

Butterflies 2010
Keith Balmer and Peter Glenister

After a slightly harsher winter than we've recently come to expect it was pleasing to see all the spring species unfazed, with Dingy Skipper, Grizzled Skipper, Orange Tip, Green Hairstreak and Duke of Burgundy all showing in good numbers. It was a mixed picture though for the summer species, with short sward species like Small Copper, Brown Argus, Common Blue, Chalkhill Blue and Small Heath faring rather better than the longer sward species like Small Skipper, Essex Skipper, Meadow Brown, Gatekeeper and Marbled White. That said however Ringlet did well again, and Large Skipper and Speckled Wood didn't do too badly, so the interpretation isn't quite that simplistic.

The showy Nymphalids, White Admiral, Purple Emperor, Comma, Dark Green Fritillary and Silver-washed Fritillary all had good summers, but there was a significant failure with the new brood Peacock.

The outstanding species of the year was Common Blue which had two very good broods and was reported in greater abundance than any other species, with triple-digit reports from nine sites.

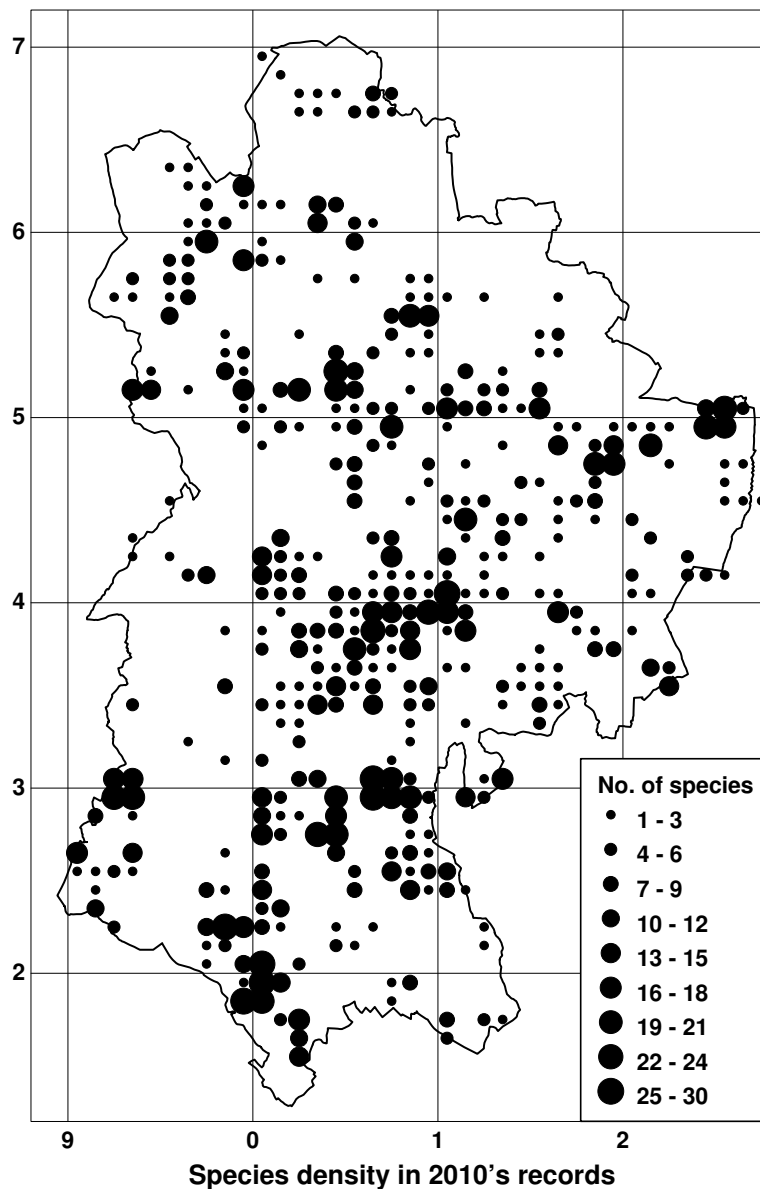
Wall Brown continues to survive in the county, but only just, reported from a single site threatened by development.

The migrant Painted Lady did not repeat its 2009 spectacle as only a handful were seen, but still more than for another migrant, Clouded Yellow, of which only four were reported.

