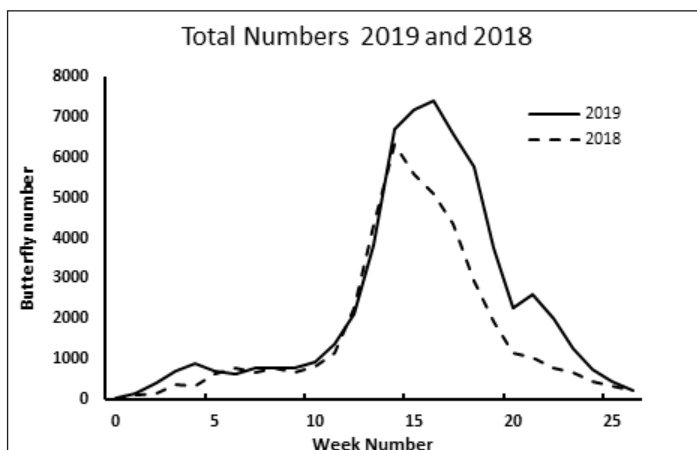


## Norfolk UKBMS Transect Recording in 2019

### Alan Dawson, Transect Coordinator

2018 was, you may remember, a year of extremes – the Beast from the East, followed by one of the hottest, driest summers on record. It was widely expected that this would have a pretty negative impact on butterfly numbers in 2019. In fact, 2019 was a much calmer year for weather than 2018 and the general subjective impression was that it was an above average year for butterfly numbers – a view supported nationally by the results of the Big Butterfly Count. As you will see below, it is also true for many of our Norfolk species. Overall, the number of butterflies recorded on transect increased considerably: 59962 on 48 full transects compared with 43843 from 43 transects in 2018. Fig 1 shows a comparison between the number of butterflies recorded per week in 2019 and 2018. As always, Week 1 starts on April 1<sup>st</sup>. The peak number in 2018 was in Week 14, while in 2019 it was in Week 16. Some of the difference in the shape of the curve is probably explained by the Painted Lady invasion, which is also largely responsible for the little peak in numbers in Week 22. This is analysed in more detail below.

Fig. 1



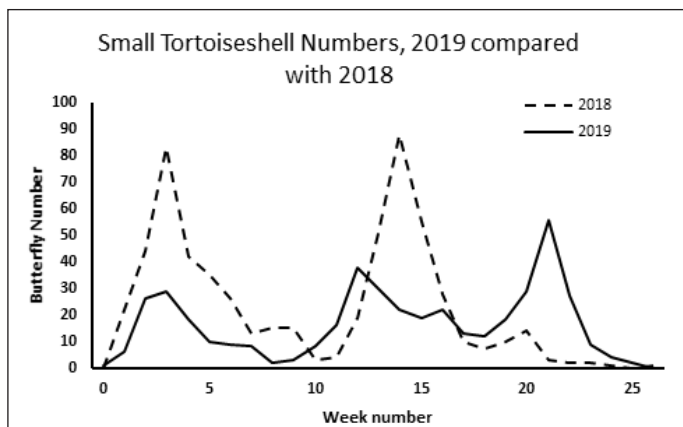
### Full 26 Week Transects

We now have 50 full transects in Norfolk, thanks to the efforts of the many volunteers who walk them over the course of the year. As ever, there were some transects that could not be done this year for a variety of reasons. At Cranwich Camp the route was obstructed by massive fences and will have to be changed for future years. Lynford Lakes was discontinued early in the season because the volunteer left the area, as was Orchard House. Sculthorpe 3 had to be stopped early because of work on the reserve. On the positive side, Pensthorpe and Marlingford started up again and there were new full transects at Blickling Hall (round the Mausoleum), Cley Marshes, Abbey Farm and two at Oxburgh Hall. In all, data was received from 48 transects (43 in 2018).

Table 1 shows the summary data for the 48 full transects. The data is, as always, corrected by the UKBMS software for weeks missed, so in theory the counts are shown as if all the transects were walked for the full 26 weeks. In some cases, though, when the number of weeks missed is quite large, the estimates will not be terribly reliable.

