

Wider Countryside Butterfly Survey Annual Newsletter 2025 Season

Compiled by the WCBS Team – Jo Milborrow, Ian Middlebrook (BC), James Heywood, David Noble (BTO), Marc Botham, David Roy (UKCEH), and Jasmine Salvati (JNCC).



Red Admiral
by Peter Eeles

Welcome to the WCBS

The Wider Countryside Butterfly Survey (WCBS) forms part of the UK Butterfly Monitoring Scheme (UKBMS) which generates high quality data on the population status of butterflies. The WCBS comprises a network of randomly selected 1km squares across the UK sampled at least twice a year between July and August. Recorders count butterflies using standard transect criteria along two 1km long survey lines, which run parallel within the square. This newsletter presents initial results from WCBS squares in 2025, based on changes in species occurrence from the previous year. The full population trend results, from all component surveys of the UKBMS are published as official statistics and made available via the JNCC and UKBMS websites. The WCBS is jointly run by Butterfly Conservation (BC), the UK Centre for Ecology & Hydrology (UKCEH), the British Trust for Ornithology (BTO) and the Joint Nature Conservation Committee (JNCC).

Coverage in 2025

In 2025, 792 squares were surveyed*, this is a reduction of 34 squares on 2024. Of these, 483 squares were monitored by BC volunteers and a further 309 squares were monitored by BTO volunteers in addition to their Breeding Bird Surveys (BBS). The squares monitored by BC volunteers fell by 27 squares and the BBS squares by seven squares.

At the country level 705 squares were surveyed in England (down by 24 on 2024 coverage), 47 squares were surveyed in Scotland (up by three on 2024), 12 squares were surveyed in Northern Ireland (down by five) and 26 squares were surveyed in Wales (down by eight). On the Isle of Man two squares were surveyed which is the same as in 2024.

*records submitted to the Scheme before 23/12/2025

Regional Coverage

The three BC branch areas with the greatest number of squares surveyed during 2025 were Dorset with 59 squares (53 by BC volunteers and 6 by BBS volunteers), Gloucestershire with 55 squares (42 by BC volunteers and 13 by BBS volunteers) and Suffolk with 43 squares (34 by BC volunteers and 9 by BBS volunteers). Figure 1 shows a map of the BC Branch areas and the level of coverage in 2025.

The BC branch areas that saw the greatest overall increase in coverage were Yorkshire and Upper Thames, both areas

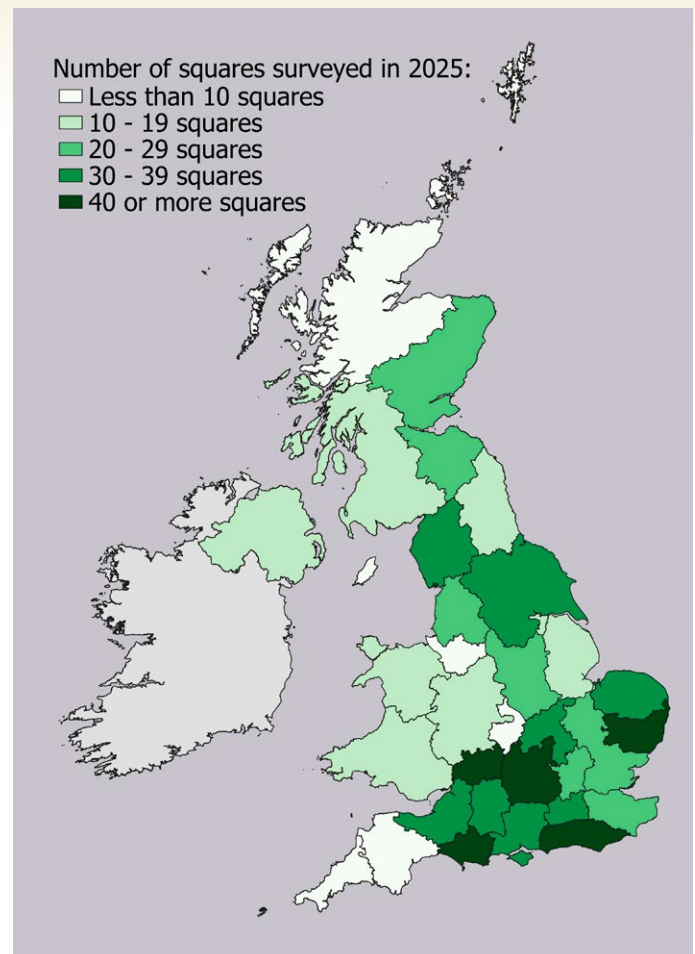


Figure 1. WCBS coverage 2025 including BC and BBS squares for BC Branch areas (map data from OpenStreetMap: [openstreetmap](https://www.openstreetmap.org/))

increased coverage by seven squares. Sixteen regions increased or maintained their coverage in 2025, and sixteen regions showed a decline in coverage.

Coverage by BBS surveyors was highest again in Sussex with 33 squares surveyed, this is the eighth year in a row that Sussex has the highest coverage by BBS surveyors. Also of note is the contribution of BBS surveyors to the dataset in South Wales, West Midlands and Lincolnshire where they covered over 70% of the total squares in the region.

The full breakdown of regional coverage can be seen in table 1 (page 6).

2025 SURVEY

Overview of Survey Results 2025

In total 1,922 WCBS surveys were carried out by 600 different recorders. During the surveys they counted 119,722 butterflies, which is an increase of over 40,000 on 2024. This included sightings of 48 different species, one more than was recorded in 2024. Both Mountain Ringlet and Wood White were recorded on WCBS squares in 2025, but Swallowtail was not. The species count comprised of 19 habitat specialists, 25 species of the wider countryside and three migratory species - plus the species aggregate of Small/Essex Skipper.

Early and late visits

There were 386 early visits which took place before the core survey season started on July 1st. These visits took place in 222 different squares and recorded 42 different species totalling 17,627 records. During these early visits, the most widespread species were Small White (recorded from 149 squares), Large White (148 squares) and Meadow Brown (147 squares). Meadow Brown was the most abundant butterfly recorded during the early visits with 4,962 recorded, the next most abundant species was Small White with 2,684 recorded.

There were an additional 31 late visits to 29 different squares after the core survey season ended on 31st August. These visits recorded 764 butterflies of 18 different

species with Small White being the most abundant and Speckled Wood being the most widespread species of these late visits.

Busiest day

The overall busiest day for survey visits was Sunday 10th August when 65 visits were carried out, recording 2,546 butterflies of 27 different species. This is just one day later than the busiest day last year and coincided with a four day period of consistent high temperatures across most regions of the UK.

Most visited squares

The squares that received the most visits were a square in Dorset on Portland Bill and a square in Essex south of Basildon, both receiving 12 visits. Surveys on the Dorset square took place between 2nd June and 20th August, surveys on the Essex square were more spaced out between 1st May and 7th September. The next most visited squares were three squares which each received 11 visits, these were located in Caithness near Thurso, Cumbria near Ennerdale and south of Cambridge.

The minimum number of visits required for data to be valid through the WCBS method is two that are spaced 10 days apart. But surveyors are encouraged to make further visits during good weather if they can. In 2025, 26% (206) of the squares received more than the minimum two visits.

Valid core visits

The core survey period runs from 1st July to 31st August, during this period there were

1505 visits to 780 squares. To meet survey criteria, two visits to each square must be carried out at least 10 days apart within this core period. 134 squares were either visited only once, or visited with fewer than ten days between the earliest and latest visit.

In addition to the minimum core visit requirements, surveys must meet defined weather and timing conditions to ensure validity. These conditions are designed to ensure that surveys are conducted when adult butterflies are active and therefore detectable. Surveys undertaken when conditions are too cold, cloudy, windy, or carried out too early in the morning or too late in the afternoon are considered invalid and are removed from the analysis below. This approach ensures the robustness and comparability of the dataset across years.