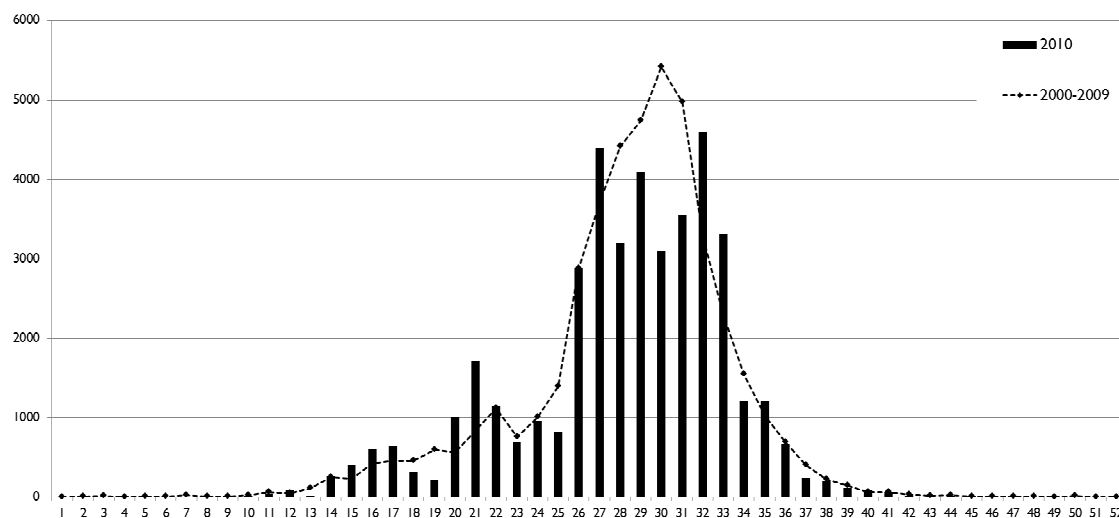
Red Admiral, after having an average year was the final species to fly, bringing the season to a close in mid-November as another harsh winter began to bite.

Analysis of Data

At the time of analysing records for this report (31st January 2011) 10,431 records had been received and computerised, containing reports of 43,729 adults from 397 1km squares. Records were analysed at this date and may be subject to minor revision.



The following graph shows the weekly abundances for 2010 compared with their average for 2000 to 2009, normalized to 10,000 records per year. This shows the relative success of the spring species and broods against the rather poorer performance of those of summer. (Weeks 18 and 19 corresponded with a cold snap).



Weekly abundance of all species for 2010 versus 2000-2009 (normalized to 10,000 records per year)

Transects

The total number of adults and numbers of species () for the nine current transects were:

	2006	2007	2008	2009	2010	
Bedford Old Cemetery	394 (16)	152 (13)	209 (13)	448 (16)	345 (18)	BA & YA
Dunstable Downs	*	*	*	2636 (28)	3473 (28)	WP
Hill Rise, Bedford	305 (17)	119 (14)	147 (13)	265 (16)	179 (14)	BA & YA
Old Warden Tunnel	879 (24)	616 (22)	565 (17)	786 (18)	601 (19)	KBa
Potton Wood	2477 (22)	2553 (20)	2069 (18)	5094 (20)	2644 (24)	IPW & BFe
Priory Country Park	*	434* (20)	562 (16)	935 (17)	799 (20)	RBa & ECN & JB & NM & DF
Sharpenhoe Clappers	*	*	*	5640 (29)	5161 (29)	DC
Totternhoe Quarry	3506 (30)	1313 (25)	2364 (25)	2841 (25)	3301 (27)	GWH & CRBB & WP
Whipsnade Downs	2970 (31)	1320 (25)	1956 (27)	3060 (27)	2813 (30)	GWH & CRBB & WP

* Priory Country Park was walked for only seven weeks in 2006 and 11 weeks in 2007. Dunstable Downs was first walked in 2009. Sharpenhoe Clappers was not walked in 2006 to 2008.

Our thanks again go to those that consistently walk and record these transects for 26 weeks each year, allowing scientific 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 Butterfly Monitoring Scheme.

Species Reports

In the following species reports "5ya" and "10ya" are abbreviations for "5-year average" and "10-year average" respectively.

Skippers

Small Skipper *Thymelicus sylvestris*

There was little sign of a recovery with abundances remaining low. Across all transects only 116 were recorded, approximately one third of the 10ya. It is still found countywide however with the largest abundances reported from Backnoe End Reservoir (15), Centenary Wood (20), Dropshort Marsh (20), Flitwick Moor meadows (20), Sandy, just south of The Lodge (20), and the largest estimated report of 50 from Chicksands Wood on 21st July (John Adams).

Essex Skipper *Thymelicus lineola*

Of the transects, Sharpenhoe Clappers traditionally reports the largest numbers, but here only eight were counted against the 10ya of 46. The total of 26 across all transects was approximately half the 10ya. In casual recording it was reported in low numbers as usual, the largest counts reported by N.D. Willits, six in Wilden on 24th July and an estimated 15 at Backnoe End Reservoir on 18th July.

Large Skipper *Ochlodes venata*

This species fared rather better than the other two golden skippers showing some signs of recovery from its low numbers of recent years. The transects all showed higher abundances than 2009 with the exception of Totternhoe Quarry. Peak abundances have yet to return to their heights but John Adams did report an estimated 100 from Chicksands Wood on 8th July.

Dingy Skipper *Erynnis tages*

It was a very good season for the species with totals approximately twice the 10ya, (e.g. Totternhoe Quarry transect total of 41 vs. 19 10ya). There was good local abundance at several sites including Marston Vale Millennium Country Park (20), Totternhoe Quarry (23) and Knocking Hoe (26, 26th May, Andrew Middleton & Elizabeth Goodyear). The other reported sites were Barton Hills, Harlington Hill Chalk Pit, Houghton Regis, Markham Hills/Moleskin, Sandhouse Lane NR, Sandy Smith NR, Sewell Cutting NR, Sharpenhoe Clappers, Sundon Chalk Pits, Totternhoe Knolls, Totternhoe Limeworks and Whipsnade Downs.

