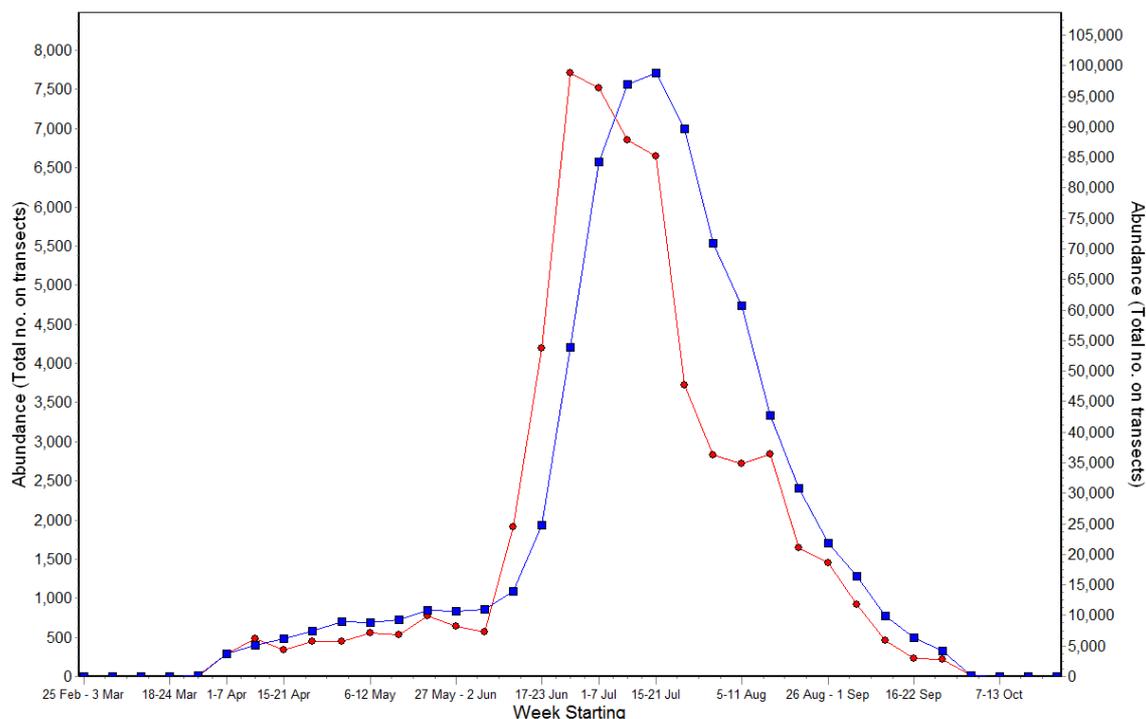


## BUTTERFLY POPULATION TRENDS IN BERKSHIRE, BUCKINGHAMSHIRE AND OXFORDSHIRE IN 2017, ANALYSED FROM TRANSECT DATA

Late March was mild and dry followed by a very dry, sunny and mild April giving the season a good start. May was again warmer, but wetter than average but the rain was concentrated in the middle. There was plenty of sun in June and the only significant rain was a downpour on 5<sup>th</sup>. The first half of July was fine but the weather deteriorated from 11<sup>th</sup>. August was mixed, with sunny periods with some rain, mostly overnight but dry and warmer for the last third. The season finished with a cool wet September, cutting short the usual autumn peak, although the last few days improved.

The season overall was 1–2 weeks earlier than average. The peak counts fell sharply during July but there was a secondary peak in August when the weather improved.

