



## **2024 BUTTERFLY SURVEYS ON SEAFORD HEAD**

Vsn 13/12/24b PD

**This is the eighth in a series of annual reports on the butterfly surveys on Seaford Head carried out by Seaford Natural History Society members. It is less detailed than some of the previous reports, which are also on the Society's Website. Anyone wanting more information on the design of the surveys will find them in the 2018 report, while the 2022 version gives the most detail on the characteristics of the transect sections.**

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*Vsn 13/12/2024b*

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## **Preface**

This is the eighth annual report on the current series of Seaford Head butterfly surveys which began in 2017. As the project has developed, the reporting has become more ambitious, culminating in the long 2022 report, which included extensive detail on possible reasons for the annual variations in the sightings of each species, and descriptive accounts of every section of both transects. The 2023 report kept the same structure but was less detailed. Although the current report follows the 2023 model, it is still relatively long and a summary is included (on pages 29-35) which could be read as a short stand-alone report - referring back to the main body of the work when more detail or numbers are required.

## **1. Introduction - overview of the surveys**

The current series of weekly butterfly surveys on Seaford Head began in 2017. They aim to cover most of the different habitats of the Head by using two routes, or “transects”. As can be seen from Figure 1, the eastern transect is based in the rides and grassland to the south east of South Hill Barn, while the western covers the grassy slopes and rides between Chyngton Road and the thirteenth fairway of the golf course.

The project was piloted in 2017 and, after discussions with Sussex Wildlife Trust (SWT) and an analysis of the 2017 results, the two transects were modified and finalised for 2018 – when they were registered with the United Kingdom Butterfly Monitoring Service (UKBMS). And we hoped to keep them unchanged for at least five years in order to collect comparable annual data. The eastern transect has stayed the same throughout, but several parts of the western route were modified for 2020 and 2021 to comply with Covid distancing requirements. Covid also delayed the start of surveying on both transects in 2020. Whenever we have been able to use the original transects, we have sent our records to UKBMS, but for the two years when the western route was modified, its data were lodged with the Sussex Biodiversity Records Centre.

**Figure 1 Locations of the two survey transects**



## **2. Survey methods and overall numbers of sightings**

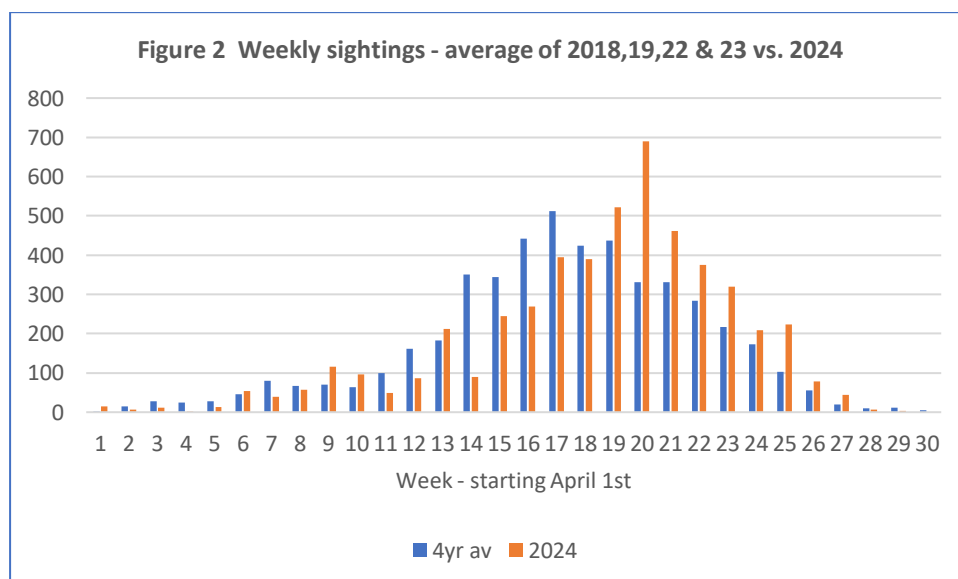
Because of our interest in contributing to UKBMS, we have followed their protocols for a “Pollard Walk” survey. These recommend standards for, amongst others: the lengths of transects, how they should be divided into sections, and when, and how, the surveys should be carried out. For example, in order for records to be included in UKBMS analyses, surveys have to take place under certain weather conditions. Surveyors are also instructed to only record butterflies that are no more than 2.5 metres to their right or left. If they make an unusual sighting that is further away, it should be recorded separately.

Following UKBMS guideline, our surveys start on April 1<sup>st</sup> (week 1 of the UKBMS calendar) and run for 26 or 27 weeks until the end of September. With suitable weather and continued sightings, the season can be extended into October. The dates of the UKBMS calendar weeks are shown in Appendix Table A.1.

Basic details of the surveys are shown in the following table, where it can be seen that we conducted 56 surveys in 2024 and recorded 5077 sightings of 31 species. It also shows that since the transects were finalised in 2018, we have carried-out 369 surveys and reported 33,701 sightings: 20,141 from the eastern and 13,560 from the western transects.

Year	No. of surveys	No. of sightings	No. of species	Start and end dates		No. of sightings	
				East	West	East	West
2018	57	6272	33	6/4 - 24/10	6/4 - 30/9	4041	2230
2019	54	4540	31	6/4 - 2/10	6/4 - 30/9	2620	1920
2020	39	3616	28	20/5 - 1/10	28/5 - 1/10	2162	1454
2021	52	5346	32	1/4 - 6/10	1/4 - 25/9	3092	2254
2022	54	3985	29	1/4-3/10	1/4-3/10	2156	1829
2023	57	4866	29	3/4-22/10	2/4-22/10	2849	2017
2024	56	5077	31	5/4-7/10	5/4-17/10	3221	1856
<b>2018-2024</b>	<b>369</b>	<b>33701</b>	<b>35</b>			<b>20141</b>	<b>13560</b>

Press coverage in 2024 has mentioned a decline in UK butterfly numbers, but this has not been reflected in the Seaford Head sightings. Figure 2 compares the weekly 2024 sightings across both transects with the weekly averages for the four years (2018,19,22 and 23) when the unmodified UKBMS transects were used and surveys started at the beginning of April.



The weather was poor in the first five weeks of the 2024 season and, as can be seen from the orange columns in Figure 2, sightings were well below the average – at times almost non-existent. Some early species, such as Dingy Skippers were barely recorded. Below average sightings were also experienced in weeks 14-17 (July 1<sup>st</sup>-28<sup>th</sup>), but from weeks 19 to 25 (August 5<sup>th</sup> to mid-September) the number of sightings were well above average: resulting in the third highest annual total since the start of the series, partly due to an abundance of Meadow Browns.

### **3. The Seaford Head butterflies - a very brief overview**

The next two sections of the report describe this year’s sightings and make some comparisons with previous years. The first of these, Section 3, provides an overview, highlighting the species seen most often, while Section 4 contains a full set of brief species reports.

It is important to remember that this report only covers the butterflies seen on the transects during the surveys and is not a complete record of the species present on Seaford Head. The Seaford Natural History Society website includes reworkings of periodic downloads from the Sussex Biodiversity Database that will include opportunistic butterfly sightings made outside the regular surveys.

#### **3.1 The species recorded in 2024**

The number of different species recorded has stayed fairly steady over the past seven years, with a maximum of 33 in 2018 and a minimum of 28 in 2020 (when the survey start was delayed).

Thirty-one species were recorded in the 2024 surveys, 25 of which have been recorded every year since 2018. These are listed in Table 2, along with: their total sightings from 2018-2024, the maximum and minimum numbers seen in any one year, and whether they were also seen in the pilot year - 2017.

<b>Table 2 The 25 species sighted every year since 2018</b>										
	<b>Total</b>	<b>Max</b>	<b>Min</b>				<b>Total</b>	<b>Max</b>	<b>Min</b>	
Meadow Brown	9877	2141	888	x		Dingy Skipper	247	82	5	x
Common Blue	5543	1159	327	x		Peacock	205	47	4	x
Small Heath	5004	1598	339	x		Painted Lady	199	131	3	x
Gatekeeper	4363	809	497	x		Large Skipper	185	41	16	x
Speckled Wood	1169	247	43	x		Comma	168	46	4	x
Small White	1047	266	86	x		Clouded Yellow	130	36	3	x
Large White	981	375	50	x		Grizzled Skipper	92	26	3	x
Marbled White	870	167	74	x		Dark Green Fritillary	83	20	4	x
Small Copper	679	171	23	x		Small Tortoiseshell	59	20	1	x
Ringlet	561	161	33	x		Silver-spotted Skipper	56	14	1	x
Red Admiral	418	126	18	x		Holly Blue	54	26	1	
Small Skipper	310	98	6	x		Brimstone	48	22	1	
Wall	261	65	22	x						
<i>Total=Total sightings 2018-2024 Max and Min= Maximum and minimum sightings in any one year</i>										
<i>x=Also seen in the 2017 pilot surveys</i>										

The additional ten species recorded since 2018, but not seen every year, are named in Table 3. Six of these were seen in 2024: Green Hairstreak, Brown Argus, Chalkhill Blue, Green-veined White, Essex Skipper and Orange Tip.