Grizzled Skipper *Pyrgus malvae*

This was another spring species that had a very good year with near record abundances. The 56 on the Whipsnade Downs transect was more than three times the 10ya. Reported from Amphill Park, Chicksands Wood, Dunstable Downs, Markham Hills/Moleskin, Marston Vale Millennium Country Park, Rookery Pit, Sewell Cutting, Sharnbrook Summit, Sundon Chalk Pits, Thurleigh airfield, Whipsnade Downs, Willington station and Wymington Meadow. On 23rd May a total of 23 were recorded in the company of Green Hairstreaks in a private part of Thurleigh airfield (Keith Balmer).

Whites

Clouded Yellow *Colias croceus*

Only four were reported, one of which was of the form *helice*, seen on 20th August near Biggleswade by Richard Revels.

Brimstone *Gonepteryx rhamni*

Always a consistent performer, with between 4% and 6% of all records, this season was no different with 5.3%. It is usually reported in ones and twos, but 10 were seen on Whipsnade Downs on 23rd April (John Pitts) and 13 in one section of the Whipsnade Downs transect the following day, suggesting good local abundance at this site. Spring abundance was slightly higher than usual, whereas the new brood's was lower. Even so, ten were seen in Yelow New Wood on 9th August (Ian Kimsey).

Large White *Pieris brassicae*

Both of Large White's broods were less abundant than normal and its season ended more abruptly, with few reported after the last week of August. Only 43 were reported on the Whipsnade Downs transect compared with 362 in 2009, but at Priory Country Park abundances rose from 61 to 84, demonstrating local abundance fluctuation. All-transect abundance was 26% of 2009's, which had been an exceptionally good year.

Small White *Pieris rapae*

Although statistics suggest an average season overall, this masks some interesting reports. On 12th July there were approximately 30 adults on the ground near the 4th tee of the Carthage golf course shortly after the sprinklers had been turned off, and six days later an amazing 300 whites, mostly Small Whites, were counted in 5s and 10s at Backhoe End reservoir by N.D. Willits. The first week of September was the last week with any significant abundance, two to three weeks earlier than usual.

Green-veined White *Pieris napi*

Local abundances for this species were lower than for Small White, with only nine reports in double-digits (c.f. 33 for Small White) all from woodlands, the largest count of 30 from West Wood on 9th July (Emma Whitfield & Aidan Whitfield). The spring brood was slightly more abundant than usual but this didn't lead to a summer brood abundance which was slightly lower than normal. The season was essentially over by the 10th September with only eight reported later.

Orange Tip *Anthocharis cardamines*

The species had a good spring with most transects reporting above average abundances. It was a similar case with casual recording as more records and adults were reported than ever from 143 1km squares countywide. It also had a long season. The first confirmed sighting of an early male was on 24th March in Kempston Box End (Colin Carpenter) more than two weeks before the second on 11th April. The final report was on 27th June of a male at East Hyde (Darin Stanley).

Hairstreaks

Green Hairstreak *Callophrys rubi*

The species was easy to find this season. More records were submitted from more 1km squares than ever before though adults were more numerous in 2000. Records came from many usual sites: Kensworth Quarry, Knocking Hoe, Markham Hills, Marston Vale Millennium Country Park, Pegsdon Hills, Sandhouse Lane, Sewell Cutting, Stopsley, Sundon Chalk Pits, Totternhoe Knolls, Totternhoe Quarry and Whipsnade Downs. Stephen Plummer saw 25 on the callows at the SW corner of Stewartby Lake on 15th May. An exciting discovery was a population in scrubby grassland in a private part of Thurleigh airfield near Galsey Wood (23rd May, Keith Balmer). Is this the only known population in this 10km square?

Purple Hairstreak *Neozephyrus quercus*

Judith Knight and Bob Hook demonstrated the value of evening surveying for this species by watching mature oaks and ash on the edge of Linslade old wood on 27th July and counting 40 between 7.30pm and 8pm. Andy Whitney noted 22 in King's Wood Heath and Reach on 11th July. Small numbers were also reported from Carthage Golf Course, Chicksands Wood, Maulden Wood, Parkwood LNR, Potton Wood, The Lodge, Sharpenhoe Clappers and Studham.

White-letter Hairstreak *Satyrrium w-album*

78 of the 107 adults reported were in Chicksands Wood, possibly as a consequence of so many visitors looking for Purple Emperors and Silver-washed Fritillaries. Other reported locations were Bromham, Claphampark Wood, College Wood, Home Wood Northill, Linslade Woods, Maulden Wood, Potton, Potton Wood and Wilstead Wood. The total of 13 1km squares reported was rather higher than the 10ya of nearly 6.

Black Hairstreak *Satyrrium pruni*

As usual there were very few reports of this elusive species, all from Marston Thrift. Ian Woiwod was the only person lucky enough to find more than one, seeing four or five on June 16th, the earliest sightings. The final sighting was on 2nd July (Judith Knight).