Butterfly records collected outside of valid core visits nevertheless remain valuable. They contribute to our understanding of species distributions across the UK and are shared with county recorders, researchers, and others through iRecord.

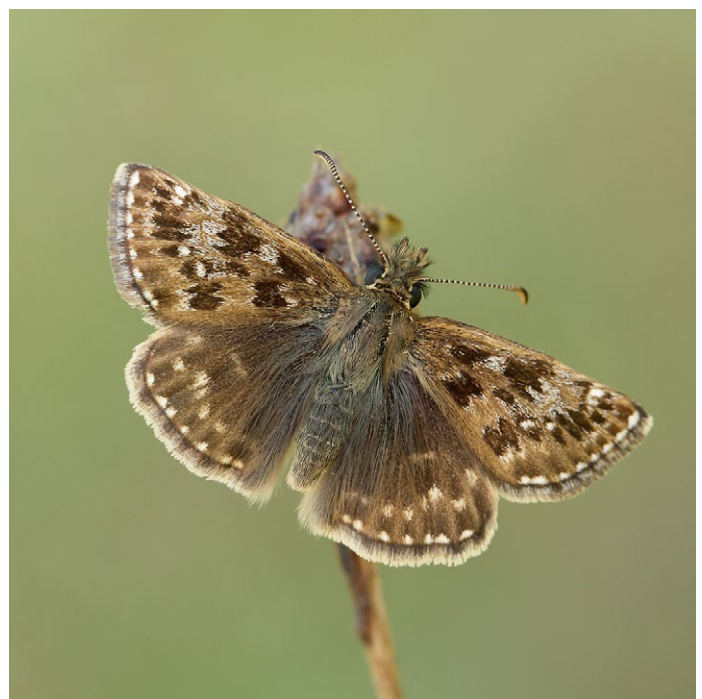
In all, there were 1318 visits to 644 squares (81% of the total squares surveyed) that met the minimum core visit and survey conditions criteria. These data go forwards into the rest of the analysis discussed in the following sections.

Analysis of valid core visits

During the 1,318 valid core survey visits conducted in 2025, a total of



Wood White (Photo by Peter Eeles)



Dingy Skipper (Photo by Iain H Leach)

31,282 butterflies from 44 species were recorded. This represents an increase in abundance compared with 2024, when 22,732 butterflies were recorded. However, the total number of valid core visits was slightly lower in 2025 than in 2024 (1,420 visits).

On average, 24 butterflies were recorded per valid core visit in 2025, up from 16 in 2024. This increase is likely to reflect the more favourable weather conditions experienced during the 2025 survey season, which improved butterfly activity and detectability.

Occupancy

Analysis of the valid core visit data show that 18 species achieved 'good'

occupancy, being recorded in 100 or more squares, while a further ten species showed 'average' occupancy (30–99 squares). The remaining sixteen species were restricted to fewer than 30 squares across the UK, highlighting the continued contrast between widespread, habitat generalist species and those with more localised distributions. Figure 2 illustrates these patterns, showing the percentage of squares occupied by each species in 2025 compared with 2024, alongside the change in percentage points between the two years. Overall, most widespread species showed positive changes in occupancy, reflecting generally favourable conditions in 2025.



Large White (Photo by Peter Eeles)

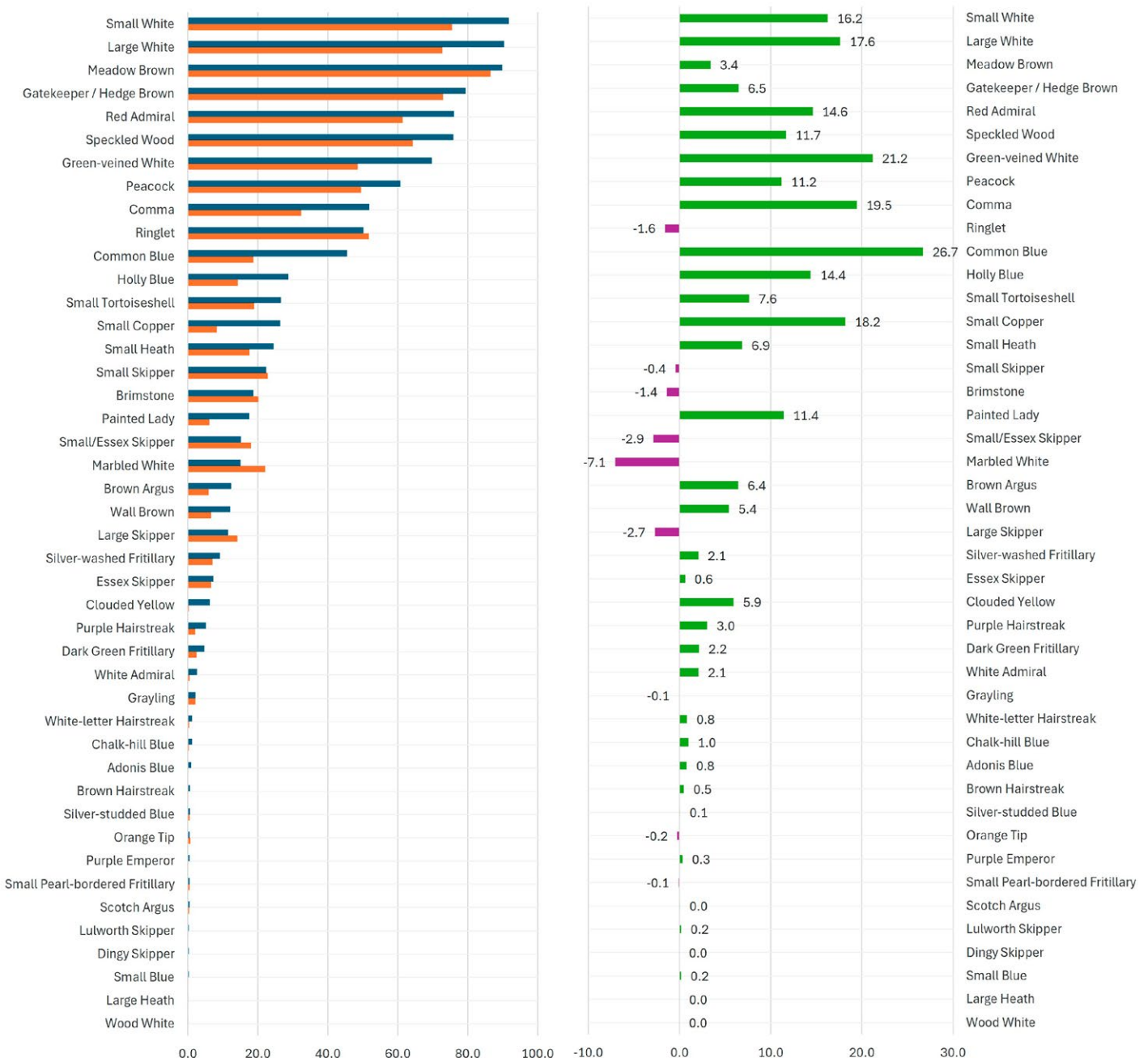


Figure 2. On the left - percentage of WCBS squares that each species occupied in 2025 (blue) and 2024 (orange). On the right - change in occupancy percentage points between 2024 and 2025, negative change (purple) and positive change (green)

2025 SURVEY

Small White was the most widespread species in 2025, recorded in 91.8% of squares, representing a notable increase from 2024 when it was recorded in 75.5% of squares and ranked second overall. Several other common species, including Large White, Green-veined White and Comma, also showed marked increases in occupancy between years. In contrast, Meadow Brown - historically the most widespread species - ranked third in 2025, being recorded in 86.5% of squares. This represents a slight decline from 2024 (89.9%) and is likely linked to the species' early season in 2025. UKBMS transect data indicate that peak abundance for Meadow Brown and Marbled White occurred in late June, before the start of the WCBS core visits.

