



Lineover Wood Butterfly Report 2013



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Results of 2013 butterfly monitoring in Lineover Wood

2013 was a very good year for butterflies both in the wood and elsewhere. We had sunny, hot and dry weather in July and part of August which is the peak flight time for most species of butterfly that are in the wood.

The total number of butterflies recorded on the transect increased by 90% from 942 last year to 1791 this year. This is the highest count since 2009 and the 7th highest count in the 23 years of recording so far.

Results

The results are presented as tables and figures as follows:-

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A walk was carried out every week although the first two weeks were too cold to satisfy the weather criteria. The Transect Walker software estimated counts for these weeks and these are shown in red font. The criteria for acceptable weather is temperature greater than 17C or greater than 13C (11C in April) and sunshine greater than 60%. Table 1 shows the weekly counts and the weather conditions during which the recording was carried out.

The main features of the butterfly recording in 2013 are:

- The spring was cold which resulted in few butterflies flying in the first 13 weeks of the recording season. Numbers didn't start increasing until week 14, the first week in July. This is one or two weeks later than average (see Fig 1).
- The summer was hot and dry and the number of butterflies rose dramatically with a peak of 450 recorded in week 16. This is more than twice the average count for this week.
- Butterfly numbers rose in all sections, but in Section 8 this rise was only quite small. In sections 3 and 7, the two grassland areas, the total count was the highest since 2006 which was also a hot summer.
- The whites (Small White, Large White and Green-veined White) did particularly well after a run of poor summers.
- Small Tortoiseshell and Common Blue made slight recoveries after several poor years.
- Peacocks did very well and with the exception of the boom year of 1996, produced their highest count.

- One butterfly species which did not do well was the Red Admiral, with only 6 sightings throughout the whole summer. However as this is a migrant species, numbers vary greatly from one year to another.
- Silver-washed Fritillary fared well and showed a strong recovery after the last two poor years. It has its highest count since 2007.
- Marbled White continued its recovery after several poor years, although still in low numbers compared to 2005 and 2006.
- Ringlet and Meadow Brown were recorded in high numbers and as in most years, Meadow Brown proved to be the most numerous species recorded. Surprisingly, Gatekeepers did not do well and continued to decrease in number.
- Several White-letter Hairstreak were recorded on the transect. The main place where they are seen are in the large Wych Elm tree in section 1. Purple Hairstreak are not recorded on transect walks as they are usually only active in early evening which is outside the transect recording time. However several were recorded in the wood, details of which are in Table 4 and shown on the map in Figure 7.

Silver-washed Fritillary

The number of Silver-washed Fritillary recorded on the transect rose from 10 last year to 49 this year which is the highest count since 2007. Their flight time was quite late due to the cool spring and the first one recorded was not until 8th July. (Often one or two are seen at the end of June.) However, they did carry on flying later with the last one recorded on 23rd August.

Sightings both on and off transect walks are shown on a map in Figure 6. Many were recorded in the usual spots, Piccadilly and Section 9, but also several were recorded in other areas as well. Three were recorded in the bottom of the wood and two were recorded on Ravensgate. This usually happens in years when there is good weather as the butterflies fly further from their breeding area. Most are just seeking new nectar sources but if a female finds a suitable new habitat and lays her eggs there, there is a chance that new colonies will be set up and the butterfly will expand its range.

Despite a good summer, no Valesina form of this species was recorded this year. This could be due to the cool conditions in the spring when the larvae and pupa were developing, as the Valesina form is traditionally only found in the warmer area of southern England mainly in Hampshire.

Weather

In general April, May and June were cold, dull and dry. July was hot, sunny and dry. August was also warmer, sunnier and drier than average but not as hot as in July. September was a mixed month but on the whole cooler, drier and duller than average. Overall the summer was dry but temperatures and sunshine levels were about average. More detail can be seen on the charts in Figure 8.

As the hot weather in July coincided with the flight times of many butterfly species, these fared very well and high numbers were recorded.

Comparison with other sites

Official results from butterfly transects in 2013 are not yet available, but at Ravensgate which is adjacent to the wood, total number increased by a similar amount. Nationally, it was generally considered that it was a very good year for the species which fly in the summer in particular the Peacock, Small Tortoiseshell, Meadow Brown, Ringlet and the Whites. In fact in

some areas, it was reported that many species of butterfly were 'very numerous' and 'too many to count'.

Silver-washed Fritillaries were recorded in high numbers in many woods similar to Lineover and also seen at many non-woodland sites including some gardens showing how much they dispersed this year.

As in Lineover, Gatekeeper and Red Admiral were also low in number on Ravensgate and The Masts reserve.

The spring species eg the Orange Tip did not generally fare so well and because of the cool spring and the late emergence of this species, several were still seen locally into July which is much later than usual.

Management of the wood

A continual programme of woodland management by the Lineover Wood Volunteer Group has created a good habitat for many species of butterfly.

Looking at the charts for trends for each section (Figure 4), it seems that the increase in numbers in Section 8 was not as large as expected. Looking at the butterflies which were recorded in Section 8 (Table 2), it appears that there were few Peacocks, Meadow Browns and Ringlets compared with Section 9, a similar section. However there were many Speckled Wood recorded in this section. Section 8 is a shorter section and not so open but it is something that ought to be monitored in future years. Maybe the area between section 8 and 9 which was coppiced the previous winter might affect numbers recorded in these two sections.

