

Dr Richard Comont & Helen Dickinson



About BeeWalk

BeeWalk is the standardised bumblebeemonitoring scheme active across Great Britain, running since 2008 (opened to the public from 2011). Volunteer BeeWalkers survey a fixed-route transect once a month between March and October (inclusive), recording the abundance of each bumblebee species seen. This data is submitted via the BeeWalk website (hosted by the Biological Records Centre) enabling population trend analysis to be undertaken. The outputs of BeeWalk are now widely used to inform policy and conservation interventions.

The BeeWalk team

BeeWalk is run by Dr Richard Comont (Science Manager) and Helen Dickinson (Senior Surveys Officer) of the Bumblebee Conservation Trust.

Contact us

beewalk@bumblebeeconservation.org Tel: 01786 594129



Acknowledgements

We would like to thank the financial and in-kind contributions to the BeeWalk scheme by the many organisations, charitable trusts and individuals who have over the years supported BeeWalk in particular, and the Bumblebee Conservation Trust in general. Thanks to the Biological Records Centre, who provide website support and data storage free of charge.

We would also like to thank the photographers who have allowed their images to be used as part of this BeeWalk Annual Report.

Citation

Comont, R. F., & Dickinson, H. (2025). BeeWalk Annual Report 2025. Bumblebee Conservation Trust, Stirling, UK.

This report can be downloaded from www.beewalk.org.uk.

Cover photo: Moss carder bumblebee, *Bombus muscorum* (© Geoff Dobbins)

THANK YOU!

We are indebted to the volunteer BeeWalkers and organisations past and present who have contributed data to the scheme or have helped recruit or train others in connection with it. Thanks also to all the individuals and organisations who allow and actively promote access to their land for bumblebee recording.

Contents

BeeWalk background, aims and methods	4
BeeWalk background and aims	4
BeeWalk survey methods	4
BeeWalk data verification and analysis	4
Mapping BeeWalk	5
BeeWalk 2024 highlights in numbers	6
Who's using BeeWalk?	7
The BeeWalk dataset	10
Bumblebee Population & Phenology Trends	11
2024 season	11
Long-term trends	12
Research and collaborations – how BeeWalk data is used	14
BeeWalk data use in 2024	14
Ongoing collaborations	14
In-progress PhDs	15
UK Pollinator Monitoring Scheme (PoMS)	15
Our projects	17
Skills for Bees	17
Skills for Bees: Scotland 2024	17
Conservation and Engagement projects	19
Appendix	21
Species distributions on BeeWalk transects	21
Yearly Abundance trends	27
Phenology trends	

BeeWalk background, aims and methods

BeeWalk background and aims

The Bees, Wasps and Ants Recording Society (BWARS) has collected distribution data for Hymenoptera since 1978. Whilst providing understanding of the distribution of bumblebee species, there was a lack of data on abundance. Knowing the size of populations and how these change over time is key to monitoring population trends, identifying species at risk and acting as an early warning system for declines. This lack of abundance data, alongside the need to better understand what's happening to all our species, not just the rarest, led to the development of BeeWalk. BeeWalk collects bumblebee abundance data from across Britain to gain an accurate understanding of current bumblebee populations and distributions.

Key aims:

- Collect long-term data on bumblebee distribution and abundance across Britain.
- Analyse data to identify population trends and drivers.
- Use the findings to inform policy and conservation interventions, improve understanding of forage plants & identification of management impacts.
- Encourage public understanding of bumblebees.

BeeWalk survey methods

BeeWalk transects (fixed monitoring routes) are established and monitored by volunteers (BeeWalkers) using a standardised methodology to ensure accurate and comparable data is gathered. Transects are around 1-2 km in length, and walked a minimum of once a month between March and October inclusive (the main bumblebee flight period). BeeWalkers record the abundance of each bumblebee species seen in a 4m x 4m x 2m 'recording box' in order to standardise between habitats and recorders. Bumblebees are identified to species and caste where possible (recorded as 'unknown bumblebee' or 'unknown caste' where not) and the number of each entering the 'recording box' is recorded. Those recorders confident in plant ID also record the flower species bumblebees are visiting. Survey results are submitted via the BeeWalk website www.beewalk.org.uk.