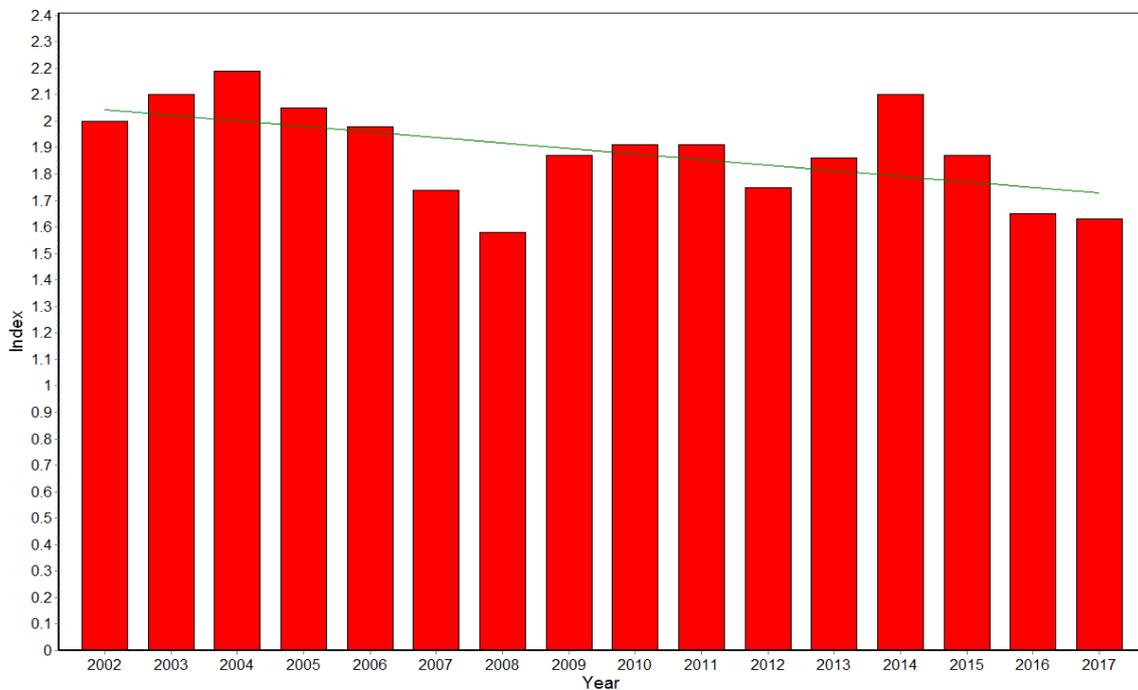


*Regional flight period for all species. Red: 2017, Blue: all years*

Of the 43 transects analysed for this report, 39 recorded an increase and three a decrease in overall index from 2016. Indices were calculated for the period 2002–2017. An index was produced for 28 species in both 2016 and 2017 so a comparison can be made between those years. Of these species, eight recorded a decrease, 19 an increase and one no change.

Taking each species in turn; Small Skipper, Essex Skipper and the combined pair all recorded an increase. Small Skipper had its best year since 2014 and came fifth of