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total	Index
Mean Temp	10	16	16	15	18	21	17	14	14	17	17	19	18	21	23	27	26	28	20	22	24	19	22	18	18	20		
Mean Sun	100	5	84	100	75	98	10	82	95	100	92	10	65	100	100	100	50	100	94	100	0	10	19	59	72	98		
Small Skipper														3	2		5	8	2	2							22	22
Essex Skipper																	1										1	1
Small/Essex Skipper																											0	0
Large Skipper																13	4	5									22	22
Dingy Skipper																											0	0
Grizzled Skipper																											0	0
Clouded Yellow																				2							2	2
Brimstone				2	6	1			1	1		1	2					2	1	7							24	24
Large White						1		4		1	1				1	6	10	30	6	2	1	2	1				66	66
Small White						1										5	9	32	11	37	4	5	2	2			108	108
Green-veined White						4	5	10	11	5	2	1			1		29	23	29	4	3	4	3	3	1		138	138
Orange-tip					12	2	3	1	2																		20	20
Green Hairstreak					1																						1	1
Purple Hairstreak																											0	0
White-letter Hairstreak																	3										3	3
Small Copper																											0	0
Small Blue																											0	0
Brown Argus																											0	0
Common Blue															1					2		2					5	5
Chalkhill Blue																											0	0
Holly Blue																											0	0
Duke of Burgundy																											0	0
White Admiral																											0	0
Red Admiral														1				3			1	1					6	6
Painted Lady																											0	0
Small Tortoiseshell													3									2	2	1			8	8
Peacock		2	4	3	7	3	1		1								38	22	56	25	5	5	1	1		1	173	175
Comma				1						1						2	1	2	3		1	2			5	2	20	20
Dark Green Fritillary																	1										1	1
Silver-washed Fritillary																18	11	14	1	4	1						49	49
Speckled Wood					2	1	4	9	6	9	3	6	2	9	11	28	1	7	3	16	8	20	11	18	3	9	186	186
Wall																											0	0
Marbled White															7	37	27	14	3								88	88
Grayling																											0	0
Gatekeeper																	10	10	8	4	1						33	33
Meadow Brown														20	41	167	72	125	35	12	7	2					481	481
Small Heath																				1	1						2	2
Ringlet															28	66	174	49	10	5							332	332
Total	0	2	4	6	28	13	13	24	21	17	6	8	7	61	130	450	271	307	163	118	33	45	20	25	9	12	1791	1793

Table 1. Lineover Wood 2013. Total butterflies recorded each week

Table 2. Lineover Wood 2013 – Total butterflies recorded in each section

Section	1	2	3	4	5	6	7	8	9	10	Total
Small Skipper							20	1	1		22
Essex Skipper							1				1
Small/Essex Skipper											0
Large Skipper			3	1			17		1		22
Dingy Skipper											0
Grizzled Skipper											0
Clouded Yellow							2				2
Brimstone			2	3	4	1	3	4	7		24
Large White	11	2	11	5	3	1	13	6	14		66
Small White	16		13	11	3	9	26	12	16	2	108
Green-veined White	9		23	20	19	10	12	20	24	1	138
Orange-tip	1			2	8	3		3	3		20
Green Hairstreak									1		1
Purple Hairstreak											0
White-letter Hairstreak	3										3
Small Copper											0
Small Blue											0
Brown Argus											0
Common Blue			1				4				5
Chalkhill Blue											0
Holly Blue											0
Duke of Burgundy											0
White Admiral											0
Red Admiral	1		1	1					3		6
Painted Lady											0
Small Tortoiseshell			1		1		2	3	1		8
Peacock	5	1	22	7	3	1	68	4	62		173
Comma			3	3	1		2	2	9		20
Dark Green Fritillary							1				1
Silver-washed Fritillary	1		1	7	8	3	3	7	18	1	49
Speckled Wood	18	4	4	5	14	16	4	89	26	6	186
Wall											0
Marbled White			21				59	3	5		88
Grayling											0
Gatekeeper			14	1		1	9		8		33
Meadow Brown	19	1	196	61	15	3	143	8	28	7	481
Small Heath			2								2
Ringlet	6	3	47	30	19	12	107	42	65	1	332
Total	90	11	365	157	98	60	496	204	292	18	1791
No. of species in section	11	5	17	14	12	11	19	14	18	6	24
Section length (m)	400	200	220	300	300	100	400	200	300	200	2620
Butterflies per 100m	23	6	166	52	33	60	124	102	97	9	68

Table 3. Lineover Wood – Total butterfly species count for each year
Years 1991 - 2002

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<i>Number of species</i>	22	22	25	29	25	24	29	23	25	24	23	22
Small Skipper	20	12	13	13	55	21	33	4	20	3	9	36
Essex Skipper	0	0	0	0	0	0	0	0	0	0	0	0
Small/Essex Skipper	0	0	0	0	0	0	0	0	0	0	0	0
Large Skipper	2	21	53	109	118	43	31	23	109	20	33	20
Dingy Skipper	3	1	1	1	2	0	0	0	0	0	0	0
Grizzled Skipper	0	0	1	0	0	0	2	0	0	0	0	0
Clouded Yellow	0	0	0	1	0	0	0	0	0	0	0	0
Brimstone	19	72	18	27	39	110	56	55	31	40	5	21
Large White	30	108	19	30	63	25	41	73	46	30	7	57
Small White	19	30	21	59	82	27	10	16	20	34	7	23
Green-veined White	63	106	67	173	126	122	214	262	138	104	31	123
Orange-tip	8	22	29	37	28	38	26	39	21	23	0	19
Green Hairstreak	0	0	2	1	0	0	1	0	1	0	0	0
Purple Hairstreak	0	0	0	3	15	1	0	6	7	4	4	19
White-letter Hairstreak	0	0	0	1	0	3	1	0	0	1	0	0
Small Copper	1	0	3	11	10	17	4	3	3	2	4	1
Small Blue	0	0	0	0	0	0	0	0	0	0	0	0
Brown Argus	0	0	1	0	4	0	1	0	0	0	0	0
Common Blue	27	12	7	3	35	68	21	4	3	0	5	2
Holly Blue	20	7	1	0	0	17	18	18	2	2	0	0
Duke of Burgundy	0	0	0	1	0	0	2	0	0	0	4	3
White Admiral	0	0	0	1	0	0	0	0	0	0	0	0
Red Admiral	9	14	8	16	30	129	8	23	21	8	0	0
Painted Lady	0	4	0	5	2	318	1	1	1	4	8	8
Small Tortoiseshell	20	46	17	15	60	60	38	14	7	15	1	2
Peacock	74	168	65	131	158	368	160	103	118	67	12	15
Comma	31	18	4	5	27	21	69	14	17	7	24	69
Dark Green Fritillary	0	0	0	0	0	0	1	0	1	0	1	9
Silver-washed Fritillary	25	44	28	75	61	91	92	17	20	6	2	0
Speckled Wood	121	167	117	128	147	80	141	203	241	158	64	164
Wall	0	0	0	1	0	0	1	0	0	1	0	0
Marbled White	54	102	51	69	97	139	174	117	121	85	108	103
Gatekeeper	15	28	23	72	72	162	137	53	137	93	78	134
Meadow Brown	153	437	228	433	812	542	405	297	443	238	275	277
Small Heath	8	11	5	18	31	17	20	9	6	2	1	0
Ringlet	82	168	157	196	254	168	178	201	178	121	172	191
Totals	804	1598	939	1635	2328	2587	1886	1555	1712	1068	856	1309