BeeWalk data verification and analysis

Each year data is downloaded and prepared for analysis; an intensive process of data validation and verification, essential to meet the high standards required for monitoring scheme data to be scientifically robust and reliable. Records of rare & difficult-to-identify species, and species outside known ranges, are queried with the recorder to establish supporting evidence.

Data received provide an annual estimation of the abundance of a species. This is a relative measure which requires statistical interpretation to evaluate changes over time. Estimates of population trends are calculated using statistical modelling. Bumblebee counts submitted by BeeWalkers are summed to produce total counts of each caste of each species, for each month surveyed. These monthly counts are analysed using statistical modelling to work out the monthly counts as a rate; bees seen per kilometre walked. This allows for the fact that the distances walked per month varies between months, years, and species. As all species are not found on all transects, a list is generated of sites each species has ever been recorded on within BeeWalk. This is used to calculate the distance walked each month across the species' range.

We use the results to demonstrate the abundance of each species in a given year against the mean monthly abundance across previous years, in order to see whether a given year was statistically 'good', 'bad', or 'standard' for each species.

Mapping BeeWalk







BeeWalk 2024 highlights in number









Figure 3. Bumblebee records per year



Who's using BeeWalk?

The BeeWalk methodology is being utilised by a wide range of organisations to monitor sites large and small, informing local conservation practices and upskilling their volunteer teams, whilst contributing to the national dataset. National Trust monitor over 40 sites in England and Wales and RSPB monitor 35 plus reserves throughout Britain. BeeWalk is also in place across many Wildlife Trusts including Avon, Derbyshire, Dorset, Essex, Gwent, North Wales, Scottish and Wiltshire, and a growing number of county councils including Dundee City, East Lothian, Hampshire, South Derbyshire and Staffordshire. Here's a glimpse at some of the organisations across Britain:



Figure 4. Organisations using BeeWalk for long term site monitoring





Royal Horticultural Society

BeeWalk has been incredibly popular with our staff and trainees who manage the gardens, allowing them to learn new skills to compliment their horticultural ones and to see their areas of the garden in a new light – from the perspective of a bumblebee! Taking part in a monitoring programme like this is helping us to track our biodiversity at the gardens. As we build up records we can start to see if different habitat types and the changes we're making to improve our site for wildlife, are having a positive impact on wild bees.



Cannock Chase District Council Parks and Open Spaces

Our BeeWalks are about getting everyone interested in bees, starting to understand that we need to avoid pesticides and enjoy watching bees at work, leaving the plants they like and planting more in our greenspaces.

© Eilidh Cage



Rewilding Denmarkfield

Our 90-acre rewilding project uses BeeWalk to observe the response to changes in land management, with the site moving away from agricultural monoculture and letting nature lead. The positive impacts of the nature restoration work have been observed in the changes seen across the data from BeeWalk transects.



Yorkshire Dales Millenium Trust and The Forest of Bowland Landscape Partnership

In 2024 we celebrated 10 years of BeeWalk bumblebee monitoring across our wildflower grassland sites, providing valuable feedback on hay meadow restoration work. Over 21,000 bumblebees of 12 species across 33 transects, have been recorded by our BeeWalk volunteers.







Dundee Countryside Ranger Service

Dundee Countryside Ranger Service has been recording bees at various sites within Dundee for the past few years. We have an enthusiastic group of volunteers working with us who monitor urban parks and other much loved local areas, including Local Nature Reserves and green spaces. This helps the Ranger Service engage local people and gauge how well our habitats are doing.



North Pennines National Landscape

At the North Pennines National Landscape, we have been using Beewalks to understand the relationship between how numbers of foraging bumblebees have responded to hay meadow restoration in Teesdale. Through the Tees-Swale: Naturally Connected we've been working with farmers and landowner to restore areas of species rich grassland and upland hay meadows across Teesdale. Our volunteers have been undertaking Beewalks across seven farms in Teesdale since 2021. BeeWalk has been giving us really valuable data on the presence and abundance of bumblebee species visiting the meadows throughout the year.



Historic Environment Scotland Ranger Service

In Holyrood Park we have three bumblebee transects and have been participating in BeeWalk since 2012. In that time we've charted the arrival of the Tree Bumblebee (B. hypnorum) which has been moving steadily northward, as well as seeing the first record of the Southern Cuckoo Bumblebee (B. vestalis) in Holyrood Park. I particularly enjoy doing bee transects and, let's face it, it's difficult not to: who can complain about walking through a beautiful, open greenspace on a warm, sunny day with just a slight breeze to keep you cool whilst hunting for these fantastic insects? The third transect was set up to provide data on a new wildflower meadow we've created and in that time there has been a steady increase in bee numbers in the area, so doing BeeWalks is not only enjoyable but provides important data too.