Coppers, Blues and Metalmarks

Small Copper *Lycaena phlaeas*

It was a good year for this species. 38 were reported from the Dunstable Downs transect while at the other end of the scarp the Whipsnade Downs transect (where numbers fluctuate greatly) had only six (10ya seven). The total of 292 adults reported across all recording is one of the largest ever, however the large number of observers at The Lodge accounted for 98 of these. (18 were seen there on 29th September by I.K.Dawson & D.F.Dawson). All three broods were reported in above average numbers, but the coverage of 52 1km squares was lower than the 2004 peak of 75.

Small Blue *Cupido minimus*

It was reported from many of the usual chalk sites where its larval food plant kidney vetch grows: Barton Hills, Chaul End, Dunstable Downs, Galley and Warden Hills, Houghton Regis, Kensworth Quarry, Pegsdon Hills, Sewell Cutting, Sharpenhoe Clappers, Stipers Hill (Dunstable), Stopsley, Sundon Chalk Pits, Totternhoe Limeworks, Totternhoe Quarry, Totternhoe SE Cliff and Whipsnade Downs. Most records came from Totternhoe Quarry where the transect total of 39 was well above the 10ya of 24. Greg Herbert's highest evening roost count on the Totternhoe SE Cliff was 215 on 11th June. As sometimes occurs during the second brood there were a couple of wayward reports, this year from King's Wood, Heath and Reach (9th August, Robert Henry & Rory Morrissey) and near Maulden Wood (16th August, Caroline Gilby).

Brown Argus *Aricia agestis*

Both broods were successful with above average abundance. The species has returned to all transects other than Hill Rise and was present at most in good numbers, the largest weekly total of 60 coming from Dunstable Downs on 24th May. It was recorded countywide from 62 well-scattered 1km squares, although double-digit abundance sites were mostly chalky, i.e. Pegsdon Hills (10), Whipsnade Downs (18), Knocking Hoe (25), Barton Hills (40), 12 were also reported from Chicksands Wood.

Common Blue *Polyommatus icarus*

Building upon its good year in 2009, Common Blue went on to have an astonishingly successful 2010, breaking all records and taking first place for the number of adults reported, 6967, 15.9% of all adult butterflies. Both broods were much more abundant than usual. (There were no reports of a third brood). It was reported from 138 countywide 1km squares, compared with the 10ya of 77. Sites reporting triple-digit abundances were: Maulden Wood (101), Houghton Regis near Thorn Turn (104), Sundon Chalk Pits (132), Knocking Hoe (135), Dunstable Downs (141), Totternhoe Quarry (162) and Sharpenhoe Clappers (199). Of particular note was a field near Wilden, with a wildlife crop at one end

which has included plenty of birds-foot trefoil for at least two years, which had 235 (15th August, N.D.Willits) and Dropshort Marsh SSSI with 350 (29th July, John Pitts).

Chalkhill Blue *Polyommatus coridon*

Another species that had a good year, one of its best in recent years, was Chalkhill Blue, taking third place in the ranking of adults reported. On the four chalk-based transects, numbers were well above average and the total of 2119 at Sharpenhoe Clappers was an annual record. Here, on 1st August, out of the day's total of 787, 665 were recorded in the Moleskin section alone! The transects contributed most of the records of this species because only 24 casual records were submitted, by 16 observers. Why such an attractive and abundant butterfly should produce so few records is a mystery. The non-transect sites reported were: Barton Hills, Dunstable STW, Galley and Warden Hills, Harlington Hill Chalk Pit, Houghton Regis, Knocking Hoe, Pegsdon Hills, Sundon Chalk Pits and Well Head.

Holly Blue *Celastrina argiolus*

First brood abundance was below the 10ya, but the second brood's was very similar to it, and when considered with the low numbers in 2009, this suggests that the parasitoid-driven cycle may be in the recovery phase. (There was an average of 1.17 adults per record in the first brood and 1.42 in the second). Unlike other species this one is reported mostly from towns and villages where it is easily seen flying around trees and shrubs especially in gardens.

Duke of Burgundy *Hamearis lucina*

This attractive spring species appears to have a good season with above average numbers on both of its transects at Totternhoe Quarry and Whipnade Downs. Monitoring work at Totternhoe Quarry by the Wildlife Trust continued and on 22nd May Colin Lucas recorded 29 individuals, which is a very good daily total. (Peak numbers are usually reported during standard week 20 (14th to 20th May)).

Nymphalids

White Admiral *Limenitis camilla*

It was reported in good numbers from its normal haunts at Chicksands Wood, King's Wood Heath and Reach, Maulden Wood, West Wood and Wilstead Wood, and an odd one, probably wandering, in Rowney Warren (24th July, Alistair Muir-Howie). One was also seen in Linslade new woods on 8th July by Robert Henry and Rory Morrissey. The two strongest populations continue to be at West Wood (26 reported on 9th July by Emma Whitfield & Aidan Whitfield) and King's Wood Heath and Reach (14 on 18th July by Keith Balmer).