**Table 3. (Cont) Lineover Wood – Total butterfly species count for each year
Years 2003 - 2013**

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Avg
<i>Number of species</i>	24	26	24	27	24	21	20	27	25	20	24	24
Small Skipper	26	28	97	36	9	8	5	16	21	1	22	22
Essex Skipper	0	5	5	4	0	0	0	1	0	0	1	1
Small/Essex Skipper	0	2	2	2	2	0	0	0	0	0	0	0
Large Skipper	25	35	32	43	39	20	22	67	55	13	22	44
Dingy Skipper	0	2	0	0	0	0	0	2	2	2	0	1
Grizzled Skipper	0	0	0	0	0	0	0	0	0	0	0	0
Clouded Yellow	0	0	0	0	0	0	0	0	0	0	2	0
Brimstone	33	27	26	42	32	31	17	27	27	11	24	36
Large White	36	22	139	34	22	42	111	44	50	7	66	49
Small White	82	41	154	31	48	44	74	40	24	4	108	42
Green-veined White	121	128	141	100	97	94	340	171	181	33	138	138
Orange-tip	65	19	19	10	16	15	13	38	48	19	20	25
Green Hairstreak	0	0	0	0	0	0	0	0	2	0	1	0
Purple Hairstreak	3	5	26	2	7	4	5	0	0	0	0	5
White-letter Hairstreak	0	2	1	2	1	0	0	0	1	0	3	1
Small Copper	16	4	0	1	1	0	0	8	3	0	0	4
Small Blue	1	0	0	2	0	0	0	1	0	0	0	0
Brown Argus	0	0	0	0	0	0	0	1	3	0	0	0
Common Blue	46	32	15	36	3	3	11	79	27	1	5	21
Holly Blue	1	5	2	4	1	7	0	3	3	1	0	6
Duke of Burgundy	0	0	0	0	0	0	0	1	0	0	0	0
White Admiral	0	0	1	2	1	0	0	0	0	0	0	0
Red Admiral	17	5	18	26	19	10	5	8	39	11	6	20
Painted Lady	6	1	0	6	0	0	56	0	0	0	0	19
Small Tortoiseshell	42	26	4	8	1	1	6	6	6	0	8	20
Peacock	63	62	96	107	121	59	89	97	54	31	173	107
Comma	22	14	23	57	17	7	31	34	22	5	20	21
Dark Green Fritillary	0	0	0	0	0	4	0	1	0	0	1	0
Silver-washed Fritillary	25	20	35	81	72	28	38	39	17	10	49	39
Speckled Wood	206	186	252	214	171	170	209	210	299	139	186	174
Wall	0	0	0	0	0	0	0	0	0	0	0	0
Marbled White	68	112	157	178	83	102	40	50	42	75	88	98
Gatekeeper	125	148	149	194	184	133	99	36	54	50	33	101
Meadow Brown	393	595	594	571	257	369	419	270	161	296	481	389
Small Heath	4	15	12	2	0	0	0	3	4	1	2	8
Ringlet	247	235	191	271	267	304	376	390	227	232	332	218
Totals	1673	1776	2191	2066	1471	1455	1966	1643	1372	942	1791	1614

Table 4. Extra butterflies recorded in Lineover Wood in 2013

For location see map of Lineover Wood (Figure 7)

Date	Wk	Butterflies Seen	Location	Recorder
7 May	6	1 Brimstone 3 Ruby Tiger moths	In wood going to Ravensgate Section 7 (A on map)	TA
25 Jun	13	Many Grass Rivulet moths 6 Chimney Sweeper moths 1 Red Admiral 1 Holly Blue 1 Clouded Yellow (probable) heading NW	Section 7 (A on map) Above Mary's seat (B on map)	PA
19 July	16	1 White-letter Hairstreak 2 Purple Hairstreak	Section 1 (In Wych Elm) (C on map) Old railway line (D on map)	JC
22 July	17	2 Red Admiral 3 Comma 1 Silver-washed Fritillary 6 Marbled White 53 Meadow butterflies 13 Whites 1 Red Admiral 1 Small Tortoiseshell 1 Peacock 2 Silver-washed Fritillary 10 Marbled White 43 Meadow butterflies 24 Whites	Bottom of wood off Cotswold Way (E on map) Bottom of wood off Cotswold Way by cleared area (F on map)	JH
2 Aug	18	3 White-letter Hairstreak 12 Peacock 1 Holly Blue	In Wych Elm, Section 1(C on map) Above Mary's seat (B on map)	PA&TA
2 Aug	18	2 Purple Hairstreak	By Old Dole Farm 985188 (H on map)	JC
18 Aug	20	10+ Purple Hairstreak 20+ Purple Hairstreak	Old railway line (D on map) 986192 (J on map)	JC
22 Aug	21	5 Purple Hairstreak 10+ Purple Hairstreak 10+ Purple Hairstreak	Old railway line (D on map) 986192 (J on map) 985191 (K on map)	JC
26 Aug	22	2 Small Tortoiseshell 2 Brimstone 16 Whites 13 Meadow butterflies 1 Brimstone 25 Whites 7 Meadow Butterflies	Bottom of wood off Cotswold Way (E on map) Bottom of wood off Cotswold Way by cleared area (F on map)	JH

Table 5. First and last butterflies recorded 2013

As the weather in March was so cold, there were no butterflies recorded before the transect recording started in April.

Last butterflies recorded

Date	Butterflies	Location	Recorder
6 Oct (at work party)	1 Comma 1 Peacock 1 Red Admiral	By wall in Nigel's field	TA
25 Oct	1 Peacock	By wall in Nigel's field	PA

First and last sighting of Silver-washed Fritillaries

Date	Butterflies	Location	Recorder
8 th July	First Silver-washed Fritillary	Triangle	PA & TA
23 rd Aug	Last Silver-washed Fritillary	Section 9	PA & TA

Figure 1. Lineover Wood - Number of butterflies recorded each week in 2012 and 2013 and average for 1991 - 2012

