dinosaurs, together with 75% of all plant and animal species on Earth, were wiped out. Scientists are calling the “biological annihilation”<sup>1</sup> that is happening now the “Sixth Mass Extinction”, and together with climate change, it represents the single biggest threat to the survival of the Earth’s ecosystems as we know them – and to the survival of our own species.

The primary cause of this global extinction event is human activity such as land clearance, pollution and population expansion. Species loss is not just about losing the species themselves, it is also about losing our collective resilience to events like climate change and potentially reducing our ability to produce food and access many of the resources that we need to live. We therefore need to do whatever we can as individuals and communities to recover and enhance the levels of biodiversity that we have lost in our own local areas.

One of the key indicators of this loss of species around the world, and in the UK, is the unprecedented decline of our insect populations. Numerous scientific studies from places around the world like North America, Japan, Puerto Rico and Germany all show alarming population declines of between 75% - 98% over a 20 year period from the late 1980’s to the 2010’s<sup>2</sup>. To have lost such a high percentage of species populations over such a short timescale is shocking and points to the dangerous level of impact that humans are having on insect populations.

In the U.K. there are similar levels of insect decline. Looking at recent data from the annual Butterfly Monitoring Scheme, it is clear that over the last 40 years almost all the of U.K.’s butterfly populations have decreased by between 45% - 91%<sup>3</sup>. Bee populations have not fared any better, with evidence showing that there has been a decline in populations across the U.K. between 1980 and 2013, with an average of 11 bee species lost per km<sup>2</sup> and a loss of upland bee species of 55%<sup>4</sup>.

Many of the other common insects in our landscape like beetles, hoverflies, grasshoppers, wasps, true flies and caddis flies are not systematically monitored, but it is possible to assess

the health of their populations by monitoring the bird species that feed on them. A recent study of European insectivorous bird populations has shown that their populations are in decline, an estimated 13% reduction over the last 20 years, particularly in areas where there has been agricultural intensification<sup>5</sup>.

If allowed to continue, this severe decline in our insect populations, particularly pollinating insects, will have a devastating impact on our ability to produce food (87% of plants are pollinated directly by insects and 75% of all human food crops) and provision of a vital food source to millions of other species on land and in the water. Insects are such a fundamental part of our wider food web that their loss imperils the cohesion of the entire structure of the wider ecosystem.

## The Causes of Insect Decline

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### Habitat Loss

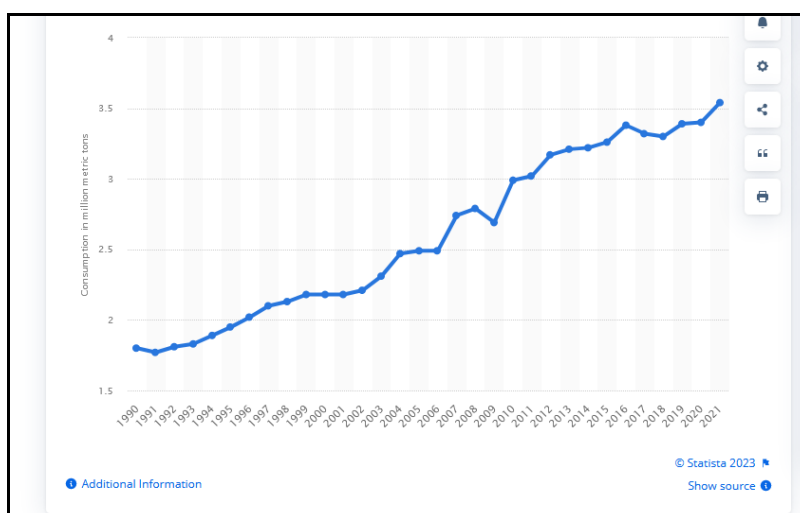
Since the 1950's, across the U.K. it is estimated that we have lost 98% of our wildflower meadow, 50% of our ancient woodland, 50% of our downland and over 150,000 miles of hedgerow. The figures speak for themselves. This has been a gradual, incremental, and potentially catastrophic loss of habitat for many animal and plant species that make up our functioning ecosystem. The key drivers of this loss have been our physical infrastructure expansion i.e. housing, roads, car parks etc and our intensification of agriculture with an increasing focus on larger field size and monoculture crop production.

### Monoculture Cropping

With larger fields, the area of our landscape that is covered by monoculture crops has increased dramatically over the last 50 years. Because monocultures are almost always grown using fertilizers, this creates an environment that benefits the crop itself and an extremely narrow range of nutrient-loving plants like hogweed, nettles and docks. Wildflowers are squeezed out and we end up with acres of "green desert" with no resources for pollinating insects.

### Pesticide Use

There are roughly 17,000 different pesticide products currently on the market globally and annual consumption has grown from 1.8 million tonnes in 1990 to 3.54 million tonnes in 2021, an increase of 96% in 30 years<sup>6</sup>.



There is now a well established link between the use of pesticides and negative impacts on insect populations and bird populations. Traces of pesticide residues can now be found in all parts of the globe and in every human's body tissue.