The BeeWalk dataset

BeeWalk became a recording scheme on the 8th August 2008. It had existed as a concept before then, of course, inspired by the Pollard walks of the UK Butterfly Monitoring Scheme, but that was the date that saw the very first records of the very first bumblebees on our very first transect (at Weybourne, Norfolk: six Buff-tailed, five Red-tailed, seven White-tailed, four Garden, and 10 Common Carder bumblebees on section one). A further scoping year happened in 2009 (13 transects), before the scheme was opened more widely, firstly to Trust members and then to the public. After being run as part of a PhD project for a few years, it was taken fully in-house as a core Trust activity in 2013. Today, it is the Trust's longest-running and largest project, a core activity built in to all Conservation and Science projects, and a dataset holding sightings of more than one million individual bees.

Two key things make the BeeWalk dataset important: the scale of it, and the standardisation. The standardisation of the data collection process - walking the same transect each time, only recording a bumblebee if it enters the 4m x 4m x 2m 'recording box', counting the bees seen per species and per caste, together with the contextual information (habitats, temperature, etc.) allows us a much greater understanding of each record compared to a typical biological record, which may only include species, date and recorder. For every record in the BeeWalk dataset, we know the total area surveyed and that this is the same every visit (so we can tell the difference between a sighting that took hours of searching vs an easy sighting). We know that BeeWalkers always aim to record all species present, so none have escaped being recorded because they're 'too common'. And we know how many were seen and often whether they were queens, workers, or males - which lets us understand how species are doing relative

to each other, how this changes over time at a fine scale, and what stage the colonies are at.

That's hugely powerful – for instance, looking at the 2024 data for the Red-tailed bumblebee (B. lapidarius), we can clearly see that gueen numbers in spring were fairly normal, but then worker numbers were way down on the usual levels later in the year. We can see that August-peaking species such as the Common Carder (B. pascuorum) did better than those that typically peak in July, and we can start to pull together some thoughts on the possible reasons. A decade ago, we could only have said 'Bumblebees had a bad year'. With BeeWalk, we're much better informed, not only as to what's happening but also why.

Of course, having huge amounts of information with every record isn't much use if you only have a handful of records. Scale brings power to any analysis, and this is particularly true of bumblebees, with their complex colony dynamics and foraging patterns. Therefore, it's been fantastic to see BeeWalk grow, with individuals and organisations fully buying into the mission to better understand our bumblebees in order to better conserve them. After 17 years of surveys individual bee number one million arrived in the dataset in June 2024 (a Tree bumblebee *B. hypnorum* near Glossop): we're on course to record the next million individuals in less than six years, before 2030.

What's true at a national scale also holds true at the site level: the more data the better. Although we don't produce site population indices (bumblebees' colony dynamics and central-point foraging model make this unsuitable), having the same transects walked for multiple years makes the overall dataset more comparable year to year. Ultimately, however, we're always at home to more data!

Bumblebee Population & Phenology Trends

2024 season

2024 was the second year in a row to be marked by notably low numbers of winged insects. Many public figures remarked, across print and social media, on the absence of bees, butterflies, and other wildlife, and this was reflected in outpourings of public concern. Thanks to the efforts of the BeeWalk records and team, at the Trust we were able to monitor the season in real time, and contribute to these discussions from a position of knowledge.

That knowledge was key, because 2024 was actually much more of a mixed picture than the headlines suggested. Bumblebee numbers in March were relatively high as good numbers of queens emerged from their winter dormancy in warm, sunny conditions, and this continued into the first couple of weeks of April. However, from mid-April onwards the weather turned wet and cold (although officially the warmest May on record, this seems to have been largely driven by cloud cover, especially overnight). However, overall, bumblebee numbers held up well, with Early bumblebee (*B. pratorum*) in particular doing well.

