

Butterfly Transect at Markstakes Common: 2016 Summary



Photo: White Admiral by Ian Seccombe

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Introduction

The Markstakes butterfly transect was walked on 24 of the 26 weeks specified by the United Kingdom Butterfly Monitoring Scheme (UKBMS) between the beginning of April and the end of September 2016. The recorders are Rupert Hall, Ian Seccombe and Ian Woolsey. Sightings of butterflies occurred on 23 transect walks. This is the fifth consecutive year of recording on this transect. Data have been submitted to UKBMS using Transect Walker.

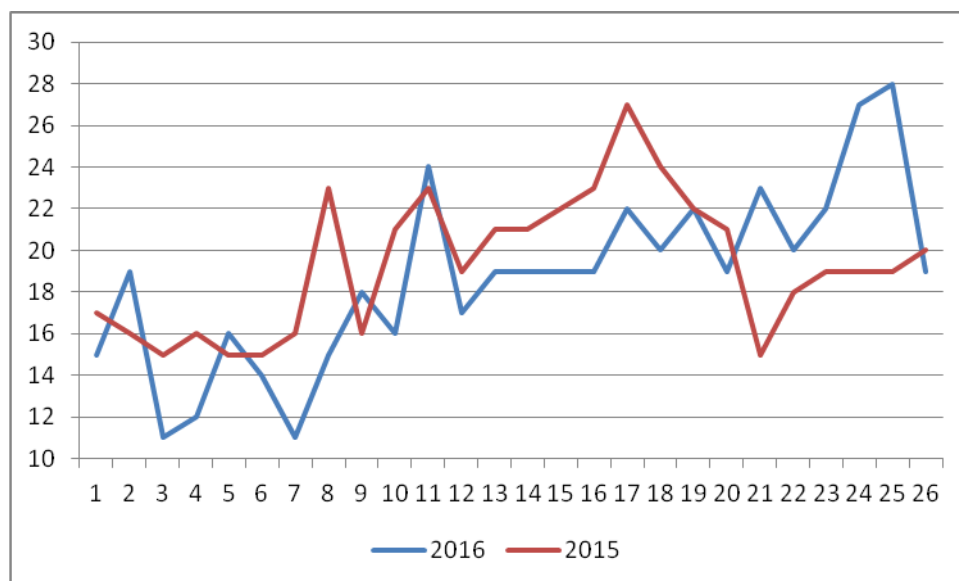
In the 23 weeks when recordings were made 344 butterflies were recorded. The UKBMS algorithm provides estimates for the missing weeks which gives a total *estimated* abundance of 356. Compared with recent years (530 in 2015, 602 in 2014 and 591 in 2013), 2016 was a very poor year for butterflies at Markstakes. Overall numbers have dropped by 35% compared with 2015 - itself a comparatively poor year - and by 43% compared with 2014, the best year. The number of species present has also dropped, from 25 in 2015 to 21 in 2016.

Of the 21 species present, eleven were represented by five or fewer individual butterflies, including six species for which we only had one record. Perhaps the most notable feature this year, apart from the large decline in overall numbers, was the disappearance of Small White, Green Veined White and Common Blue.

Overall, these results fit with the widespread view that 2016 was likely to be the worst year on record for British butterflies.¹ This was due, in part, to a mild winter followed by a cool spring. Chart 1 compares the temperature record for Markstakes in 2014 and 2016, illustrating that there was both a cooler spring and early summer. The cloud cover records also show that it was less sunny.

Chart 1 Temperature profile for Markstakes, 2014 and 2016*

* Values for missing weeks are interpolated



¹ See for example Patrick Barkham in the Guardian 15 July 2016 "2016 could be worst year on record for British butterflies"

Trends

With a few notable exceptions most species were present in smaller numbers compared with 2015. Numerically the largest declines were amongst Small Skippers (-23), Brimstones (-18), Gatekeeper (-32), Small Heath (-11) and Meadow Brown (-76). Meadow Brown continues to be the most abundant butterfly in Markstakes but this year's recording of 102 individuals is the third consecutive year of decline from a peak recording of 225 in 2013. Large White and Silver- Washed Fritillary have also experienced three consecutive years of decline. Comma (7), Small Copper (5), Holly Blue (4), White Admiral (4), Red Admiral (5), Orange Tip (3), Small Tortoiseshell (1), Small Heath (1) and Ringlet (1) all had very poor years again. In contrast Speckled Wood (32) had a better year and was one of the few species to record an increase.