	N Years	N Seen		N Years	N Seen
Green Hairstreak	6	126	Adonis Blue	4	21
Chalkhill Blue	6	51	Clouded Yellow (pale)	1	2
Brown Argus	6	49	Orange Tip	2	2
Green-veined White	5	40	Large Tortoiseshell	1	1
Essex Skipper	6	31	Silver Washed Fritillary	1	1

### 3.2 The Four dominant species

Since the start of the current surveys, the same four species have dominated the sightings: Common Blues, Meadow Browns, Small Heaths and Gatekeepers. Table 4 shows that these four have represented between 66% and 78% of all annual sightings between 2017 and 2023, and 77% of the 2024 total. These four are more often seen in the east – where they account for 83% of this year’s sightings – compared with 68% in the west.

	2017	2018	2019	2020	2021	2022	2023	2024
<b>Both transects</b>	74%	78%	66%	76%	67%	71%	78%	77%
<b>Eastern</b>	see note (1)	80%	69%	76%	65%	81%	83%	83%
<b>Western</b>	see note (1)	76%	63%	76%	69%	60%	70%	68%
<i>Note (1)</i>	<i>Transects were very different in 2017 from 2018 onwards - so these % weren't calculated</i>							

Although these species have always had high numbers of annual sightings, their relative positions (shown in Table 5) have varied from year to year. This is especially true for Small Heaths who ranked first in 2018, but fourth in 2023. But others have maintained their positions: for example, from 2018 to 2024, Meadow Browns always ranked either first or second, and Gatekeepers have only ranked higher than 3<sup>rd</sup> in 2023. The 2141 sightings of Meadow Browns this year were the highest since the start of the surveys.

	2018		2019		2020		2021		2022		2023		2024		2018-24	
	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R
<b>Meadow Brown</b>	1561	2	1232	1	888	2	1452	1	958	1	1645	1	2141	1	9877	1
<b>Common Blue</b>	1159	3	327	4	934	1	805	2	760	2	753	3	805	2	5543	2
<b>Small Heath</b>	1598	1	796	2	339	4	625	4	587	3	571	4	488	4	5004	3
<b>Gatekeeper</b>	605	4	648	3	587	3	678	3	539	4	809	2	497	3	4363	4
<i>N=Number of annual sightings R=Rank</i>																
<i>The Covid delayed start may have affected the rankings in 2020</i>																

### **3.3 Species that are seen less often and whose numbers can vary greatly between years**

There is considerable variation in the sightings of some species that are less abundant on Seaford Head, especially those immigrants that overwinter as adults in Southern Europe or North Africa. For example, Painted Lady sightings ranged from only 3 in 2018 to 131 in 2019; Red Admiral sightings fell from 103 in 2021 to 18 in 2022, then rose to 126 in 2023. But there were also variations in the sightings of some resident species. For example, there were 77 Green Hairstreak sightings in 2019 and only 1 in 2023; and there were 171 Small Copper sightings in 2018, but only 23 in 2022 and 42 in 2023.

Table A.2 in the Appendix contains a full set of the annual numbers of sightings of each species, while the next section provides more information on the individual species.

## **4. Species reports for 2024**

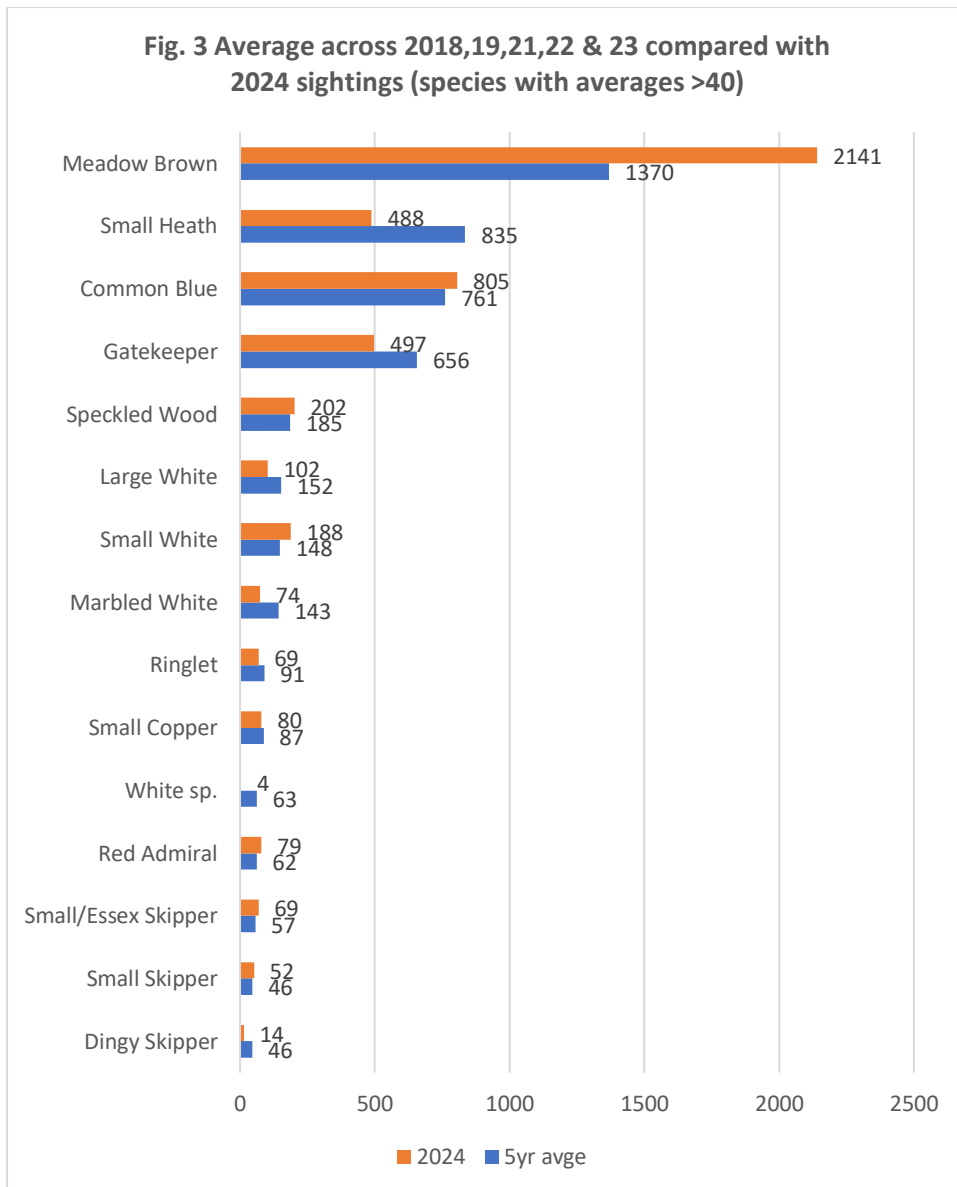
### **4.1. Introduction**

The first part of Section 4 introduces the 2024 sightings through a chart (Figure 3) which compares them with 5-year averages based on data from 2018, 2019, 2021, 2022 and 2023. For brevity, only species whose averages are 40 or more are included. The data for 2020 are omitted from the calculation of the averages because of that year's delayed start. There is also an argument for omitting 2021, when we continued to use the 2020 Covid modified western transect. But sightings of only one species, Speckled Woods, were greatly affected by the transect changes. The modified transect by-passed most of their preferred sections: the narrower and more enclosed tracks.

Figure 3 clearly shows the dominance of the four species discussed in the last section – and the gulf in the numbers of sightings between these, and the next four: Speckled Woods, Small, Large and Marbled Whites. Though it also shows that within the dominant four, the 2024 Small Heath numbers were well below average. It also identifies several other species with averages above 40 whose 2024 sightings were well below the 5-year average, including: Ringlets, Marbled Whites and Dingy Skippers.

These differences are discussed in the following five sub-sections covering the four butterfly families and one subfamily seen on Seaford head.

- **Nymphalidae:** Admirals, fritillaries etc (excluding Browns)
- **Nymphalidae -** Subfamily Satyrinae : Browns
- **Pieridae:** Whites and Yellows
- **Lycaenidae:** Hairstreaks, coppers and blues
- **Hesperiidae:** Skippers



Each of these five sub-sections includes

1. A table showing: the numbers of sightings from 2018-2024, a six-year average 2018-2024 (excluding 2020), and the percentage of each species sightings in each of the two transects. The six-year averages will be biased by the revisions to the western transect in 2021, but the text will mention when these changes are likely to have had a noticeable impact on the figures. The 2024 sightings are also included in the averaging to make maximum of our data in estimating the multi-year prevalence of these species on the Head.
2. A table/chart of flight patterns showing both the average number of sightings per week for each species (computed with 2018, 2019, 2021, 2022 and 2023 data) and the weekly sightings in 2024.