Habitat specialists

Fifteen habitat specialist species were recorded on WCBS squares during the survey period. Wood White and Dingy Skipper were recorded on WCBS squares in 2025 but were not recorded in the previous year, while Swallowtail, Green Hairstreak and Northern Brown Argus were recorded in 2024 but not in 2025. Although the WCBS is not specifically designed to monitor habitat specialist species, these records represent a valuable and welcome addition to the dataset.

Silver-washed Fritillary remained the most widespread habitat specialist, being recorded in 9% of squares that received valid core visits. Dark Green Fritillary (4.7%) and White Admiral (2.6%) were the next most widespread habitat specialists. The highest count of a habitat specialist was 102 Chalk-hill Blues, recorded on 16th July from a square on Portland, Dorset.

Highest counts

The highest count of a species on a single visit was a count of 438 individuals of the species aggregate Small/Essex Skipper, this was made on July 13th at a square north of Chatham, Kent. High counts were also recorded for Gatekeeper with 427 individuals recorded on a visit to a square also in Kent, west of Ashford on July 4th. The highest count of Meadow Brown from a single visit was on July 2nd when 310 individuals were recorded from a square east of Blandford Forum, Dorset.

High counts were also recorded among the white butterflies during the first week of July. These included 173 Large Whites on 4 July from a square near Stevenage, 163 Small Whites on 3 July from a square west of Telford, and 156 Green-veined Whites on 2 July from a square in Dorset.

Zero Heroes

Zero Heroes are walkers who submit their survey data even when no butterflies are recorded. These zero counts are just as valuable as high counts and play a crucial role in the monitoring scheme. Continuing surveys under such conditions helps us identify broader patterns and investigate why butterflies may be absent from particular areas or habitats. We are extremely grateful to all recorders who contribute their time and effort, and especially to those who submit zero counts.

In 2025, six valid core visits across six different squares resulted in zero butterfly records. This is substantially lower than in 2024, when 19 valid core visits across 54 squares produced zero counts, reflecting the more favourable weather conditions experienced during the 2025 survey season.

An extra big thank you to all of the recorders listed below who submitted zero counts – you are our Zero Heroes!

Jane Dyer
Roger Orbell
Clare Faith

Geoff Nock
Trish Dunant

New Squares

In 2025, recorders completed valid core visits to 74 new squares that had not been covered in the previous year. This helped maintain good coverage levels, partly offsetting the loss of 200+ squares that received valid core visits in 2024 but not in 2025.

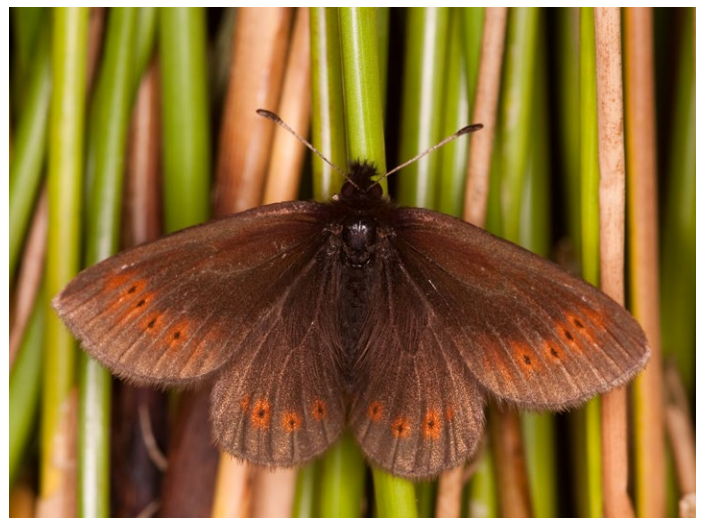
The continued success of the WCBS is due in large part to the dedication of the WCBS Champions who support, recruit and encourage the network of WCBS volunteers within their region. The efforts of the BTO team - both staff and volunteers - to expand the number of BBS squares surveyed for butterflies is also outstanding and makes a substantial contribution to the success of the scheme.

The Weather...

The summer of 2025 was officially the warmest on record for the UK, with a mean temperature of 16.1°C across June, July, and August. As shown in Figure 3, mean summer temperatures indicate that many days in July and August were warmer than average and met the conditions required to carry out WCBS surveys - above 13°C in sunny conditions or above 17°C when overcast. These favourable conditions made surveying considerably easier for recorders compared with the cooler summer of 2024.



Small White (Photo by Keith Warmington)

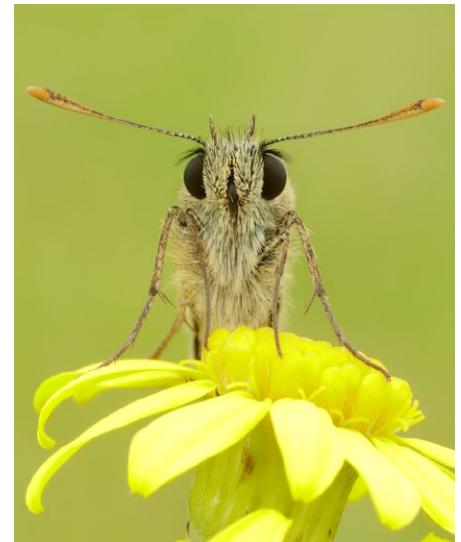
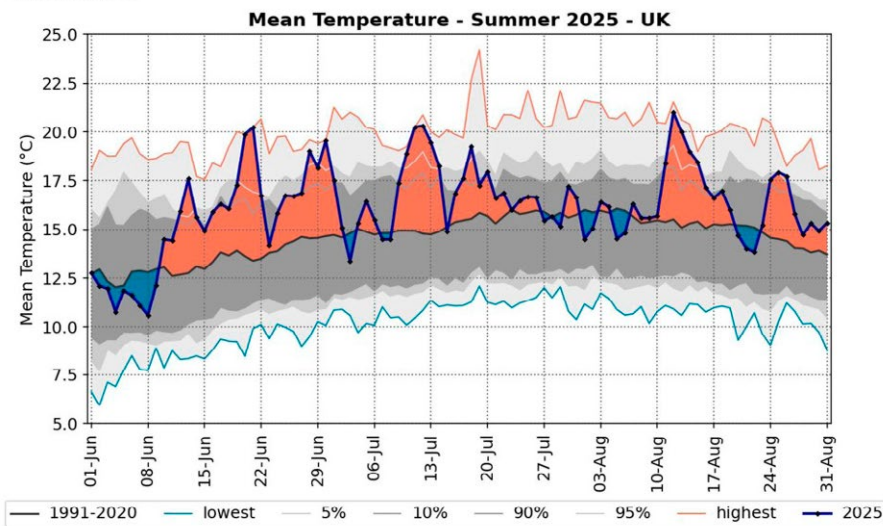


Mountain Ringlet (Photo by Peter Eeles)



Source: HadUK-Grid 01/09/2025 14:34

© Crown copyright



Small Skipper (Photo by Iain H Leach)

Figure 3. Mean temperatures for the UK in summer 2025, provided by the Met Office. Periods in blue are below the long-term average temperatures and periods in orange are above the long-term average.

July began with a heatwave and followed on from a warm and sunny June. The highest temperature of the year was recorded in Kent on 1st July (35.8°C). Overall, the month was warmer than average with near-average rainfall, though conditions were characterised by periods of high temperatures leading to heavy downpours and thunderstorms.