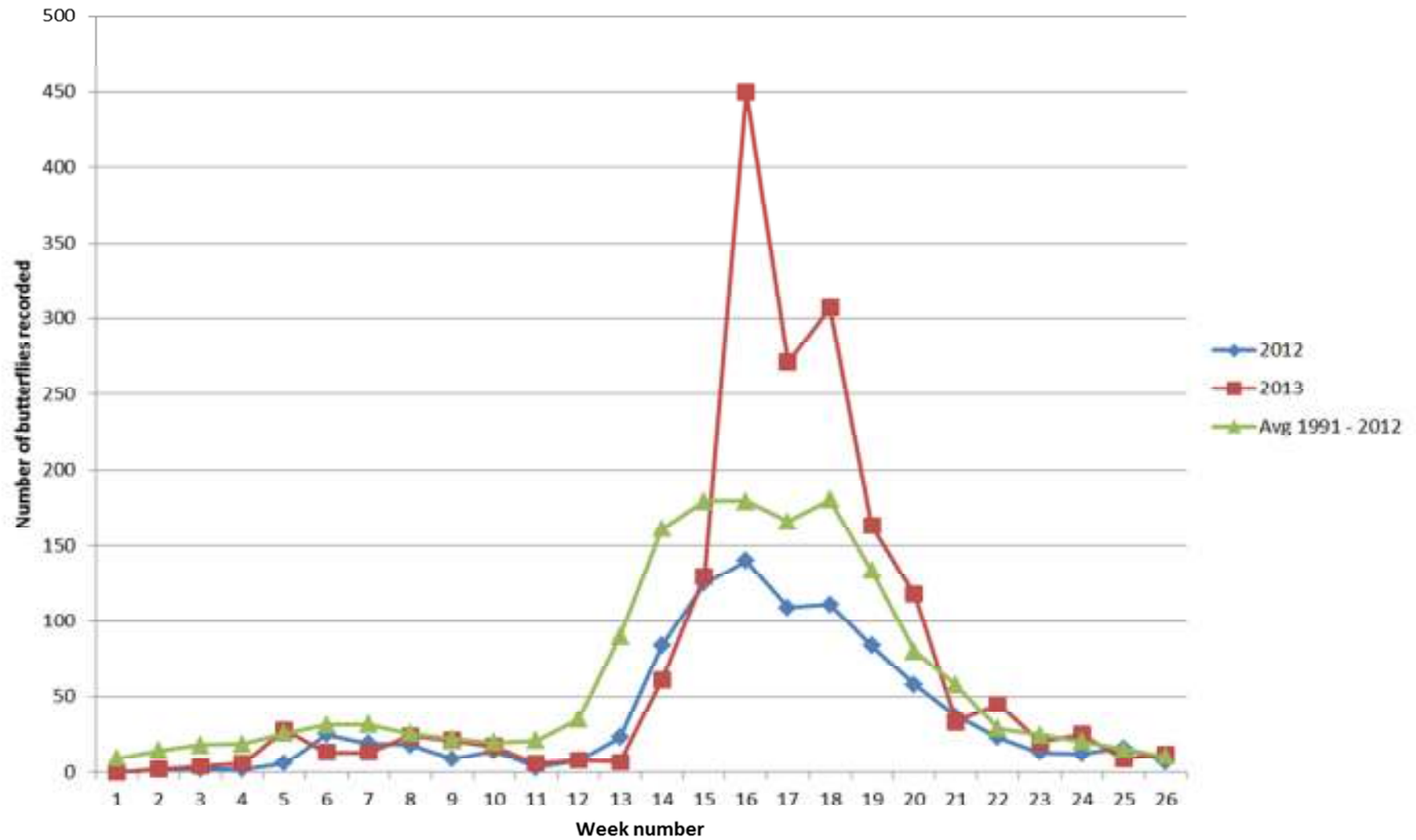


Figure 2. Number of butterflies recorded in each section in 2012 and 2013

