

DRAFT Butterflies 2024

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“Where are all the butterflies?” is a phrase that I frequently heard this year. It certainly wasn't a good year for many species, the very wet (but mild) initial months presumably affected their immature stages. Then, during the flight periods, spells of cold or wet weather hampered observations and possibly breeding, and these continued into the autumn. First-sightings would come in groups, alternating early and late. Some species did well in one brood but not in another, and a handful of species actually had quite a reasonable season, so the story in reality is rather nuanced. As records were only submitted for butterflies that were seen, and not those that *weren't*, they perhaps suggest a rosier picture than the season deserves. The transects, through constant-effort monitoring, ought to be able to reveal the truth, but many have been walked irregularly over the years, hampering interpretation.

Milder days in January saw a few hibernators emerge - Brimstone on the 3rd, Small Tortoiseshell on the 13th, Red Admiral on the 22nd and Peacock on the 25th, totalling 12 between them over the month.

February was very wet but also mild, and butterflies were seen on 12 different days, with 49 on the 15th in 17C sunshine, including the first Comma.

March was mostly mild too, with butterflies seen on 21 days, but it was also wet - the ground was saturated and paths were very muddy. 872 adults were reported this month, with Peacock, Brimstone and Comma in particular showing in good numbers. Small White was the year's first “hatching” on 14th March, followed by Speckled Wood on the 23rd. Orange-tip, Holly Blue and Large White all appeared on the 26th and Green-veined White completed the month's emergences on the 30th.

As mud-laden boots carried us into April there was a welcome spell of fine weather in week 15 (9th-15th April) that brought out observers and butterflies alike, resulting in a big spike in records, with large counts for Orange-tip, Peacock, Speckled Wood, Brimstone and Holly Blue in particular. This week also saw the first Green Hairstreak on the 12th and Small Copper on the 13th. That day also brought the year's surprise, a Large Tortoiseshell in Potton Wood. Duke of Burgundy appeared on the 20th. The first migrant Painted Lady arrived on the 30th. Grizzled Skipper was also seen that day, a bit later than usual, setting the trend for the next few species.

Dingy Skipper was May's first emergence on the 5th, then Small Heath on the 8th, along with Common Blue (actually on schedule) and Brown Argus the next day. Small Blue showed on 11th, flipping the trend for species to emerge early again. These included Large Skipper on the 19th and Meadow Brown on the 29th.

June was the month with the most first-sightings - Black Hairstreak on the 7th, Ringlet and Gatekeeper on the 8th and Purple Hairstreak on the 14th were the first. Then emergences became late again with Marbled White on the 16th, Dark Green Fritillary on the 17th; and Small Skipper on the 18th. White Admiral, also on the 18th, and Purple Emperor on the 24th were then a little early, but White-letter Hairstreak on the 25th; and Silver-washed Fritillary and Essex Skipper on the 26th were late again. (A lone male Adonis Blue photographed on Barton Hills on the 7th was presumed to have been a release.)

The dull cool weather during the first two weeks of July dented the peak abundance for many species, reducing their recording and leading to lower annual counts. This was probably a factor that caused Chalkhill Blue to also be late, appearing on the 11th as the final resident species to show. Of the 29 species flying in July only Small Heath, Meadow Brown and Gatekeeper could be said to be having a reasonable month, plus Small Blue's second brood was getting off to a good start. The abundance of 16 species were notably lower than average, the other ten closer to normal.

Conditions were favourable until the third week of August which felt autumnal, which may explain why the only Clouded Yellow of the year, seen on 27th August, was heading south-west, possibly thinking about emigration.

September saw extra broods and/or migrations for our three “whites”, and Small Copper ended the year with a strong third brood on heathland sites.

15 species were still flying during the first week of October, having survived torrential rains during late September. Red Admiral was the most abundant now (64), followed by Comma (36), Large White (30) and Meadow Brown (23).

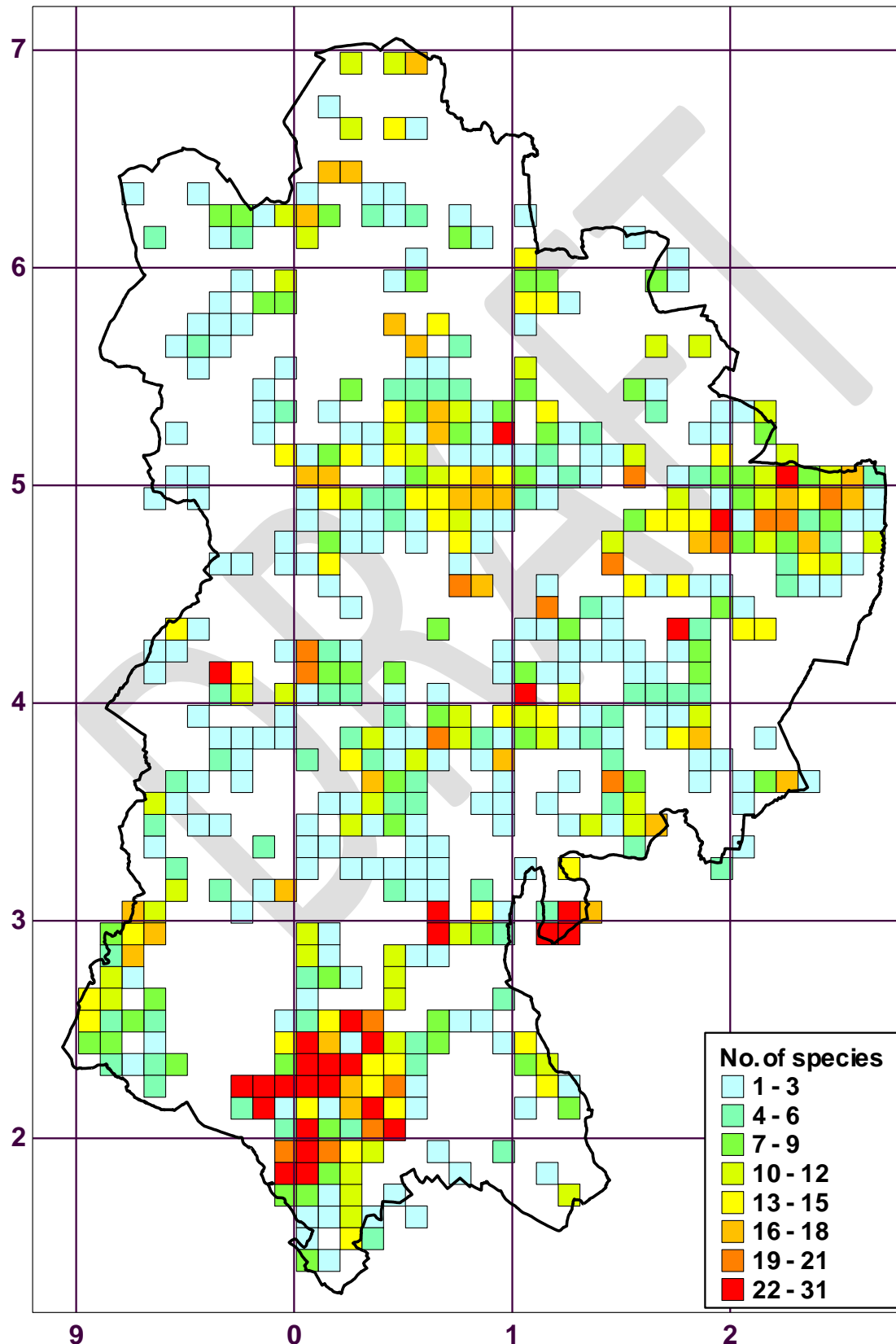
Only three species continued into November. The final Peacock was seen on 2nd, and a Small White indoors on the 28th, otherwise nine Red Admirals had the county to themselves.

A lone Red Admiral in Clifton on 16th December rounded off a challenging year.