The total number of species recorded was 32, down from 34 in 2018. White-letter Hairstreak was not seen this year on transect, and Dingy Skipper does not figure in the table (although it was counted at Lynford Water and Foulden Common, see below). As usual I have attempted to analyse the winners and losers by comparing the counts for the 41 transects that are comparable between 2018 and 2019 (Table 2). The total number of butterflies on the comparable transects was 52434 for 2019 compared to 40748 in 2018, an increase of 23%. For once, encouragingly, the number of winners outnumbered the losers. It is no surprise that the big increase was in Painted Lady, but there were also increases in other common butterflies. Sadly, Small Tortoiseshell, which was 68% down last year was a further 36% down this year. Last year I looked at Small Tortoiseshell numbers through the year to see if there were any obvious clues to its decline and it seemed as if the late summer brood was very small – a portent for a bad 2019. I have done the same thing for this year, and the results are shown in Fig 2.

**Fig. 2**

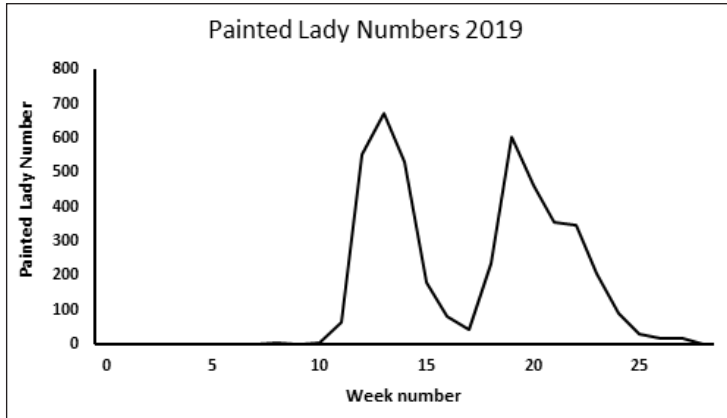


As expected, the number of over-wintering adults that appeared in the Spring was small, followed by a small summer brood. Encouragingly, though, the late August peak, which will be the hibernating adults, was much larger than 2018, so with luck numbers may recover next year. One can but hope! Perhaps surprisingly, Peacocks, which had a similarly poor summer in 2018, seem to have recovered very well and were back to 2017 levels, defying my predictions in the previous transect report. Comma, also, staged a partial recovery from the disastrous 2018, so the Small Tortoiseshell decline was against the trend of our other native Nymphalids. Meanwhile, it was a boom year for the immigrants – Red Admiral and Painted Lady. Fig 3 shows the Painted Lady numbers recorded through the year.

Painted Ladies were first seen in Wk 10 (beginning June 3<sup>rd</sup>), peaking in Wk 12 (beginning June 12<sup>th</sup>). The second peak, of very similar size to the first, was at Wk 18 (beginning Jul 29<sup>th</sup>). The spacing of 6 weeks between the peaks is consistent with the second peak being due to breeding by the first arrivals, although we cannot rule out a second inward migration.

Elsewhere in the table there were welcome increases in many of our other common butterflies, although not Common Blue, which had a poor year after a good 2018. A notable first for 2019 was the record of Dark Green Fritillary on Syderstone Common, a very welcome appearance on an inland site.

Fig. 3



### Single-species Transects

These are only walked during the flight season and the numbers are not included in Table 1 but are reported below under the relevant section on Red-list species. As in previous years, we had single species transects for Swallowtail at Wheatfen Broad, Catfield Fen, Strumpshaw Fen and Ranworth Broad. There was a transect for Silver-studded Blue at Buxton Heath and one for Dingy and Grizzled Skipper at Foulden Common. The transect at Lynford Water was also walked for long enough to cover the Dingy Skipper flight season.

