

Butterfly Conservation

Saving butterflies, moths and our environment

Garden Butterfly Survey 2018 results summary

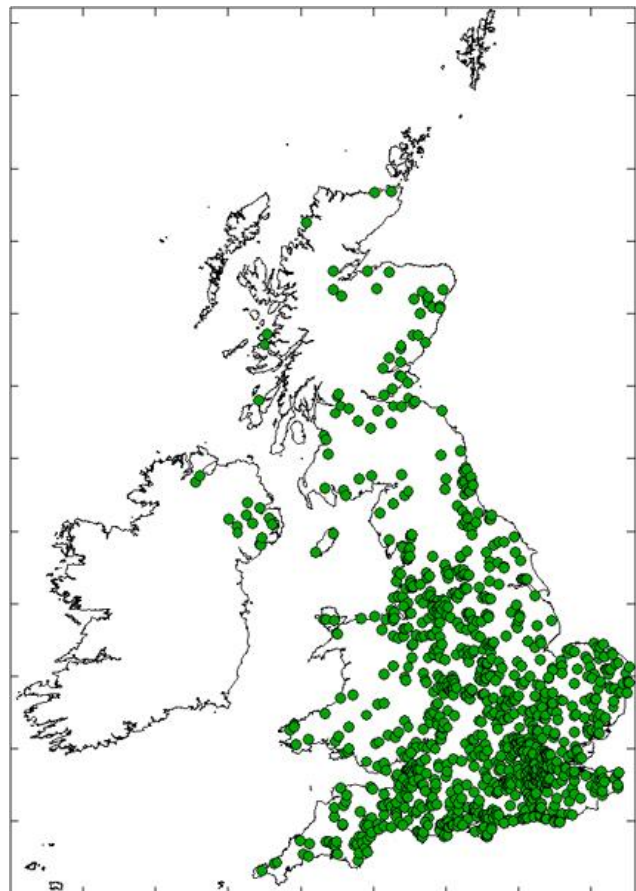
The third year of Butterfly Conservation's Garden Butterfly Survey (GBS) spanned some extremes of the UK climate. The two 'Beast from the East' episodes brought very low temperatures and extensive snow to the UK in late winter and early spring, followed by a long, hot spell that ran from May into July. August to October were about average, but then the final two months of the year were very mild.

Participation

The number of gardens taking part in 2018 decreased compared to 2017, but the total number of sightings (records) submitted was very similar, indicating that it was a better year for butterflies. In all 71,297 records were logged through the GBS website in 2018 from 1,053 gardens (see map below). This compares to 74,000 records from 1,486 gardens in 2017.

However, the intensity of recording improved in 2018. Butterflies were recorded from 1st January to 29th December 2018, with both the first and last sightings of the year being Red Admirals. 54% of gardens reported sightings in at least four months during the year and 39% had sightings in six months or more, both measures slightly up on 2017. As the aim of GBS is to assess how butterflies are faring in UK gardens, it is vital that participants are watching and recording their sightings right through the year. One-off garden sightings and butterfly records from other locations should be submitted via [other Butterfly Conservation schemes](#).

We are extremely grateful to all GBS participants during 2018. If you are not already involved, please consider taking part this year - simply keep a look out for butterflies in your garden through the year and enter your observations through this website.



Species results

The data suggest that 2018 was a better year than either previous years of the GBS. The average (mean) number of species seen per garden rose considerably in 2018, to 10.09, from 8.25 the previous year and just 6.42 in 2016. Although this may also be influenced by the more intensive recording undertaken by GBS participants in 2018.

There were some big changes in the most frequent and abundant garden butterflies compared to 2017. As can be seen in the table below, Small White and Large White were recorded in the highest proportion of gardens in 2018, positions that had been occupied by Red Admiral and Small Tortoiseshell in 2017.