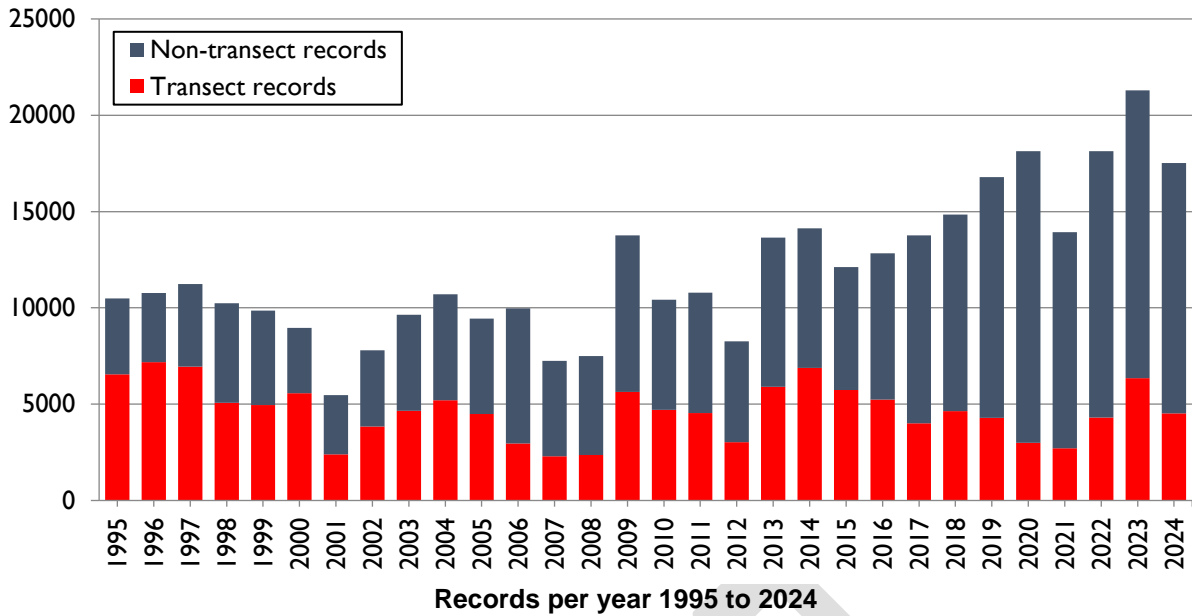
Analysis of Data

At the time of analysing records for this report (1st February 2025) 17,524 records had been received and computerised, containing reports of 66,350 adults from 539 1km squares. 44 records were of the immature life-stages. Records were analysed at this date and may be subject to minor revision. 4,523 records were from transects and 13,001 records were from other sources, mostly casual recording.

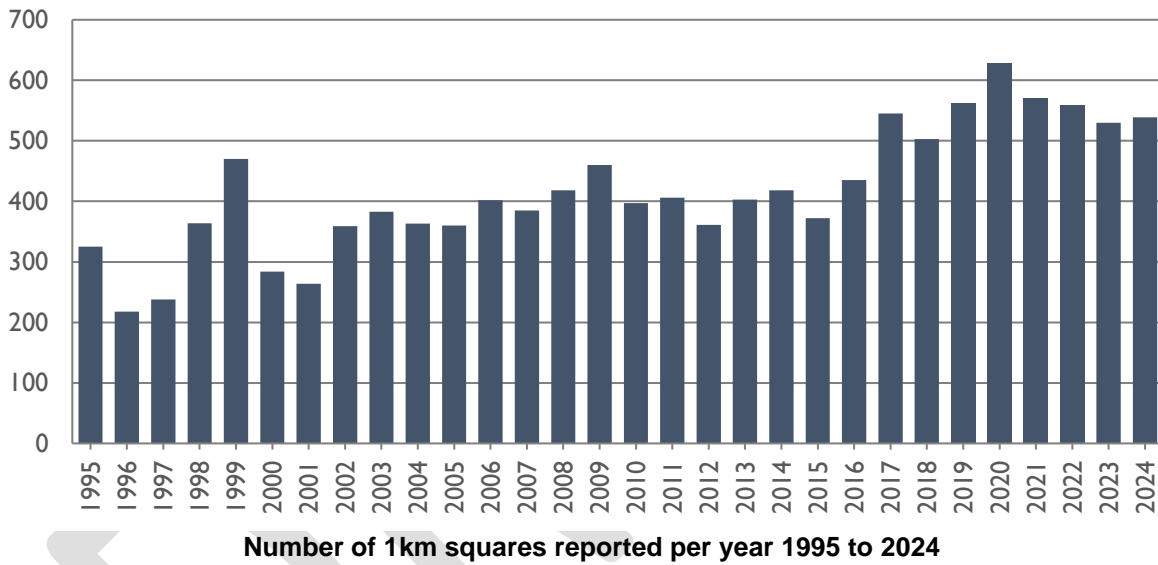
Where an abundance was reported through an App using a letter (i.e. A=1; B=2-9; C=10-29; D=30-99; E=100+) the lowest value of the range has been assumed in the statistics (i.e. B=2; C=10; D=30; E=100) as this is the only abundance of which I can be certain. It is therefore much better to report abundances using digits please.



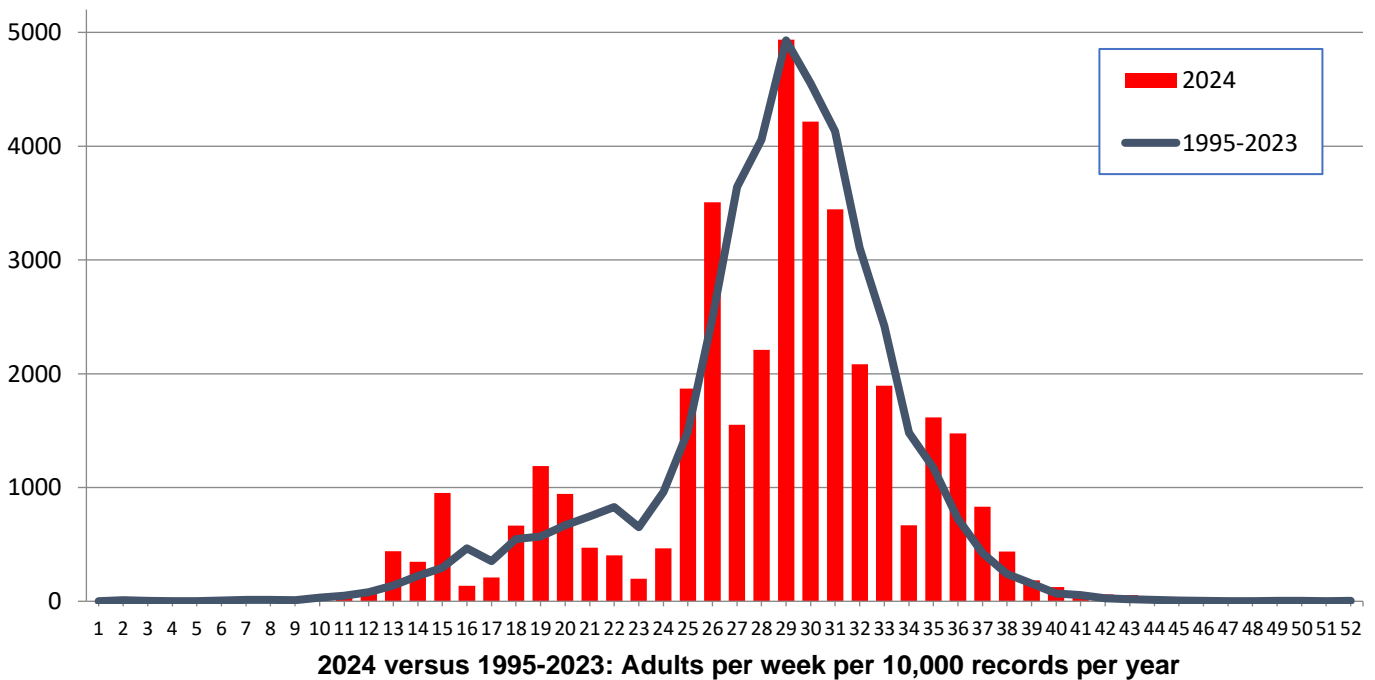
Number of species per 1km square in 2024's records