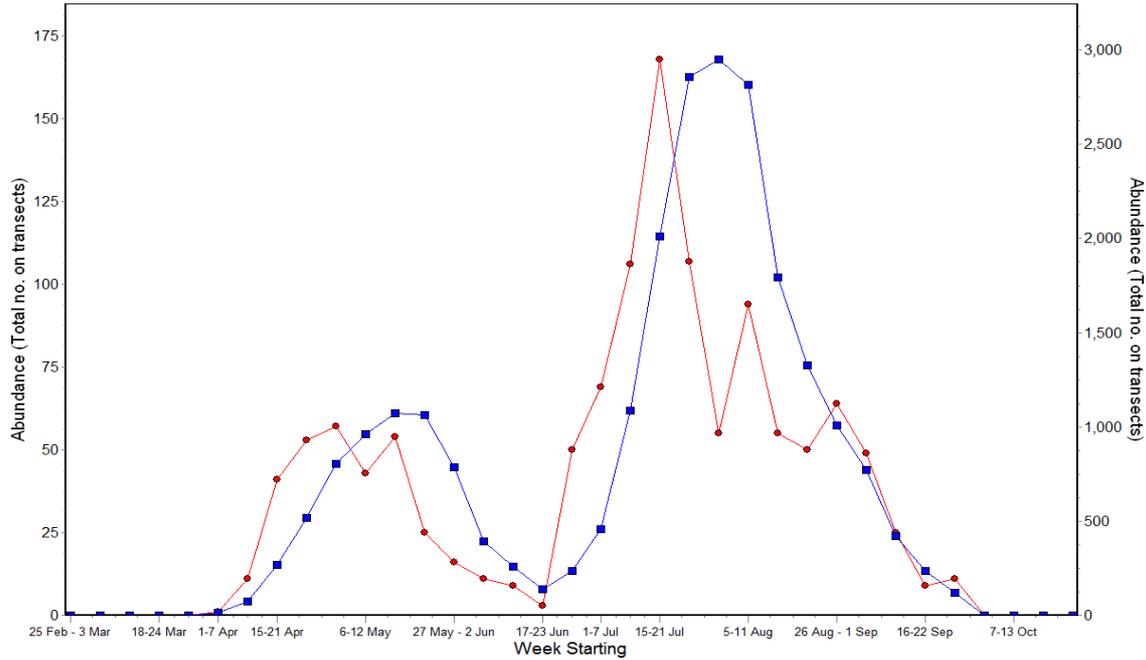
13 years with an index. Essex Skipper equalled 2015 and the pair had their best since 2015. Almost as many sites recorded the combined pair as the individual species together, indicating the difficulty of distinguishing them while walking a transect. Large Skippers suffered their third decrease in successive years with just a 4.5% decrease to an index second lowest of 16 years. Only 2008 was lower.



*Collated Indices for Large Skipper, 2002-2017*

Dingy Skipper also had its third decline in succession, this time of 35.4%. Only 2008 was lower in the last 10 years. Grizzled Skipper failed to produce an index at all although the total count was up slightly. The wet period in mid-May could have been at least partly responsible.

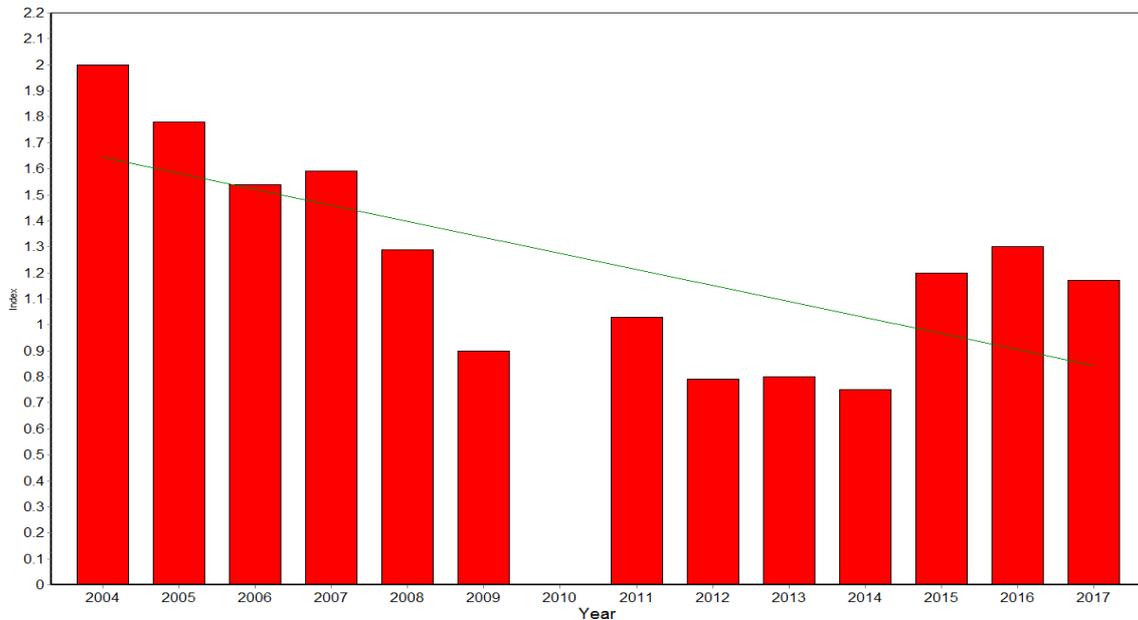
The whites had mixed fortunes. Brimstone decreased by just 4.5% but still came 6<sup>th</sup> of the last 16 years. Small Whites came 12<sup>th</sup> with a decrease of 24.1% and Green-veined Whites decreased by 14.9% to 11<sup>th</sup>, both over 16 years. There was no change in the index for Large White. Only 2007 & 2012 had a lower index. They all declined rapidly through August compared with previous years. However, the Orange-tip, an early species increased by 25.9% to come 3<sup>rd</sup> of 15 years. It was about a week earlier than average.