Species	% Gardens 2018	% Gardens 2017
Small White	80%	59%
Large White	76%	59%
Red Admiral	63%	78%
Holly Blue	63%	49%
Comma	62%	58%
Peacock	62%	59%
Small Tortoiseshell	59%	60%
Speckled Wood	57%	49%
Orange-tip	56%	47%
Meadow Brown	53%	39%
Gatekeeper	50%	38%
Green-veined White	49%	33%
Brimstone	49%	50%
Painted Lady	40%	32%
Ringlet	33%	26%
Common Blue	31%	17%
Small Copper	25%	14%
Small Skipper	21%	13%
Large Skipper	16%	11%
Marbled White	10%	8%

Small White showed the biggest change in the proportion of GBS gardens between 2017 and 2018, increasing from 59% to 80%. Large White and Green-veined White both showed large year-on-year increases too, as did the Holly Blue, Common Blue and Small Copper. 2018 was a good year for the whites and blues (Small Copper being a member of the 'blue' family despite its colouration) in UK gardens.

Most other species remained stable compared to 2017, but the Red Admiral showed substantial decrease. This species had a spectacular year in 2017 and many had hoped that it would do similarly well in 2018. However, its numbers tumbled and it decreased from 78% of gardens in 2017 to 63%.

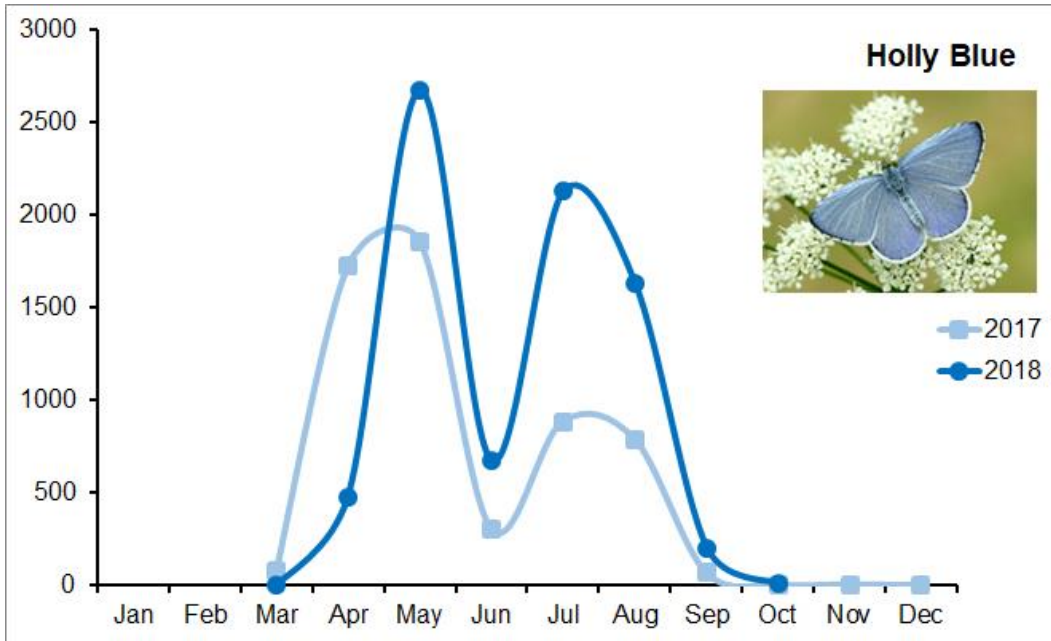
The total abundance of the most common species recorded in GBS 2018 are given in the table below. Direct comparisons with previous years are not appropriate (as the number of monitored gardens varies), but Small White and Large White numbers increased greatly on 2017, while those of Red Admiral decreased massively.