June is where things really came off the rails. The weather was unseasonably cold and wet, and worker bumblebees of many species were conspicuous by their absence. Typically, BeeWalk numbers increase from eight bumblebees per KM walked in May to an average 21 per KM walked in June, reflecting the increasing abundance of individual bumblebees as each new nest begins producing tens of workers. In 2024 we found an increase from 10 bees/KM in May to 10.6 in June, less than 5% of the normal increase, the worst June on record. The impact was particularly hard on the species which usually reach their peak colony size in June or July. White-tailed & Red-tailed bumblebees (B. lucorum s.l. and

Records of B. lucorum, B. magnus and B. cryptarum are combined as the B. lucorum aggregate for analysis as they can only be reliably separated by DNA analysis. Additionally, workers of the B. lucorum aggregate cannot be reliably separated from workers of *B. terrestris* in many cases, further aggregate, so а В. terrestris/lucorum is used which potentially contains workers of all four species. We do not currently receive enough records of Great Yellow bumblebee B. distinguendus to calculate an index.

B. lapidarius) numbers were down 60% and 74% for the year, respectively vs the 2010-23 mean. Other species were affected as well (for example, Southern Cuckoo *B. vestalis* down 38%, Tree bumblebee *B. hypnorum* down 39%, Buff-tailed bumblebee *B. terrestris* down 9.5%, Garden bumblebee *B. hortorum* down 12.5%).

As we reached July and then August, the weather improved and bumblebee numbers generally increased. July and August were only the second-worst in their respective series, with 14 and 16 bumblebees/KM recorded (compared to the 2010-24 average of 23 and 21 bumblebees/KM in those months).

Late-peaking species, those which reach their largest colony size and highest perkilometre BeeWalk score in August, presented a mixed picture in 2024. The Common carder (B. pascuorum) was down 16%, and the Moss carder (*B. muscorum*) down 34%. On the other hand, the Brownbanded carder (B. humilis) was up 13%, and the rare Shrill Carder (B. sylvarum) up 74%, albeit driven almost entirely by the Thames Estuary population. The doublebrooded (two nesting cycles within a season) Heath bumblebee (B. jonellus) was up 63%, driven largely by a larger second generation. Overall, however, across Great Britain bumblebees as a group were down 22.5% for the year.



Not everywhere saw the same pattern. The Garden bumblebee (B. hortorum) had an almost-normal year in England, with lower numbers in Scotland and Wales. The Tree bumblebee (*B. hypnorum*) had a good year in Scotland, but did badly in both England and Wales, while the Brown-banded carder (B. humilis) had a slightly above-average year in England, but saw numbers reach almost three times the usual levels in Wales. Many other species saw populations have above-average years in some countries balanced by below-average populations elsewhere. Indeed, the only species which were heavily affected in each of England, Wales and Scotland were the Red- and White-tailed bumblebees (B. lapidarius, B. lucorum s.l.). Both species had a year to forget, and will be watched closely in 2025 for any signs of a revival.

Long-term trends

For bumblebees as a group, 2024 was the worst year since BeeWalk records began. Across all species combined, an average of 8.75 bumblebees were seen per kilometre walked, down from 11.77 in 2023 and a high of 13.6 in 2015.

For individual species, the picture is more nuanced. For the Big 8 widespread and abundant species, the Common carder (B. pascuorum) and Buff-tailed bumblebee (B. terrestris) had a poor 2024, but in the context of population numbers which are stable in the long term. Similarly the Early bumblebee (B. pratorum) shows little sign of a long-term trend either upwards or downwards, instead demonstrating a zigzag trend of near-alternating good and poor years. This volatility is typical of springflying insects, where fluctuating conditions affect populations but are balanced by species' resilience and ability to bounce back from poor years.

The Garden bumblebee (*B. hortorum*) was slightly up in 2024 compared to 2023, but that is in the context of a gradual slight

decline over the period. Similarly, the Tree bumblebee (*B. hypnorum*) was slightly up in 2024 vs 2023, but after several years of increase the species showed a noticeable decline between 2019 and 2023, so the slight increase in 2024 is still considerably down over the long term. The White-tailed bumblebee (*B. lucorum* s.l.) appears to show a long-term decline since 2013, but this should be considered in the context of records of the recording aggregate for White-tailed/Buff-tailed workers (B. lucorum/terrestris) showing a general increase over the same period. Perhaps this trend shows a shift in recording rather than in species trends?

No such succour is available for the Redtailed bumblebee (*B. lapidarius*). The species' population has declined every year since 2015, with 2024 by far the worst ever.