August was fairly unsettled with frequent showers, thunderstorms, a named storm and a mid-month heatwave affecting

southern England. Major wildfires were also recorded in Yorkshire and Dorset. The UK mean temperature for August was 16.3°C, slightly above average. Rainfall was below average overall, although there was strong regional variation, with Scotland receiving rainfall closer to average levels.

The warm conditions experienced throughout July and August are likely to have had mixed effects on butterfly populations. Sustained periods of warm, sunny weather generally support

increased adult activity and development of larvae, with many species reaching their peak abundance a week or more earlier than in previous years. However, episodes of extreme heat and heavy downpours may have negatively affected some species. Prolonged high temperatures and associated drought conditions can reduce the quality and availability of larval food plants and nectar sources, and heavy downpours or flooding can impact on several lifestages.

Moths

During the surveys in 2025, 81 species of moth were recorded totalling 1,155 individuals from 139 different squares. The square with the highest number of species was on Portland, Dorset with 28 different species recorded. The most widespread moth this year was the Jersey Tiger which was recorded from 26 squares, this reflects the higher numbers recorded of this striking day-flying moth from much of the UK as it continues to expand its range north. The most abundant species recorded was the Straw Grass-veener with 271 individuals recorded, although this species was only recorded in five squares. Other moths that were frequently recorded included the Cinnabar, Six-spot Burnet and Latticed Heath.

Dragonflies and Damselflies

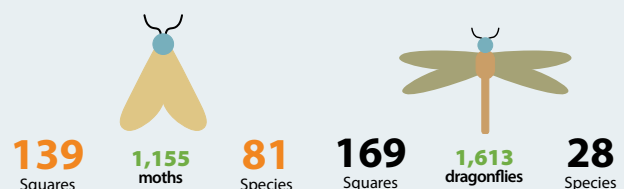
There were 855 records of dragonflies or damselflies made from 169 squares. This included records of 28 different species. A total of 1,613 individuals were recorded with Common Darter being the most abundant (225 individuals) and the most widespread (71 different squares). Of interest are some records of the Near Threatened species Scarce Chaser from two squares in Cambridgeshire and Dorset.

Other species

There were 611 records of other wildlife made up of 133 different species. The most commonly recorded species were Woodpigeon, Buzzard and Brown Hare. These records flow into the iRecord database for verification and are made available to county recorders and the relevant national recording schemes.



The most widespread moth from WCBS surveys in 2025 was Jersey Tiger (Photo by Luigi Sebastian).



BC Branch area	Squares surveyed 2025	Squares surveyed 2024	Change in number of squares	% change on 2024	WCBS-BC 2025	WCBS-BBS 2025
Dorset	59	67	-8	-11.94	53	6
Gloucestershire	55	52	3	5.77	42	13
Suffolk	43	39	4	10.26	34	9
Upper Thames	42	35	7	20.00	23	19
Sussex	41	40	1	2.50	8	33
Somerset and Bristol	39	39	0	0.00	26	13
Cumbria	37	36	1	2.78	30	7
Hampshire and Isle of Wight	36	43	-7	-16.28	20	16
Norfolk	36	37	-1	-2.70	31	5
Beds and Northants	35	37	-2	-5.41	29	6
Yorkshire	32	25	7	28.00	11	21
Wiltshire	31	33	-2	-6.06	22	9
Surrey and South West London	30	34	-4	-11.76	21	9
East Scotland	28	28	0	0.00	15	13
Herts and Middlesex	28	31	-3	-9.68	12	16
East Midlands	27	30	-3	-10.00	18	9
Lancashire	26	25	1	4.00	9	17
Kent	24	26	-2	-7.69	10	14
Cambridgeshire and Essex	23	25	-2	-8.00	12	11
North East England	13	20	-7	-35.00	7	6
North Wales	13	14	-1	-7.14	8	5
South Wales	13	20	-7	-35.00	1	12
Northern Ireland	12	17	-5	-29.41	9	3
West Midlands	12	20	-8	-40.00	3	9
Glasgow and South West Scotland	11	10	1	10.00	7	4
Lincolnshire	11	11	0	0.00	3	8
Cornwall	8	7	1	14.29	4	4
Highland	8	6	2	33.33	6	2
Devon	7	7	0	0.00	2	5
Cheshire and Peak	6	7	-1	-14.29	4	2
Warwickshire	4	3	1	33.33	2	2
Isle of Man	2	2	0	0.00	1	1
Grand Total	792	826	-34	-4.12	483	309

Table 1. WCBS squares surveyed in 2025 and 2024 for each BC Branch area.

White Admiral (Photo by Iain H Leach)



PoMS 2026



FITCount

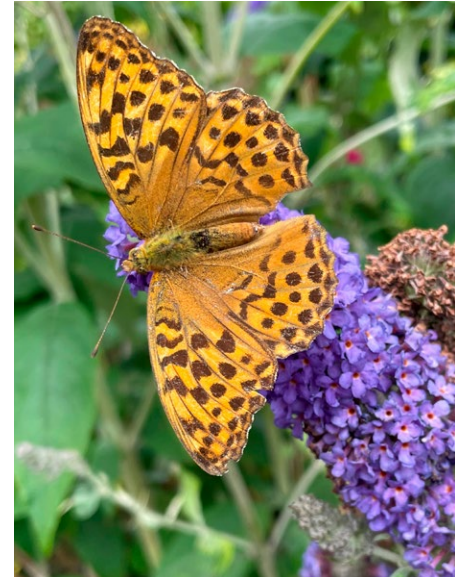
Flower-Insect Timed Count Surveys continue under PoMS for 2026

Spring offers the chance to enjoy butterfly discoveries in your WCBS or UKBMS square and to appreciate other pollinating insects like wild bees and hoverflies too, wherever you may be recording. From 1st April, the tenth UK PoMS (Pollinator Monitoring Scheme) season begins with FlowerInsect Timed Counts (FIT Counts). The FIT Count is a 10 minute survey recording pollinator numbers across the UK. Simply find a patch of flowers, choosing just one sort of flower as your target, focus on a 50 x 50 cm square in any location, and count the insects that land on the flowers during 10 minutes, identifying them into broad groups (bumblebees, hoverflies, beetles etc.), with butterflies and moths as one group. Counts can be recorded using the FIT Count app or on printed forms

and submitted via the website, which provides [full guidance](#).

Last year more than 900 people participated in the FIT Counts, contributing over 5,000 counts (equivalent to over a month of counting all day every day)! This has taken the total number of recorded insect interactions with flowers on FIT Counts since the scheme began to over 270,000. This year participants have been receiving personalised "PoMS Insights" by email, to provide additional feedback on how their results compare to the rest of the FIT Counts submitted, and hopefully encourage them to keep adding new counts! The PoMS team are keen to see more counts carried out in north-west England, Scotland and Northern Ireland, with WCBS squares and gardens each providing ideal potential locations.

While flies tend to be the most abundant insects recorded visiting flowers, the data across all years to date suggest that butterflies and moths are typically recorded on between 12 – 16% of FIT Counts, and tend to be marginally more abundant in counts in gardens (16% of counts) than in agricultural habitats (13.6% of counts). Target flowers tending to attract butterflies are Buddleja (mean 2.14 per count), Bramble (0.55), Thistle and Knapweed (0.53 each per count).