Species	Total abundance
Small White	30,008
Large White	20,760
Meadow Brown	10,747
Holly Blue	7,810
Gatekeeper	7,111
Red Admiral	6,863
Peacock	6,759
Speckled Wood	6,508
Green-veined White	6,417
Small Tortoiseshell	5,983
Comma	4,812
Orange-tip	3,859
Ringlet	3,496
Common Blue	3,362
Brimstone	3,249
Painted Lady	1,721
Small Skipper	1,586
Small Copper	1,520
Large Skipper	1,296
Marbled White	862

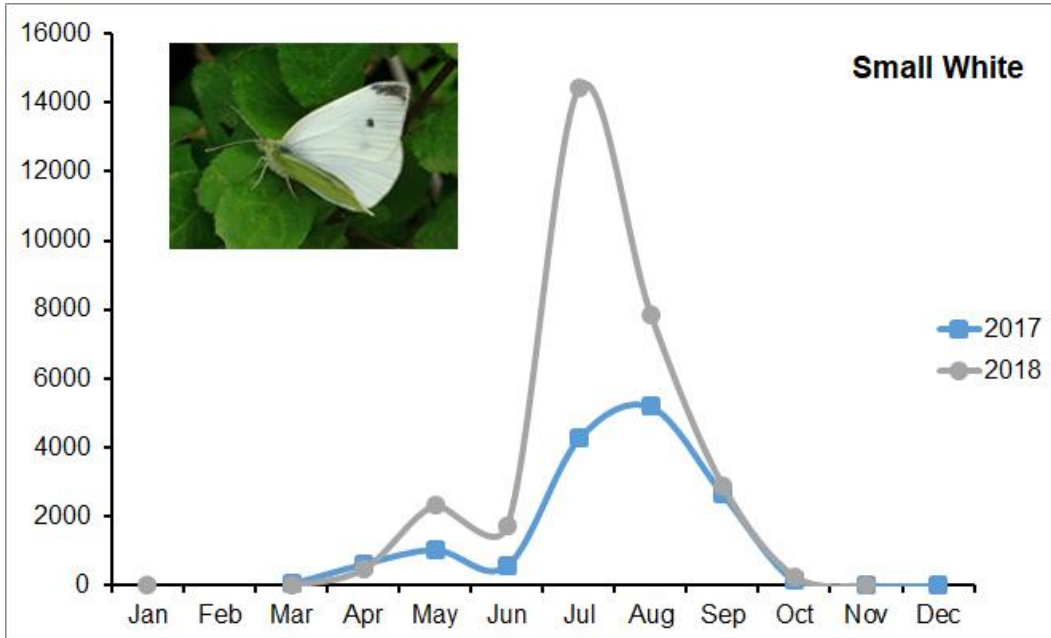
The garden butterfly year 2018

The year started promptly with a sighting of Red Admiral in Sutton Coldfield on New Year's Day. Red Admiral, as is usual nowadays, was the most commonly seen winter butterfly, accounting for over half of the GBS sightings in January 2018 and 64% of February records. The latter part of February saw the arrival of the 'Beast from the East', and with its sequel in March, the below average temperatures delayed the emergence of butterflies. This effect can be seen clearly in the Holly Blue plot on the next page (as well as in the Small Copper plot); the first generation of Holly Blue emerged and peaked noticeably later in spring 2018 compared to the previous year. Generally, most butterfly species were around a week or two behind their normal spring emergence dates.

The situation changed dramatically in May, when a long period of warm, dry weather started, eventually culminating in heat wave conditions and fears of a significant drought. Conditions were good for adult butterflies and emergence dates soon caught up and then overtook the long-term averages.



By July, many species appeared to be thriving in the hot weather. GBS sightings of the three common white species were much higher than in 2017, as shown on the Small White plot below. The summer generation of Holly Blue was also much larger than in 2017 (see plot above), and some of the single-brooded summer-flying species, such as Meadow Brown and Gatekeeper, were much more common garden visitors in 2018.