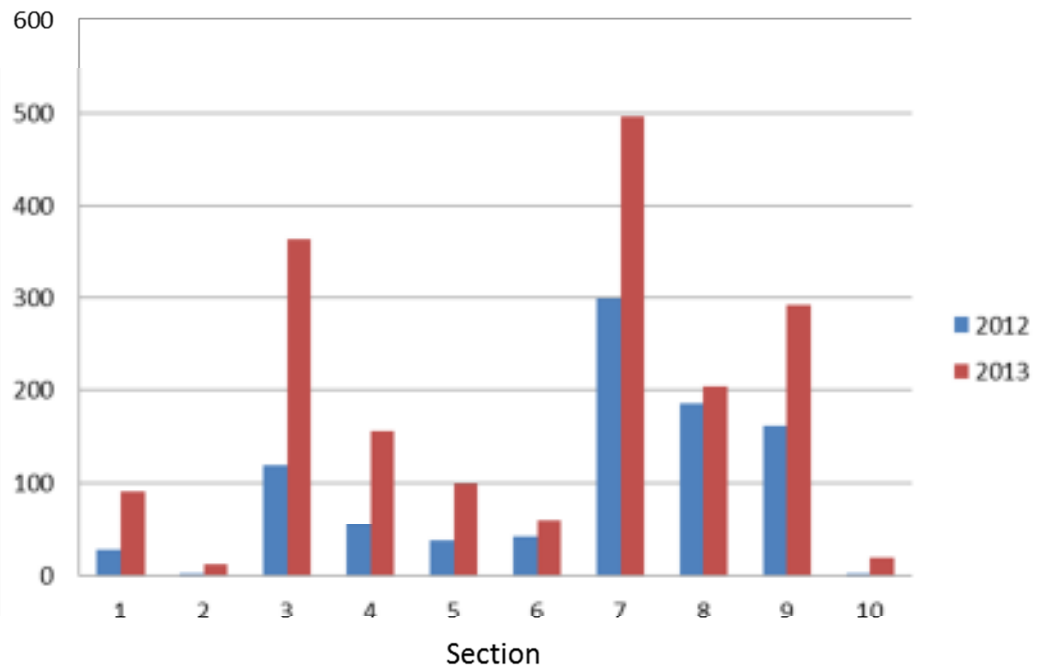


Figure 3. Total number of butterflies recorded in each year