*Silver-washed Fritillary visiting Buddleja
(Photo by Claire Carvell)*

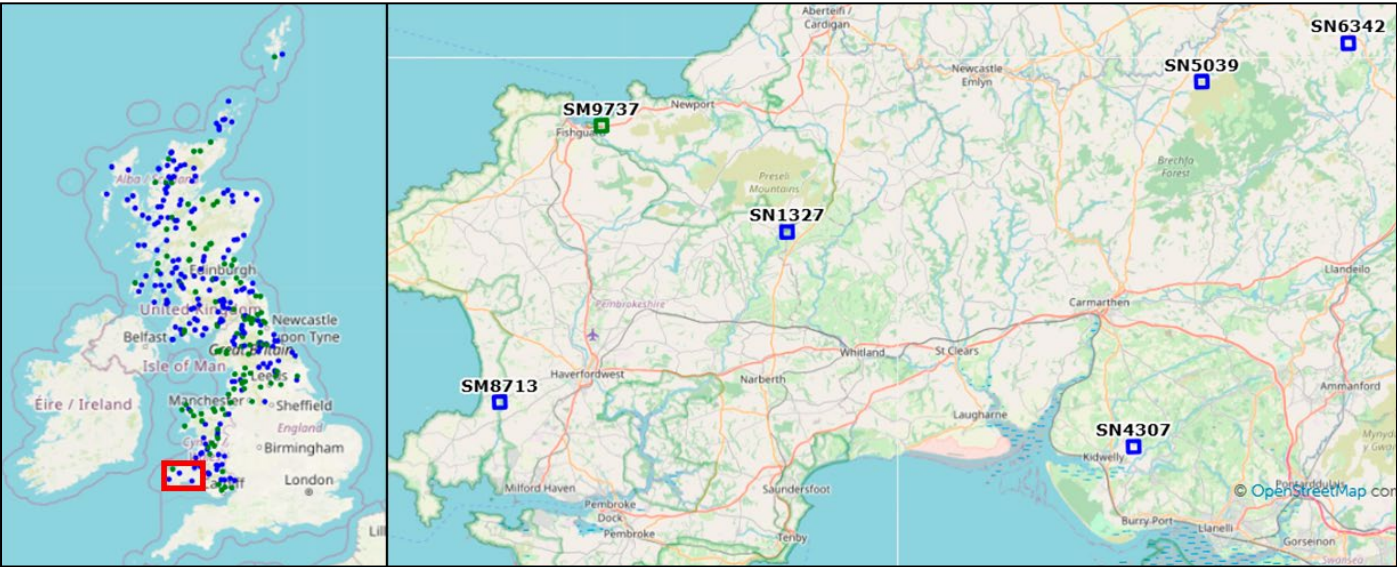
Watch out for the 2025 PoMS Annual report in June to see how insect numbers have fared overall since the start of the scheme. With continued monitoring and as more years can be analysed, UK PoMS aims to refine the kinds of trend metrics that can be reported to show how and where pollinator populations are changing.

For all the information you need to carry out a count, and to find out about the other PoMS surveys and activities, see the [PoMS website](#). Butterfly Conservation are partners in PoMS.

RHS staff and volunteers on a FIT Count training day at RHS Garden Rosemoor (Photo by Claire Carvell)



HOLIDAY SQUARES



Make your holiday count for conservation!

The aim of the Holiday squares is to improve coverage of the WCBS in areas where fewer recorders live, but that are popular holiday destinations. These are focussed around the north or west of the UK. You can sign up to survey these squares whilst you are visiting the area. Or perhaps use them as a great excuse to get out and explore a new area whilst contributing valuable information to the scheme.

The UK map above shows the Holiday squares, those in green are already assigned to someone and those in blue are available. The red square shows the location of the featured holiday squares in west Wales.

SN4307: Near to Kidwelly on the Carmarthenshire coast, this square has a mix of footpaths and hedge-lined lanes and has not yet been surveyed.



Square SN4307. Geograph.org.uk by Alan Richards CCL

SM8713: Just inland from the beautiful beach at Broad Haven, Pembrokeshire. This square is predominantly farmland with some patches of semi-natural grassland and woodland. It has an established transect route and was last surveyed in 2015. Fifteen species of butterfly have been recorded from this square.

Site	SM8713	Small Tortoiseshell (13)
UKBMS code	-	<i>Aglais urticae</i>
Site ID	125059	Ringlet (10)
Survey type	WCBS-BC	<i>Aphantopus hyperantus</i>
First year surveyed	2010	Peacock (11)
Last year surveyed	2015	<i>Inachis io</i>
Number of years ...	4	Wall Brown (10)
Number of surveys	12	<i>Lasiommata megera</i>
Grid reference	SM8713	Small Copper (8)
		<i>Lycaena phlaeas</i>
		Meadow Brown (46)
		<i>Maniola jurtina</i>
		Speckled Wood (33)
		<i>Pararge aegeria</i>
		Large White (24)
		<i>Pieris brassicae</i>
		Green-veined White (31)
		<i>Pieris napi</i>
		Small White (16)
		<i>Pieris rapae</i>
		Common Blue (7)

Site details page from UKBMS website - https://ukbms.org/site-details-map?location_id=125059

SN5039: West of Llandysul in Ceredigion and on the edges of the Brechfa forest this square has a convenient viewpoint and picnic area from which to start your survey. The habitats consist of a mosaic of heathland, bracken and grassland. This square was surveyed in 2007 and 2008 but has not been visited more recently.



SN5039. Geograph.org.uk by John Atherton CCL

To sign up to survey a Holiday square visit the Holiday squares page on the UKBMS website, find it under 'My data'. <https://ukbms.org/holiday-squares>

Holiday Squares – a volunteers experience by Patrick Dugan

I really enjoyed surveying three Holiday squares in August this year. As someone who travels a lot and so not able to commit to survey work for much of the summer, surveying these Holiday squares was a perfect way of using my time back home to get out onto the Highland hills and do something useful for conservation. Like the BTO upland bird surveys I was able to do in the Spring, surveying the WCBS Holiday squares provided a rewarding conservation focus to a great couple of days in beautiful places, and some healthy hill-walking over 25 km and 1000 metres of climbing.

I managed to do two squares in the hills above Strathyre in Stirlingshire on my first day, and one later in the month above Dalwhinnie in highland Perthshire. I didn't know any of the squares from previous visits so enjoyed the sense of exploration and discovery in all of them, accompanied by clear blue skies and temperatures above 20°C. I particularly enjoyed one transect with stretches of wet meadow with feeding Green-veined whites, and occasional Red Admiral, Small Tortoiseshell and Peacock moving across the bottom of the glen towards the neighbouring hillsides. I was also left intrigued by the zero count in one heather and grouse filled square which left me wondering why, and wanting to return at an earlier date in another year.



Scotch Argus (Photo by Iain H Leach)

Walking to and from the survey squares is of course a good opportunity to see butterflies in adjacent habitats. In Strathyre my route brought me one bedraggled Scotch Argus, and several Red Admiral, Peacock, and a Comma enjoying lingering in the warmth of a forest ride as I returned to the car.

Looking over Glen Buckie to the An Sithean ridge - two rewarding Highland squares (Photo by Patrick Dugan)



FEATURE ARTICLE

Focus on Urban Habitats

The WCBS uses a randomised sample of squares across the UK, so that all habitats are included in the analysis and allowing us to produce robust population abundance trends. But, what can the data tell

us when we look at just the urban habitats? There are many WCBS squares within our towns and cities, and the habitats they cover are diverse including gardens, parks, roadsides and built-up areas.

Below we hear from **Joe Cooper** from our partners at the BTO about some research using the WCBS data to look at which

features of the urban habitat are most important to butterflies, and how this can improve urban developments to make them more butterfly-friendly.

Then we hear from **Sammy Fraser** from Butterfly Conservation about some practical steps that can be taken to improve urban habitats for butterflies and moths.

What butterflies tell us about greenspace management in urban developments

By Dr Joseph Cooper, Research Ecologist at British Trust for Ornithology

The prevailing view on new housing is it is built at the expense of nature. Most of us live in areas surrounded by other housing and understand the value of interacting with wildlife close to our homes. Yet the more we build, the more we entomb residents into spaces where there is less access to the natural world.

How can we make housing developments more wildlife-friendly?