*Flight period for Green-veined White. Red: 2017, Blue: all years*

The Small Copper had a very good season, increasing by 124%, to its best year since 2013, coming 5<sup>th</sup> of 15 years.

The Holly Blue, suffered a 25.9% decrease to come 8<sup>th</sup> of 13 years but still better than the period 2009-2014. None of the last ten years has matched the first four years 2004-2007. It had a relatively poor second brood.



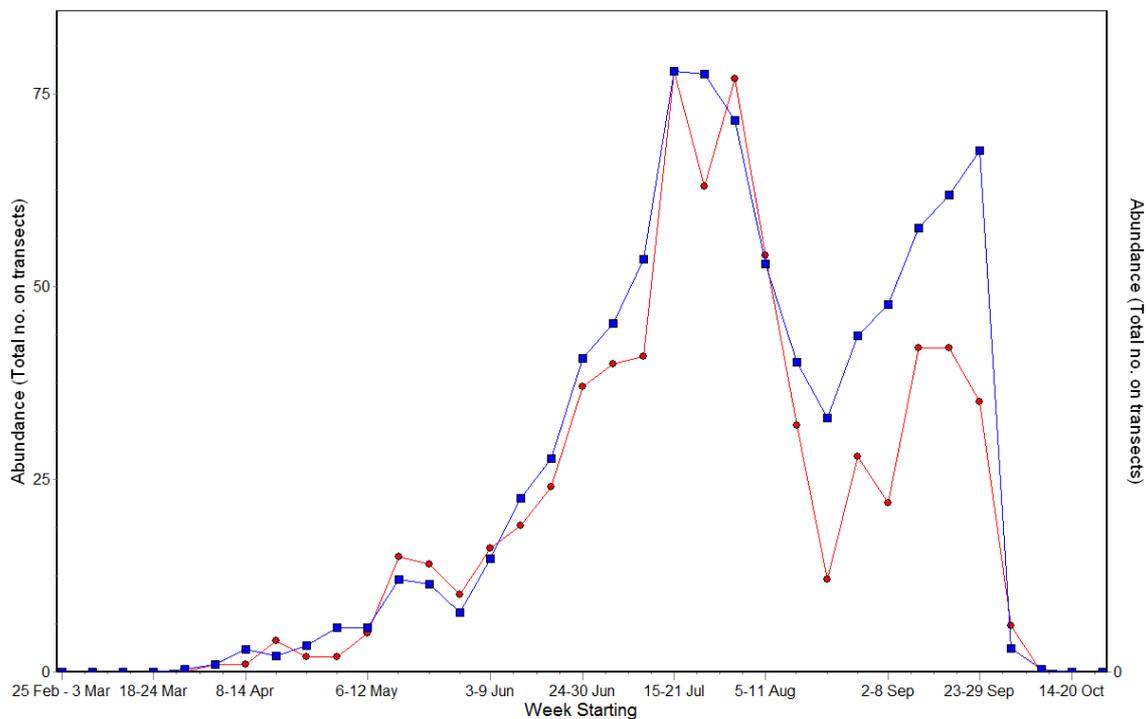
*Collated index for Holly Blue, 2004-2017*