Purple Emperor *Apatura iris*

It is pleasing to report that the species seems established at two sites, Chicksands Wood and King's Wood Heath and Reach, and may be present elsewhere unobserved. The sum of 36 reported from Chicksands Wood includes considerable and confusing amounts of multiple reporting, but on 8th July probably four males and two females were observed by a combination of Peter Almond, John Adams, Ian Woiwod and Richard Revels, who somehow managed to coax a male onto his face! A male with much reduced white markings (*ab semi-iole*) looking pure purple in flight, was seen in the company of two other males by the northern monument on 6th July by Ian Woiwod. Many observations were of males along the main ride, often on the ground, but a few were of females investigating sallows. In King's Wood observations tend to be of individuals flying around the rides and canopy.

Red Admiral *Vanessa atalanta*

With one observation in February and eight in March some were clearly able to survive the harsh winter. At the other end of the year it was the most frequently reported species throughout October and November and was the last species on the wing, until the 19th. As overall statistics for the species were all average so presumably was the migration, which wasn't particularly noticeable in the weekly statistics, although it may have contributed to a small peak in mid-June. It was reported from most areas of the county in small numbers, the largest report of 15 coming from The Lodge (9th August, N.D.Willits).

Painted Lady *Vanessa cardui*

The species went from being the most frequently reported in 2009 (9,519) to one of the least in 2010 with only 54 in total, but that is still more than double the 24 reported in 2008. As the species doesn't overwinter in Bedfordshire, its presence here is dependent on the erratic fortunes of migration.

Small Tortoiseshell *Aglais urticae*

As this species' abundance naturally fluctuates, it is hard to say anything too definitive about its current trend. It appeared to fare slightly worse than in 2009, but slightly better than the few prior years. Abundances remain well below those reported in the mid-1990s, but that corresponded with a peak in the national abundance. It remains well distributed throughout the county. The largest abundance of at least 17 was from along a sunny track near Toddington on 13th April (Sheila Brooke and Bernard Nau).

Large Tortoiseshell *Nymphalis polychloros*

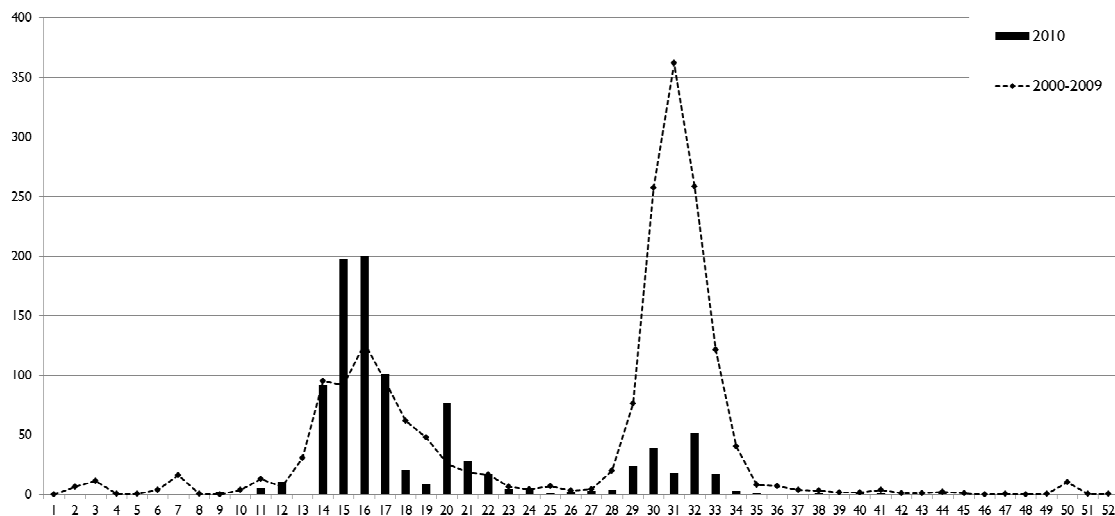
On 8th July a butterfly looking like a very large Small Tortoiseshell with an orangey upper surface, was seen at Chicken Hole (near Knocking Hoe) by David Chandler, but in his words, "whether it was a Large Tortoiseshell, I don't think I'll ever be certain". This sighting should therefore be considered as unconfirmed. (One definite sighting in 2009 on nearby Pegsdon Hills was reported in *Beds Nats* 64).

[Camberwell Beauty *Nymphalis antiopa*

None were reported this year. It was last reported in 2006.]

Peacock *Inachis io*

In a year when most species fared quite well, Peacock did much worse than usual. The total over the long-running transects was 285 compared with 1330 in 2009. (Their 5ya is 688). Potton Wood's transect total of 105 was down from 932 in 2009, when it had the largest national transect abundance. The failure in 2010 appears to have been with the new brood rather than those overwintering, as the spring abundance was about, or maybe above, normal. As Comma, Small Tortoiseshell and Red Admiral all use nettles as their larval food plant and fared rather better Peacock, the reason for its low numbers in late July/early August is unclear. Distribution was widespread, reported countywide.