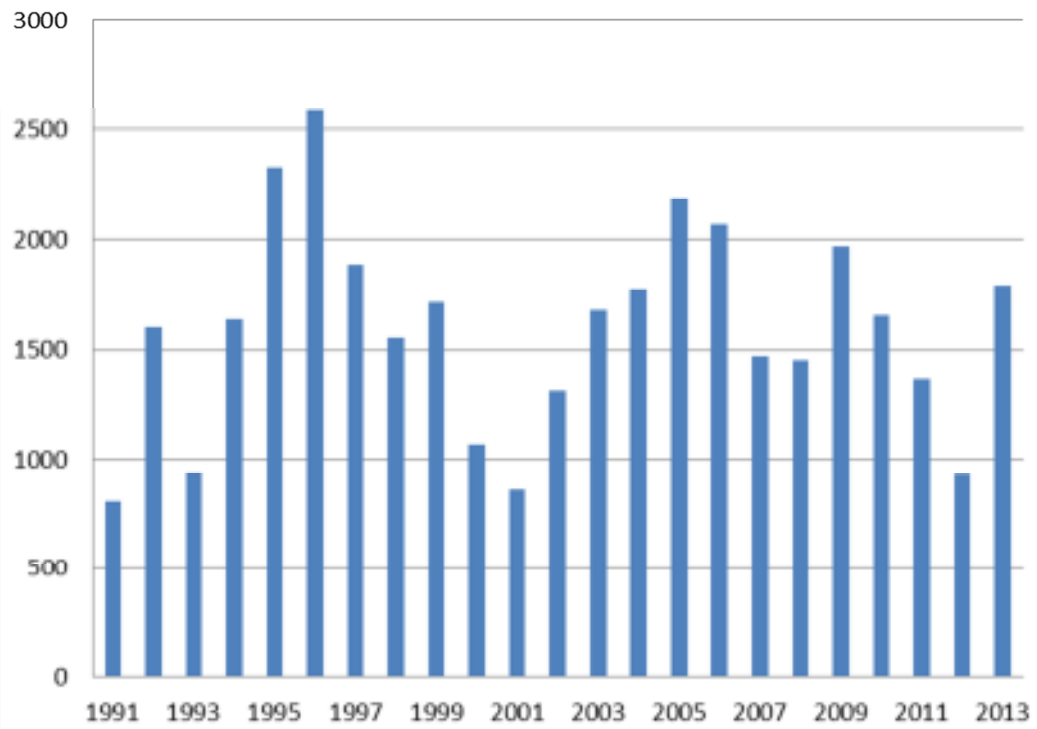
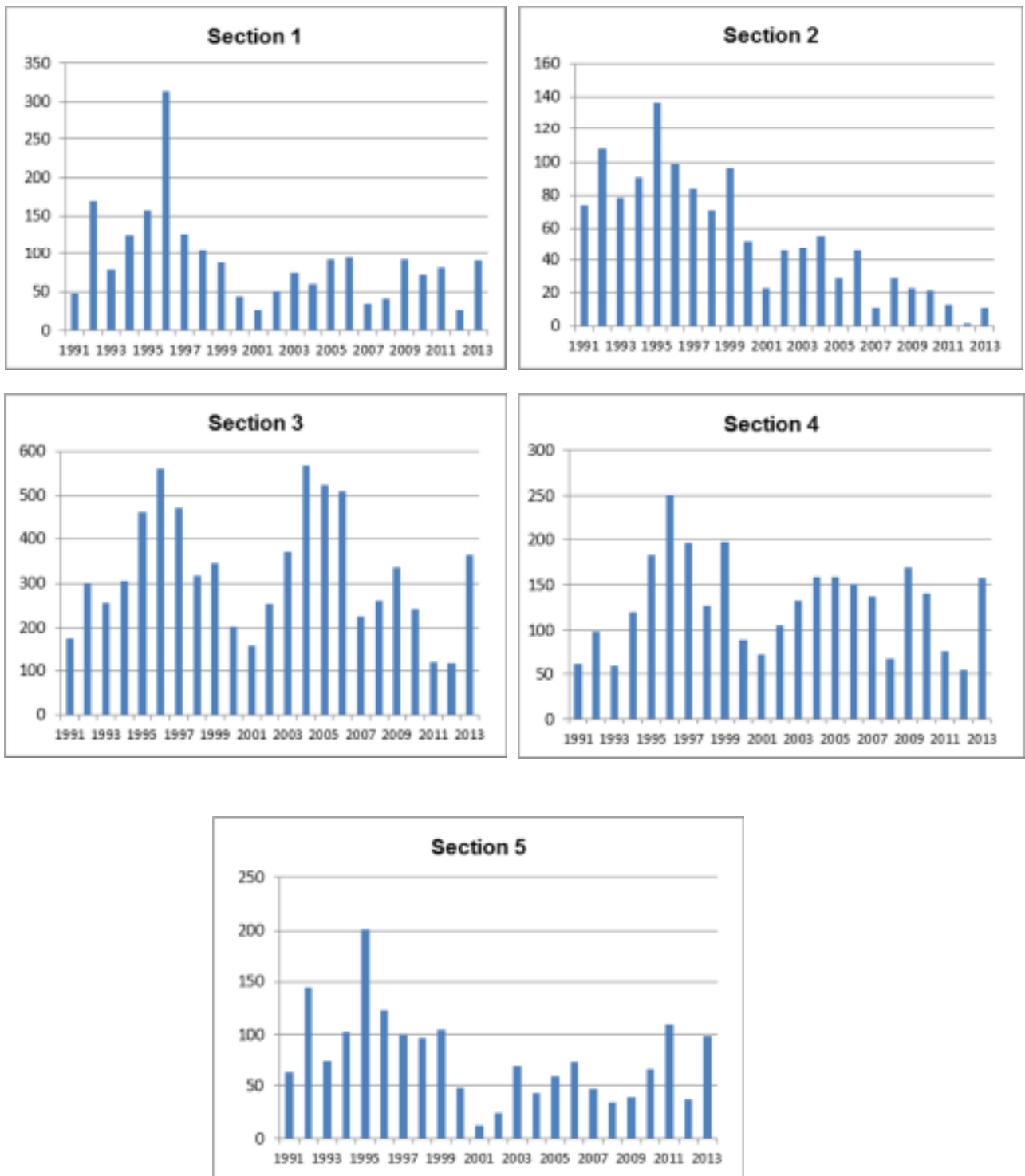
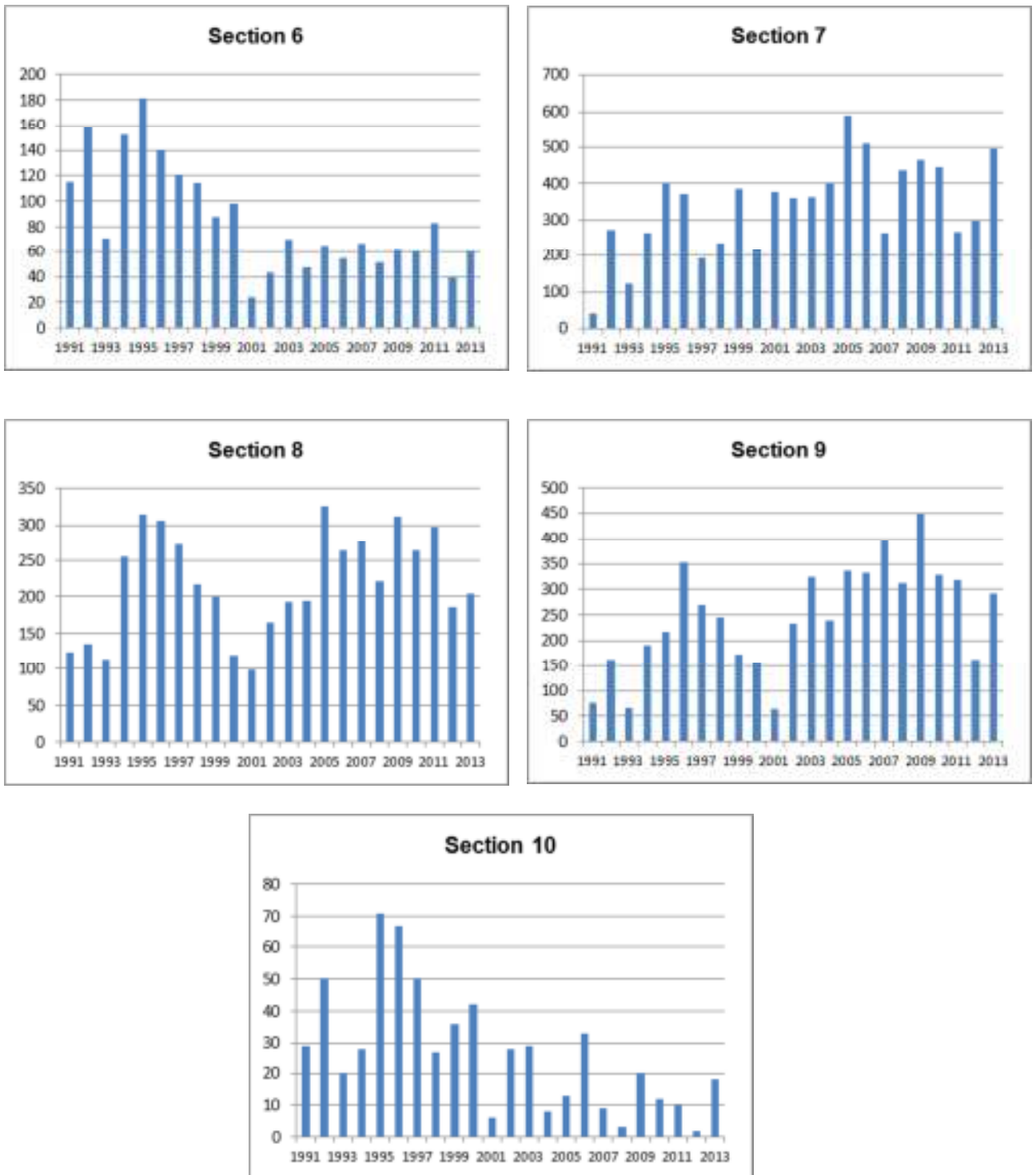