### Red-list Species

Eight of the ten red-list species in Norfolk were recorded on transect in 2019:

- Dingy Skipper: 36 at Foulden (29 in 2018); 8 at Lynford (27 in 2018). Cranwich, the other site, was not walked this year.
- Grizzled Skipper: 19 at Foulden (19 in 2018). Good to see numbers holding steady.
- Silver-studded Blue: 630 at Buxton Heath (779 in 2018); 77 at East Ruston (356 in 2018); the total count at East Ruston showed a similar decline to the transect result; a decrease back to 2017 levels in the total count at Kelling Heath (317) but recorded again at Cawston Heath (see the Autumn 2019 Newsletter for details). A mixed picture, with East Ruston being an obvious worry. In the latter case it may be due to scorching of the site in 2018.
- White Admiral: recorded on 14 transects (12 in 2018). Bure Marshes, Swanton Novers 1, 2 and Little Wood, Strumpshaw, Sutton Fen, Dersingham Bog, Sculthorpe Moor 2, How Hill, Holt Country Park, Foxley Wood, Natural Surroundings (new for 2019), East Ruston (new for 2019) and Blickling Lakeside (new for 2019). Overall numbers showed a healthy increase (Table 2).
- Wall Brown: seen at 12 sites (8 in 2018) – none were recorded at Winterton or Natural Surroundings, but the two Blakeney transects, How Hill, Cley Marshes and Snettisham Coast Path are new sites. Numbers overall were slightly up on 2018 (Table 2).
- Grayling: 6 sites (5 in 2018). Numbers were up overall, largely due to a further

recovery at Winterton Dunes and an increase at Scolt Head. Lynford Water was not recorded but Snettisham Coast Path and Cley Marshes were new this year.

- Small Heath: 18 sites (11 in 2018). Many more sites this year, but numbers pretty much unchanged on the sites in common between 2019 and 2018.
- Swallowtail: Table 3 shows a mixed picture. Numbers were up at 5 sites, down at 3 and unchanged at 2. Overall, Table 2 shows a substantial increase.
- Chalkhill Blue: none on transect. The only colony now seems to be the one at Warham Camp, where numbers roughly halved compared with 2018 (see Autumn Newsletter for details).
- White-letter Hairstreak: none recorded. They are usually seen at Cranwich, which could not be walked this year and have been recorded at Holkham in the past.

### **Outlook for 2020**

I have decided that the only sure thing about butterfly numbers is their unpredictability, so I have more or less given up trying to guess what will happen next year. However, several of our transect routes are now sites for Purple Emperor – although, since the limit on transect height is 5m, counting them on transect may be unlikely. In terms of other Norfolk transects, National Trust are planning a new transect at Sheringham Park and we hope to set up a new route at Cranwich. Lynford Water will also re-start.

As always, I would like to thank all the Norfolk (and Suffolk) wildlife organisations that manage so many of the important sites that we monitor for UKBMS. In no particular order: Natural England, Forestry Commission, RSPB, NWT, Suffolk WT, Broads Authority, Holkham Estates, Ted Ellis Trust, Butterfly Conservation, Norwich City Council, North Norfolk District Council, Hawk and Owl Trust, National Trust and the numerous charities that administer the heaths and commons in Norfolk. Apologies if I have missed any, but as you see we are in debt to a very large number of organisations.

The whole UKBMS transect system hinges, of course, on the dedicated band of recorders who manage to fit weekly walks in around the weather and all the other things that they have to do. They have my heartfelt thanks. We are always on the lookout for volunteers, both for new transects and to act as backups for existing transects, so if you feel you would like to get involved, please contact me.