Because pesticides have a tendency to spread out into the surrounding ecosystem and animal food chains, their impact is much greater than simply their intended use. There is also increasing evidence that cocktails of different pesticides can interact in the wild to produce a wider range of detrimental effects to animals. This is particularly the case with most insecticides because they work to disrupt an insect's nervous system. Very small amounts of insecticides can also reduce an insect's ability to combat diseases such as deformed wing virus.

## **What Are Pesticides?**

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Pesticides are chemicals that have been used by humans to control unwanted plant or animal species over the last 4500 years. The first recorded use of a pesticide was in Mesopotamia where elemental sulphur was used to dust crops. Since then a number of different chemicals have been used to control insects, molds and plant diseases, including arsenic, mercury and lead in the 15<sup>th</sup> Century, nicotine sulphate in the 17<sup>th</sup> Century and since the 1940's, a huge range of synthetic chemicals.

Below are several definitions of a pesticide :

"A pesticide is something that prevents, destroys or controls a harmful organism or disease or protects plants or plant products during production, storage and transport. The term includes, amongst others : herbicides, fungicides, insecticides, acaricides, nematocides, molluscicides, growth regulators, repellents, rodenticides and biocides" (European Commission 2023).

Pesticides, also known as "plant protection products" are used to control pests, weeds and diseases. Examples include insecticides, fungicides, herbicides, molluscicides and plant growth regulators (HSE 2023)

Pesticides are designed to kill "pests" and they impact all life on Earth. They include a wide range of compounds including herbicides (designed to kill plants), insecticides, fungicides, rodenticides, molluscicides and nematocides, but also include plant growth regulators, defoliants and desiccants. They are mainly used in the growing of agricultural crops, but are also used in our towns, cities, homes and gardens. (Pesticide Action Network 2023)

## **Pesticide Impacts on Insects, Invertebrates and Birds in the Wider Ecosystem**

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One of the most successful and well known pesticides is dichlorodiphenyltrichlorethane – otherwise known as DDT. Initially hailed as a "wonder insecticide", insect resistance to the chemical was first discovered in the 1950's. By the 1960's it had become clear that DDT was accumulating in food chains due to being insoluble in water and causing detrimental effects to a wide variety of animals, particularly birds of prey. Breeding pairs of peregrine falcons in the U.K. had fallen to 360 pairs by 1963, primarily due to the thinning of their eggshells caused by DDT in their metabolism. Most countries had stopped using DDT by the 1980's, with a global ban coming into effect in 2004. Today India still uses DDT to control mosquitos in some urban areas.

Since the 1960's many different kinds of pesticides have been developed and many have subsequently been found to be directly detrimental to the health of a wide variety of species, including ourselves! " Replacing highly hazardous pesticides with less hazardous pesticides is necessary and overdue, but not a sustainable solution, as many pesticides initially considered relatively 'benign' are later found to pose very serious health and environmental risks." – Michael Fhari, UN Special Rapporteur on the Right to Food <sup>7</sup>.

Over the last decade or more there have been many reports in the media telling us that pesticides kill or damage pollinating insects and affect their breeding cycles. One of the key instigators of this work is Professor Dave Goulson of Sussex University. Professor Goulson founded the Bumblebee Conservation Society in 2006 and since then has carried out a wide range of peer-reviewed research into the effects of pesticides. One of the most well known is a study proving that contact with neonicotinoids reduced the ability of bumblebees to breed and function in wild environments <sup>8</sup>. These effects are very likely to impact any pollinating insect that comes into contact with pesticides through direct exposure or foraging activity.

A recent study by Brighton University has shown that gardens where glyphosate is being used regularly have 25% fewer sightings of house sparrows and where slug pellets are being used house sparrow sightings were down as much as 40% <sup>9</sup>. This clearly shows how pesticides effect larger species, up the food chain in the environments where they are used.

## **Bradley Barton Pilot Pesticide Amnesty – October 2022**

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Green Futures volunteers, with financial support from County Councillor Phil Bullivant, worked with Newton Abbot Town Council Officers and Councillors, Suez Recycling and Peakes GB, to run a Pilot Pesticide Amnesty for local residents in October 2022. We engaged with over 60 local residents on the doorstep and discovered that most people didn't seem to be using pesticides. There were a significant number of people whom we felt it wasn't appropriate to engage with because they had "No Cold Caller" signs on their doors. 4 households were using pesticides in their gardens and they all agreed to participate in a collection scheme once this was arranged and asked for advice about managing their gardens without using pesticides.

As part of this pilot project we made arrangements with the Newton Abbot Town Clerk to use the Council's Maintenance Depot as a temporary storage location for pesticide containers collected from households, ready for disposal in containers provided by Peakes GB. Suez Recycling had also agreed to pay for any costs of disposal. We ended up not collecting any pesticides because we felt that we didn't want Green Futures to take on any potential liability for handling what would be classed as "hazardous waste".

We had some great publicity for the initiative with the following article appearing in the Mid Devon Advertiser :



● Bradley Pesticide Amnesty Project Partners standing from right to left – Sam Hibbert, Green Futures Chairperson, Newton Abbot Town Councillors Mike Hocking and Carol Bunday, SUEZ Senior Site Manager, Tom Clarke, Devon County Councillor, Phil Bullivant, Green Futures Volunteers and kneeling Green Futures Co-ordinator, Andrew Rothery.