Interestingly, several rare species are bucking the trend and showing year-on-year increases. The Shrill carder (*B. sylvarum*) showed a steady increase in numbers between 2012 and 2020, followed by a drastic crash in 2021, although populations of the species have now steadily increased each year since. An important point of context for this species is that the vast majority of the transects which monitor this species are covering the Thames Estuary population, so fluctuations here may mask those elsewhere – for example, no Shrill carders were recorded on transects in Somerset or Castlemartin during 2024, two of the five remaining populations.

The Brown-banded carder (*B. humilis*) has increased every year since 2021, and continues to increase in both abundance in existing populations and distribution, appearing in new areas most years. The closely-related Moss carder (*B. muscorum*) was down slightly in 2024 vs 23, but the species showed a gradual increase between 2018 and 2023. However, this has been driven almost entirely by the Scottish population, with numbers in England and Wales continuing to decline. Table. 1 Winners and losers: species which have increased (green) or decreased (red) in terms of individual bees seen per km walked in 2024, compared to the start of the scheme in 2010 and the previous survey year, 2023. All species only calculated on transects with records of that species.

	2024 vs		2024 vs			202	4 vs
	2010	2023		2010	2023		
Apis mellifera European honeybee			Bombus muscorum Moss carder				
Bombus barbutellus Barbut's cuckoo			Bombus pascuorum Common carder				
Bombus bohemicus Gypsy cuckoo			Bombus pratorum Early bumblebee				
Bombus campestris Field cuckoo			Bombus ruderatus Ruderal bumblebee				
Bombus hortorum Garden bumblebee			Bombus ruderarius Red-shanked carder				
Bombus humilis Brown-banded carder			Bombus rupestris Red-tailed cuckoo				
Bombus hypnorum Tree bumblebee			Bombus soroeensis Broken belted				
Bombus jonellus Heath bumblebee			Bombus sylvarum Shrill carder				
Bombus lapidarius Red-tailed bumblebee			Bombus sylvestris Forest cuckoo				
Bombus lucorum agg White-tailed complex			Bombus terrestris Buff-tailed bumblebee				
Bombus lucorum/terrestris workers			Bombus vestalis Southern cuckoo				
White/Buff-tailed workers							
Bombus monticola Bilberry Bumblebee			Total bumblebee numbers				



Red-tailed bumblebee B. lapidarius, our hardest hit species across BeeWalk (© Jade Oliver)



Research and collaborations – how BeeWalk data is used

BeeWalk was established with the aims of collecting abundance and distribution data on all Britain's bumblebee species, and using this data as widely as possible (particularly to analyse population trends). The Trust carry out some research in-house, but also collaborate widely with other researchers on shared projects. The BeeWalk dataset has grown over the past two decades into one of the largest bumblebee datasets in the world. Because it includes abundance as well as distribution, it can be used for estimation of population trends, as well as range change analysis. This lets us see what's happening with bumblebee populations now, or over the past few years, much more clearly than looking at range changes over the same period. This means BeeWalk can function as an early warning for bumblebee declines, detecting declines in the abundance of populations, before the species is lost from large enough areas that declines can be seen in their inhabited range sizes. This guides our strategic planning and species conservation priorities.

The data are made widely available. Once cleaned, validated, and verified, the dataset is added to the online data-sharing platform <u>Figshare</u>, where it is available for anyone to use as long the scheme is credited as the source. The dataset (converted to presence-only data to fit site restrictions) is also added to the <u>National Biodiversity Network</u> (NBN) Atlas and the <u>Global Biodiversity Information Facility</u> (GBIF).

BeeWalk data use in 2024

During 2024 a total of 464,790,247 BeeWalk records were downloaded across 4,087 individual downloads from the NBN Atlas and GBIF. Globally, records within the dataset have been downloaded more than 1.3 billion times.

It has been used worldwide for a range of purposes, principally research, but also by the UK statutory agencies for nature conservation (Natural England, NatureScot, and Natural Resources Wales), by a range of Local Environmental Records Centres, and for use in education and planning. Particularly during 2024 in England, the dataset has provided up-to-date information on the distribution of rare bumblebees for the development of Local Nature Recovery Strategies.

As well as this general use, the data has been key in the following:

• BeeWalk Annual Report population analysis.