Peacock's weekly abundance per 10,000 records (of all species) for 2010 versus 2000-2009

Comma *Polygonia c-album*

Whilst not doing quite as well as in 2009, Comma sustained its long-term trend of increased abundance within the county and across southern England. On the long-term transects it exceeded the 5ya of 145 with a total of 185 in 2010. In casual recording reports also remained high and the distribution of 125 1km squares is joint second (with 2006) to 2009's 150, having grown steadily from an average of 83 over the 5-year period 1995 to 1999. The species is likely to be encountered almost anywhere in the county.

Fritillaries

Dark Green Fritillary *Argynnis aglaja*

The species' stronghold continues to be at Sharpenhoe Clappers, with lone wanderers straying into Barton, Streatley and Luton. It also showed up on the transects at Dunstable Downs and Whipnade Downs with three seen in one section of the latter on 28th June (Wilf Powell), raising hopes of it colonising this scarp. The annual total of 235 on the Sharpenhoe Clappers transect was the second highest ever (to 279 in 2009) and its highest weekly total of 101 (30th June) was close to that of 106 in 2009. Interestingly there were only 12 non-transect records submitted, which is a low number for such an attractive species, the highest count amongst these being of 65 on 3rd July by Peter Glenister.

Silver-washed Fritillary *Argynnis paphia*

Reported from 19 1km squares, as in 2006, the species had another good year, the total of 148 adults being the annual highest. In addition to being seen in Chicksands Wood, College Wood, King's Wood Heath and Reach, Maulden Wood, Potton Wood, West Wood and Wilstead Wood, individuals were also seen in Dunton Lane Biggleswade, Old Warden, Stevington and Stotfold. As with Purple Emperor, there was considerable multiple-reporting, especially from Chicksands Wood where the reported total of 77 suggests an improbably large population, but on 24th July Richard Revels did report 11 (9m, 2f).

Browns

Speckled Wood *Pararge aegeria*

Statistically it was an extremely average year for the species, with the percentage of records for the species; the number of adults per 10,000 records; and the number of 1km squares; all being very close to their average for the previous ten years. Even the peak report of an estimated 50 at Marston Thrift (13th July, Colin Carpenter) was close to the 10 year average of peak abundance of 57. This successful species may be encountered almost anywhere that their larvae can survive in long grasses in parks, wooded gardens, hedgerows, scrub and of course, woodland.

Wall Brown *Lasiommata megera*

In 1995 178 adults were reported from 54 widely-spread 1km squares. Since then the species' decline has been relentless to such an extent that in 2010 it was reported from just two 1km squares, both corresponding with the SE corner of Rookery Pit South, and the total of nine adults probably includes multiple reporting. Both broods were seen, and of the second, one male (2nd August, Jim Gurney) and one female (9th August, Darin Stanley & Dave Ball) were observed, so there is hope for the species' survival into 2011. Wall has been lost from much of central southern England over the last decade for reasons that are not understood.

Marbled White *Melanargia galathea*

The recent downward trend in this species continued in 2010, however the transect at Totternhoe Quarry exceptionally reported 271 against the average of 132 over the previous three years, restoring abundances to those seen in the early 2000s. Elsewhere however, numbers remained subdued and the 55 1km squares reported distribution was the lowest for eight years. Several strong sites exist in the upper Ouse valley, such as at Turvey disused railway (33, Tony Smith), Yelnow New Wood (42, Ian Kimsey), Biddenham Loop Country Park (30, Peter Almond), and the one with the largest reported abundance of 194 on 3rd July, Bromham Lake LNR (Peter Almond).

Gatekeeper *Pyronia tithonus*

Gatekeeper hasn't fared well in recent years and although its reported distribution hasn't changed significantly its average abundance has fallen and on several transects is now the lowest recorded, though at others numbers have risen so the picture isn't straightforward. In overall recording the proportion of Gatekeepers to other species was the lowest ever (looking back to 1995), and the number of adults per record also lowest. In sheer numbers of reported adults it has dropped from being consistently in second or third place, to sixth. It is still a very common butterfly though and can be found countywide in suitable habitat.

Meadow Brown *Maniola jurtina*

The story for Meadow Brown is very similar to that of Gatekeeper's, which may not be a coincidence given their similar habitat preferences, life cycle and larval food plants. It too has dropped in the abundance rankings from a consistent first or second place, to fourth, but is still widely distributed and easily encountered in rural habitats.

Ringlet *Aphantopus hyperantus*

Whereas the preceding four browns are struggling somewhat, Ringlet goes from strength to strength having another good year and moving up to second place in the rankings of adults reported. All the transects where it is present showed it to be doing well, especially at Priory Country Park where numbers have risen to 97 from single-digit quantities only a few years earlier. The greatest abundances were generally reported from woodlands, with 211 counted in Maulden Wood on 9th July (Peter Glenister), but at least 200 were seen at Dropshort Marsh on 16th July by John Pitts.