Figure 4. Number of butterflies in each section 1991 – 2013
Sections 1 – 5



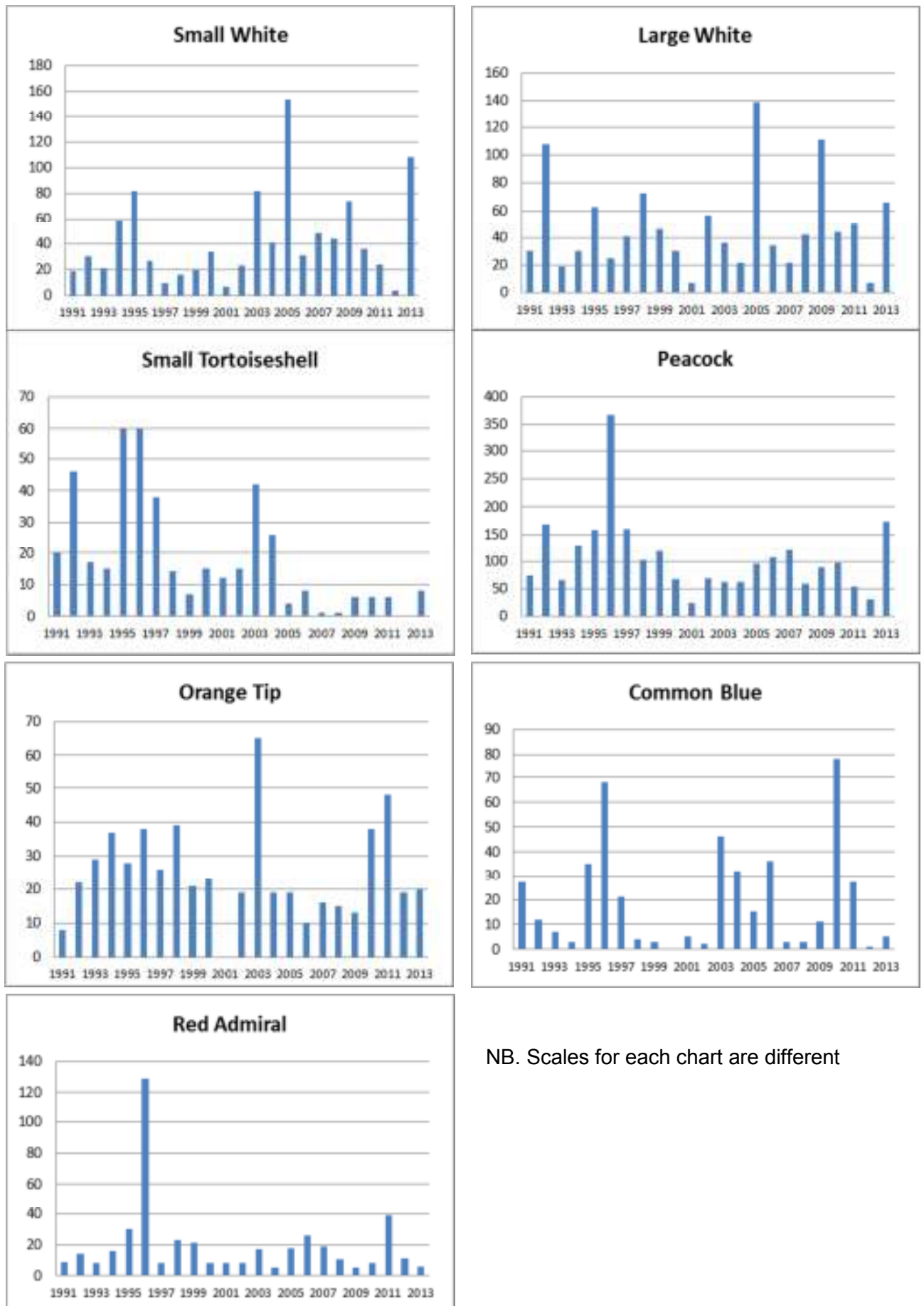
NB: Scales for each chart are different

Figure 4. Number of butterflies in each section 1991-2013
Section 6 – 10



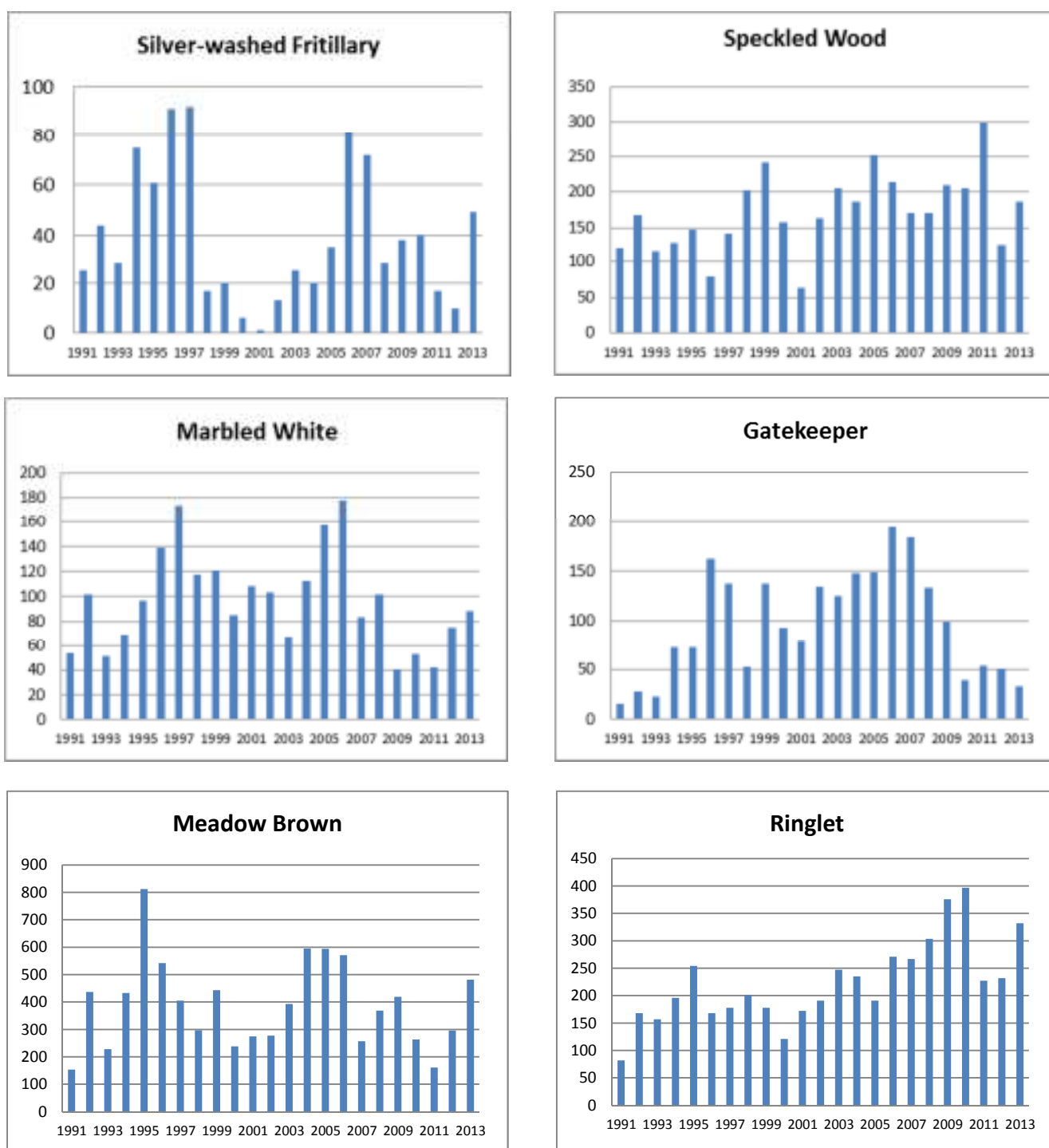
NB: Scales for each chart are different

Figure 5. Trends for several species



NB. Scales for each chart are different