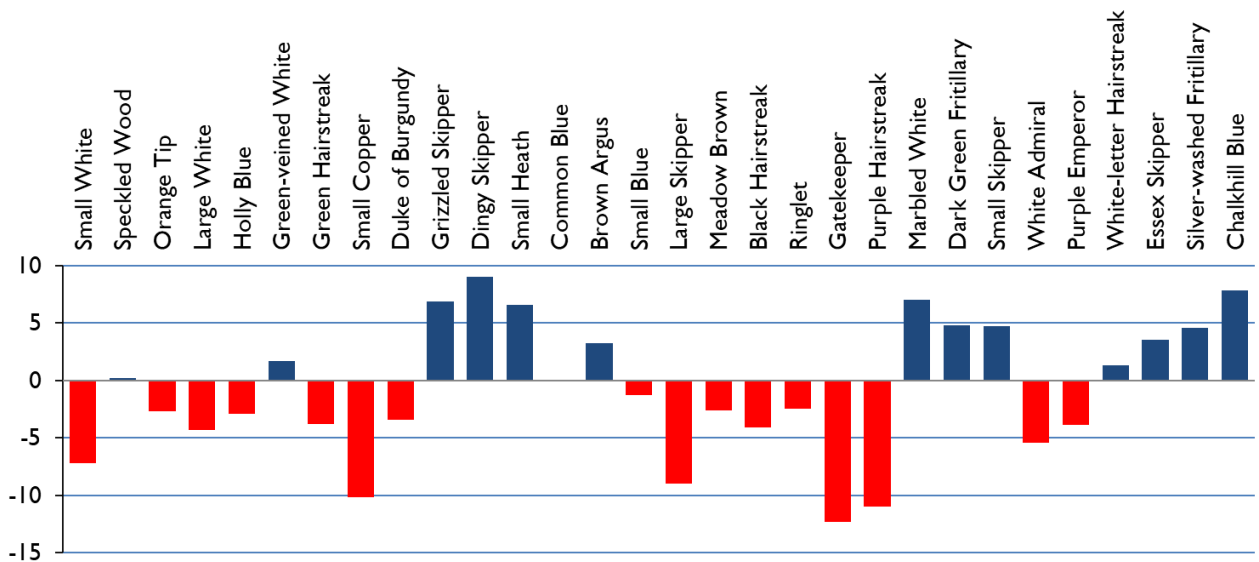
Records per year 1995 to 2024



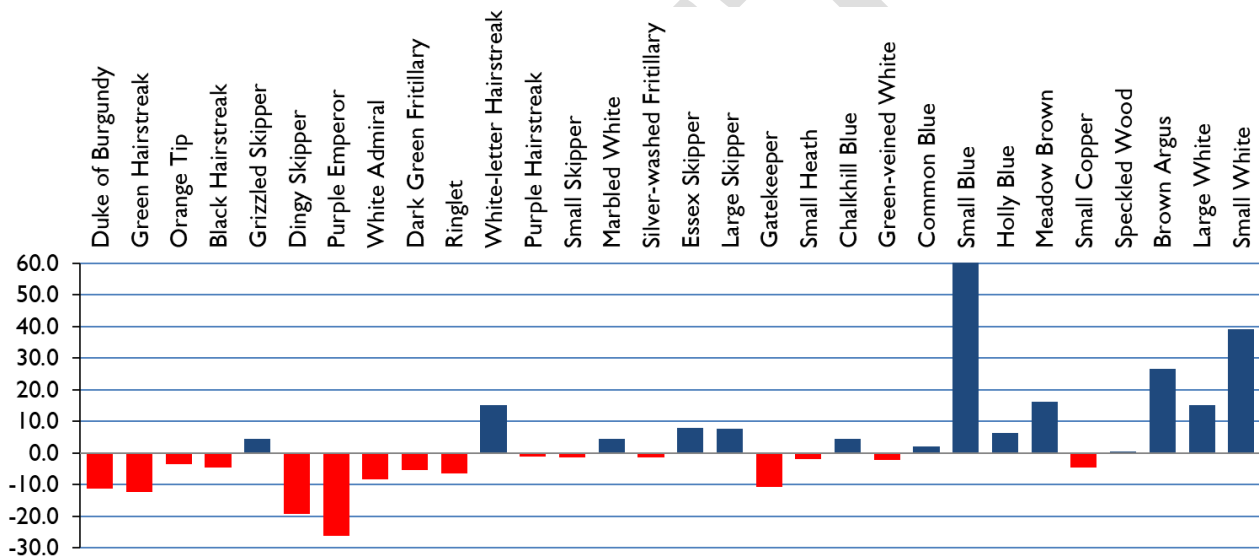
Number of 1km squares reported per year 1995 to 2024



2024 versus 1995-2023: Adults per week per 10,000 records per year



2024's first sightings: days earlier (red) or later (blue) than their ten-year average, ordered by emergence. (Hibernators and migrants omitted)



2024's last sightings: days earlier (red) or later (blue) than their ten-year average, ordered by disappearance. (Hibernators and migrants omitted)

Transects

The total number of adults, numbers of species (), and number of weekly walks out of the theoretically possible 26 [] for the recent transects are shown in the table below. One new transect was walked this year. My thanks again go to those who attempt to systematically walk and record these transects once per week every year, between 1st April and 30th September, allowing year-on-year comparisons to be made. These data are also combined at the national level with data from other transects as part of the United Kingdom Butterfly Monitoring Scheme (UKBMS).

	2020#	2021	2022	2023	2024
Biddenham	*	*	*	*	433 (18) [7]
Dunstable Downs	2259 (29) [17]	2816 (30) [17]	2701 (29) [19]	2764 (31) [21]	2310 (28) [21]
Harrold Odell CP	1117 (19) [15]	158 (15) [9]	*	*	*
Hill Rise	*	*	222 (15) [21]	241 (15) [22]	121 (14) [15]
Knocking Hoe	2497 (25) [25]	2083 (23) [23]	1663 (24) [24]	1535 (21) [24]	1362 (17) [20]
MCP Callow Mounds	*	*	*	256 (23) [22]	152 (17) [14]
MCP Marston Meadow	*	*	*	410 (19) [22]	242 (17) [14]
Mowsbury Hill	655 (18) [9]	1071 (18) [17]	901 (22) [13]	1795 (21) [14]	683 (18) [13]
Old Warden Tunnel	421 (20) [13]	715 (22) [23]	700 (21) [23]	411 (21) [16]	516 (19) [25]
Pegsdon Hills	3011 (24) [23]	2991 (25) [25]	2419 (24) [25]	2379 (25) [25]	1975 (25) [22]
Potton Wood	*	*	1851 (22) [19]	2492 (18) [24]	1196 (18) [21]
Priory CP	1615 (19) [18]	1182 (20) [23]	1277 (21) [20]	1200 (21) [20]	703 (16) [17]
Rectory Wood	*	*	*	835 (26) [26]	695 (20) [21]
Ridgeway Wood	*	*	*	799 (23) [17]	365 (13) [16]
Sharpenhoe Clappers	1092 (27) [9]	80 (16) [2]	6079 (25) [18]	3160 (28) [13]	2593 (27) [14]
Shocott Spring	*	*	*	1241 (20) [24]	773 (20) [20]
Strawberry Hill	*	*	*	2574 (25) [22]	*
The Lodge NR	*	*	474 (23) [16]	619 (22) [25]	825 (20) [17]
Totternhoe Quarry	1621 (24) [14]	1843 (25) [19]	*	*	134 (8) [3]
Whipsnade Downs	*	*	270 (22) [6]	1089 (28) [11]	1196 (23) [19]

* The transect was not walked this year.