- The Office for National Statistics. Extent and Condition of Natural Capital publications and Habitat Accounts
- Monitoring of multiple conservation sites across Britain, by a variety of environmental organisations, including the RSPB, National Trust and numerous local Wildlife Trusts.
- Included as part of a DEFRA wildlife abundance indicator for assessing progress against the targets in the 2021 Environment Act.
- Flower visitation data included in the Database of Pollinator Interactions (University of Sussex)
- 22 scientific papers published during 2024 which cite the BeeWalk dataset on GBIF

Ongoing collaborations

The BeeWalk team collaborate with a range of colleagues both inside and outside the Trust. Internally, the data guides our strategic planning – which species should



we be prioritising? Where should we be working? - while our external collaborations tend to focus on extracting more information from the dataset. In particular we have a long-running collaboration with researchers at the University of Kent to develop better methods of modelling the dataset. The aim of this work has been to build on our 2018 paper (Matechou, Freeman & Comont (2018). Caste-Specific Demography and Phenology in Bumblebees: Modelling BeeWalk Data), drilling down into the data more than we currently do using advanced modelling techniques. This will allow us to examine phenology in more detail, and to examine the within-season productivity (numbers of workers, males, new queens per spring queen), giving us more information about colony dynamics and how these vary year to year.

In-progress PhDs

The Trust support and collaborate with a range of PhD students; most, though not all of these will use the BeeWalk dataset.

- University of Worcester
 - Joe Leaper Biological sustainability of vineyards
- University of Cambridge
 - Jacqui James *Bombus sylvarum* genetic diversity
 - Sofia Dartnell Interactions between social and cuckoo bumblebee species
 - Nynke Blömer Interactions between bumblebees and honeybees
- University of Aberdeen
 - Tegan Gaetano Machair of the Outer Hebrides
- University of Bristol
 - Tori Mallinson Pesticide impacts on bumblebees

- University of Kent
 - Cam Milliken Maximising the benefits of BeeWalk

One of our PhD students, Andrea Claudia Tapia-Arenas of the University of Worcester, has submitted her thesis on the use of drones to undertake bumblebee habitat assessments – and has joined the Trust as a GIS Officer in the Science team.

UK Pollinator Monitoring Scheme (PoMS)



UK Pollinator Monitoring Scheme

The <u>UK Pollinator Monitoring Scheme</u> has been running since 2017, with the aim of generating systematic data on the abundance of bees, hoverflies and other flower visiting insects at a national scale. The Trust is a partner, alongside a range of other invertebrate conservation organisations.

As a relatively young recording scheme, data analysis and interpretation is still under development, with further years of data required before outputs and trends can contribute as indicators. The more people who participate, the faster the scheme will be able to progress.

In 2024 the scheme published their 2023 Annual Report*, showing 4,340 Flower-Insect Timed Counts and 291 surveys days of 1km squares were carried out.

BeeWalk data is used as part of a PoMS analysis project aiming to pull together all pollinator data that is currently collected separately, to provide a better picture of pollinators across the UK.

*<u>UK Pollinator Monitoring Scheme (2024)</u> <u>The UK PoMS Annual report 2023. UK</u> <u>Centre for Ecology & Hydrology and Joint</u> <u>Nature Conservation Committee</u>

Details of the PoMS fixed monitoring surveys

Flower-Insect Timed Counts (FIT count)

Watch a small patch of flowers (ideally from the PoMS species list, though any flowers are acceptable) for 10 minutes and record the insects that visit the flowers, identify them to broad groups (butterfly, beetle, bumblebee, hoverfly etc).



50x50cm FIT count quadrat

1km square survey

A selection of 95 1km grid squares across the UK have been picked to be monitored in depth for their pollinators. These sites are monitored for additional reasons, to track pollinator numbers and changes against other wildlife, plants and abiotic factors such as rainfall. This survey involves up to four day-long site visits across the field season, carrying out FIT counts and pan trapping to get a full understanding of the pollinator species present.

The red squares on the map so the currently available locations.



Figure 6. PoMs 1km squares © UKPoMS

For full details of how to join in with either survey, please visit: <u>https://ukpoms.org.uk</u>.

The National Pollinator Monitoring Scheme is funded by JNCC and the UK, Northern Irish, Welsh & Scottish Governments.



