**Official Statistics on Abundance of UK Butterflies (Includes data up to 2024)**

This page hosts the Official Statistics on Abundance of UK Butterflies (2025 release; including data up to 2024), published on 28 March 2025.

**Official Statistics Description**

The statistics comprise trends of UK butterfly species based on results of the UK Butterfly Monitoring Scheme (UKBMS).

The UKBMS is a long-term monitoring scheme (running since 1976) involving repeat sampling at thousands of locations across the UK. The main method involves regularly counting butterflies along defined transects on days with specified weather criteria.

The statistics incorporate data from three components of the UKBMS: traditional self-selected transects; stratified random Wider Countryside Butterfly Survey (WCBS) squares; and targeted species surveys (for example timed counts, larval web counts, and egg counts).

The UK Butterfly Monitoring Scheme is organised and funded by Butterfly Conservation (BC), the UK Centre for Ecology & Hydrology (UKCEH), British Trust for Ornithology (BTO), and the Joint Nature Conservation Committee (JNCC). The UKBMS is indebted to all volunteers who contribute data to the scheme.

**Scope of Statistics**

This data covers butterflies species from the UK only.

Population trends are presented at UK level for 58 of the 59 regularly occurring species, and at country level where sufficient data are available. Long term trends and abundance indices of recorded species analysed for 1976-2024 for the UK, England, and Wales, 1979-2024 for Scotland, and 2004-2024 for Northern Ireland.

Short term trends are analysed for the UK and the four countries for the last ten years, 2015-2024.

More detail on approach and methodology is available on [the UKBMS website](https://ukbms.org/official-statistics).

PDF or XLSX file to access to 2024 summary of changes tables for the UK and at regional levels. The table includes trend estimates for 58 species regularly recorded in the UK and for which sufficient data is available at regional levels.

**Summary of Results**

* A total of 3,552 sites were monitored for butterflies across the UK as a part of the UKBMS in 2024, with an increase of 204 sites providing data compared to 2023. Trends are worked out for species recorded across the UK, and on a national level for the four countries. Increases and declines for each species are worked out from the recorded data, as well as whether each species is above or below the long-term average by region.
* Trends for UK butterfly species can vary, but 2024 shows over a third of the species assessed (38%) in the UK showing a significant long-term decline in abundance at monitored sites, and about 30% showing a significant long-term increase. Short-term (10 year) trends show 2 species (3%) showing a statistically significant increase and 6 species (10%) showing a significant decline.
* Overall, 2024 was the 5th worst year on record, ranking 45 out of 49 years of recording. Nine species had their worst year on record, including Grizzled Skipper, Small Skipper, Large Skipper, Cryptic Wood White, Green-veined White, Small Copper, Chalk Hill Blue, Small Pearl-bordered Fritillary and Small Tortoiseshell both. Small Tortoiseshell, in particular, has had very poor years repeatedly over the last few decades, with a decline of 64% since 2023, when it had one of its worst years on record. 2024 was also the worst recorded year across all four countries for the Small Tortoiseshell, as opposed to showing decline in just parts of the UK.
* No species recorded had its best year on record, although Glanville Fritillary had its third best year on record despite showing a decline in England.
* 51 of 58 species analysed showed a decline in comparison to 2023 at a UK level, with only six species showing an increase at monitored sites. Ringlet showed no change compared to 2023.
* There were some regional differences in how butterflies fared in 2024.
	+ 2024 ranked 46 out of 49 in the recorded series (being the 4th worst year on record) in England. As with the UK trends, nine species recorded their worst year on record including Grizzled Skipper, Small Skipper, Large Skipper, Scoth Argus, Pearl-bordered Fritillary, Small Pearl-bordered Fritillary, Small Tortoiseshell, Small Copper, and Chalk Hill Blue. 42 species (76%) of the 55 analysed showed below average abundance for the series (1976-2024).
	+ Wales recorded the worst year on record. Trends were produced for 33 species recorded, and seven of these of these had their worst year on record, including Dingy Skipper, Small Skipper, Small Heath, Dark Green Fritillary, High Brown Fritillary, Small Tortoiseshell, and Small Copper. 28 of the 33 species producing trends in Wales showed lower than average abundance indices in 2024, while 5 showed above average abundance indices.
	+ Northern Ireland recorded the second worst year on record. Of the 14 species for which trends could be produced, 12 produced lower than average abundance indices, with two species having their worst on record, Cryptic Wood White, and Small Tortoiseshell. This shows a slight difference from 2023, when Small Tortoiseshell bucked the national trend in Northern Ireland and had its second best year on record. Numbers crashed by 84% in 2024, though Small Tortoiseshell is generally stable on monitored sites in Northern Ireland. Northern Irish short-term trends are similar to long-term trends, due to the series having started in 2004. Interestingly three common and widespread species, Large White, Small White, and Small Heath are showing significant declines in Northern Ireland.
	+ As with 2023, the most positive outlook comes from Scotland, where a number of species have been expanding their range and producing positive trends over the last few years. 2024 was still a poor year in general for Scotland, ranking 30 out of 46 years of recording. Two species had their worst ever year at monitored sites in Scotland; Green-veined White and Small Tortoiseshell. Scotch Argus and Grayling also had poor years, with Scotch Argus now showing significant decline in abundance at monitored sites in Scotland. Although no species had their best year, Speckled Wood, Orange-tip, and Northern Brown Argus all had good years, while Small Peal-bordered Fritillary bucked the general UK trend and increased on Scottish sites, up 9% from 2023. Generally, trends were evenly split across the recorded species for Scotland, with 13 species showing below average abundance and 14 species showing above average.