**Table 1 Norfolk Transect Data as Indices (Corrected to 26 weeks)**

	Bure Marshes	Holkham	Holme Dunes	Swanton Novers 1	Swanton Novers 2	Swanton Novers Little Wood	Mousehold Heath	Mousehold Heath East	Blakeney Point	Winterton Dunes	Strumpshaw Fen	Marston Marsh
Sm. Skipper		44	59					3		5	1	11
Essex Skipper		2					1	6				22
Sm/Es Skipper		4	5	80	26	8	14	41				345
Large Skipper	13	6		17	20	4		3		2	4	22
Swallowtail	23										7	
Clouded Yellow	7											
Brimstone	165	5	2	71	21	15	1	1			93	18
Large White	15	69	6	54	4	5	81	45		8	12	11
Small White	37	159	25	66	12	3	86	136	39	34	62	54
G-v White	333	25	17	57	27	15	35	43			32	457
Orange Tip	22	21	5	6	3	6	19	1			52	119
Gr. Hairstreak		4	5				2	3				
Pu. Hairstreak				937			6	5				
Small Copper		82	8	3			25	35	23	84		27
Silver-studded Blue												
Brown Argus		82	17				4	34	2			
Common Blue	2	175	95	5				21		1	1	28
Holly Blue		40	9	3	1		55	7			21	21
White Admiral	10			10	5	3					2	
Red Admiral	75	347	18	76	31	14	24	47	21	13	256	42
Painted Lady	50	542	75	181	2	9	72	49	167	142	82	35
Sm. Tortoiseshell	26	23	6		1		3	5		2	25	14
Peacock	103	114	6	34	12	13	15	4	14	5	160	36
Comma	35	47	1	21	4	11	24	19		4	28	17
S-w. Fritillary		2		98	34	40					1	
D. G. Fritillary		34							53	3		
Speckled Wood	35	72	6	79	110	96	73	33		3	26	14
Wall Brown		135	51						2			
Grayling		1							7	375		
Gatekeeper	23	149	135	76	52	6	83	134	177	100	59	133
Meadow Brown	146	352	266	182	76	14	124	343	27	15	131	845
Small Heath		3	129							34		
Ringlet	59	133	65	516	452	235	38	29		14	66	111
<b>Total (index)</b>	<b>1179</b>	<b>2672</b>	<b>1011</b>	<b>2572</b>	<b>893</b>	<b>497</b>	<b>785</b>	<b>1047</b>	<b>532</b>	<b>844</b>	<b>1121</b>	<b>2382</b>
No. of species	19	27	23	20	20	18	21	23	11	18	21	20
Weeks done	21	20	18	20	20	20	20	21	8	22	26	26
Transect started	1976	1976	1978	1992	1998	1998	2004	2012	2008	2008	2008	2009

**Table 1 Continued**

	Scott Head Island	Tomas's pightle	Roydon Common	Sutton Fen	Gaywood Valley	Marlingford	Middle Harling Heath	Pensthorpe	Ludham Marshes	Barnham Cross Common	Dersingham Village R/way	Syderstone Common
Sm. Skipper	22			19		3	265		19	42	2	150
Essex Skipper	21	14										2
Sm/Es Skipper	27		26	1	177			23				9
Large Skipper			3	123	22		49	8	41	1	2	
Swallowtail				57								
Clouded Yellow			4									
Brimstone		20	22	143	10	4	150	12	6	18	5	6
Large White	50	37	3	130	17	109	228	96	80	15	16	3
Small White	100	100	22	74	158	143	418	180	70	74	96	71
G-v White	3	19	2	196	97	3	17	191	82	5	20	1
Orange Tip		9	6	22	32	6	282	22	6	8	5	14
Gr. Hairstreak	95						14	2				3
Pu. Hairstreak								13				
Small Copper	20	2	52		7		16	7		31		51
Silver-studded Blue												
Brown Argus	59		1		1		63	3	1			
Common Blue	308		32	6	52	43	104	20	2	14		19
Holly Blue		24		15	7		8	3			8	10
White Admiral				7								
Red Admiral	95	30	56	90	55	56	114	203	10	6	57	27
Painted Lady	526	13	86	175	20	6	171	205	71	12	30	38
Sm. Tortoiseshell	12	10	5	69	20	4	5	13	19		7	
Peacock	23	105	9	286	29	6	92	51	94	2	9	5
Comma	1	14	7	18	13	12	20	37	2	3	9	13
S-w. Fritillary				1								
D. G. Fritillary	3											9
Speckled Wood		13	8	41	55	75	20	102		10	56	8
Wall Brown	34								19			
Grayling	54											
Gatekeeper	485	84	56	347	80	12	283	60	58		44	128
Meadow Brown	324	28	119	640	75	304	2293	249	548	436	32	149
Small Heath	352					11	82		2	49		263
Ringlet	3	61	12	540	257	42	514	262	188	3	34	114
<b>Total (index)</b>	<b>2617</b>	<b>583</b>	<b>531</b>	<b>3000</b>	<b>1184</b>	<b>839</b>	<b>5208</b>	<b>1762</b>	<b>1318</b>	<b>729</b>	<b>432</b>	<b>1093</b>
No. of species	21	17	21	22	21	17	22	23	19	17	18	21
Weeks done	24	19	13	26	15	15	26	16	16	25	22	25
Transect started	2009	2009	2010	2010	2011	2011	2011	2011	2012	2012	2012	2012