The rest of the blues with an index increased, the Common Blue by 124% but it still

came 11<sup>th</sup> of 16 years. It fluctuates widely but shows no overall trend over the past 16 years. The first brood peaked about two weeks earlier than average but was short lived. In contrast, Brown Argus is trending downwards but made a 41.3% recovery over 2016 to come 9<sup>th</sup> of 14 years. It also had a poor first brood. There seem to be insufficient data for the Chalkhill Blue to produce an index every year but it increased by 31.8% to come third of seven years in the last eleven.

Apart from the Painted Lady, of which only 37 were recorded in 2017, the vanessids had a good season compared with 2016.

With a 47.9% increase, Red Admirals had their best year of the past 16 although the autumn showing was relatively poor.



*Flight period for Red Admiral. Red: 2017, Blue: all years*

The Comma also had a very good season, with an increase of 114% to its second best year of 16, although it also had a reduced September peak. Only 2009 was better. Small Tortoiseshells kept up to 7<sup>th</sup> of 16 years with a 17.5% increase although they were concentrated over a short period in mid-summer. Peacocks made a slight recovery of just 7.2% but still only came 14<sup>th</sup> of 16 years. The overwintering total was poor and short-lived.

Not many Dark Green Fritillaries are recorded so there are only indices for the last five years and there was a recovery of 41.3% to bring it 4<sup>th</sup>. In contrast, the Silver-washed Fritillary continues to expand, beating the past ten years with a 114% increase over 2016.

The Speckled Wood was the only brown to decrease, by just 4.5% to come 9<sup>th</sup> of 16 years but it is still well within its year to year variation over the period.

Marbled Whites increased by 14.8% to an average year, the best since 2014. They peaked about 10 days earlier than average. The Gatekeeper also had an average year, 8<sup>th</sup> of 16 years with an increase of 73.8% over 2016. Similarly, Meadow Brown increased by 77.8% to bring it 5<sup>th</sup> of 16 years, the best showing since 2006. The Ringlet had a more modest increase, of 17.5%, with its best since 2014 and 6<sup>th</sup> of 16 years. But the Small Heath showed the biggest recovery of 109% to 7<sup>th</sup> of 14 years after three successive decreases.

Other species present in the area were recorded in insufficient numbers on the transects analysed to give meaningful results.

I would like to thank all those who walked the transects and the organisers who collated the records in 2017 and which are used in this analysis. As usual a special mention must go to Colin Williams for collating and forwarding all of the BBOWT records, which form the bulk of those used.