Our projects

Skills for Bees

Significant parts of Britain have very few bumblebee records and little to no coverage in terms of BeeWalk transects. As a result, there are huge gaps in our knowledge, including of locations which potentially hold populations of rare and scare bumblebees.

Our Skills for Bees projects aim to increase bumblebee recording, both through BeeWalk and ad hoc records, through focused training and mentoring in under these recorded areas. We hope to provide a legacy of skilled bumblebee recorders who will continue to monitor in these unique areas.

Skills for Bees key aims:

- Raising awareness of bumblebees and the need for recording
- Building partnerships with key organisations, groups and individuals
- Training and transferring skills, knowledge, and confidence to a wider group of people
- Data improving distribution and abundance data for bumblebees.
- Mentoring volunteers to maintain action for bumblebees beyond the end of the project

Our Skills for Bees project continues in Scotland, offering a range of virtual and field-based sessions within the target areas, open to all, whilst working with local landowners and partner organisations to increase BeeWalk transects and ad-hoc recording.

In 2024 we recruited the newest member of the BeeWalk team; Skills for BeeWalk Manager Andy Benson. Andy brings a fantastic background in bumblebee education and spent the latter part of 2024 on the development phase of our forthcoming online bumblebee ID and surveying modular course, which will become live later this field season. Andy will be out and about delivering in person ID and survey training sessions and working on developing our next Skills for Bees projects.

Skills for Bees: Scotland 2024

Focusing on the Cairngorms National Park in the Scottish Highlands, Skills for Bees: Scotland is now in its fourth year thanks to extended funding from the Cairngorms Trust and will continue to build and support a network of new bumblebee recorders and BeeWalk transects. The project includes target survey days, focused on the rare species associated with the area; Bilberry, Broken-belted, and Moss Carder bumblebees (*B, monticola, B. soroeensis, & B. muscorum* respectively).

2024 was another busy year, with 27 in person and online events and activities reaching over 300 individuals, who received training in bumblebee identification and survey skills.

- 5 beginner workshops
- 5 intermediate workshops
- 3 BeeWalk demo/bumblebee recording training events
- 7 target species survey days

The project continues to develop partnerships with a wide range of organisations across the area, including NESBReC; the local biological records centre, Cairngorms National Park Authority, National Trust for Scotland and several large estates. New relationships developed over 2024 include local mountaineering group The Cairngorm Club, Scottish Wildlife Trust and social enterprise Seedbox Ltd.

Having a wide range of organisations and groups interested and supportive of bumblebee monitoring and recording, will improve the long term prospects for bumblebee monitoring in the area.





Annie Ives, Project Officer delivering training in Braemar

Three new BeeWalk transects were registered in 2024, and data was received for 12 transects in the area in total for the field season, of which 11 have been set up since the start of the project. That's 259 records of bumblebees via BeeWalk for 2024. Prior to the project, BeeWalk data had only been received for three transects, and only two regularly. This shows the impact of having

someone on the ground offering that tailored support to bumblebee recorders.



Project target species Broken-belted bumblebee *B. soroeensis* (left) Bilberry bumblebee *B. monticola* (right)

As well as the BeeWalk transects, ad hoc recording through iRecord shows an increase during the project, from just 43 records in 2021 to 316 in 2023 and 273 in 2024. This is already showing us the rewards of this style of on the ground training and support.

If you are within the Cairngorms and would like to get involved, please email annie.ives@bumblebeeconservation.org





Conservation and Engagement projects

The Trust have a range of conservation and engagement projects across Britain, and monitoring bumblebees using BeeWalk is built into almost all of them. If you'd like to know more about any of them or to get involved, please see the Projects page on the main Trust website for more details at https://www.bumblebeeconservation.org/what-we-do/our-projects/



Figure 7. Bumblebee Conservation Trust local project locations, 2024





Buff-tailed bumblebees B. terrestris (© Helen Dickinson)

This report should be cited as Comont, R.F., & Dickinson, H. (2025). BeeWalk Annual Report 2025. Bumblebee Conservation Trust, Stirling, UK. It can be downloaded from www.beewalk.org.uk.

February 2025. Copyright 2025 ©. All rights reserved.

The Bumblebee Conservation Trust is a registered charity (England & Wales 1115634 / Scotland SC042830). Company registration number 05618710 (England and Wales).