Non-specialists from the planning and design sector cannot be expected to know how to make developments wildlife friendly. In England, a digital tool called the Biodiversity Metric, is designed to assist developers in meeting a legal target to have more

biodiversity after housing is built, than before (Biodiversity Net Gain). Overall, the tool's enforcement is a positive for urban biodiversity, but there is growing recognition that it undervalues gardens, urban shrubbery and allotments, resulting in developers having little motivation to design housing with these spaces as a priority. Is this affecting opportunities for human-nature interactions in new-build housing?

Butterflies are ideal to answer this sort of question, as they can be sensitive to small changes in habitat, are commonly seen in urban settings, and can reflect the responses of other insects. Therefore, we started to investigate this using Wider Countryside Butterfly Survey data as part of a series of research on urban environments funded by the Joint Nature Conservation Committee.

Counts of flying adults from 160 urban, suburban, and peri-urban WCBS survey transects were examined and for each, we compiled a range of measures describing the type of urban environment found. A combination of Ordinance Survey maps and satellite imagery were used

to calculate these features, including measures such as the percentage of different types of land, like houses, roads and private gardens present along the survey route. We also assessed the connectivity and diversity of greenspaces and woodland and reviewed the quantity and variety of habitats across the wider landscape, such as waterbodies and farmland. This information was analysed in statistical models, allowing us to quantify how 18 butterfly species responded to 32 different measures of urban environments.

The results could be greatly informative for wildlife-friendly development design (Figure 4). The majority of the common butterfly species were less commonly surveyed in urban areas where there are more buildings, roads, and pavements, and are more commonly found where there are bigger and more diverse types of gardens and greenspaces. However, the key benefit from our approach is that we can highlight that there are species which behave in contrast to the general community. Four butterfly species are found to thrive in the exact

Comma is a regular, and distinctive garden visitor (Photo by Joe Cooper)



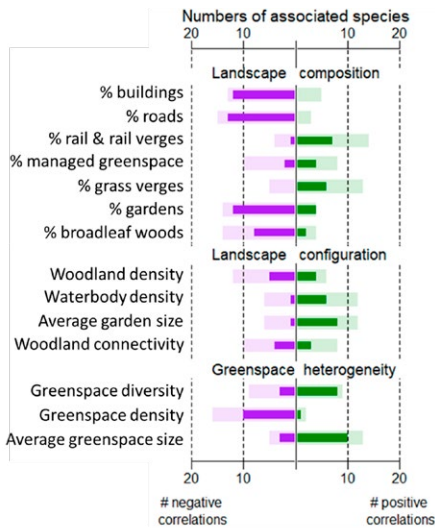


Figure 4. The number of butterfly species **positively** and **negatively** associated with 14 of our 32 different measures of the urban landscape. As each measure on the left rises, the greater the shown effect on the butterfly community. Statistically significant relationships are signalled by bold colours.

conditions most other species struggle: built-up areas, where gardens are small and fragmented. These species are Holly Blue, Red Admiral, Painted Lady, and Small White. This result highlights that even with a modest garden footprint, where greenery is kept, there will be opportunities for wildlife, and in turn, for residents to encounter it day-to-day. Some of the more striking findings regard places we might not consider as good butterfly habitat. For example, roadside and railway verges were associated with positive butterfly community abundance, and very few negative relationships. This result likely relates to how prevalent *Buddleia davidii* is around and even between, railway lines. But this also reflects a value in having patches of greenery, even if small in area, where vegetation is left to grow.

How our findings can be implemented

We have packaged this work on urban butterflies alongside a sister survey on birds to create a biodiversity prediction tool for urban settings. Through this, we can look at a plan for a housing development and produce a predicted species list for the bird and butterfly species assessed and even alter those plans to see how predictions change. In future, we hope the results of this tool can assist the Biodiversity Metric in guiding urban developers to produce housing which provides opportunities for residents to interact with wildlife in the vicinity of their home. If we can reduce the barriers between residents and the natural world, we can build more awareness and engagement on wider environmental issues. Perhaps then, the discourse around new housing can shift from, “what have we lost?” to “look what we saw today!”.

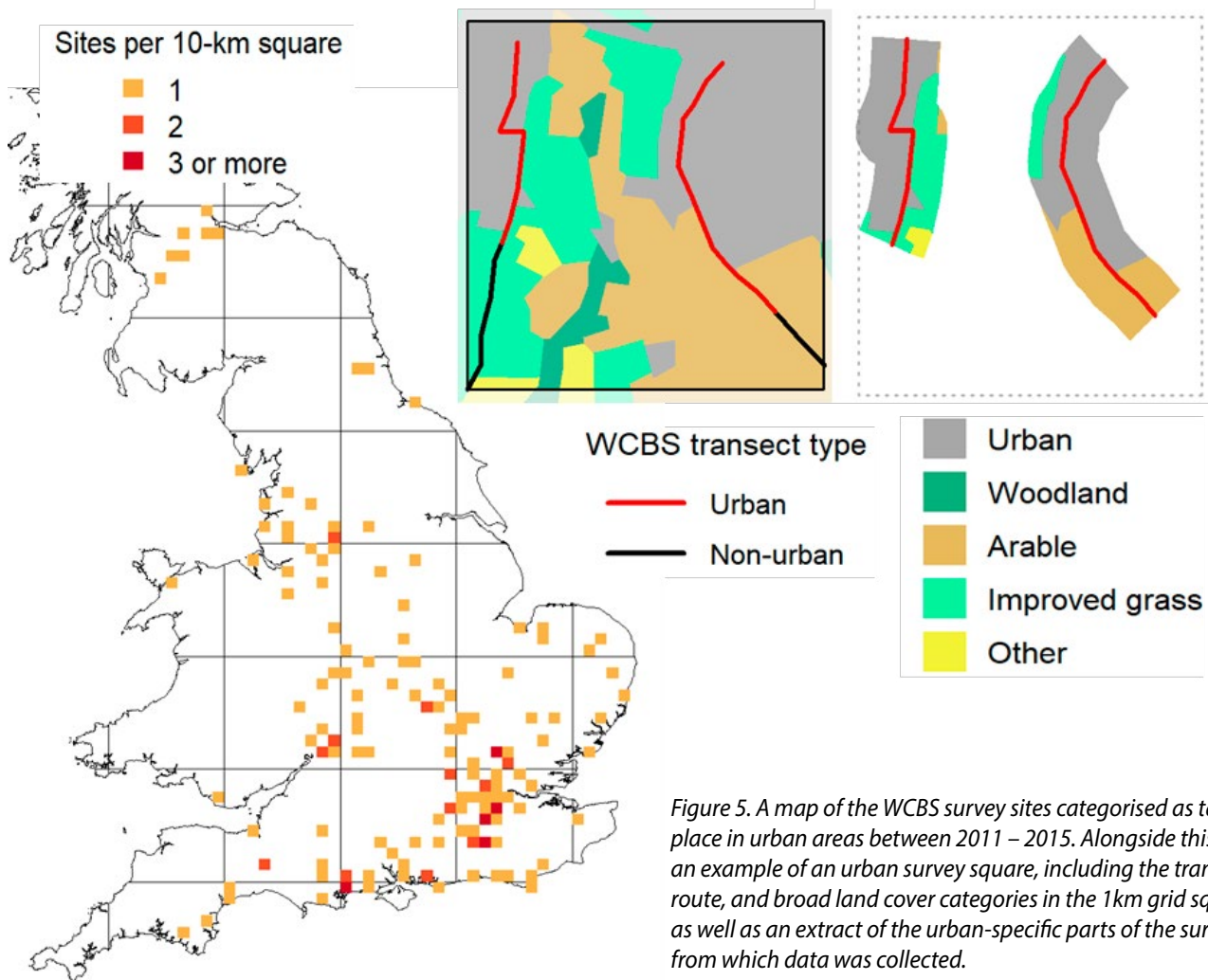


Figure 5. A map of the WCBS survey sites categorised as taking place in urban areas between 2011 – 2015. Alongside this, is an example of an urban survey square, including the transect route, and broad land cover categories in the 1km grid square, as well as an extract of the urban-specific parts of the survey from which data was collected.