For the full list of species recorded, and their abundance, over the five years see Annex.

As in previous years, a few species account for the majority of all the sightings. This year four species account for two-thirds (66%) of the total:

Meadow Brown	102
Peacock	48
Gatekeeper	45
Speckled Wood	32

Distribution

The records show a very uneven distribution of butterflies across Markstakes. Section G (the Mire) had 12 of the 21 species present and 38% (132) of all recordings. Section 5 (which includes the butterfly glades) had 13 species and nearly 15% of recordings. In contrast sections C, I and J had only two or three species and less than five records each.

Table 2 shows the number of species and butterflies in each section of the transect in 2016. This distribution appears to be getting more concentrated over time. In 2016 almost two thirds (64%) of all butterflies were seen in just three sections (sections E, F and G). This compares with 57% in 2014 and 56% in 2015.

Table 2 Number and distribution of species by transect section, 2016

Section	No. of species	No. of butterflies	% total
A	6	8	2.3
B	7	13	3.8
C	3	4	1.2
D	10	31	9.0
E	13	51	14.8
F	10	37	10.8
G	12	132	38.4
H	8	21	6.1
I	2	2	0.6
J	2	3	0.9
K	9	27	7.8
L	6	15	4.4
Total		344	100.0

Large White, Meadow Brown and Peacock are the most widespread species. Large White was recorded in 11 of the 12 sections while Meadow Brown and Peacock appeared in 10 and nine sections respectively.

Chart 2 below shows how the number of butterflies recorded in each section has varied from year to year over the past four years demonstrating the year-on-year decline in butterfly numbers in sections F and G (the Mire). Numerically the largest decline in 2016 was in sections H, L and E (the butterfly glades).