Registered address: International House, 109-111 Fulham Palace Road, London, W6 8JA. Correspondence address: Bumblebee Conservation Trust, Beta Centre, Stirling University Innovation Park, Stirling, FK9 4NF.



Appendix

Species distributions on BeeWalk transects

Each dot represents an on-transect record of the species and so may not represent the full range of the species within Britain.

Widespread bumblebees

Distribution of B. pascuorum on BeeWalk transects



Distribution of B. lapidarius on BeeWalk transects



Distribution of B. terrestris on BeeWalk transects



Distribution of B. lucorum s.l. on BeeWalk transects





Widespread bumblebees

Distribution of B. hypnorum on BeeWalk transects

Distribution of B. pratorum on BeeWalk transects





Distribution of B. jonellus on BeeWalk transects



Distribution of B. hortorum on BeeWalk transects





Cuckoo bumblebees

Distribution of B. barbutellus on BeeWalk transects



Distribution of B. bohemicus on BeeWalk transects



Distribution of B. campestris on BeeWalk transects









Cuckoo bumblebees

Distribution of B. sylvestris on BeeWalk transects



Distribution of B. vestalis on BeeWalk transects



Conservation priority bumblebee species

Distribution of B. humilis on BeeWalk transects



Distribution of B. monticola on BeeWalk transects





Conservation priority bumblebee species

Distribution of B. muscorum on BeeWalk transects

Distribution of B. ruderatus on BeeWalk transects





Distribution of B. sylvarum on BeeWalk transects



Distribution of B. distinguendus on BeeWalk transects





Conservation priority bumblebee species

Distribution of B. soroeensis on BeeWalk transects



Distribution of B. ruderarius on BeeWalk transects







Yearly Abundance trends



Mean number of bumblebees counted on transects

The abundance trend of all bumblebees recorded on BeeWalk transects between 2010 and 2024, including individuals not identified to caste or to species. This is shown as the mean number of bumblebees counted per kilometre walked each year (red line). The grey cloud is a measure of the annual variation around this average (standard deviation).



Widespread bumblebees





Model

0.2

0.0

2010

2012

2014

2016

2018

BeeWalk Annual Report 2025

Widespread bumblebee species





Abundance trends for the eight widespread British bumblebee species 2010-24, shown as the mean number of bumblebees of that species counted per kilometre walked each year on transects where the species has ever been recorded (red line). The grey cloud is a measure of variability (standard deviation).

Note: the vertical axis varies with species' abundance and thus differs between plots.

B. lucorum & *B. terrestris* often cannot be reliably split as workers, so records submitted as '*B. lucorum/terrestris* workers' are plotted in addition to both species.

2024

2022

2020



Cuckoo bumblebees











Abundance trends for five rare or scarce British bumblebee species 2010-24, shown as the mean number of bumblebees of that species counted per kilometre walked each year on transects where the species has ever been recorded (red line). The grey cloud is a measure of variability (standard deviation).

Note: the vertical axis varies with species' abundance and thus differs between plots



Phenology trends



Mean number of bumblebees counted on transects





The mean number of bumblebees per kilometre recorded per month (March-October). Results for 2024 (blue line) are plotted against the average monthly abundance for the nineyear period 2010-23 (red line). The grey cloud indicates the variability of the 2010-23 average - where the blue (2024) line is outside this grey area the count is significantly different to what would be expected.



Widespread bumblebee species



Month

Month



0.0

BeeWalk Annual Report 2025

Widespread bumblebee species



6

я

10



The mean number of bumblebees per kilometre per month between March and October 2024 (blue line), plotted against the average monthly abundance for the nineyear period 2010-23 (red line). The grey cloud indicates the variability of the 2010-23 average (standard deviation.

Note: the vertical axis varies with species' abundance and thus differs between plots.

B. lucorum & *B. terrestris* often cannot be reliably split as workers, so records submitted as '*B. lucorum/terrestris* workers' are plotted in addition to both species.



Cuckoo bumblebees





0

BeeWalk Annual Report 2025

Mean number of B. monticola counted on transects



6 Month

Conservation priority bumblebee species



The mean number of bumblebees per kilometre per month between March and October 2024 (blue line), plotted against the average monthly abundance for the nine-year period 2010-23 (red line). The grey cloud indicates the variability of the 2010-23 average (standard deviation.

Note: the vertical axis varies with species' abundance and thus differs between plots.