2020's season was affected by COVID-19 restrictions.

Species Reports

In the following species reports "10ya" is an abbreviation for "10-year average". Analyses look back to 1995 unless stated otherwise.

Hesperiidae (Skippers)

Dingy Skipper *Erynnis tages tages*

Both ends of Dingy Skipper's flight period coincided with poor weather, contributing to low counts on all of its transects. The first sighting on 5th May was nine days later than the 10ya and numbers built quickly to its peak between weeks 19 and 22 (7th May-3rd June) before dropping off quickly, then ending on 25th June. There were no second brood reports this year. Largest site counts were: Blow's Down (2), Dog Kennel Down (4), Dunstable Downs (5), Hoo Bit (3), Houghton Regis Chalk Pit (17), Kensworth Quarry (2), Knocking Hoe (3), Marston Vale CP (10), Pegsdon Hills (3), Rectory Wood (3), Rookery Pit (1), Sandy Smith NR (1), Sewell Cutting (3), Sharpenhoe Clappers (14), nr Studham (2), Sundon Chalk Pits (4), Totternhoe (30) and Whipsnade Downs (17). It was reported from 30 1km squares, down from 42 the year before, reflecting some difficulty in locating the species this season.

Grizzled Skipper *Pyrgus malvae*

Grizzled Skipper had another poor year, with abundance well down on average, ranking in the bottom quarter of years. It didn't help that its peak flight period was flanked on either site by poor weather, but even during its most abundant week, 19 (7th-3th May) only 27 were reported and it proved hard to find at known sites. Dunstable Downs was the only transect where the species was recorded, with a total count of just 10, less than half its 10ya of 22.3. The largest site counts were: Brogborough Hill (4), Dunstable Downs (4), Lidlington (1), Marston Vale CP (2), Rookery Pit (4), Sharnbrook Summit (1), Totternhoe (7), Whipsnade Downs (4), Whipsnade Zoo (1). The first sighting, on 30th April, was seven days later than the 10ya and its end on 23rd June was five days later than usual.

Essex Skipper *Thymelicus lineola*

Care is required to distinguish Essex Skipper and Small Skipper, best achieved by examining the colour of the front-facing tip of the antennae, which is black in Essex and fulvous in Small. The butterflies often don't oblige with a face-on view, so this year 207 records were of Small/Essex and only 115 records were of clearly identified Essex Skippers. These came from unimproved grassland in 8.9% of visited 1km squares, higher than the 5.8% 10ya, but maybe as a result of recording effort rather than range expansion as their distribution tended to reflect the hunting grounds of particularly dedicated recorders. The first sighting on 26th June and the last on 20th August were both later than their 10ya, by four days and eight days respectively. The peak was in week 29 (16th-22nd July) when 100 were reported. Counts were small, the largest of seven was from Dog Kennel Down on 17th July.

Small Skipper *Thymelicus sylvestris*

Small Skipper's two-month long season started on 18th June, five days later than the 10ya, and numbers peaked in week 29 (16th-22nd July) as usual, when 275 were reported. The season ended on 18th August.

Pegsdon Hills had the only transect to show an above average count of 30 (10ya 21.4), the others were at, or below, normal. Overall abundance seemed to be low, with the highest three counts being Astral Park (12), Dog Kennel Down (13) and Totternhoe Quarry (14). Distribution however held up, reported from 19.8% of visited 1km squares (10ya 17.7%), where the species favours unimproved grassland in sunny open sites across most of the county, with fewer reports coming from woodland rides.

Large Skipper *Ochlodes sylvanus*

Large Skipper can be found in unimproved grassland across most of the county, and especially in woodland rides, demonstrated by the larger counts: Chicksands Wood (12), King's Wood, Heath and Reach (66), Home and College Woods, Northill (24), Maulden Wood (12), Potton Wood (12), though these counts weren't as large as in prior years, cooler weather coinciding with its peak weeks in early July. Distribution remained unchanged at 24.5% of visited 1km squares. The first sighting, in Pegnut Wood on 19th May, nine days before the 10ya, seemed premature as the next wasn't until 2nd June. The final sighting on 23rd August was eight days later than the 10ya.

Pieridae (Whites, Yellows)

Orange-tip *Anthocharis cardamines britannica*

The long-term trends in Orange-tip statistics remain positive, and 2024's records reflect this pattern. The first sighting on 26th March was three days earlier than the 10ya, and week 15 (9th–15th April) saw a significant spike in records, with 251 adults reported. Poor weather then led to reduced reporting until weeks 18 and 19 (30th April–13th May), when numbers rebounded to 219 and 259 respectively, marking the season's peak. The final sighting was on 17th June, with no reports of a second brood. Transect counts were generally close to average, though slightly lower at Priory CP. The species was recorded in 42.3% of surveyed 1km squares, the highest proportion ever, and was reported from most parts of the county. There were seven records of eggs (4th–17th May), six of larvae (17th May–6th June), and one record of two pupae (6th June). The only documented host plant was Garlic Mustard.

Large White *Pieris brassicae*

The first brood of Large White butterflies started on 26th March, four days earlier than the 10ya, and peaked at 64 individuals in week 19 (7th–13th May). This brood continued flying until mid-June, when the second brood began, significantly larger as usual, peaking at 276 in week 29 (16th–22nd July), a week earlier than usual. Abundance usually declines steadily from August into September, but this year there was a third peak, with numbers rising from late August and reaching 257 in week 36 (3rd–9th September), almost as large as the second brood. This increase was likely due to a third brood, migrating individuals, or a combination of both. The additional peak offset the slightly smaller-than-usual second brood, making overall abundance for the year near normal. Adults were recorded in 44.3% of surveyed 1km squares, slightly higher than the 10ya (38.8%). The final adult sighting occurred on October 29th, about two weeks later than the 10ya. Eggs were reported on 15th July and 4th August, while larvae were observed from 2nd August until as late as 17th November, when over 100 caterpillars were still feeding on cabbages in a Luton allotment. Pupa were also recorded on 9th and 26th August.

Small White *Pieris rapae*

Small White was the first species to emerge from a pupa this year, appearing on 14th March, seven days earlier than the 10ya. The abundance of this brood was relatively good, though typically small, peaking at 138 in week 19 (7th–13th May) and tapering off by early June. However, the second brood was notably weaker than usual, reaching only 215 in week 29 (16th–22nd July), about half the expected number. As for Large White, migration and/or a third brood generated an additional third peak, but for Small White this was stronger than the second brood's (with a peak weekly count of 251), occurring between weeks 35 and 37 (27th August–16th September) before declining in the following weeks. Sightings continued until 27th October, but with a final report on 28th November of one found indoors, likely having pupated in a warm location. Transect data confirmed a poor season, with low counts across all monitored sites, the extra peak insufficient to compensate for the weak second brood. Despite this, the species remains widespread, ranking fifth in distribution, with reports from 246 1km squares. No records of immature stages were reported this year.

Green-veined White *Pieris napi sabellicae*

Green-veined White's season began on 30th March, close to the 10ya. Its first brood peaked in week 19 (7th–13th May) with near-normal abundance, though it also enjoyed a large "week 15" spike. The second brood emerged from mid-June but reached only half its usual size, with a maximum count of 181 in week 29 (16th–22nd July). Like the other two *Pieris* species, Green-veined White experienced a third peak between mid-August and mid-September, reaching 150 in week 36 (3rd–9th September). During this period, it was particularly common in the Totternhoe area, where over 500 white butterflies were observed, estimated as 50% Green-veined, 30% Large, and 20% Small Whites. Numbers declined towards late September, with the final sighting on 7th October, close to the 10ya. Transect counts were generally below average for the year, despite the additional peak. The species was recorded in 35.6% of visited 1km squares, just below the 10ya of 36.9%, continuing its downward trend in both distribution and abundance.