The presentation is more condensed than the equivalent accounts in previous reports. Readers wanting more detail on the annual variations in the numbers of each species from 2017 to 2022 - and possible explanations for these variations – will find them in the “species reports” section of the 2022 report.



When describing the locations where each species is seen, the discussion will refer to the individual sections of each transect. The eastern transect has 12 sections (E1-E12) and the western has 14 (W1-W14). Maps showing these sections are at the start of Section 4 of the report: on pages 21 and 22.

#### 4.2. Species results for Nymphalidae – Admirals, tortoiseshells and fritillaries

	2018	2019	2021	2022	2023	2024	6 yr av	Total	%E	%W
Comma	46	11	26	34	21	26	27	164	34	66
Painted Lady	5	131	31	20	3	5	33	195	73	27
Peacock	47	43	17	29	28	37	34	201	51	49
Red Admiral	19	42	103	18	126	79	65	387	55	45
Small Tortoiseshell	20	10	9	13	4	1	10	57	75	25
Dark Green Fritillary	10	20	20	4	6	5	11	65	85	15
Silver Washed Fritillary	0	1	0	0	0	0	0	1	100	0

Two species of Fritillary have been recorded during the 6 years of surveying. A single **Silver-washed Fritillary** was seen in 2019, but none since. In Sussex this is predominately a butterfly of forests and woodland glades – laying its eggs on crevices in tree bark, especially Oaks. However, **Dark Green Fritillaries** are quite often seen on the Head, especially on brambles, thistles and knapweeds within the coastal grassland to the east of Hope Gap. From 2018-2021 we recorded around 20 per year, but we saw only 6 in 2023 and 5 in 2024.

As with many species that are mostly immigrants, **Red Admiral** numbers fluctuate from year to year. From 2018-2023 our annual sightings have varied from 18 to 126. The 2024 number (79 sightings) is towards the higher end of the range and the annual average is now 65. We have occasionally seen them in early April, and these may have been individuals that have successfully overwintered in Britain. But none were seen before mid-May in 2023. In 2024, sightings peaked in mid-May and mid-September. The sightings are equally divided between the eastern and western transects.

**Small Tortoiseshells** hibernate as adults and in several previous years five or more were recorded in the first month of surveying. Weather was quite poor at the start of the 2023 season and, although one was seen in early April, only 4 were recorded throughout the year. In 2024 the early weather was even worse and there was only one Small Tortoiseshell sighting in the whole year.

Typically, this is a species that can be seen at almost any time. The last of the four 2023 sightings was on October 22<sup>nd</sup>. The lone 2024 sighting was in early August.

**Commas** are another species that hibernate as adults. Due to the late start in 2020, we missed the early emergers and only had a few (4) sporadic sightings in July and August. The majority of the 2024 sightings were in August with a few possible late emergers in September. The 6-year annual average is 27 and includes 21 records from 2023 and 26 from 2024. Commas are more often seen along the rides and hedgerows of the western transect than on the more open grassland in the east.

**Peacocks** also hibernate as adults and are another butterfly that we would expect to see early in the year. In 2023, 21 of the year's total of 28 sightings were made before the middle of May, while in 2024, 33 of the 37 sightings were before the third week in May. Numbers seem quite stable and the

6 year average is 34. The species is seen in many areas of the Head and is equally recorded on the eastern and western transects.

The number of **Painted Ladies** reaching Britain can vary massively from year to year and this is reflected in the Seaford Head sightings. Although only 5 were seen in 2018 – all in mid-June, in 2019 there were 131 in two flight periods: June to early July, and August to early September. The 2019 sightings increase the 6-year average to 33. But both 2023 and 2024 were sparse years for Painted Ladies on Seaford Head. Only 3 were recorded in 2023: 2 in July and 1 in August. And 5 were seen in 2024: two in late July/early August and three in the first half of September.

#### 4.3. Species results for Nymphalidae – sub family Satyrinae (Browns)

	2018	2019	2021	2022	2023	2024	6 yr av	Total	%E	%W
<b>Gatekeeper</b>	605	648	678	539	809	497	629	3776	50	50
<b>Marbled White</b>	112	153	130	167	152	74	131	788	59	41
<b>Meadow Brown</b>	1561	1232	1452	958	1645	2141	1498	8989	67	33
<b>Ringlet</b>	33	78	132	161	53	69	88	526	9	91
<b>Small Heath</b>	1598	796	625	587	571	488	778	4665	70	30
<b>Speckled Wood</b>	230	247	49	204	194	202	188	1126	11	89
<b>Wall</b>	22	24	51	65	27	40	38	229	74	26

This group includes three of the four species seen most often during our surveys: Gatekeepers, Meadow Browns and Small Heaths.

**Meadow Browns** had an exceptional year in 2024 – with 2141 sightings – more than in any other year of the surveys. From the last week in July until the first week in September, weekly sightings were never less than 145 and peaked at 436. They were by far the most frequently sighted species this year as they were in 2023. In both years their sightings were more than double that of the next ranked species.

Their long single brood pattern, with a flight period from May to September, has been observed in all six years of the survey.

Lewington notes that “it is one of the few butterflies capable of flying on overcast days” – which may have increased the number of sightings in both 2023 and 2024. Moreover, they seems to tolerate a wide range of habitats and was seen in every section of both transects in 2023 and 2024. In 2022 they were distributed relatively evenly between the two transects 534 (east) and 424 (west). But since then, possibly due to the lack of grazing in the east, the eastern sightings have far outnumbered those in the west: 1145 vs. 500 in 2023 and 1548 vs. 593 in 2024.

**Table 8 Flight patterns for Nymphalidae observed in the 2024 survey and averaged across 2018,2019,2021,2022 & 2023**

		April				May					June				July				August						September					Oct.			Total				
		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	27	28	29	30						
5yr avge	Comma	0	1	2	1	1	0	0	0	0	0	0	0	2	5	3	2	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
2024	Comma	0	0	1	0	0	0	0	0	0	0	0	0	3	5	6	2	0	4	1	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0	26	
5yr avge	Dark Green Fritillary	0	0	0	0	0	0	0	0	0	0	0	1	2	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
2024	Dark Green Fritillary	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
5yr avge	Painted Lady	0	0	0	0	0	1	0	1	0	0	1	0	2	1	1	2	1	3	7	10	6	1	1	0	0	0	0	0	0	0	0	0	0	0	38	
2024	Painted Lady	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	5	
5yr avge	Peacock	0	7	9	4	2	1	2	0	0	0	0	0	0	1	2	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	
2024	Peacock	13	4	3	0	9	4	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	37	
5yr avge	Red Admiral	0	1	1	0	0	2	1	1	1	1	1	2	3	6	7	5	4	3	4	2	2	1	4	3	1	2	1	2	2	1	2	2	1	64		
2024	Red Admiral	0	0	1	0	0	1	13	2	2	0	0	0	1	3	5	4	1	4	3	1	1	0	3	22	4	3	1	1	3	0	0	0	0	79		
5yr avge	Silver Washed Fritillary	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
2024	Silver Washed Fritillary	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5yr avge	Small Tortoiseshell	0	2	1	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
2024	Small Tortoiseshell	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	

**Table 9 Flight patterns for Nymphalidae sub family Satyrinae (Browns) observed in the 2024 survey and averaged across 2018,2019,2021,2022 & 2023**