Small Heath *Coenonympha pamphilus*

The transects tell a mixed story. Whipsnade Downs and Dunstable Downs both reported very good numbers, as did Old Warden Tunnel, but the numbers at Totternhoe Quarry were amongst its lowest. At Sharpenhoe Clappers the numbers were also low but suggested some recovery. The second brood in late August/early September was generally quite good making 2010 the best year overall since 2005, although there was no reported increase in distribution with 50 well-scattered 1km squares.

Acknowledgements

We are very grateful for the efforts of the 165 people listed here who reported their sightings, either directly or via the newsgroups. We apologise if any name has been inadvertently omitted.

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S.Gascoyne, R.Geary, S.Gibbs, C.Gilby, P.Glenister, D.Goddard, E.Goodyear, B.Gove, A.Green, H.Griffiths, J.Gurney, I.Hayward, R.Henry, G.Herbert, M.Holloway, B.Hook, C.Horton, H.Hyre, M.Izzard, I.Kimsey, J.Knight, R.Lawrence, C.Le Boutillier, M.Leigh, C.Lewis, H.Lewis, C.Lucas, D.Manning, S.Manning, S.Mason, B.Matthews, R.McCann, M.McCarrick, A.McLennan, H.Michell, A.Middleton, K.Middleton, D.Miller, N.Monsey, R.Morrisey, A.Muir-Howie, H.Muir-Howie, B.Nau, L.Nicholls, R.Nye, D.Oakley-Martin, J.O'Sullivan, D.Otter, S.Otter, A.Outen, D.Peachey, N.Phalasuk, S.Pittman, J.Pitts, S.Plummer, W.Powell, D.Price, S.Raven, R.Revels, A.Richardson, C.Rudd, M.Russell, I.Sabiniaz, M.Self, J.T.R. Sharrock, M.Sheridan, E.Sinclair, H.A.Smith, J.Smith, P.Smith, S.Smith, A.Staley, B.Staley, E.Staley, K.Standbridge, S.Standbridge, D.Stanley, A.Steele, L.Stoter, W.Symes, K.Taylor, C.Thomas, S.Thompson, M.Thorpe, J.Tilley, V.Tingey, S.Tompkins, D.Tyler, A.Wakeford, M.Ward, A.Warne, G.Warne, D.Warner, M.Warner, C.Watts, H.Webb, R.Webb, K.Weeden, M.Weeden, J.Wells, Rich White, Rob White, M.Whiteley, A.Whitfield, E.Whitfield, Alice Whitney, Andy Whitney, N.D.Willits, D.Withers, I.Woiwod, T.Wren, A.Wyldes, and The Bedfordshire Bat Group, The Bedfordshire Badger Group, Greensand Trust Volunteers, Wildlife Trust Volunteers, members of the Beds and Northants Branch of Butterfly Conservation and others who helped with transect walks and surveys.

Map produced using DMAP.

Keith Balmer and Peter Glenister are the Society's honorary joint butterfly recorders, a position they have held since 2003.

Flight periods and peak abundances in 2010

Species	Earliest Date	Latest Date	Peak Date	Peak Abundance
Small Skipper	06/06/10	02/09/10	21/07/10	50
Essex Skipper	13/06/10	18/08/10	18/07/10	15
Large Skipper	02/06/10	30/08/10	06/07/10	100
Dingy Skipper	01/05/10	17/06/10	26/05/10	26
Grizzled Skipper	18/04/10	17/06/10	23/05/10	23
Clouded Yellow	02/06/10	10/09/10	10/09/10	1
Brimstone	02/03/10	11/10/10	24/04/10	13
Large White	10/04/10	10/10/10	09/07/10	30
Small White	10/04/10	30/09/10	18/07/10	300
Green-veined White	10/04/10	11/10/10	09/07/10	30
Orange Tip	24/03/10	27/06/10	22/05/10	27
Green Hairstreak	18/04/10	17/06/10	15/05/10	25
Purple Hairstreak	06/07/10	22/08/10	27/07/10	40
White-letter Hairstreak	26/06/10	08/08/10	18/07/10	20
Black Hairstreak	16/06/10	02/07/10	16/06/10	4
Small Copper	17/04/10	25/10/10	29/09/10	18
Small Blue	13/05/10	16/08/10	11/06/10	215
Brown Argus	15/05/10	05/10/10	24/05/10	40
Common Blue	16/05/10	22/09/10	29/07/10	350
Chalkhill Blue	07/07/10	22/09/10	01/08/10	665
Holly Blue	17/04/10	12/09/10	22/08/10	4
Duke of Burgundy	27/04/10	07/06/10	22/05/10	29
White Admiral	30/06/10	09/08/10	09/07/10	26
Purple Emperor	06/07/10	25/07/10	08/07/10	5
Red Admiral	27/02/10	19/11/10	09/08/10	15
Painted Lady	15/05/10	08/10/10	02/08/10	2
Small Tortoiseshell	10/01/10	24/12/10	13/04/10	17
Large Tortoiseshell	08/07/10	08/07/10	08/07/10	1
Peacock	22/01/10	03/11/10	10/04/10	33
Comma	02/03/10	25/10/10	18/07/10	21
Dark Green Fritillary	21/06/10	11/08/10	03/07/10	65
Silver-washed Fritillary	04/07/10	01/09/10	24/07/10	11
Speckled Wood	13/04/10	25/10/10	13/07/10	50
Wall Brown	18/05/10	09/08/10	21/05/10	2
Marbled White	21/06/10	15/08/10	03/07/10	194
Gatekeeper	30/06/10	16/09/10	18/07/10	90
Meadow Brown	13/06/10	22/09/10	06/07/10	105
Ringlet	20/06/10	02/09/10	09/07/10	211
Small Heath	15/05/10	30/09/10	23/06/10	33