Clouded Yellow *Colias croceus*

Only one of this migrant species was seen this year, in Priory Country Park on 27th August, flying rapidly south-west.

Brimstone *Gonepteryx rhamni rhamni*

Brimstone continued its positive trend and 2024 ranks among its best years. Post-hibernation adult counts were strong, peaking at 448 in week 19 (7th–13th May), and some continued to fly until early July. New brood emergence started around week 28 (9th–15th July) and these had largely entered hibernation by late August, though over 60 were recorded throughout autumn, with the last sighting on 27th October. It was reported from 290 county-wide 1km squares (53.8% of those visited), the highest for any species this year, surpassing Meadow Brown's 276. The species' distinctive males and enthusiasm for recording early spring sightings likely contributed to this achievement. Brimstone eggs are relatively easy to find, and one Buckthorn bush at Bromham Lake LNR carried 39 on 1st May. Additional records included two more of eggs, five of larvae, and one of two pupae in Renhold on 26th June.

Nymphalidae (Browns, Fritillaries, Aristocrats)

Speckled Wood *Pararge aegeria tircis*

The first and last sightings of Speckled Wood (23rd March and 24th October) both coincided with their 10ya. Its distribution remained stable, recorded in 41.0% of surveyed 1km squares, reflecting its widespread presence in shrubby parkland, scrub, and woodland across the county. Interestingly, the most reported week was week 15 (9th–15th April) during the first brood - the smallest - with 177 sightings. This slightly exceeded the peak of the third and largest brood in week 34 (20th–26th August), when 171 were recorded. This early-season spike may have been driven by pent-up enthusiasm for spring-time recording. The largest count anywhere was 38 on the Potton Wood transect on 23rd August. While overall abundance was slightly below average, it was not a poor season for the species.

Small Heath *Coenonympha pamphilus pamphilus*

Transect data paint a mixed picture of Small Heath's abundance, with some sites recording below-average counts, such as Pegsdon Hills and Knocking Hoe, while others, like Old Warden Tunnel and Sharpenhoe Clappers, reported above-average numbers. Casual sightings included several locations with counts exceeding 20, such as Clophill Lakes (20), Houghton Regis Chalk Pit (39), Kensworth (43), Knocking Hoe (30), Myers Farm, Potton (41), Sutton (20), The Lodge NR (20), Thorn Field, Houghton Regis (48), and Totternhoe Quarry (25). The first brood, emerging on May 8th, seven days later than the 10ya, was the larger of the two as usual, peaking in week 25 (18th–24th June) with 511 individuals. The overlapping second brood peaked in week 35 (27th August–2nd September) with 220. Records came from unimproved grassland across most of the county, and the species was recorded in 29.5% of surveyed 1km squares (10ya 21.3%), the second-highest proportion after 2020's 32.4%, suggesting that Small Heath is currently faring relatively well.

Ringlet *Aphantopus hyperantus*

Ringlet's flight period was a few days ahead of its 10ya, with the peak occurring in week 26 (25th June–1st July), when 1,708 were reported, one week earlier than usual possibly due to less favourable weather afterwards. Transect counts suggest overall abundance was below average, though results varied widely. At Old Warden Tunnel, numbers were slightly above average. As the species prefers long grasses with some moisture, the highest counts came from woodland rides as expected, with the largest single record of 140 at Home Wood, Northill, on 30th June, but 250 were counted across King's Wood, Heath and Reach two days earlier. Reports came from most areas of the county and 32.8% of visited 1km squares, just above the 10ya of 31.8%. Although overall abundance was reduced, Ringlet still took third place for the number of adults reported.

Meadow Brown *Maniola jurtina jurtina*

23.6% of all adults reported were Meadow Browns, making it the most reported species as usual. 15,690 adults were of this species compared with 6,474 for Gatekeeper in second place. Reported from 51.2% of visited 1km squares (10ya 45.8%), only Brimstone was reported more widely. Its 143-day long season opened on 29th May, three days before the 10ya, peaked in week 29 (16th–22nd July) with 2,312 adults, then slowly declined though autumn to end on 19th October, 16 days later than the 10ya. Transect counts were near average on Dunstable Downs and Knocking Hoe, up at Pegsdon Hills and Sharpenhoe Clappers, but well down at Old Warden Tunnel and in Potton Wood, so there was much local variation. The largest total of 495 was made across Blow's Down and Cottage Bottom Fields on 19th July. The species can be found in unimproved grassland in all parts of the county and continues to do well.

Gatekeeper *Pyronia tithonus tithonus*

Gatekeeper had a relatively strong year, with an increase in distribution, recorded in 43.2% of surveyed 1km squares, well above the 10ya of 33.6%, and the highest proportion since 1998. However, transect data show mixed results for abundance. Numbers were up at sites like Dunstable Downs (356, 10ya 210) and Pegsdon Hills (147, 10ya 128) but down at others, including Knocking Hoe (56, 10ya 91) and Old Warden Tunnel (54, 10ya 63). Despite these variations, 2024 built on the species' success of 2023, once again making it the

second most-reported butterfly. There were 184 double-digit records. The highest transect total of 92 was recorded at Sharpenhoe Clappers on 18th July, and the largest casual record was 145 at Totternhoe Quarry on 27th July. The flight season started early on 8th June, 12 days ahead of the 10ya, and ended 11 days early on 31st August, but the peak occurred over weeks 29 to 31 (16th July–5th August) as usual.

Marbled White *Melanargia galathea serena*

Marbled White's flight season began on June 16th, seven days later than the 10ya, and peaked in week 26 with 904 adults reported. The season ended on August 18th, five days later than the 10ya. Overall abundance was lower than usual, though trends varied across transects. Numbers were low at Knocking Hoe, Old Warden Tunnel, and Whipsnade Downs, near average at Dunstable Downs, and slightly higher at Pegsdon Hills, each site fluctuating with its own rhythm. Sharpenhoe Clappers recorded the largest count, with 209 on 25th June. Despite these variations, the species' distribution remained stable, recorded in unimproved grassland in 26.9% of surveyed 1km squares across the county (10ya 25.2%).

Silver-washed Fritillary *Argynnis paphia*

We had grown accustomed to enjoying Silver-washed Fritillaries gliding along our woodland rides, but the drop in abundance in 2023 continued into 2024 when only 118 were reported, down from 624 in 2022. The sole transect at which it is resident is Potton Wood, where only nine were counted compared to 105 two years earlier. Distribution fell too, reported from 20 1km squares, down from 48 the year before. Abundance and distribution were the worst since 2012. This decline is likely due to unfavourable weather, and it is hoped the species will recover when conditions improve. The first sighting on 26th June was five days later than the 10ya, and the peak was in week 29 (16th–22nd July) when 50 were reported. The season's end on 18th August was close to average. The highest single count was of eight in Chicksands Wood on 19th July. No wanderers away from woodlands were reported this year.

Dark Green Fritillary *Speyeria aglaja aglaja*

Reports of Dark Green Fritillary began on 17th June, five days later than the 10ya, and ended on 5th August, five days earlier than usual. The peak occurred in week 29 (16th–22nd July), with 102 individuals recorded. Transect totals were: Dunstable Downs (6), Pegsdon Hills (12), and Sharpenhoe Clappers (178), the species' stronghold, where 81 were recorded on 18th July. Maximum counts from other sites included: Houghton Regis, Woodside Link (1), Sundon Quarry (1), Totternhoe Quarry (4), and Whipsnade Downs (1). Beyond these chalk-based sites, there was a probable sighting near King's Wood, Heath and Reach, on 18th July, and one individual appeared in a Woburn garden on 3rd August. Reports came from 14 1km squares, slightly below the 10ya of 18.