		April				May					June				July				August						September					Oct.			Total
		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	27	28	29	30		
5yr avge	Gatekeeper	0	0	0	0	0	0	0	0	0	0	0	1	16	48	170	186	100	88	31	12	3	1	1	0	0	0	0	0	0	0	0	657
2024	Gatekeeper	0	0	0	0	0	0	0	0	0	0	0	0	3	19	60	164	98	97	48	7	1	0	0	0	0	0	0	0	0	0	0	497
5yr avge	Marbled White	0	0	0	0	0	0	0	0	0	0	0	4	21	40	47	25	5	1	0	0	0	0	0	0	0	0	0	0	0	0	143	
2024	Marbled White	0	0	0	0	0	0	0	0	0	0	0	19	8	16	12	16	3	0	0	0	0	0	0	0	0	0	0	0	0	0	74	
5yr avge	Meadow Brown	0	0	0	0	0	0	0	0	0	0	2	29	38	82	85	109	168	161	177	148	131	111	79	35	9	6	0	0	0	0	1370	
2024	Meadow Brown	0	0	0	0	0	0	0	0	0	0	7	33	15	70	73	146	220	280	436	325	229	170	69	40	23	5	0	0	0	0	2141	
5yr avge	Ringlet	0	0	0	0	0	0	0	0	0	0	0	2	24	30	20	4	6	4	0	1	0	0	0	0	0	0	0	0	0	91		
2024	Ringlet	0	0	0	0	0	0	0	0	0	0	0	5	14	25	18	3	3	1	0	0	0	0	0	0	0	0	0	0	0	69		
5yr avge	Small Heath	0	0	0	0	0	2	6	11	11	17	51	81	58	81	46	28	13	17	19	25	70	85	88	69	41	11	4	1	1	0	836	
2024	Small Heath	0	0	0	0	0	3	4	17	12	15	18	51	111	27	54	28	28	7	6	3	4	17	36	20	14	11	1	1	0	0	488	
5yr avge	Speckled Wood	0	1	4	8	5	5	6	3	5	6	8	8	5	3	7	8	6	8	11	11	10	17	11	14	6	5	2	1	1	0	185	
2024	Speckled Wood	2	1	4	0	1	5	2	9	13	10	4	4	8	0	7	10	2	9	13	17	17	13	6	8	11	15	9	1	1	0	202	
5yr avge	Wall	0	0	0	0	0	2	4	4	2	1	0	0	1	1	0	1	2	2	5	3	3	0	1	1	2	3	1	0	0	0	39	
2024	Wall	0	0	0	0	0	1	3	0	0	0	0	0	0	0	2	7	0	2	2	1	0	0	0	6	8	7	1	0	0	0	40	

**Small Heath** This species showed the same two brood pattern over all seven years, with peaks in late June and early September, but numbers in each brood have fluctuated considerably (see the 2022 report for more details). High numbers (1598) in 2018 raise the 6-year average to 778, but over the past 3 years sightings have stabilised between five and six hundred. There were 488 in 2024, and in common with most previous years, the first brood produced the greater number of sightings.

Small Heaths are more likely to be seen on the eastern transect – which in every year accounts for between 2/3<sup>ds</sup> and 3/4<sup>s</sup> of all their sightings. As in previous years, the greatest number of sightings (157 in 2023 and 168 in 2024) were along section E12 – a rabbit grazed and footfall worn path alongside an open meadow. Sightings in some parts of the western transect fell between 2022 and 2023, probably due to paths becoming overgrown. This pattern of lower numbers in some parts of the west was repeated in 2024.

**Gatekeeper.** This species has displayed a typical single brood pattern in all the survey years. Adults emerge in July to mid-August, and numbers peak in the second half of July. From 2018-2022 annual sightings were in the range 500-600. And in these years, it was the third or fourth most frequently seen species. Numbers rose to 800 in 2023 when it was the second most reported and there were sightings in all sections of both transects. The 497 sightings in 2024 were more typical of the earlier years, but, as in 2023, the species was seen in all sections of both transects. In both 2023 and 2024, the hedgerows of sections E12 and W3 were particular favourites for Gatekeepers, and there were also 107 sightings along E7 in 2024.

**Speckled Woods.** In 2024, as in 2018, 2019, 2022 and 2023, there was possible evidence of "three overlapping broods" of Speckled Woods (Lewington). In 2024 there were only 2 weeks without sightings and the 2024 total of 202 sightings was within 10 of the totals in 2022 and 2023

In 2024, as in most previous years, more than eighty percent of Speckled Wood sightings are on the western transect – especially in three narrow, shady sections: W2, W9 and W10. These three were bypassed in 2020 and 2021 to conform with Covid proximity rules and numbers of sightings fell dramatically. However, in the four years when they were not bypassed, these three sections have accounted for 633 (59%) of the total (1077) sightings of Speckled Woods.

**Marbled White.** In all seven years of the survey, our sightings of Marbled Whites conform to the typical single June-July flight period – though in 2023 one was also seen on August 22<sup>nd</sup>. (Butterflies of Sussex reports an average last sighting date of 23<sup>rd</sup> August for the combined counties). The last sightings in 2024 were in the first week of August. Numbers have previously been fairly constant – in the range 110 to 170. There were 152 in 2023. There was a dip (to 82) in 2020 which may have been related to our delayed start, when we could have missed a few specimens emerging early due to good weather. But the 2024 figure (of 74) was lower and well below the 6-year average of 131. Brief spells of poor weather in June and July, which generally depressed our overall sightings in weeks 14-17, may have been responsible for the reduced numbers of Marbled Whites this year.

Sixty percent of Marbled Whites were seen on the eastern transect. Their favoured locations were sections through, or close to, areas with some tall grasses: E9, E10 and E12 in the east and W3, W7 and W8 in the west

**Ringlet** This is another single brooded species – with a flight season that Butterflies of Sussex reports as: early-July until mid-August, or later. Our sightings tend to start in early July (though one was seen on June 21<sup>st</sup> in 2023 and 5 were recorded in the last week of June in 2024), but end earlier than the literature reports. Last sightings in 2024 were four in early August.

Ringlet sightings steadily increase from 2018 to 2022, but there was a pronounced drop from the 2022 figure of 161 to 53 in 2023 and 69 in 2024. Over the years, 90% of the sightings of this species were in the west, but in late 2022 there was extensive hedgerow cutting along two of the western transect sections where Ringlets were seen most often. From 2019 to 2023, more than 90% of Ringlet sightings on the Head were in the west, but this fell to 76% in 2024.

**Walls.** From 2018 to 2022 the numbers of sightings of Walls suggested there was a relatively stable population that was gradually increasing. But there were only 27 sightings in 2023 compared with 65 in 2022. There were 40 sightings in 2024, much closer to the 6-year average of 38.

This is a species that likes dry open spaces and in 2024, as in all previous survey years, between two-thirds and three quarters of Wall sightings have been on the eastern transect. Sightings cluster at the northern end of section E12, suggesting a nearby colony.

#### 4.4. Species results for Pieridae: Whites and yellows

Table 10 2024 sightings and 6-year averages (2018-2024: excl.2020) for Pieridae: Whites and Yellows										
	2018	2019	2021	2022	2023	2024	6 yr av	Total	% E	% W
<b>Brimstone</b>	3	9	22	3	5	5	8	47	66	34
<b>Clouded Yellow</b>	32	8	21	25	5	3	16	94	93	7
<b>Clouded Yellow (pale)</b>	2	0	0	0	0	0	<1	2	100	0
<b>Orange Tip</b>	0	0	1	0	0	1	0	2	50	50
<b>Green-veined White</b>	15	6	3	0	1	15	7	40	50	50
<b>Large White</b>	144	96	375	50	94	102	144	861	70	30
<b>Small White</b>	124	163	266	86	101	188	155	928	79	21
<b>Large + Small total</b>	268	259	641	136	195	290		1789		
<b>White sp.</b>	57	60	151	40	8	4	53	320	73	27

**Brimstones** overwinter as adults and are often seen at the start of the survey season. In 2023, four were seen by mid-June, and one new brood specimen was seen in mid-August. In 2024 three were recorded before early May and three more in early September. With the exception of 2019, when 22 were seen, less than 10 have been seen each year and the five sightings in 2024 are within the expected range.

Numbers of the immigrant **Clouded Yellow** can vary considerably between years. In 2023 and 2024 we only saw 5 and 3. Much higher numbers, 32,21,25 were recorded in 2018,21 and 22, lifting the 6-year average to 16. This species is mostly seen on the eastern transect from the end of August.

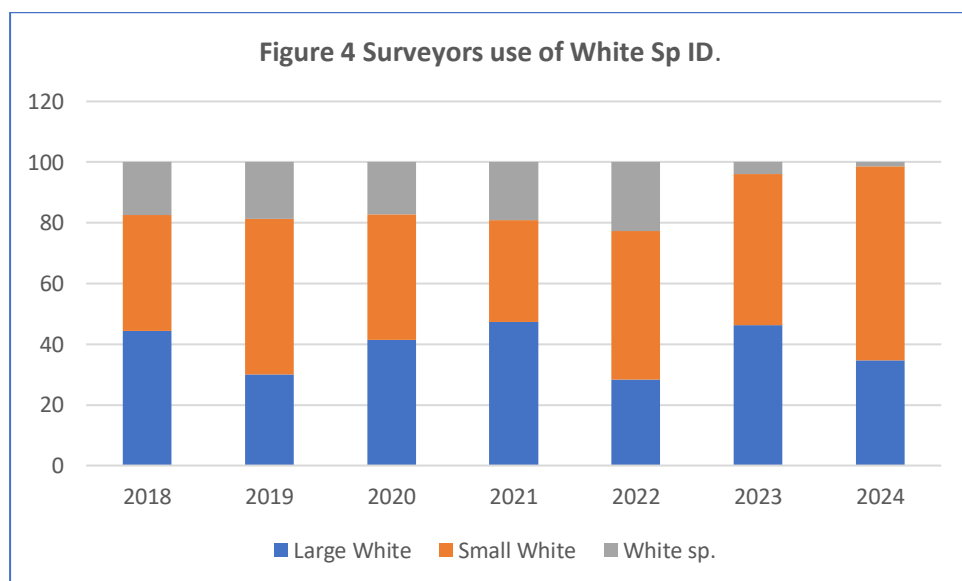
**Orange Tips** are sometimes seen on Seaford Head, but rarely on the surveys. None were seen on the transects in 2023, but one was recorded on the eastern transect in mid-May 2024. In most years, some of the surveyors will see a few of them elsewhere on the Head, or in their gardens. The females might be mistaken for other Whites, so there is a possibility of undercounting.