# Ridding the poison in your garden

ENVIRONMENTAL group Green Futures held a 'pesticide awareness day' last Saturday.

The event was a pilot project which will now be rolled out as part of a wider programme in the new year. And once the required paperwork has been approved by the Environment Agency, the group hopes to stage a series of pesticide 'amnesties' where residents will be able to hand in their unwanted pesticides, safe in the knowledge they will be safely disposed.

The event, held at Bradley Barton in Newton Abbot, was held thanks to support from Devon County Council, Newton Abbot Town Council, SUEZ Recycling and Recovery UK, the Devon Environment Foundation and Teignbridge District Council. AS well as raising awareness to grou handed out packets of wildflower seeds, courtesy of the Bradley Bug Recovery Network. The network is a partnership project, co-ordinated by Green Futures, to show what a local community can do to make a difference and reverse this concerning decline in pollinators.

Green Futures spokesman Andrew Rothery said: 'Pesticides are a wide range of chemicals that are designed to kill plants, insects and other forms of life that could reduce the productivity of agricultural crops or garden plants that we want to see flourish. We also

use some pesticides to kill weeds that may be growing where we don't want them to.

'Despite assurances that pesticides are "specific" chemicals that break down relatively quickly in the environment, they are found in our water supply, in our soil and even within our own body.' Since the 1950's there has been grow-



ing evidence that pesticides cause damage to a wide range of organisms that live in the wild and more recently it has been confirmed that pesticide usage has been one of the factors behind the observed decline in pollinating insects within the U.K. and across the rest of the world over the last 40 years.'

Green Futures chairperson, Sam Hibbert said: 'Our aim is to engage directly with local people in their own community. If we can find out what people think about pesticides and support them to introduce chemical-free gardening, we can create a cleaner and greener environment that supports more pollinators and a health-

ier future for our children and grandchildren.'

The Bradley Pesticide Amnesty was generously funded by County Councillor for Newton Abbot North, Phil Bullivant, who said: 'It makes sense to do all we can to encourage pollinators. If we can go pesticide-free in our gardens, we can help bees and other insects to flourish and that means better food production and a more resilient ecosystem.'

Having made a positive start in Bradley Barton, the aim is to run a pesticide amnesty for the whole of the Bradley Ward area, including Highweek and Hele Park, where people will be able to bring in any unused pesticides that are in the back of the garden shed.

SUEZ Senior Site Manager, Tom Clarke came down to see the progress at Bradley and confirmed their support for the initiative: 'At SUEZ we're passionate about protecting our natural environment, and improving biodiversity is an important part of this. We're pleased to support Green Futures in this project by ensuring that all products that are handed in will be disposed of safely.'

Newton Abbot Town Councillor Mike Hocking said: 'This initial research into the attitudes of local people towards pesticide use clearly shows that there is a growing move to go pesticide-free .

and those who are still using chemicals to control insects and weeds are open to exploring other options. We now want to expand this work to reach all the other residents across the Bradley area.'

● For more information about Green Futures do check out their website [www.greenfutures-newtonabbot.co.uk](http://www.greenfutures-newtonabbot.co.uk) or email [info@greenfutures-newtonabbot.co.uk](mailto:info@greenfutures-newtonabbot.co.uk)



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The main outcomes from this initiative were :

1. Pesticides are still being used in gardens across Bradley ward.
2. People are willing to go pesticide-free if advice and support is available.
3. Some householders do not want to engage with outside organisations.
4. We need to explore working with farmers, businesses and other land-owners.
5. We discovered that the Town Council had been pesticide-free for all its maintenance work since 2020 (an initiative that was instigated by the Town Clerk) !

Since the Pilot Amnesty we have also begun a dialogue with Teignbridge District Council Waste Management team to explore the potential for the provision of a pesticide collection service through the municipal waste collection service, but there has been no firm commitment made as yet.

## **The Pesticide – Free Bradley Initiative**

We now want to build on what we have achieved and learned over the last 12 months and work closely with Newton Abbot Town Council to develop a comprehensive Pesticide-Free Initiative across the whole of Bradley Ward with the following objectives :

1. Engage effectively with all households to raise awareness of the need to go “pesticide-free” in their gardens.
2. Offer an easy to use collection service over a 1 week “Amnesty” period in Spring 2024 which is backed up by really good publicity from local councillors, the media and local businesses.
3. Provide advice and support to householders to effectively manage unwanted insects and animals in their gardens with workable alternatives to pesticides.

We are hoping to take this work forward with the support of Newton Abbot Town Council over the coming year (2024) and really value the encouragement and backing of Bradley Town Councillors – Louise Cooke, Phil Bullivant, Richard Buscombe and Brian Bailey.

Over the longer term, with the support of the Town Council and other organisations, we would like to extend this work across the whole of the Newton Abbot town area. It would therefore be a really helpful step if the Town Council were able to introduce a policy which demonstrates its support for the whole town of Newton Abbot to go pesticide – free wherever possible.

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