White Admiral *Limenitis camilla*

The largest counts in this season's woodland list for this honeysuckle-dependent species were: Chicksands Wood (3), College Wood (3), Home Wood, Northill (1), King's Wood, Heath and Reach (2), Maulden Wood (2), Rushmere (1), and West Wood (18), the latter as usual producing the largest counts. In addition, there were individual sightings in Dame Ellen's Wood at Blow's Down, and in a Studham garden, neither being a normal location. The 34-day flight period from 18th June to 22nd July was about a week advanced relative to the 10ya, and peaked in week 26 (25th June–1st July) when 44 were reported.

Purple Emperor *Apatura iris*

There was little sign of recovery for Purple Emperor following the heat of 2022, with only two sightings recorded this year. The second, on June 30th, was in Chicksands Wood, a regular site for the species, but the first, on June 24th, was a surprise. It was discovered inside a house in Brogborough, having apparently wandered indoors and become trapped at a window. Once photographed, it was released. With willows present around the village, it's possible the butterfly emerged locally as the species doesn't always need woodland habitat for development.

Red Admiral *Vanessa atalanta*

We weren't treated to a repeat of 2023's Red Admiral abundance this year, but none-the-less the species had quite a good year. As usual a few successfully overwintered, seen from 22nd January, and although seen in nearly every week until 16th December (a 329-day season), the data suggest there were three peaks, in mid-May, late-July and early-September, the latter producing the largest weekly total of 169. Metrics for this largely-migratory species are trending in a positive direction, and, despite not attaining the previous year's heights, the trend continued, seen in 46.9% of visited 1km squares (10ya 41.4%). The largest count this year was of 30 on Pegsdon Hills on 13th September.

Painted Lady *Vanessa cardui*

The first Painted Lady sighting was recorded on 30th April, followed by three small peaks in the weekly counts: 12 in mid-May, 16 in late July, and 12 in early September. In total, 108 individuals were reported from 61 1km squares, with the highest single count of three at Houghton Regis Chalk Pit on 30th August. As a migratory species, its numbers fluctuate each season, and this year's total was near the middle of the range for the last 30 years.

Peacock *Aglais io*

Peacock's post-hibernation numbers in spring were good, and more than usual were reported, with a peak of 442 in week 15 (9th-15th April), and some continued to fly until late June. 51 were counted on the Potton Wood transect on 13th April. There were seven records of larval webs on nettles between 19th and 30th June. The new brood's emergence from mid-July to mid-August was reported less than usual, maybe reflecting poorer breeding success, but 425 were noted in week 30 (23rd-29th July), 32 of these at The Lodge NR on 27th July. Annual transect counts were very variable, but overall were near average. With records from 268 county-wide 1km squares, Peacock was the third-most widely reported species this year.

Small Tortoiseshell *Aglais urticae*

A total of 181 overwintered adult Small Tortoiseshells were reported by the end of May, with 112 of these recorded during their peak in weeks 13–15 (26th March–15th April). The first new brood's reports (mid-June to early August) totalled only 49 adults, while the second brood - if it occurred at all - totalled just five. Only ten were recorded across all 18 transects. This was the species' worst year on record across all metrics. Despite being recorded in 87 1km squares, its distribution has declined steeply from the 255 squares reported as recently as 2020. It is concerning that this beautiful and much-loved butterfly is struggling for reasons still unknown, making sightings an increasingly rare thrill.

Large Tortoiseshell *Nymphalis polychloros*

The most interesting reports of the year were of Large Tortoiseshell, not currently a Bedfordshire species. A plausible, but unconfirmed, sighting was made at Totternhoe Quarry on 5th April, where a butterfly was encountered in flight twice, about two hours apart in early afternoon. A confirmed sighting however was made in early afternoon on 13th April in Potton Wood on the transect, and also by two other observers, both sources obtaining photographs. The following day the butterfly was still present on the ride and photographed again by two observers. (This one butterfly therefore accounts for four of the five records in the table). The extent to which Large Tortoiseshell is a UK resident species and/or a migrant has been much debated. It emerges as an adult around July and quickly goes into hibernation, emerging in the spring, when it may migrate. So, this Potton Wood specimen will have hatched in the summer of 2023 and overwintered somewhere, but locally or on the continent? iRecord shows two springtime adults in Buckinghamshire, plus others in Surrey and Kent. Then again, it could just be a release by someone, a practice that sadly takes the shine off making what might be a wholly natural and welcome discovery.



A Large Tortoiseshell was seen in Potton Wood on 13th and 14th April.

Photo: Trevor Sawyer

Comma *Polygonia c-album*

Comma continues to thrive and 2024 was another solid year for the species. Post-hibernation numbers were encouraging from 15th February, peaking at 125 in week 13 (26th March–1st April). These early individuals remained on the wing until mid-May, followed by a brief gap before the first new brood began emerging in mid-June, reaching a peak of 180 in week 29 (16th–22nd July). Abundance between the broods remaining unusually high through to the second brood's peak of 69 in week 37 (10th–16th September). The flight period extended to 27th October, ending 18 days earlier than the 10ya. The species was recorded across 39.9% of visited 1km squares, surpassing the 10ya of 34.4%. Notable double-digit counts from casual records included 17 at Potton Wood on 14th April and 12 at Pegnut Wood on 10th July. Priory Country Park recorded the highest transect count, with 18 on 26th July and a yearly total of 83, though this was down by 100 from its exceptional 2023 total. Egg-laying on nettle was observed on 10th May, while single larvae were recorded on 5th August and 4th September, on golden hop and nettle respectively.

Riodinidae (Metalmarks)

Duke of Burgundy *Hamearis lucina*

The first Duke of Burgundy was seen in cool weather on 20th April, as was the second on 26th. Records didn't begin to flow until conditions improved on 29th, then abundance quickly rose, with a maximum count on Dunstable and Whipsnade Downs of 38 on 5th May, and 14 at Totternhoe on 11th. The transect totals at both ends of the Downs set new record highs, with 33 at the Dunstable end and 116 at the Whipsnade end. (The Totternhoe Quarry transect wasn't walked in the spring). Two were seen in Kensworth Quarry on 17th May, a recently discovered site. Excitingly, there may be another new site to monitor, with one seen at Houghton Regis Chalk Pit on 8th May, and again the following day. The final report from this seemingly successful season was from Totternhoe Quarry on 29th May.

Lycaenidae (Coppers, Hairstreaks, Blues)

Small Copper *Lycaena phlaeas phlaeas*

Small Copper's third brood in 2023 was its smallest and this led to a small first brood this year, reported from only eight sites between mid-April and mid-June, with a maximum count anywhere of five. The second brood (late-June to early-August) was larger, reported from 14 sites. Numbers grew again for the third brood (mid-August to late-October) which was reported from 26 sites, including 10 at Cooper's Hill and 12 on Brogborough Landfill Site. It did especially well at The Lodge NR, where the largest transect count was 79 on the 6th September. Despite the strong autumn showing, the species was reported from only 51 1km squares, exactly half of 2023's total. Seen in 9.5% of visited 1km squares, ranking in the bottom third of the last 30 years.

Purple Hairstreak *Favonius quercus*

Purple Hairstreak's habit of residing in the canopy of oak trees makes surveying and monitoring difficult, so its status is hard to assess. A method to attempt this has been developed by the UKBMS and was followed at Strawberry Hill for the first time, watching specific trees for two minutes each in the early evening when the species is often most active. The largest count for any tree was seven, on 26th July, and the maximum total count for any evening was 20, spread over eight of the 13 monitored trees, on 18th July. This sets a baseline for future years. Elsewhere, there were 37 records averaging 2.70 adults per record, from 20 1km squares, between 14th June and 15th August, the largest count of 10+ on the 30th June in Beeston. The records were thinly scattered across the county but with a preference for the greensand ridge.