The possibility of undercounting could also apply to **Green-veined Whites**, which seem to prefer the habitats of Seaford gardens to those on the Head. Over the 7 years from 2018-24, there were 40 sightings on the surveys, and the 15 in 2024 equals the previous maximum in 2018. In all other years, there have never been more than 6 sightings.

**Small and Large Whites** are by far the most frequently seen species in this group. From 2018 to 2024 there were 928 records of Small Whites and 861 of their larger relative. The combined annual sightings vary from 136 in 2022 to 641 in 2021. In 2024 we saw 102 Large Whites and 188 Small Whites. The timing of the peak sightings in 2021 (details are given in the 2022 report) suggests that the large number of Small White sightings in that year was probably due to continental immigrants arriving in late summer. The 2022 reporting also notes that there may also be evidence of late immigration of Small Whites in 2019 and 2020. This was certainly the case in 2024, when Whites could be seen in September arriving at beaches in Seaford and Eastbourne and 139 of our 2024 total of 188 Small White sightings were made in the second and third weeks of September.

There were exceptional numbers of sightings in 2021, but if these are omitted from the averages, the numbers seen in 2024 are well within the expected range.

One dilemma for the survey was how to treat sightings where the recorder was unable to precisely assign a White to a species. From 2018 onwards, we introduced a **White Sp.** category that could be used in such cases. Figure 4 shows the annual percentage of sightings assigned to this group. Between 2018 and 2022 the numbers assigned to the combined group were approximately 20% of those that were positively identified as Small or Large Whites, and the relative numbers of the identified species were used to partition the numbers in the combined group before uploading the data. In 2023 surveyors were asked to be more precise in their identification of Small and Large Whites – and, as can be seen in Figure 4, the sightings assigned to White Sp. fell dramatically to around 4% of the combined Small and Large Whites’ total and dropped even further to 1.4% in 2024.



**Table 11 Flight patterns for Pieridae: Whites and yellows observed in the 2024 survey and averaged across 2018,2019,2021,2022 & 2023**

		April				May					June				July				August						September					Oct.			Total	
		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	27	28	29	30			
5yr avge	Brimstone	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6
2024	Brimstone	0	2	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
5yr avge	Clouded Yellow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3	2	1	1	2	2	0	17		
2024	Clouded Yellow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3		
5yr avge	Clouded Yellow (pale)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2024	Clouded Yellow (pale)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5yr avge	Green-veined White	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5		
2024	Green-veined White	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	4	1	2	2	0	0	0	0	0	15		
5yr avge	Large White	0	0	0	3	1	1	3	4	0	0	1	1	4	11	12	37	5	4	4	4	8	6	34	5	3	2	0	0	0	0	153		
2024	Large White	0	0	0	1	0	8	0	0	0	0	1	0	1	0	7	9	4	4	1	3	0	11	15	9	22	2	4	0	0	0	102		
5yr avge	Orange Tip	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2024	Orange Tip	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
5yr avge	Small White	0	0	3	1	2	1	6	1	1	1	0	1	2	6	6	5	12	5	2	5	8	23	30	8	7	10	0	0	1	0	147		
2024	Small White	0	0	2	0	0	4	3	3	0	0	0	0	0	1	1	1	6	1	0	0	5	7	41	98	3	9	3	0	0	0	188		
5yr avge	White sp.	0	0	0	1	2	1	1	1	0	1	0	1	0	3	1	4	2	3	2	3	4	2	23	1	3	0	2	0	0	0	61		
2024	White sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4		



#### 4.5. Species reports for Lycaenidae: Hairstreaks, coppers and blues

	2018	2019	2021	2022	2023	2024	6 yr av	Total	%E	%W
<b>Adonis Blue</b>	2	0	9	9	0	0	3	20	95	5
<b>Brown Argus</b>	5	20	8	0	11	3	8	47	79	21
<b>Chalkhill Blue</b>	6	16	6	14	0	2	7	44	98	2
<b>Common Blue</b>	1159	327	805	760	753	805	768	4609	57	43
<b>Holly Blue</b>	5	8	3	1	26	7	8	50	6	94
<b>Small Copper</b>	171	87	114	23	42	80	86	517	76	24
<b>Green Hairstreak</b>	22	77	2	2	1	22	21	126	60	40

Two of the **Blues, Chalkhills and Adonises** are infrequent visitors to the Head, which supports very little (or none) of their larval food plant, Horseshoe Vetch. The 6-year average annual sightings are 3 Adonis and 7 Chalkhills, most of which were seen on the eastern transect. Neither was recorded during the 2023 surveys and only 2 Chalkhills were seen in 2024.

Kidney Vetch, the larval food of the **Small Blue**, is even scarcer on the Head and the one unconfirmed sighting of this butterfly, in 2018, must have been an individual straying from its colony. The nearest colonies known to the author are on the Bishopstone by-pass and Friston Gallops.

In previous years, **Holly Blue** sightings tended to be limited to the first brood which emerges in May. But there were also second brood sightings in 2023 – and the 26 sightings in 2023 were more than the combined total for the previous five years. Only seven were recorded in 2024 – which is more consistent with the lower pre-2023 figures. Sightings of this species are almost entirely confined to the western transect where we have seen 49 of the 2018-2024 total of 54. This species is a relatively frequent visitor to gardens near the western transect.

The **Common Blue** is by far the most widespread of the Blues on the Head and was the most recorded species during the 2020 survey. With the exception of a dip in 2019, this species has been recorded between 700 and 1100 times every year and numbers of sightings have been very stable over the past 4 years. The 805 sightings in 2024 are close to the 6-year average of 768. There are usually two broods, the second being the more numerous. In 2023 we recorded 128 from the first brood and 620 from the second, the corresponding figures for 2024 are 228 and 577. In both 2023 and 2024 there may have been a few newly emerged third brood specimens included in the second brood totals, but nothing on the scale of the 142 recorded in mid-September in 2020. The species is widely distributed across both transects and, in some years including 2023, has been seen in all sections of both transects. It was only missing from one transect section (W10) in 2024.

**Brown Argus** sightings vary from year to year and some of this variation may be due to problems of identification – worn specimens in particular can be difficult to distinguish from females of several other Blue species. And some of the short spells of bad weather in 2024 may have dulled the female Brown Argus plumage making them more closely resemble other female Blues. Average survey sightings are 8 per year, but we only recorded 3 in 2024. A majority of the 6-year sightings (38/47) have been on the eastern transect.

The **Green Hairstreak** is a single brooded species that emerges in late April -June and was seen in considerable numbers in 2019, but hardly ever since. The complete lack of sightings in 2020 was probably due to the Covid delayed start, but after returning to the normal April <sup>1st</sup> start, we only recorded two in 2022 and one in 2023. There seems to have been something of a revival in 2024, with 22 sightings – including displays of sparring males. The transect distribution in 2024 was similar to that for the 6-year total – with 60% being recorded in the west.

The three-brood pattern of the **Small Copper** is noticeable in the 2024 sightings, as it has been for most years of the survey. From 2018 to 2021 there were never less than 87 sightings per year, but the total fell to 23 and 42 in 2022 and 2023. Lewington mentions that populations can crash in cool wet summers and this could explain the decline. Fortunately, sightings increased to 80 in 2024 – which is close to the 6-year average of 86 and hopefully indicates a revival in the species on Seaford Head. The species favours the eastern transect, which accounts for 76% (515/679) of all our 7-year sightings.