Chart 2 Abundance by transect section, 2013, 2014, 2015 and 2016

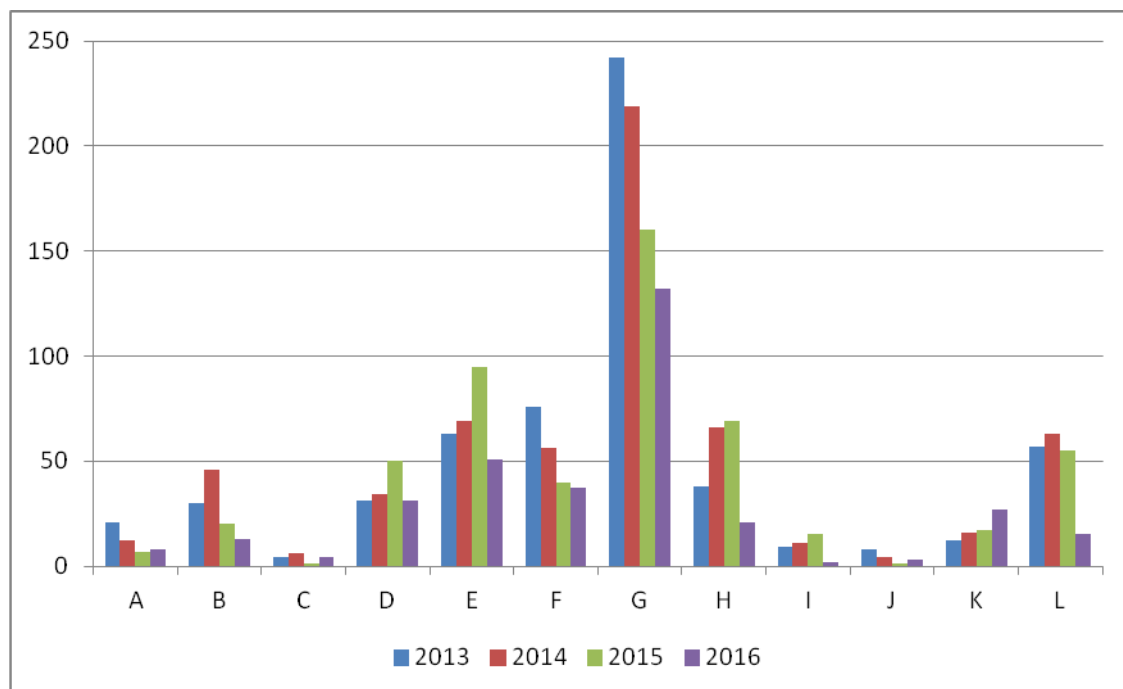
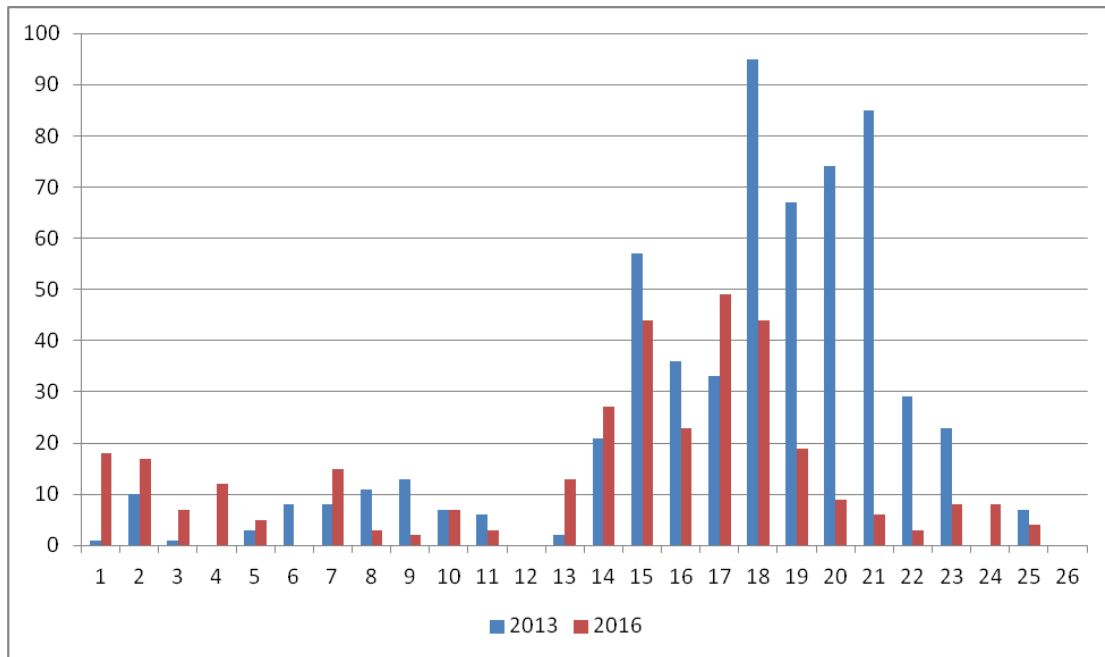


Chart 3 below compares the number of butterflies recorded each week in 2013 and 2016. It shows that, while the early season was better than in 2013, the low overall numbers are mainly due to a poor showing in the second half of the season. Recordings in April (54) were similar to recent years but May (23) and June (12) were particularly poor. Indeed, fewer butterflies were recorded in the whole of June than in any single week of April. Numbers again peaked in July, which accounted for nearly half the total records. Numbers dropped off rapidly from mid August. Only 23 butterflies were recorded over the last month of the period, fewer than in the first two weeks of April.

Chart 3 Number of butterflies by week, 2013 and 2016



Annex: Number of butterflies recorded by species, 2012-2016

Common Name	2012	2013	2014	2015	2016
Small Skipper	2	6	57	34	11
Large Skipper	4	4	5	5	1
Brimstone	8	29	32	41	23
Large White	22	73	33	24	23
Small White	3	4	12	2	
Green-veined White	6	16	2	3	
Orange Tip	10	5	5	12	3
Clouded Yellow		2	1		
Wood White?		1			
Small Copper	1	8	4	2	5
Holly Blue	1	1	3	2	4
Common Blue		15	33	14	
White Admiral	9	10	6	2	4
Red Admiral	5	3	13	4	5
Peacock	8	20	51	42	48
Comma	4	10	6	10	7
Silver Washed Fritillary	14	35	28	15	12
Small Tortoiseshell		3	11	3	1
Painted Lady		1		1	1
Marbled White		6	7	14	16
Purple Emperor			1	1	1
Speckled Wood	54	55	29	21	32
Gatekeeper	36	44	63	77	45
Meadow Brown	83	225	197	178	102
Small Heath	7	12	3	12	1
Ringlet		3		11	1