Green Hairstreak *Callophrys rubi*

Green Hairstreak didn't have a good year, with low counts on all of its transects. The largest site counts over all recording were: Barton Hills (1), Blow's Down (2), Cottage Bottom Fields (1), Dog Kennel Down (5), Dunstable Downs (1), Heath and Reach (2), Hoo Bit (1), Houghton Regis Chalk Pit (7), Kensworth Quarry (2), Marston Vale CP (2), Pegsdon Hills (2), Rectory Wood (3), Sewell Cutting (5), Sharpenhoe Clappers (2), Totternhoe (3), and Whipsnade Downs (18). However, it was reported from 25 1km squares, a new annual high, but all were previously-known areas. The first sighting was four days ahead of the 10ya on 12th April, but this was quickly followed by two weeks of cold weather with few reports. The peak came in week 19 (7th-13th May) when 70 were recorded, and the season ended prematurely on 3rd June, 12 days before the 10ya.

White-letter Hairstreak *Satyrrium w-album*

Only nine records of White-letter Hairstreak were submitted this year, significantly below the 10ya of 28, with a total count of just 21 adults (10ya 81). The highest site counts were: Chicksands Wood (6), Deepdale Quarry (2), Houghton Hall Park (2), Little Barford (2), Home and College Woods, Northill (1), and near Putnoe Wood (5). Sightings spanned 25th June to 13th August, the season extended by two weeks beyond its 10ya. With so few records submitted each year, assessing the species' status remains challenging, however 2024 must be considered a disappointing year. Despite this, White-letter Hairstreak continues to persist on elms in small colonies across the county, though records are scarcer from the south.

Black Hairstreak *Satyrrium pruni*

14 Black Hairstreak adults were reported, ten on 7th June and four on the 17th, all in Marston Thrift near the ponds or on the adjacent route 51 cycleway. This exceeds the 10ya count of eight for this elusive species with its short flight period in June. Searches of some other seemingly-suitable sites in Marston Vale again proved fruitless.

Small Blue *Cupido minimus*

Small Blue is anchored to chalk sites by its sole larval food plant, Kidney Vetch. Its first brood is always the main one and this started on 11th May, close to the 10ya. Largest counts from reported sites included Blow's Down (2), Dog Kennel Down (10), Dunstable Busway (3), Woodside Link (4), Houghton Regis Chalk Pit (9), Kensworth Quarry (4), Pegsdon Hills (1), Sewell and Maidenbower area (28), Sharpenhoe Clappers (1), Sundon Chalk Pits (6), Totternhoe (31), and Whipsnade Downs (7). The partial second brood was reported with lower abundances from Dog Kennel Down, Woodside Link, Houghton Regis Chalk Pit, Sewell Cutting and Totternhoe. The presence of individual(s) on Dog Kennel Down continued until 16th October, probably as a partial third brood because a fresh male was seen on October 5th. 26 1km squares were reported overall, only two fewer than in 2023 and its range appears stable, with small populations dotted around the chalk. The population at Brogborough Landfill wasn't reported this year.

Holly Blue *Celastrina argiolus britanna*

Holly Blue's first brood numbers were quite respectable, but this high carry-over from 2023 couldn't be sustained and the second brood was much smaller, probably due to parasitism. The first sighting on March 26th was three days earlier than the 10ya. The first brood peaked in week 19 (7th–13th May), with 196 adults reported. Brood transition occurred seamlessly about ten days into July, with the second brood peaking in week 32 (6th–12th August) at just 26 individuals. This brood ended around September 19th, though later reports on October 7th and 16th suggest a partial third brood. Annual totals across all transects were slightly below average. Records were spread throughout the county, with clusters around urban areas as usual. The 173 1km squares recorded were only exceeded by 2022 (179) and 2023 (248). The sole record of immature stages was of an egg on Dogwood in Willington on 10th May.

Brown Argus *Aricia agestis*

Transect data consistently indicate that Brown Argus had a poor season, with abundances well below average on both broods, more so on the second. The flight period began on 9th May, close to the usual date, and the transition between broods occurred in early July without a gap. The second brood ended around 21st September, though two later reports - on 3rd and 24th October - suggest the possibility of a partial third brood. The only double-digit counts were 12 at Whipsnade Downs on 25th May, 16 at The Lodge NR on 19th July, and 14 there on 23rd August. Distribution remained close to normal, with records from 11.5% of visited 1km squares (10ya 13.1%), scattered across much of the county but showing a bias toward the chalk and the greensand.

Common Blue *Polyommatus icarus icarus*

Common Blue's second brood was twice the size of the first, as is typical, but both broods were significantly smaller than average. This was confirmed by transect counts, all of which were noticeably below normal. The species was recorded in 19.1% of surveyed 1km squares, down from the 10ya of 25.9%, indicating a decline in distribution as well. The flight period however followed a typical pattern, beginning on 8th May at the 10ya date, and concluding on 7th October, just two days beyond the average. The first brood peaked in week 21 (21st–27th May), while the second brood's peak was spread across weeks 32 and 33 (6th–19th August). The highest individual count was 43, recorded in the eastern end of Houghton Regis Chalk Pit on 18th August, with 32 in the western end.

Chalkhill Blue *Polyommatus coridon*

Chalkhill Blue's flight period started eight days later than the 10ya on 11th July and numbers rose quickly to peak at 1,199 in week 30 (23rd–29th July), then steadily fell to end on 28th September, five days later than the 10ya. Transects returned very low counts (e.g. Knocking Hoe 52 (10ya 238), Pegsdon Hills 92 (10ya 207), Sharpenhoe Clappers 197 (10ya 1,244)), amongst their worst years, indicating a poor season for the species. Only three sites returned triple-digit counts: Dunstable Downs (123), Totternhoe Quarry (108) and Houghton Regis Chalk Pit (500+). Despite its poor year Chalkhill Blue was still locally abundant along much of the chalk, and the 26 1km squares reported equals 2013's high.

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Map produced using DMAP.

Keith Balmer is the Society's honorary butterfly recorder, a position he has held since 2003, jointly with Peter Glenister throughout this period until the autumn of 2019 when Peter retired from the role.

Data tables continue on the following pages...

Flight periods and peak abundances in 2024

Species	Earliest Date	Latest Date	Peak Date	Peak Abundance
Dingy Skipper	05/05/2024	25/06/2024	11/05/2024	26
Grizzled Skipper	30/04/2024	23/06/2024	11/05/2024	5
Essex Skipper	26/06/2024	20/08/2024	17/07/2024	7
Small Skipper	18/06/2024	18/08/2024	14/07/2024	14
Large Skipper	19/05/2024	23/08/2024	18/07/2024	32
Orange-tip	26/03/2024	17/06/2024	30/04/2024	12
Large White	26/03/2024	29/10/2024	07/09/2024	30
Small White	14/03/2024	28/11/2024	20/09/2024	25
Green-veined White	30/03/2024	07/10/2024	07/09/2024	19
Clouded Yellow	27/08/2024	27/08/2024	27/08/2024	1
Brimstone	03/01/2024	27/10/2024	09/08/2024	22
Speckled Wood	23/03/2024	24/10/2024	12/06/2024	16
Small Heath	08/05/2024	28/09/2024	25/06/2024	71
Ringlet	08/06/2024	11/08/2024	30/06/2024	140
Meadow Brown	29/05/2024	19/10/2024	19/07/2024	377
Gatekeeper	08/06/2024	31/08/2024	27/07/2024	145
Marbled White	16/06/2024	18/08/2024	25/06/2024	70
Silver-washed Fritillary	26/06/2024	18/08/2024	19/07/2024	8
Dark Green Fritillary	17/06/2024	05/08/2024	18/07/2024	38
White Admiral	18/06/2024	22/07/2024	29/06/2024	18
Purple Emperor	24/06/2024	30/06/2024	24/06/2024	1
Red Admiral	22/01/2024	16/12/2024	13/09/2024	30
Painted Lady	30/04/2024	07/10/2024	30/08/2024	3
Peacock	25/01/2024	02/11/2024	27/07/2024	32
Small Tortoiseshell	13/01/2024	28/09/2024	02/04/2024	7
Large Tortoiseshell	13/04/2024	14/04/2024	13/04/2024	1
Comma	15/02/2024	27/10/2024	14/04/2024	17
Duke of Burgundy	20/04/2024	29/05/2024	05/05/2024	38
Small Copper	13/04/2024	23/10/2024	25/08/2024	48
Purple Hairstreak	14/06/2024	15/08/2024	30/06/2024	10+
Green Hairstreak	12/04/2024	03/06/2024	25/05/2024	18
White-letter Hairstreak	25/06/2024	13/08/2024	17/07/2024	6
Black Hairstreak	07/06/2024	17/06/2024	07/06/2024	8
Small Blue	11/05/2024	16/10/2024	17/06/2024	31
Holly Blue	26/03/2024	16/10/2024	15/05/2024	11
Brown Argus	09/05/2024	24/10/2024	19/07/2024	16
Common Blue	08/05/2024	07/10/2024	18/08/2024	43
Chalkhill Blue	11/07/2024	28/09/2024	28/07/2024	500+