**Table 13 Flight patterns for Lycaenidae: Hairstreaks, coppers and blues observed in the 2024 survey and averaged across 2018,2019,2021,2022 &2023**

		April				May					June				July				August						September						Oct.			Total		
		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	27	28	29	30					
5yr avge	Adonis Blue	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	5
2024	Adonis Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5yr avge	Brown Argus	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	8
2024	Brown Argus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5yr avge	Chalkhill Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
2024	Chalkhill Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5yr avge	Common Blue	0	0	0	0	0	1	7	16	35	41	33	19	6	1	7	15	49	106	131	99	67	40	51	16	13	5	2	1	1	0	0	0	0	762	
2024	Common Blue	0	0	0	0	0	1	0	20	72	66	24	23	22	0	0	1	1	9	92	167	105	89	69	26	14	3	1	0	0	0	0	0	0	805	
5yr avge	Green Hairstreak	0	0	0	1	1	6	8	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	
2024	Green Hairstreak	0	0	0	0	1	13	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	
5yr avge	Holly Blue	0	0	0	0	1	0	2	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
2024	Holly Blue	0	0	0	0	2	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7	
5yr avge	Small Copper	0	0	1	1	2	7	7	4	3	1	1	0	1	1	5	3	3	3	2	1	2	5	3	9	7	7	3	2	1	0	0	0	0	85	
2024	Small Copper	0	0	0	0	0	3	5	2	5	2	1	0	0	1	0	0	0	1	11	4	0	8	6	10	8	8	5	0	0	0	0	0	0	80	

#### 4.6 Species reports for Hesperiidae: Skippers

	2018	2019	2021	2022	2023	2024	6yr av	Total	% E	% W
Dingy Skipper	37	82	74	23	12	14	41	242	36	64
Essex Skipper	8	5	6	2	9	1	5	31	32	68
Grizzled Skipper	18	17	26	16	3	9	15	89	62	38
Large Skipper	41	37	20	19	22	30	31	169	46	54
Silver-spotted Skipper	11	9	11	9	1	1	9	42	80	20
Small Skipper	51	6	49	27	98	52	52	283	25	75
Small/Essex Skipper	50	71	51	77	35	69	67	353	30	70

**Small and Essex Skippers** can be hard to distinguish in the field and when a precise identification cannot be achieved, the sighting is labelled as Small/Essex. From 2018-2024 (excl. 2020), 353 sightings were assigned to this group, compared with the 283 and 31 that were positively recorded as Small and Essex Skippers. Whenever the combined grouping cannot be used in data uploads, the ratio of the definite identifications is used to re-assign the numbers in the combined category. Using this method, the 353 grouped sightings would be converted to 35 Essex and 318 Small Skippers. The figures for 2023 suggested that observers are becoming more positive in their identifications. But in 2024, the use of the combined category returned to the pre-2023 average. Both these species have single broods and are generally seen from mid-June to the end of July. Typically, two-thirds or more of the sightings are on the western transect.

**Large Skippers** are also a single brooded species with a flight season that is expected to reach a peak in mid to late June, and be virtually finished by mid-August. Since 2020, there have been 19-30 sightings each year – there were 30 in 2024. In 2023, all except one of the sightings occurred between mid-June and mid-July, but there were 7 sightings in mid-August in 2024. The Large Skipper sightings are fairly evenly divided between the two transects.

**Dingy Skippers** emerge early in the year (sightings tend to peak in mid-May) and only 5 were seen in 2020, probably due to the Covid delayed start. Numbers have been very variable between years – with more than 70 sighted in both 2019 and 2021, but subsequently far fewer have been seen. Poor weather at the start of both the 2023 and 2024 seasons may have suppressed the totals: 12 in 2023 and 14 in 2024. The literature suggests that there can be a small second brood in August, but up to now we have seen no sign of this. In common with most of the other Skippers, this species is more likely to be seen on the western transect.

**Grizzled Skippers** emerge at a similar time to Dingy Skippers and, again, the delayed start in 2020 and poor early weather in 2023 are likely to have accounted for the low numbers of sightings in these two years. Early poor weather in 2024 is also likely to have affected the numbers and sightings only rose from 3 in 2023 to 9 in 2024. Hopefully sightings will increase further in the future.

**Silver-spotted Skippers** have always been something of a rarity on Seaford Head. They are single brooded and have the latest flight season of all the Skippers that are seen during the surveys: our sightings last from mid-July until the end of August. At various stages in their life-cycle they require considerable warmth and short broken swards. Recent disease amongst rabbits, lack of other grazing and mid-summer cool spells may have contributed to the decline in our sightings: from 14 in 2020 to only 1 in both 2023 and 2024. They are mainly seen on the east of the Head.

**Table 15 Flight patterns for Hesperiiidae: Skippers observed in the 2024 survey and averaged across 2018,2019,2021,2022 & 2023.**

**(There were no Skipper sightings after week 23 of the surveys)**

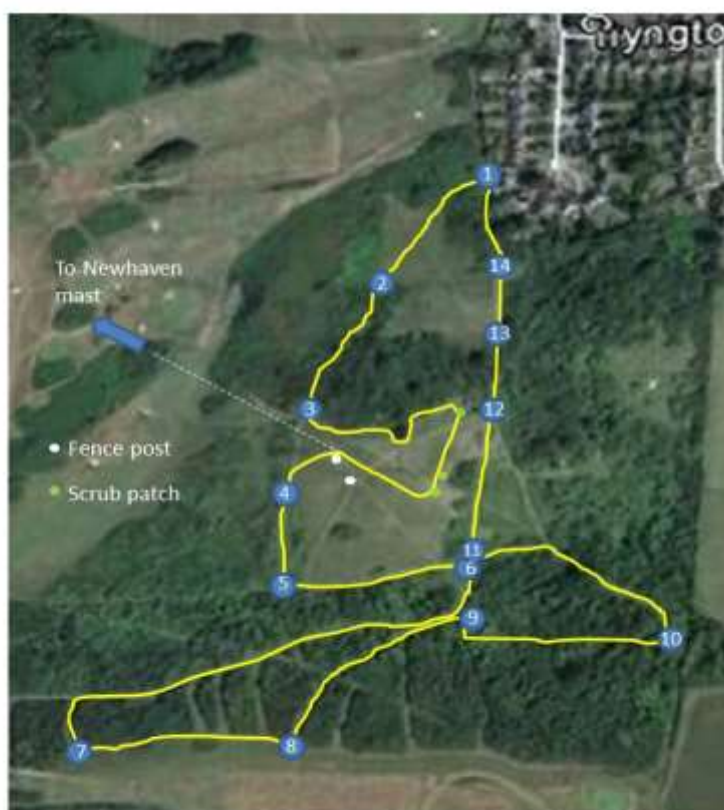
		April				May				June				July				August				Sept	Total		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		22	23
5yr avge	Dingy Skipper	0	0	0	0	2	7	19	7	6	2	2	1	0	0	0	0	0	0	0	0	0	0	0	46
2024	Dingy Skipper	0	0	0	0	0	4	0	0	7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	14
5yr avge	Essex Skipper	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	5	
2024	Essex Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
5yr avge	Grizzled Skipper	0	0	0	0	1	2	4	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	15	
2024	Grizzled Skipper	0	0	0	0	0	2	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
5yr avge	Large Skipper	0	0	0	0	0	0	0	0	1	2	5	4	6	6	1	1	1	0	0	0	0	0	27	
2024	Large Skipper	0	0	0	0	0	0	0	0	0	0	1	6	1	11	2	2	0	3	4	0	0	0	30	
5yr avge	Silver-spotted Skipper	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	1	1	1	0	8	
2024	Silver-spotted Skipper	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
5yr avge	Small Skipper	0	0	0	0	0	0	0	0	0	0	2	7	4	18	7	7	1	0	0	0	0	0	46	
2024	Small Skipper	0	0	0	0	0	0	0	0	0	0	0	2	3	18	0	14	11	4	0	0	0	0	52	
5yr avge	Small/Essex Skipper	0	0	0	0	0	0	0	0	0	0	1	3	18	10	9	8	5	2	0	0	0	0	56	
2024	Small/Essex Skipper	0	0	0	0	0	0	0	0	0	0	0	0	8	4	43	1	6	6	1	0	0	0	69	

## Section 5 Butterflies and the transect sections

### 5.1 Introduction

The map on page 1 of this report showed the approximate areas covered by the two Seaford Head butterfly transects, but not the actual route of the transects, nor any details of how they were divided into sections. The following two maps provide these details.