**Table 1 Continued**

	Dersingham Bog	Ringstead Down	Sculthorpe Moor 2	Sculthorpe Moor 3	How Hill New	Courtyard Farm	Blakeney Friary Hills	Felbrigg Hall	Holt Country Park	Foxley Wood	Redgrave and Lopham Fen	Natural Surroundings
Sm. Skipper	3		5	6	5	64		3			16	3
Essex Skipper			3	6	7						5	8
Sm/Es Skipper	12	144	12	37	22	227	99	11		13	10	16
Large Skipper	6	3		2	3	29			2	5	2	4
Swallowtail					13							
Clouded Yellow												
Brimstone	8	25	1	12	53	9	8		80	18	16	48
Large White	39	29	2	6	23	83		268	40	123	157	124
Small White	32	271	23	66	30	240	395	241	62	43	91	42
G-v White	23	14	15	63	122	9	4		3	99	13	46
Orange Tip	2	15	8	73	48	29	27	2	5	26	30	75
Gr. Hairstreak						29	8		3			
Pu. Hairstreak											5	2
Small Copper	8	5	2	3			11		2		10	9
Silver-stud'd Blue												
Brown Argus		23				13	5					4
Common Blue	8	41	4	11		123	36		4	1	8	9
Holly Blue	3	2	4	1	4	14	25		20	8	3	14
White Admiral	2		1		2				19	20		3
Red Admiral	79	44	53	37	128	18	33	89	64	33	51	177
Painted Lady	58	249	15	29	133	73	17	396	7	53	42	41
Sm. Tortoiseshell	2	7	9	3	11	5	11	18		1	12	13
Peacock	11	11	4	17	155	5	9	5	20	37	73	24
Comma	5	10	5	11	44	2	10	15	27	22	10	47
S-w. Fritillary					1				67	122		1
D. G. Fritillary		5										
Speckled Wood	7	1	45	58	79	26	9	5	102	183	56	28
Wall Brown		4			1	12	7					
Grayling												
Gatekeeper	87	153	10	7	47	88	145	13	21	59	10	176
Meadow Brown	109	469	33	67	57	858	179	29	61	197	182	177
Small Heath	27	5						1				
Ringlet	40	221	205	428	113	422	101	3	71	1325	102	127
<b>Total (index)</b>	<b>571</b>	<b>1751</b>	<b>459</b>	<b>943</b>	<b>1101</b>	<b>2378</b>	<b>1139</b>	<b>1099</b>	<b>680</b>	<b>2388</b>	<b>904</b>	<b>1218</b>
<b>No. of species</b>	<b>22</b>	<b>24</b>	<b>20</b>	<b>20</b>	<b>22</b>	<b>22</b>	<b>21</b>	<b>15</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>24</b>
<b>Weeks done</b>	<b>9</b>	<b>22</b>	<b>18</b>	<b>11</b>	<b>26</b>	<b>14</b>	<b>14</b>	<b>21</b>	<b>23</b>	<b>22</b>	<b>21</b>	<b>12</b>
<b>Transect started</b>	<b>2013</b>	<b>2013</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2015</b>	<b>2015</b>	<b>2015</b>	<b>2015</b>	<b>2016</b>	<b>2016</b>	<b>2016</b>