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*March 2018*

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% Change 2016/2017	Rank	of
Small Skipper	2	2.13			2.39		2.41	2.37	2.22	2.21	1.83	2.17	2.29	2.04	2.01	2.27	82.0	5	13
Essex Skipper							2	2.27					2.46	2.17	1.95	2.17	66.0	3	6
Small/Essex Skipper	2	2.06	2.19	2.05	2.28	1.92	1.75	1.73	1.67	1.72	1.66	1.86	2.06	1.91	1.69	1.75	14.8	9	16
Silver-spotted Skipper																			
Large Skipper	2	2.1	2.19	2.05	1.98	1.74	1.58	1.87	1.91	1.91	1.75	1.86	2.1	1.87	1.65	1.63	-4.5	15	16
Dingy Skipper							2	2.27	2.29	2.58	2.4	2.36	2.53	2.37	2.25	2.06	-35.4	9	10
Grizzled Skipper									2	2.4	2.11		2.31	2.14	2.24				
Clouded Yellow												2	1.91						
Brimstone	2	1.99	2.09	2.15	2.09	2.01	1.94	2.01	1.93	1.93	1.82	2.16	2.17	2.17	2.15	2.13	-4.5	6	16
Large White	2	2.06	2.06	2.08	1.92	1.58	1.88	2.35	1.82	1.83	1.38	2.25	1.65	2.02	1.81	1.81	0.0	12	16
Small White	2	2.3	2.31	2.04	2.1	1.84	1.79	2.18	1.98	1.99	1.62	2.5	1.91	2.05	2.05	1.93	-24.1	12	16
Green-veined white	2	1.98	2.01	1.82	1.52	1.73	1.78	2.17	1.91	2.06	1.44	2.11	1.94	1.96	1.9	1.83	-14.9	11	16
Orange-tip		2	2.12	2.08	1.99	1.97	1.84	2.02	2.17	2.29	1.96	2.05	2.08	2	2.03	2.13	25.9	3	15
Green Hairstreak		2	1.81							1.93			2.13	1.84	1.96				
Small Copper	2	2.36	2.6	2.08	2.26	2.24		2.53	2.76	2.59	2.38	2.75	2.49	2.22	2.18	2.53	123.9	5	15
Brown Argus			2	1.94	2.03	1.49	1.52	1.31	1.6	1.67	0.92	1.28	1.47	1.35	1.3	1.45	41.3	9	14
Common Blue	2	2.31	2.22	2.16	2.23	1.69	1.67	2.18	2.61	2.18	1.55	2.23	2.26	2.23	1.79	2.14	123.9	11	16
Chalkhill Blue						2	2.25			2.02		2.55	2.02		1.98	2.1	31.8	3	7
Holly Blue			2	1.78	1.54	1.59	1.29	0.9		1.03	0.79	0.8	0.75	1.2	1.3	1.17	-25.9	8	13
Red Admiral	2	2.37	1.64	2.05	2.34	2.25	1.85	1.88	1.82	2.27	2.15	1.72	2.32	1.91	2.41	2.58	47.9	1	16
Painted Lady	2	2.42	1.9			1.25			-0.14						-0.16	-0.31	-29.2		
Small Tortoiseshell	2	2.28	1.85	1.39	1.37	1.48	1.21	1.72	1.73	1.67	1.34	1.98	2.24	2.05	1.77	1.84	17.5	7	16
Peacock	2	1.94	1.97	2.01	1.94	2.28	2.05	2.35	2.09	1.78	1.87	2.38	2.36	2.25	1.81	1.84	7.2	14	16
Comma	2	2.35	2.16	2.24	2.37	2.06	2.13	2.57	2.37	2.17	2.04	2.4	2.24	2.35	2.16	2.49	113.8	2	16
Dark Green Fritillary												2	2.08	1.87	1.64	1.79	41.3	4	5
Silver-washed Fritillary						2	2.15	2.4	2.73	2.5	2.5	2.83	2.88	2.88	2.67	3	113.8	1	11
Marbled White	2	2.25	2.25	2.11	2.3	2.07	2.03	1.99	1.96	1.99	1.94	2.05	2.13	2.03	1.98	2.04	14.8	8	16
Speckled Wood	2	1.91	2.03	1.98	1.9	1.77	2.09	2.27	2.11	2.17	1.82	2.07	2.13	1.97	2.03	2.01	-4.5	9	16
Grayling																			
Gatekeeper	2	2.14	2.25	2.18	2.17	1.92	1.89	1.9	1.95	1.88	1.73	1.91	2.07	2.06	1.74	1.98	73.8	8	16
Meadow Brown	2	2.15	2.2	2.21	2.2	1.96	1.97	1.9	1.78	1.88	1.93	2.02	1.93	1.95	1.83	2.08	77.8	5	16
Ringlet	2	2.13	1.91	1.9	1.99	1.95	2.12	2.13	2.16	1.98	1.89	2.09	2.14	2.06	2.03	2.1	17.5	6	16
Small Heath			2	1.87	1.85	1.5	1.3	1.39	1.67	1.89	1.75	1.94	1.65	1.46	1.38	1.7	108.9	7	14

Collated Indices 2002-2017 and percentage changes 2016-2017