**Table 1: Summary of Long Term and Short Term Trends by Region**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Long-term trend (LT)** | **Short-term trend (ST)** |
|  | **Total** | **Significant** | **Significant** | **Long** | **Significant** | **Significant** | **Short** |
|  | **Number** | **Long Term** | **Long Term** | **Term** | **Short Term** | **ShortTerm** | **Term** |
| **Country** | **Species** | **Declines** | **Increases** | **Stable** | **Declines** | **Increases** | **Stable** |
| UK | 58 | 22 | 17 | 19 | 6 | 2 | 50 |
| England | 55 | 24 | 15 | 16 | 4 | 1 | 50 |
| Scotland | 27 | 3 | 11 | 13 | 1 | 2 | 24 |
| Wales | 33 | 13 | 9 | 11 | 5 | 0 | 28 |
| N. Ireland | 14 | 3 | 0 | 11 | 1 | 0 | 13 |

Table notes:

1. Figures indicate number of species
2. Long Term refers to the mean collated index of abundance for a given species over the entire period it has been recorded at each regional level

**Table 2: Summary of Annual Changes by Region**

|  |  |
| --- | --- |
|  | **Annual summary** |
|  | **Total** | **No. Species** | **No. Species** | **No. Species** | **No. Species** | **No. Species** |
|  | **No. Species** | **Annual** | **Annual** | **No** | **Below** | **Above** |
| **Country** | **2024** | **Decline** | **Increase** | **Change** | **LT mean** | **LT mean** |
| UK | 58 | 51 | 6 | 1 | 42 | 13 |
| England | 55 | 48 | 6 | 1 | 42 | 13 |
| Scotland | 27 | 21 | 5 | 1 | 13 | 14 |
| Wales | 33 | 29 | 3 | 1 | 28 | 5 |
| N. Ireland | 14 | 10 | 4 | 0 | 12 | 2 |

Tables notes:

1. LT indicates Long Term (i.e., since recording began)
2. Long Term Mean indicates abundance indices against the mean for population trends since recording began

**Drivers of Change**

Key drivers responsible for long-term declines in abundance include changes in the extent, condition and fragmentation of habitats caused by the intensification of farming, changes in forestry practices, urban development, pollution and climate change. Note that some drivers, e.g. climate change are likely to have mixed, species dependent impacts.

Weather conditions can create noticeable fluctuations in butterfly populations from one year to the next as they impact butterfly development and activity directly, as well as indirectly (e.g. via impacts on habitat). Generally, butterflies tend to fare better with warm sunny weather during their flight period. [Met Office data](https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/summaries/annual_assessment_2024.pdf) shows that 2024 was the fourth warmest year on record for the UK, with 8 months being warmer than the 1991-2020 average. May 2024 was the warmest May on record, after a mild winter. 2023 had been noted as being particularly wet, with 2024 following that trend. 2024 had the eighth wettest year on record (2023 had the fourth wettest year), with significant rainfall across England in particular. There was a below average level of sunshine recorded across the UK, with Wales and Northern Ireland showing some of their dullest years since records began.

Targeted conservation management to protect and improve habitat can have positive impacts on species abundance. For example, the Heath Fritillary is a threatened habitat specialist species that has benefited from habitat management. Whilst its long-term trend is of significant decline, Heath Fritillary has increased on monitored sites in recent years.

**Key Contact Points**

This analysis was produced by the UK Centre for Ecology and Hydrology with QA from Butterfly Conservation, the British Trust for Ornithology, and JNCC

These data are published as part of the JNCC Official Statistics. If you have any queries, please contact jasmine.salvati@jncc.gov.uk

**Relation to other Official Statistics**

‘Statistics on Abundance of UK Butterflies’ feeds into the National Statistics Compendium [UK Biodiversity Indicators](https://jncc.gov.uk/our-work/uk-biodiversity-indicators/)

These statistics form part of a suite of [statistics](https://jncc.gov.uk/about-jncc/corporate-information/jncc-official-statistics-list-and-release-dates/) produced through partnership monitoring schemes as part of JNCC’s terrestrial evidence programme.

**Confidence in Results**

Both the survey and analytical methodologies follow standardised peer reviewed procedures, verified by the Office for Statistics Regulation. The data meets the standards for trustworthiness, value, and quality, as set out in the Code of Practice for Statistics.