We would like to thank all of the WCBS volunteers as, without their efforts, this analysis would not have been possible. If you would like more information about the study, please contact Joe Cooper – joe.cooper@bto.org

FEATURE ARTICLE

Practical action to improve urban habitats

By Sammy Fraser, Wildspaces Officer at Butterfly Conservation

Many people across the UK live in urban settings, and with projections anticipating more people living in urban areas in the future, it is vitally important that current and new urban spaces deliver more for both people and nature.

Butterfly Conservation has been working across the UK to deliver its flagship engagement programme - Wild Spaces <https://wild-spaces.co.uk/>. This programme of work has two core objectives - creating new and better habitat for butterflies and moths in areas of green space deprivation and providing better opportunities for communities to connect and care for them.

What is a Wild Space?

A Wild Space, put simply, is anything that creates either feeding, breeding or shelter habitat for butterflies and moths. There is no set template for a Wild Space, and whilst the best Wild Space would have all three of these components, even the smallest space can make a difference.

Urban greenspaces can play a vital role in species recovery as they provide valuable habitats where butterflies and moths can thrive. They are becoming increasingly important as habitats in the countryside are lost or no longer suitable.

Feeding habitat

Suitable sources of food for butterflies and moths are essential in any urban setting and should ideally be linked up to create "corridors" which they can use to navigate between difference sources. Our native butterflies and moths have evolved alongside our native plants, so choosing plant species that are native to the UK will provide the best source of food for them and other UK pollinators.

More formal planting can contain good nectar plants such as



Living wall (Photo by Angus Walker)

Verbena. These will support bees and other insects as well as butterflies, and if non-native plant species are desired in city parks, then use plant species that act as 'landing platforms' - flowers with flat tops or clusters (like Zinnias, Cosmos, Lantana, Verbena) that act as convenient landing pads for their long, thin legs.

Native tree and shrub species such as Buckthorn, Hawthorn, Blackthorn and Dog Rose provide shelter and food sources for many butterflies and moths. They also contribute to reducing the impact of climate change through shade provision.



Peacock larva feeding on Nettle (Photo by Peter Eeles)

Breeding

The caterpillars of many butterflies and moths feed on only one or two species of plant. For successful development, some species need the foodplant growing in the right conditions (e.g. height of vegetation, shelter, or specific growth forms such as large, lush plants). As before, the use of native species is the way to support a variety of species in urban settings, and resist the urge to overly manicure! Large nettle patches in open, sunny grassland support breeding Peacock and Small Tortoiseshell, smaller patches in sunny spots can support Red Admiral. Allow some areas to grow tall and wild. Native long grasses support grass-feeding butterflies like Meadow Brown and Gatekeeper. Bramble in a sunny spot provides nectar and shelter.

Shelter

Creating a variety of habitats with flower-rich grassland, native shrubs and trees will support many butterflies and moths by providing food and shelter for adults and caterpillars. Other wildlife will benefit too. In smaller spaces one or more features will help connect larger habitats nearby.

'Shelter' can be seen as the last piece in the puzzle and is vital to support all stages of butterfly and moth lifecycles. For many species, their larvae or eggs need to find somewhere to stay hidden and survive the autumn and winter months. For this reason, leaving plants to die back naturally in autumn and not cutting them back until the following spring helps provide over-wintering habitat for caterpillars and pupae. Leave cut stems in a quiet corner where possible.

Uncut areas of grassland and hedge are also vitally important, and cutting can be managed on a rotational basis to always leave some areas available as shelter.

Put the chemicals away!

Both pesticides and herbicides are very harmful to butterflies, moths and all UK insect species as well as the species that rely on them for food. Any chemical use in a Wild Space should be avoided.

Connection to nature

The best Wild Space should also provide opportunities for local communities to connect and enjoy nature - this is vitally

Brimstones (Photo by Ele Johnstone)

important in urban settings where green space deprivation is often at its highest.

The use of simple signage can help people understand the management of the sites and of course identify different species.

Find out more

Follow the links below to learn more.

<https://www.butterfly-conservation.org/sites/default/files/2024-09/Urban%20Butterfly%20Brochure%20FINAL.pdf>

<https://wild-spaces.co.uk/info-hub/>

<https://wild-spaces.co.uk/wp-content/uploads/2023/06/Schools-WS-Management-Guide-Digital.pdf>



Leaving stems uncut to provide shelter (Photo by Jo Milborrow)



NEWS

Vacancies

The WCBS Champions are an essential part of the UKBMS team, these volunteers help to coordinate and support the WCBS Recorders in their region. We currently have vacancies for a WCBS Champion in Kent and Devon.

As a WCBS Champion you get to build a thorough understanding of your region and the butterfly populations found there as well as connecting with and growing the network of WCBS Recorders in your region. You don't need to be a butterfly expert but you do need to enjoy helping people and promoting butterfly recording. For more info and to apply please visit the [volunteer opportunities pages on the Butterfly Conservation website](#).

50
YEARS



United Kingdom Butterfly Monitoring Scheme

The UKBMS turn fifty!

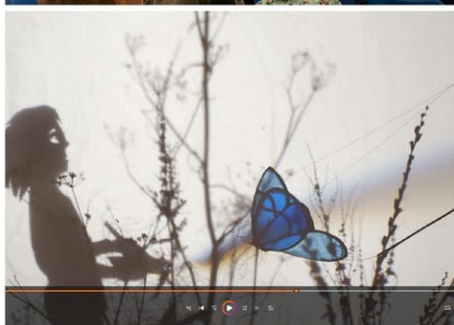
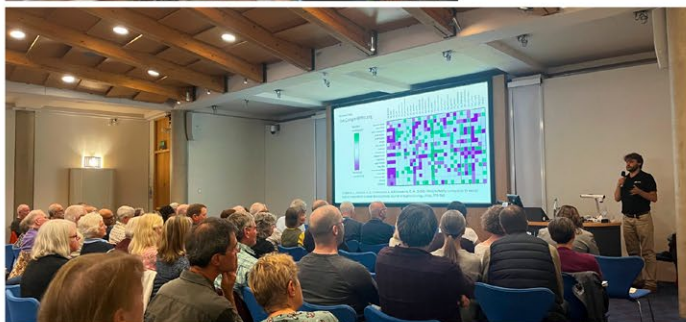
Last year marked the 50th survey season of the UKBMS, and we were thrilled to celebrate this milestone with our volunteers, partners, and everyone who has contributed to the scheme over the past five decades. Alongside local celebrations, talks, and open days, we brought people together for a special celebratory conference to thank everyone involved and highlight the scheme's lasting impact and value.

To capture the spirit of the occasion, we also produced a film

featuring some of the incredible volunteers and partner staff, sharing what they love about monitoring butterflies. You can watch the film on the UKBMS website here: <https://ukbms.org/ukbms-50>.

In Northern Ireland, volunteers took part in a creative art project, designing shadow puppets and producing a film to showcase the scheme. This will soon be available on Butterfly Conservation's [YouTube channel](#).

We now look forward to digging into the fifty years-worth of data and continuing to grow the scheme into its sixth decade.



Images from UKBMS 50th Anniversary celebrations, TOP LEFT TO RIGHT - Northern Ireland Recorders day – Rosie Irwin. Volunteers talk about their transect on the UKBMS film. MIDDLE LEFT TO RIGHT - Conference audience listening to talk - Jo Milborrow. Ernie Pollard gives a video message to Conference delegates. BOTTOM LEFT TO RIGHT - Northern Ireland volunteer shadow puppet film. 50th Anniversary conference – Jim Barker. Shadow puppet making – Rosie Irwin.