Adults reported per month in 2024

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dingy Skipper					278	52						
Grizzled Skipper				3	44	10						
Essex Skipper						12	192	33				
Small Skipper						114	584	67				
Small/Essex Skipper						83	1524	188	3			
Large Skipper					1	492	560	33				
Orange-tip			8	470	558	17						
Large White			5	65	127	65	674	391	639	50		
Small White			17	113	340	82	523	524	645	31	1	
Green-veined White			5	220	286	75	586	317	265	3		
Small/G-v. White			1	34	108	37	274	218	1004	3		
Clouded Yellow								1				
Brimstone	3	45	336	625	967	193	270	227	33	30		
Speckled Wood			10	282	247	359	428	641	271	50		
Small Heath					410	1219	449	556	216			
Ringlet						1996	2911	24				
Meadow Brown					1	3395	6263	5050	954	27		
Gatekeeper						52	4483	1939				
Marbled White						1214	1491	35				
Silver-washed Fritillary						8	104	6				
Dark Green Fritillary						56	183	8				
White Admiral						49	19					
Purple Emperor						2						
Red Admiral	5	12	10	30	137	137	447	265	514	208	9	1
Painted Lady				1	21	7	34	16	26	3		
Peacock	2	11	265	1050	431	27	623	183	22	15	1	
Small Tortoiseshell	2	1	38	103	35	11	35	7	3			
Large Tortoiseshell				5								
Comma		3	167	216	31	101	516	226	176	68		
Duke of Burgundy				30	359							
Small Copper				3	30	16	81	132	238	21		
Purple Hairstreak						48	107	6				
Green Hairstreak				14	113	6						
White Letter Hairstreak						8	10	3				
Black Hairstreak						14						
Small Blue					114	221	21	72	71	4		
Holly Blue			10	220	501	69	44	91	14	2		
Brown Argus					83	74	68	167	63	2		
Common Blue					267	330	127	945	220	2		
Chalkhill Blue							1538	2082	239			
Totals	12	72	872	3484	5489	10651	25169	14453	5616	519	11	1

Summary of 2024's records of adults

Species	Records	Adults	Squares		Records (%)	Adults/All-species adults ¹ (%)				
			10km	1km		2020	2021	2022	2023	2024
Dingy Skipper	106	330	9	30	0.60	0.78	0.80	0.95	0.59	0.50
Grizzled Skipper	34	57	7	14	0.19	0.11	0.19	0.15	0.09	0.09
Essex Skipper	115	237	14	48	0.66	0.22	0.15	0.31	0.32	0.36
Small Skipper	283	765	18	107	1.61	0.98	0.90	1.08	1.01	1.15
Small/Essex Skipper	207	1798	13	55	1.18	0.96	0.36	4.40	4.09	2.71
Large Skipper	371	1086	19	132	2.12	2.01	1.96	1.91	2.16	1.64
Orange-tip	572	1053	21	228	3.26	2.82	2.32	1.52	1.20	1.59
Large White	1011	2016	21	239	5.77	3.99	3.31	2.91	2.69	3.04
Small White	1102	2276	21	246	6.29	7.04	5.59	3.78	4.62	3.43
Green-veined White	781	1757	19	192	4.46	2.78	1.79	2.13	1.83	2.65
Small/G-v. White	304	1679	16	83	1.73	0.83	0.33	0.27	0.97	2.53
Clouded Yellow	1	1	1	1	0.01	0.13	0.01	0.14	0.01	0.00
Brimstone	1260	2729	21	290	7.19	2.91	3.99	3.52	4.18	4.11
Speckled Wood	1039	2288	21	221	5.93	2.53	3.24	3.72	3.99	3.45
Small Heath	707	2850	20	159	4.03	4.52	3.29	2.09	2.81	4.30
Ringlet	741	4931	20	177	4.23	4.80	6.68	8.66	4.78	7.43
Meadow Brown	1717	15690	21	276	9.80	21.97	20.28	14.37	18.80	23.65
Gatekeeper	1095	6474	20	233	6.25	6.86	6.23	5.85	9.56	9.76
Marbled White	512	2740	20	145	2.92	5.44	5.76	6.02	5.33	4.13
Silver-washed Fritillary	59	118	11	20	0.34	0.58	0.67	0.81	0.30	0.18
Dark Green Fritillary	56	247	7	14	0.32	0.80	0.71	1.10	0.34	0.37
White Admiral	34	68	7	14	0.19	0.09	0.09	0.14	0.06	0.10
Purple Emperor	2	2	2	2	0.01	0.04	0.08	0.04	0.01	0.00
Red Admiral	1085	1775	20	253	6.19	2.13	3.80	1.28	6.74	2.68
Painted Lady	97	108	14	61	0.55	0.09	0.51	0.40	0.21	0.16
Peacock	1149	2630	21	268	6.56	4.48	5.70	3.92	4.01	3.96
Small Tortoiseshell	161	235	19	87	0.92	2.37	1.97	2.22	0.57	0.35
Large Tortoiseshell	5	5	2	2	0.03	0.00	0.00	0.00	0.00	0.01
Comma	827	1504	19	215	4.72	2.18	2.08	2.03	2.17	2.27
Duke of Burgundy	81	389	4	8	0.46	0.27	0.33	0.55	0.36	0.59
Small Copper	136	521	15	51	0.78	0.75	0.41	0.37	0.44	0.79
Purple Hairstreak	64	161	9	20	0.37	0.34	0.09	0.46	0.14	0.24
Green Hairstreak	65	133	9	25	0.37	0.14	0.18	0.35	0.11	0.20
White-letter Hairstreak	9	21	6	7	0.05	0.14	0.03	0.09	0.04	0.03
Black Hairstreak	5	14	1	2	0.03	0.01	0.01	0.03	0.01	0.02
Small Blue	148	503	5	26	0.84	0.21	0.16	1.37	1.41	0.76
Holly Blue	594	951	20	173	3.39	2.28	0.99	1.65	2.80	1.43
Brown Argus	229	457	14	62	1.31	1.12	1.12	1.10	2.50	0.69
Common Blue	530	1891	16	103	3.02	2.98	2.41	4.24	3.20	2.85
Chalkhill Blue	185	3859	7	26	1.06	7.32	11.48	14.07	5.54	5.82
Overall	17479	66349	21	539						

¹ These values show the number of adults reported for each species relative to the number of adults reported for all species, allowing crude year-on-year comparisons to be made using data partially acquired by casual recording.