**Table 1 Continued**

	Reffley Wood	Burgh Doles	Quidenham	East Ruston	Bintree Wood	Snettisham Coast Path	Blickling Lakeside	Blickling Mausoleum	Oxburgh Hall 1	Oxburgh Hall 2	Cley Marshes	Abbey Farm
Sm. Skipper				18		14	33	10			2	8
Essex Skipper				16							82	
Sm/Es Skipper		3	13	100	4		47	6	48	2	22	44
Large Skipper		45		11	3	13	2		7			
Swallowtail		6										
Clouded Yellow												
Brimstone	4	1	28	6	61	21	1	1	11	10	2	8
Large White	6	27	76	19	32	144	17	17	137	29	365	42
Small White	2	97	242	27	33	117	50	42	202	43	233	329
G-v White	84	138	65	9	89	10			54	28	73	80
Orange Tip	31	26	27	5	25	29	3	5	28	16	9	22
Gr. Hairstreak				12								2
Pu. Hairstreak												
Small Copper			1	27		63			13	6	1	22
Silver-stud'd Blue				77								
Brown Argus												
Common Blue		1	8	5		9			7		6	34
Holly Blue	3		13	2	12		1		8		2	26
White Admiral				1			2					
Red Admiral	17	88	105	22	95	79	19	14	54	6	13	74
Painted Lady		66	10	27	39	316	15	37	32	3	67	117
Sm. Tortoiseshell		23	6	3	2	6	4	3	5	3	22	22
Peacock	8	100	34	99	32	67	4	9	12	4	13	30
Comma	15	4	11	3	87	26	4	6	22	8	2	23
S-w. Fritillary				1	33							
D. G. Fritillary												
Speckled Wood	73	36	97	41	172	21	17	36	35	63		8
Wall Brown		5				10					4	
Grayling						3					79	
Gatekeeper	19	95	27	375	104	94	59	102	25	4	130	83
Meadow Brown	38	98	196	129	277	114	371	488	292	40	44	341
Small Heath	3	2		155		32			9			2
Ringlet	19	72	110	402	730	26	203	262	93	52	27	88
<b>Total (index)</b>	<b>322</b>	<b>933</b>	<b>1069</b>	<b>1592</b>	<b>1830</b>	<b>1214</b>	<b>852</b>	<b>1038</b>	<b>1094</b>	<b>317</b>	<b>1198</b>	<b>1405</b>
No. of species	14	21										
Weeks done	19	21	23	27	21	11	18	20	22	22	20	16
Transect started	2016	2016	2017	2017	2017	2018	2018	2019	2019	2019	2019	2019



**Table 2 Winners and Losers**

	2019	2018	% Change		2019	2018	% Change
Painted Lady	3818	256	1391	Wall Brown	270	233	16
Red Admiral	2656	395	572	S-w. Fritillary	401	354	13
Peacock	1818	715	154	Small White	3883	3784	3
Orange Tip	1095	658	66	Large Skipper	449	450	0
Comma	643	388	66	Gatekeeper	4187	4222	-1
Brimstone	1151	740	56	D. G. Fritillary	107	109	-2
Sm/Es Skipper	1533	1032	49	Gr. Hairstreak	178	183	-3
Swallowtail	106	72	47	Brown Argus	309	324	-5
Meadow Brown	10692	7554	42	Small Heath	1107	1204	-8
Ringlet	8138	6051	34	Speckled Wood	1793	2000	-10
White Admiral	87	66	32	Common Blue	1124	1474	-24
Holly Blue	358	275	30	Large White	1960	2717	-28
Grayling	437	340	29	G-v White	2279	3284	-31
Sm. Skipper	798	654	22	Sm. Tortoiseshell	382	597	-36
Small Copper	544	456	19	Pu. Hairstreak	18	64	-72
Essex Skipper	113	97	16				

**Table 3**

Site	Start	Swallowtail numbers									
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bure Marshes (NE) TG336164	1976	42	50	20	40	37	7	13	51	9	23
Strumpshaw Fen (RSPB) TG340065	2008	6	12	4	2	4	8	5	4	7	7
Sutton Fen (RSPB) TG370233	2010	78	123	30	76	118	26	24	93	46	57
Wheatfen (Ted Ellis Trust) TG326060	2010	2	10	6	14	8	5	31	16	17	11
Strumpshaw Fen (RSPB) Single species TG339070	2010	13	18	6	14	8	5	3	16	14	5
Ranworth (NWT) TG357149	2010	2	Not done	0	3	0	0	0	0	2	2
Catfield Fen (BC) TG366214	2010	4	Not done	8	17	16	10	8	21	3	4
How Hill (Broads Authority) TG370194	2011	-	22	2	13	10	9	4	13	8	13
Burgh Doles (NWT)	2016	-	-	-	-	-	-	4	4	2	6
Ludham Marshes (NE) TG409178	2012	-	-	0	0	0	0	0	1	0	0