Research News

Lisbeth Hordley, Postdoctoral Researcher at Butterfly Conservation updates us on some research she is carrying out using the WCBS dataset

Five years after WCBS was developed, researchers from UKCEH, Butterfly Conservation and British Trust for Ornithology compared butterfly trends from the WCBS sites against those measured from the traditional UKBMS transects. Aside from differences in methodology between WCBS sites and traditional transects, the two schemes vary in their coverage of different regions and habitats, with traditional BMS transects generally covering more semi-natural habitats, and WCBS sites, which are randomly selected, monitor more heavily-modified landscapes. The study quantified these differences; traditional transects covered more broadleaved woodland and suburban areas and less arable land, whereas WCBS sites were closer to the average landscape patterns for the UK. However, despite WCBS sites being a better representation of the UK landscape, the authors found no difference in butterfly population trends between the two schemes. This

suggests that the results based solely on traditional UKBMS transects are likely to be validated by the WCBS.

Read the paper abstract here - <https://link.springer.com/article/10.1007/s10841-014-9739-0>

Now that over 15 years has passed since the WCBS was set up, researchers from Butterfly Conservation are updating the comparison of species trends between the two schemes with data from 2009 to 2024. The analyses will be repeated using a similar model to the previous paper to determine if the same level of correlation still exists. Additionally, butterfly population trends will be calculated and compared between the two schemes using an updated model which accounts for differences in phenology. The habitat coverage of sites within the two schemes will again be compared, but with the addition of protected area coverage. Finally, a traits analysis will be undertaken to determine whether certain types of species show different trends between the two schemes. This research will help determine whether differences in habitat coverage of the two schemes lead to divergence in butterfly trends due to how species use the habitats covered by each scheme.

Sign up to Assemble to continue your surveys!

This is a reminder that everyone surveying a WCBS square must be registered on Butterfly Conservation's volunteer portal called Assemble. This is a requirement of contributing to the scheme and was introduced in 2024. Assemble is a secure platform that provides us with all the essential information we need as well as providing the volunteers with lots of benefits including:

- Connect with other volunteers and staff through secure messaging
- Access to a document hub with all the info about your role as well as useful info, training resources and ID resources
- Keep up to date with news and see other opportunities and events local to you.

If you haven't registered yet, please make this a priority to ensure are making the most of your volunteering and are covered under BC's comprehensive insurance. To register please visit the Health and Safety page on the [UKBMS website](#)

Painted Lady (Photo by Will Langdon)



MEET THE TEAM

WCBS coordination and support

Jo Milborrow

Butterfly Monitoring Officer

✉ survey@butterfly-conservation.org

☎ 01929 406030

www.butterfly-conservation.org

BBS support

David White

Engagement and Surveys Officer at BTO

✉ bbs@bto.org

☎ 01842 750050

www.bto.org

BBS coordination

James Heywood

BBS National Organiser at BTO

✉ bbs@bto.org

☎ 01842 750050

www.bto.org

BC WCBS Champions

WCBS Branch Champions have a pivotal role promoting and coordinating the WCBS in their local areas. They provide support and encouragement to recorders and act as a first point of contact for any queries recorders may have. You can find and contact your local WCBS Champion below and on the UKBMS website.

BEDFORDSHIRE AND NORTHANTS

Clare Topping ✉ clare.topping@butterfly-conservation.goassemble.com

CAMBRIDGESHIRE

Vince Lea ✉ vince.lea@butterfly-conservation.goassemble.com

CHESHIRE AND WIRRAL

Tim Ward ✉ tim.ward@butterfly-conservation.goassemble.com

CORNWALL

Kelly Uren ✉ kelly.uren@butterfly-conservation.goassemble.com

CUMBRIA

Martin Chadwick ✉ martin.chadwick@butterfly-conservation.goassemble.com

DEVON

c/o BC's WCBS Co-ordinator

✉ survey@butterfly-conservation.org

DORSET

Adrian Neil ✉ adrian.neil@butterfly-conservation.goassemble.com

EAST MIDLANDS – DERBYSHIRE

Ken Orpe ✉ kenneth.john.orpe@butterfly-conservation.goassemble.com

EAST MIDLANDS – LEICESTERSHIRE

Richard Jeffery ✉ richard.jeffery@butterfly-conservation.goassemble.com

EAST MIDLANDS – NOTTINGHAMSHIRE

Steve Mathers ✉ steve.mathers@butterfly-conservation.goassemble.com

EAST SCOTLAND

Richard Buckland ✉ richard.buckland@butterfly-conservation.goassemble.com

ESSEX

Rob Smith ✉ robert.smith@butterfly-conservation.goassemble.com

GLASGOW AND SOUTH WEST SCOTLAND

Kerry Thomson ✉ kerry.thomson@butterfly-conservation.goassemble.com

GLOUCESTERSHIRE

Tricia Atkinson ✉ tricia.atkinson@butterfly-conservation.goassemble.com

HAMPSHIRE AND ISLE OF WIGHT

Chris Piper ✉ chris.piper@butterfly-conservation.goassemble.com

HERTFORDSHIRE AND MIDDLESEX

Andrew Wood ✉ andrew.wood@butterfly-conservation.goassemble.com

HIGHLANDS

Joe Gray ✉ joe.gray@butterfly-conservation.goassemble.com

KENT

c/o BC's WCBS Co-ordinator

✉ survey@butterfly-conservation.org

LANCASHIRE

Steve Ryder ✉ steve.ryder@butterfly-conservation.goassemble.com

LINCOLNSHIRE

Carol Long ✉ carol.long@butterfly-conservation.goassemble.com

NORFOLK

Judith Lawson ✉ judith.lawson@butterfly-conservation.goassemble.com

NORTH EAST ENGLAND

Valerie Standen ✉ valerie.standen@butterfly-conservation.goassemble.com

NORTHERN IRELAND

Stephen Craig ✉ stephen.craig@butterfly-conservation.goassemble.com

NORTH WALES

Amy Green ✉ amy.green@butterfly-conservation.goassemble.com

SOMERSET AND BRISTOL

Andy Danford ✉ andy.danford@butterfly-conservation.goassemble.com

SOUTH WALES

Kirsty Myron ✉ kirsty.myron@butterfly-conservation.goassemble.com

SUFFOLK

Twm Wade ✉ twm.wade@butterfly-conservation.goassemble.com

SURREY AND SOUTH WEST LONDON

Bill Downey ✉ bill.downey@butterfly-conservation.goassemble.com

SUSSEX

c/o BC's WCBS Co-ordinator

Julia Lowson ✉ julia.lowson@butterfly-conservation.goassemble.com

UPPER THAMES (BUCKS, BERKS AND OXON)

Peter Philp ✉ peter.philp@butterfly-conservation.goassemble.com

WARWICKSHIRE

Keith Warmington ✉ keith.warmington@butterfly-conservation.goassemble.com

WEST MIDLANDS

Yvonne Dewfall-Evans

✉ yvonne.dewfall.evans@butterfly-conservation.goassemble.com

WILTSHIRE

Janet Crittenden ✉ janet.crittenden@butterfly-conservation.goassemble.com

YORKSHIRE

Nick Hall ✉ nick.hall@butterfly-conservation.goassemble.com

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The Breeding Bird Survey is a partnership funded by the British Trust for Ornithology, Royal Society for the Protection of Birds and the Joint Nature Conservation Committee, with fieldwork conducted by volunteers.

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Butterfly
Conservation



UKCEH



JNCC



United Kingdom

Butterfly Monitoring Scheme