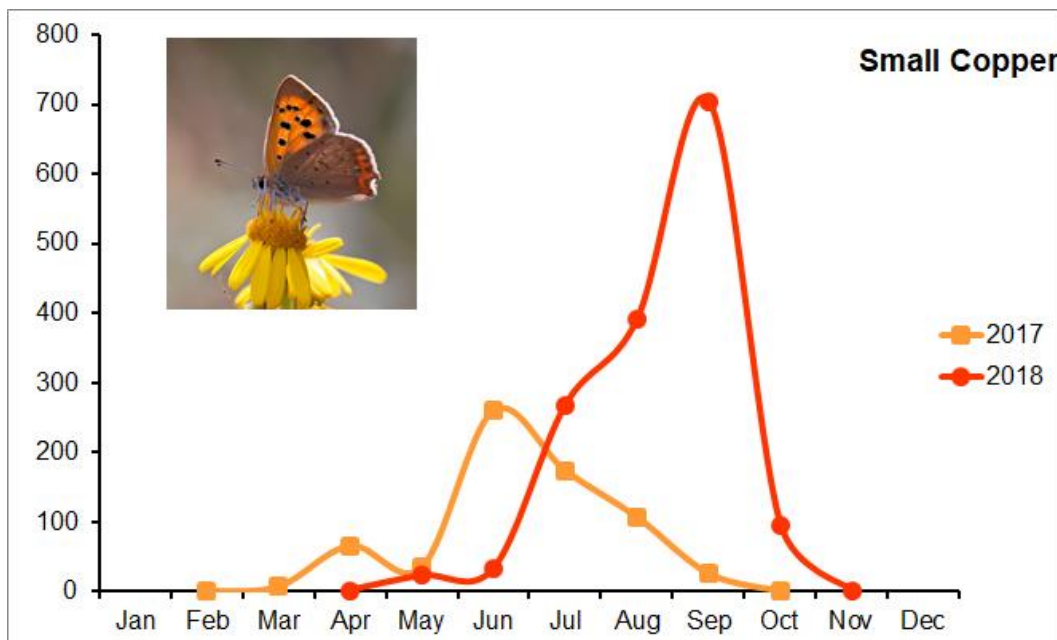


In all, 65% of all 2018 GBS sightings were made in May-July, coinciding with the fine weather. By comparison, 49% of all 2017 sightings occurred in the same period. One GBS recorder recorded butterflies in their garden on 30 of the 31 days in July 2018.

Somewhat surprisingly, given the long spell of stable summer weather, the common migrant butterflies, Red Admiral and Painted Lady, did not arrive in large numbers.

Although the hot weather finally broke in late July, and August temperatures were much more average, the abundance of many widespread butterfly species continued and Common Blue had a strong second generation. On the other hand, the colourful Nymphalid species, such as Small Tortoiseshell and Peacock, that are usually a wonderful feature of gardens, feasting on Buddleia and other late summer flowers, were conspicuously absent. The summer generations of these species had emerged early, peaking in July rather than in August as in 2017, and it seems that most individuals had already entered their dormant phase in preparation for winter by early August. Hopefully, therefore, the relatively low numbers recorded in GBS during late summer and autumn 2018 do not represent real population decreases of these much-loved butterflies.

The lingering effects of the late-spring/early summer heat could still be seen in autumn 2018. Small Copper exemplified this (see plot below) with a fantastic third brood that peaked in September. There were more GBS records of Small Copper in September 2018 than in the whole of 2017!



Overall, the results of GBS 2018 suggest a further improvement in garden butterfly numbers over 2017 and 2016. After a late spring, the butterflies and us human observers enjoyed a long, hot summer, which seemed to benefit the majority of species. The potential downside was drought, which can seriously impact the survival of caterpillars if the plants they are feeding on wither and die. We'll be watching with interest to see if there are any knock-on negative impacts on species known to be sensitive to drought such as Speckled Wood, Ringlet and Green-veined White. By taking part in GBS in 2019, you can play an important part in assessing this effect and monitoring the ongoing fortunes of butterflies in our gardens.

Many thanks once again to everyone who took part in the [Garden Butterfly Survey](#) in 2018. Hope you see and record lots of butterflies in your garden in 2019.