**Figure 5 Western survey transect**



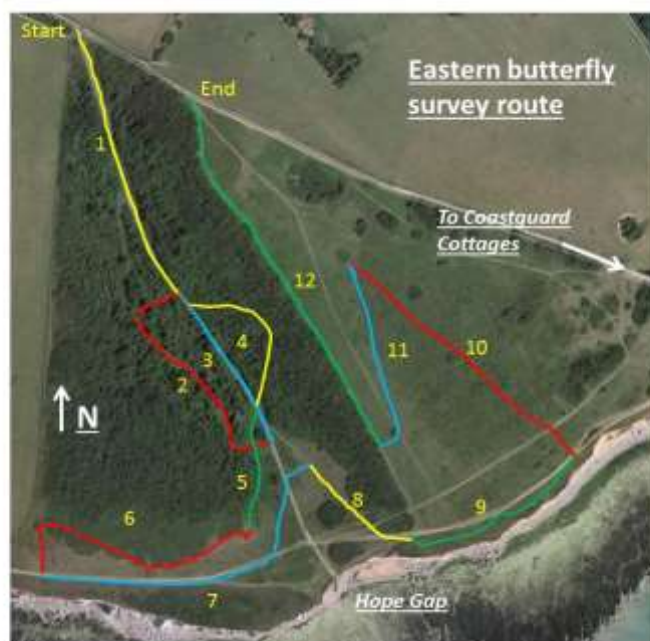
The western transect is divided into 14 sections and has a total length of 2100 metres. It covers a mixture of open grassland, wide rides, and several enclosed tracks (sections W2, W9, W10 and W12) through tall scrub or patches of woodland. This mixture of open grassland, hedgerows and shady tracks is reflected in the variety of species most frequently recorded on the transect (see Table 16). In particular, because of the shadier sections, this transect accounts for a large majority (90%) of all our Speckled Wood sightings.

Table 16 Species most often seen on the western transect					
<i>(combined multi-year data includes 2018,9,2022 and 2023)</i>					
	Multi-year	2024		Multi-year	2024
<b>Meadow Brown</b>	1748	593	<b>Small Heath</b>	1122	117
<b>Common Blue</b>	1331	322	<b>Speckled Wood</b>	791	170
<b>Gatekeeper</b>	1197	222			

The eastern transect is 2835m long and has 12 sections ranging in length from 103m to 394m. More than half of the transect crosses open grassland, while much of the remainder consists of open rides. The only enclosed/shaded areas are in section E2 and parts of sections E3 and E4, so the glade loving Speckled Woods are not one of the more frequently seen species on this transect.

Table 17 Species most often seen on the eastern transect					
<i>(Combined multi-year data includes 2018 - 2023)</i>					
	Multi-year	2024		Multi-year	2024
<b>Meadow Brown</b>	5072	1548	<b>Gatekeeper</b>	1889	275
<b>Small Heath</b>	3104	371	<b>Small White</b>	652	146
<b>Common Blue</b>	2737	483			

**Figure 6 Eastern survey transect**



Since the sightings are recorded separately for each transect section, we are able to address questions such as: where do we see the most butterflies and which sections attract the most species.

### 5.2 Where do we see the most butterflies. (Rates of sightings)

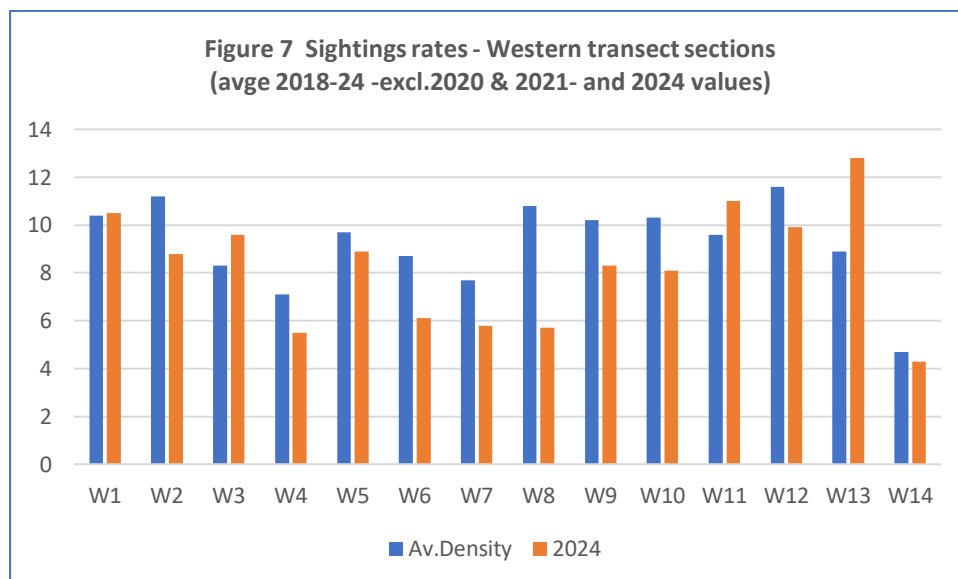
The rates of sightings are the average numbers of butterflies we have seen (per survey) along a fixed length of each transect section. Since the sections vary in length, their lengths are taken into account when converting the number of sightings into rates. The figures in the plots and tables have been weighted to be the average number of sightings along a 250m length of each section.

Two rates are reported for each section: one is a multi-year average , the other an average of the 2024 sightings. The multi-year averages are based on all the 2018-2024 sightings in the east and those from 2018,19,22 ,23 and 24 in the west. The two omitted years (2020 and 2021) are those when the western transect was modified to conform to Covid proximity rules.

The multi-year average sightings rates across both transects range from a high of 20.7 sightings per 250m in the 5<sup>th</sup> section of the eastern transect (E5) to a low of 4.3 in two eastern sections: E3 and E8. The rates are plotted in Figures 7 and 8, and the corresponding values are in Appendix Tables A.3-4.

Of the two transects, the west is, by far the more homogeneous in relation to the rates of sightings: eleven of its fourteen sections have rates that are between 8 and 11.6 sightings per 250m. Two have rates between 6 and 8 and only one has a rate lower than 5. The higher multi-year rates are found in sections with several types of habitat, including those that cross open managed grassland, follow wide tracks with good edge ecotone, or go along rabbit or footfall managed tracks alongside open meadows. The only section with a much lower rate (W14) is part of the busy main access track, running between tall woody edges with little floristic interest.

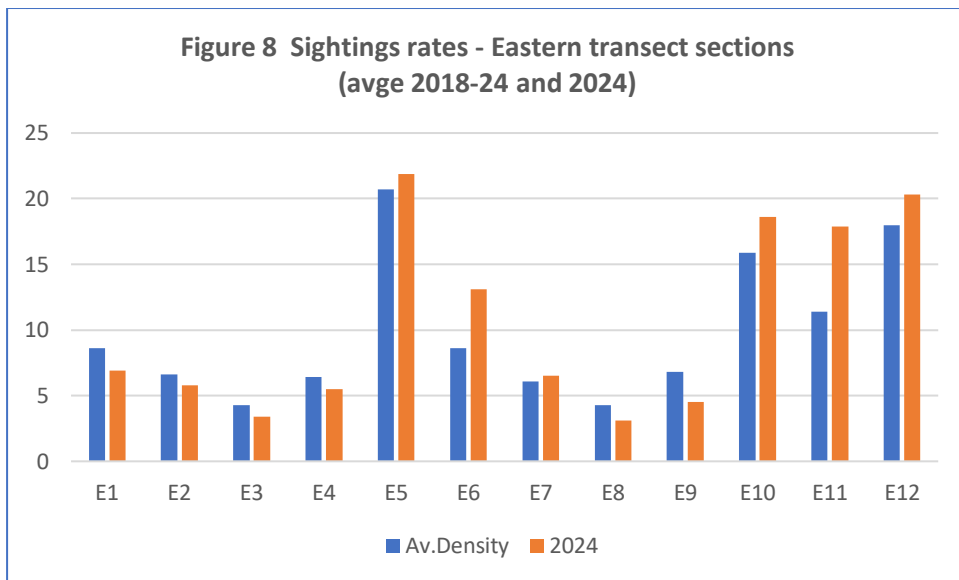
Sightings rates can vary considerably between years depending on the weather and condition of the sections. The extent of these variations can be seen in the differences between the multi-year and 2024 averages in the Figures 7 and 8. For example, there are lower than average rates in 2024 for western sections W6, W7 and especially W8. In these cases, the lower values might be explained by the recent lack of track-edge ecotone following machine cutting.



The eastern sections have a greater range of rates than those in the west. Three of the sections, E5 E10 and E12, have rates of 20.7, 18 and 15.9. These are greater than those of any western section, where the highest values are 11.6 in W12 and 11.2 in W2. But the eastern transect has two sections, E3 and E8, with multi-year rates of 4.3 – lower than any in the west. Section E3 is a relatively shaded part of the main path down to Hope Gap with low ecotone edges, and section E8 is a diagonal route across the short open grassland climbing up to the coast path above Hope Gap, which is very exposed to south-westerly winds.