Figure 5. (Continued). Trends for different species



NB: Scales for each chart are different

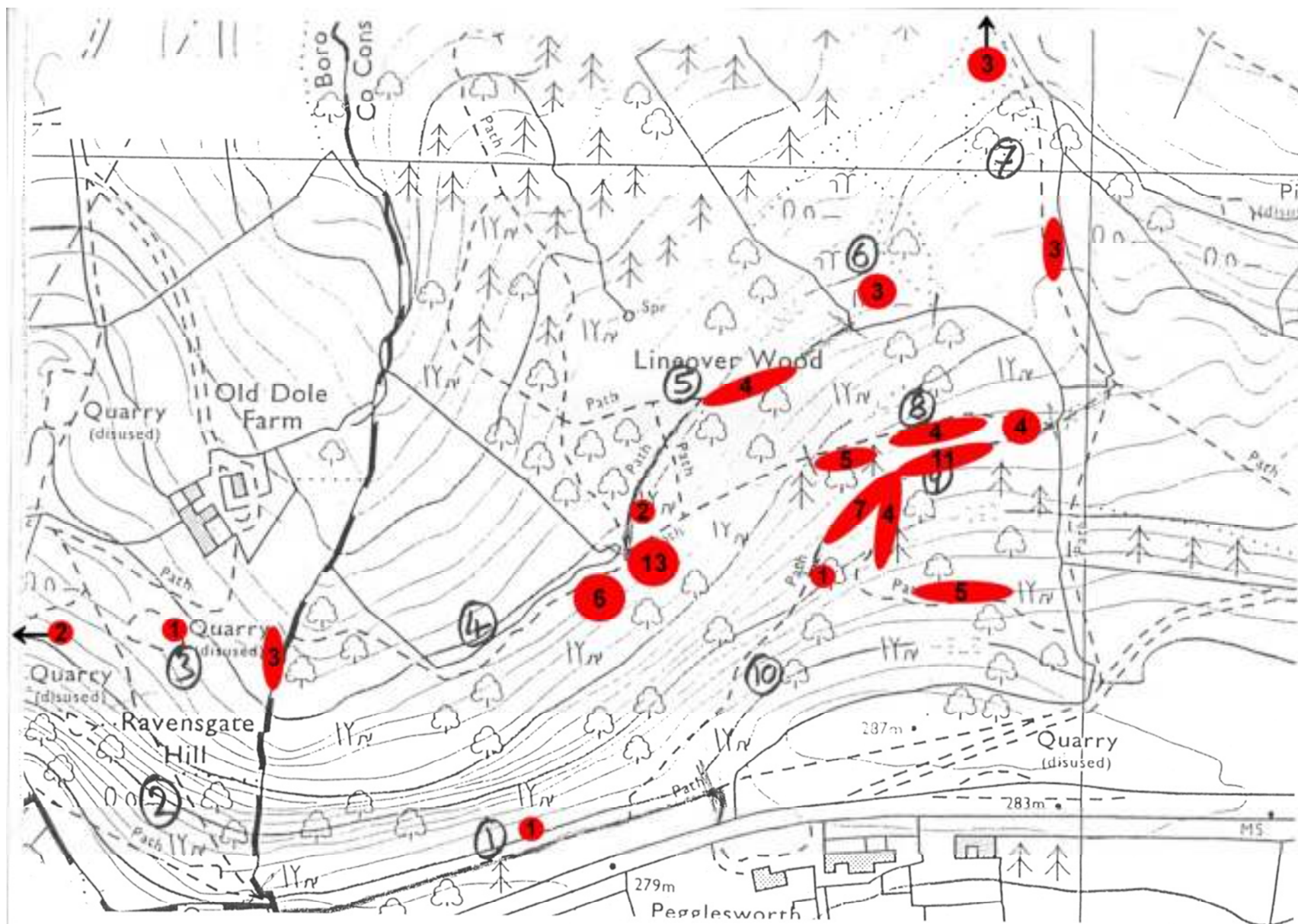


Figure 6. Map of sightings of Silver-washed Fritillary

Figure 7. Map of transect and sightings of extra butterflies recorded

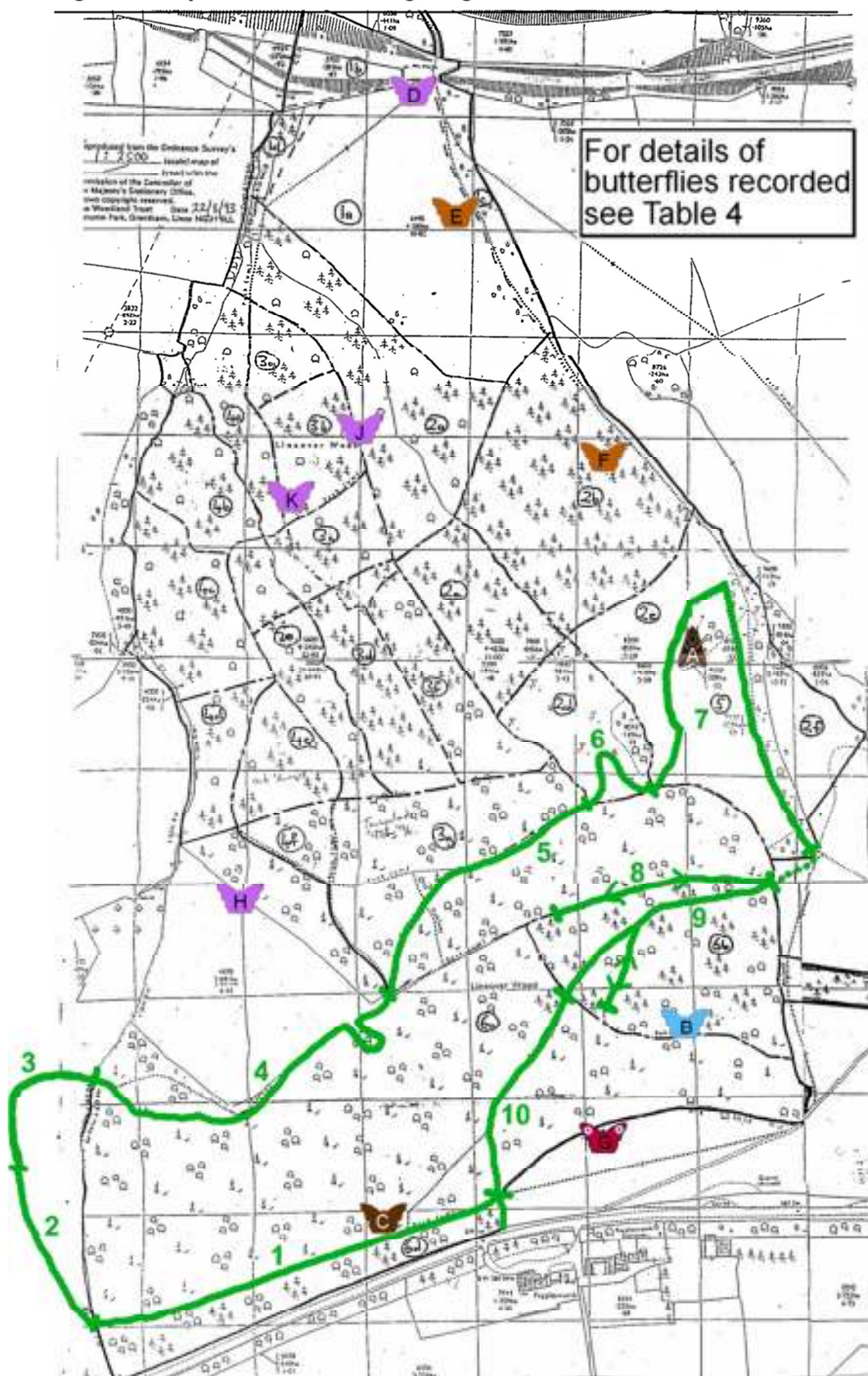


Figure 8. Weather records from 2003 until 2013
(Average of observations from Ross-on-Wye and Oxford)