Summary of 2010's records of adults at 31st January 2011

Species	Records	Adults	Squares		Records (%)	Adults/All-species adults ¹ (%)				
			10km	1km		2006	2007	2008	2009	2010
Small Skipper	168	523	19	75	1.61	1.63	1.60	1.71	0.82	1.20
Essex Skipper	40	65	11	25	0.38	0.17	0.14	0.14	0.15	0.15
Small/Essex Skipper	23	70	8	12	0.22	0.50	0.03	0.41	0.15	0.16
Large Skipper	323	1287	19	82	3.10	2.66	3.20	1.29	1.35	2.94
Dingy Skipper	76	273	5	18	0.73	0.35	0.28	0.52	0.22	0.62
Grizzled Skipper	75	185	11	20	0.72	0.15	0.24	0.25	0.22	0.42
Clouded Yellow	4	4	4	4	0.04	0.11	0.07	0.01	0.05	0.01
Brimstone	556	950	18	137	5.33	1.72	3.53	2.76	2.15	2.17
Large White	515	1077	20	129	4.94	3.00	3.37	3.66	7.27	2.46
Small White	700	2599	20	166	6.71	3.63	4.43	4.28	6.77	5.94
Green-veined White	653	1664	20	184	6.26	2.42	6.12	4.13	5.71	3.81
Small/G.V. White	69	373	12	35	0.66	0.36	0.14	0.65	0.83	0.85
Orange Tip	398	844	19	143	3.82	0.80	1.45	1.24	1.06	1.93
Green Hairstreak	89	214	9	21	0.85	0.34	0.29	0.28	0.36	0.49
Purple Hairstreak	26	111	8	16	0.25	0.32	0.06	0.10	0.14	0.25
White-letter Hairstreak	34	107	7	13	0.33	0.97	0.12	0.07	0.10	0.24
Black Hairstreak	5	8	1	1	0.05	0.10	0.01	0.02	0.01	0.02
Small Copper	157	292	15	52	1.51	0.45	0.41	0.70	0.43	0.67
Small Blue	69	447	7	22	0.66	1.92	0.79	2.10	2.48	1.02
Brown Argus	292	844	18	62	2.80	1.59	0.94	0.41	1.01	1.93
Common Blue	744	6967	19	138	7.13	4.12	1.87	3.39	6.39	15.93
Chalkhill Blue	248	4430	7	20	2.38	6.30	3.54	2.84	2.70	10.13
Holly Blue	210	273	15	78	2.01	0.48	1.09	1.06	0.23	0.62
Duke of Burgundy	41	136	3	4	0.39	0.22	0.12	0.25	0.12	0.31
White Admiral	49	191	7	13	0.47	0.26	0.12	0.14	0.23	0.44
Purple Emperor	26	40	4	5	0.25	0.01	0.01	0.02	0.05	0.09
Red Admiral	311	464	18	103	2.98	5.40	3.28	2.06	0.57	1.06
Painted Lady	50	54	14	31	0.48	5.55	0.77	0.09	15.72	0.12
Small Tortoiseshell	280	448	20	130	2.68	0.66	1.17	1.11	1.28	1.02
Large Tortoiseshell	1	1	1	1	0.01	0.00	0.00	0.01	0.01	0.01
Camberwell Beauty	0	0	0	0	0.00	0.01	0.00	0.00	0.00	0.00
Peacock	501	978	19	141	4.80	3.69	6.56	5.93	5.68	2.24
Comma	428	803	19	125	4.10	1.94	1.82	2.16	1.87	1.84
Dark Green Fritillary	46	374	3	9	0.44	0.71	0.19	0.77	0.69	0.86
Silver-washed Fritillary	70	148	10	19	0.67	0.23	0.03	0.02	0.06	0.34
Speckled Wood	789	1969	20	149	7.56	3.32	4.79	6.61	4.79	4.50
Wall Brown	8	9	1	2	0.08	0.03	0.02	0.02	0.01	0.02
Marbled White	231	1744	16	55	2.21	7.33	5.03	5.87	3.12	3.99
Gatekeeper	468	2237	20	133	4.49	9.98	8.95	10.00	5.46	5.12
Meadow Brown	752	3650	20	168	7.21	17.92	14.92	17.28	9.60	8.35
Ringlet	508	5710	19	125	4.87	6.84	17.96	16.07	8.71	13.06
Small Heath	385	1166	14	50	3.69	1.80	1.20	1.26	1.45	2.67
Overall	10431	43729	20	397						

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.