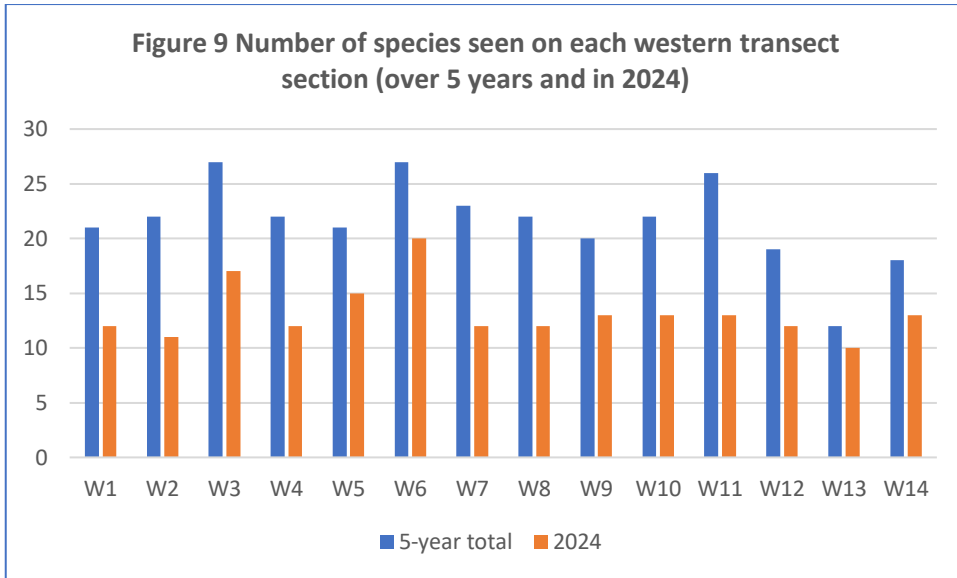
The characteristics of the eastern sections with the higher rates can be similar to those with the higher rates in the west: and include those that cross managed open grassland, or follow rabbit or footfall managed tracks alongside open meadows. The star performer in the east is E5, a short section which had the highest average rate (21.3) of both transects from 2018-2022. These years of high rates in E5 followed clearance with a mechanical scythe which created a small, highly floristic, meadow. After 2022, E5 became rather overgrown and rates dropped, but it has revived following recent management to have the highest single-year rate on the Head in 2024.



### 5.3 Where do we see the greatest variety of species

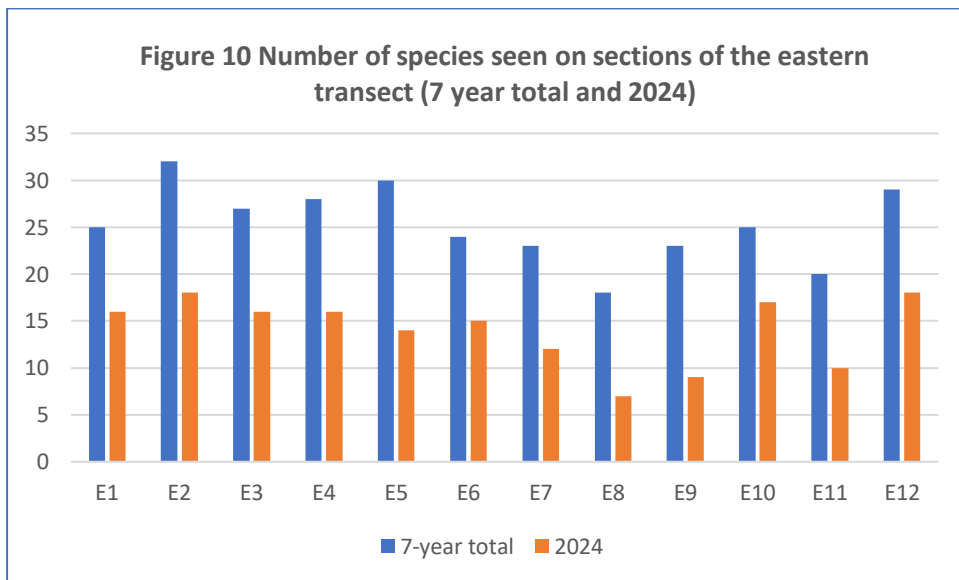
The next two plots show the total numbers of species seen during the same periods covered in the plots of rates.

Over the five years 2018,9,22,23 and 24, we saw 20 or more species on eleven of the fourteen western sections – with a maximum of 27 in sections W3 and W6. Along two of the remaining three sections, we saw 18 and 19 species during these 5 years. The least variety was recorded in W13, where we have only seen 12 species.



Again, there is more variation in the east. Since the surveys started, the most species (32) have been seen in E2 – a section with very diverse habitats: some open ground, several scallops, some narrow very sheltered sections and a variety of flowering plants. Section E5 - which has been mentioned for its high rates of sightings, came second with 30 species.

There are no sections in the east where the variety as low as the 12 species seen in western section W13. The two lowest multi-year eastern values are 18 (in E8) and 20 (in E11). It is, of course, possible that the higher multi-year figures for the east are partly due to their being based on 7 years of sightings rather than the five used for the west.



#### 5.4 The chalk grassland CG indicator.

The chalk grassland CG indicator is a measure specific to chalk grassland that was suggested by Neil Hulme for use in our surveys on Friston Gallops. It is the ratio of the numbers of sightings of species that are assigned to positive and neutral groups.

<b>Table 18 Positive and neutral indicator species used in the CG(P/N) indicator</b>			
<b>Positive (P) indicator</b>		<b>Neutral (N) indicator</b>	
Adonis Blue		Brimstone	Red Admiral
Brown Argus		Clouded Yellow	Ringlet
Chalkhill Blue		Comma	Small Skipper
Common Blue		Essex Skipper	Small Tortoiseshell
Dark Green Fritillary		Gatekeeper	Small White
Dingy Skipper		Holly Blue	Small/Essex Skipper
Green Hairstreak		Large Skipper	Speckled Wood
Grizzled Skipper		Large White	White sp.
Silver-spotted Skipper		Marbled White	
Small Blue		Meadow Brown	
Small Copper		Painted Lady	
Small Heath		Peacock	
Wall			

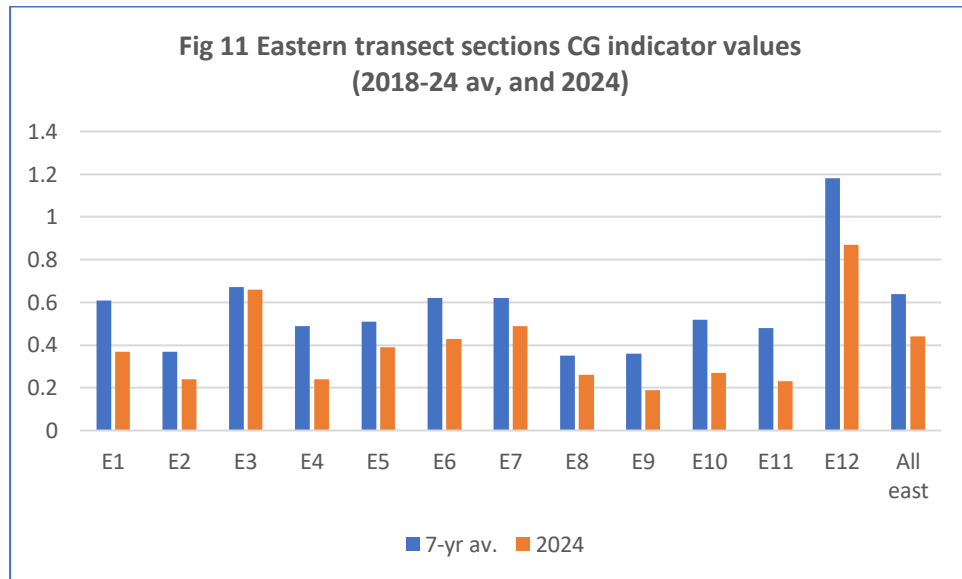
Neil Hulme describes the indicator as: *“the number of sightings of those (positive) species which will reflect the prevalence of shorter and mixed shorter/longer sward mosaics, with a more open structure within which many larval food plants will be present in microhabitats suitable for breeding success (they may, of course, be widely present within microhabitats unsuitable for breeding success); divided by the sightings of (neutral) species, butterflies of the wider countryside, those associated with scrub edges and those which are tolerant of much ranker, humid swards. Some of these may often commonly occur on chalk grassland assemblages, but they can also be very numerous in predominantly longer-sward habitats on neutral and even slightly acidic soils.”*

It is worth noting that because the indicator is a simple ratio of positive to neutral species, it is equally sensitive to variations in the numbers of both groups, so, for example, decreases in the indicator values may be caused by an increase in the numbers of neutral species (such as Meadow Browns) rather than any decline in the numbers of the positive group. Moreover, caution is required when interpreting changes if either of the two groups is represented by very small numbers of sightings – as can occur in some of the shorter transect sections. Values can also be quite volatile between years, so although both the 2024 and multi-year averages are presented here, the discussion mostly concentrates on the latter (the blue bars in the graphs).

There is only one section (E12) on the eastern transect where the average sightings from 2018-2014 include a majority of the CG positive species – producing an indicator value greater than 1.0. This

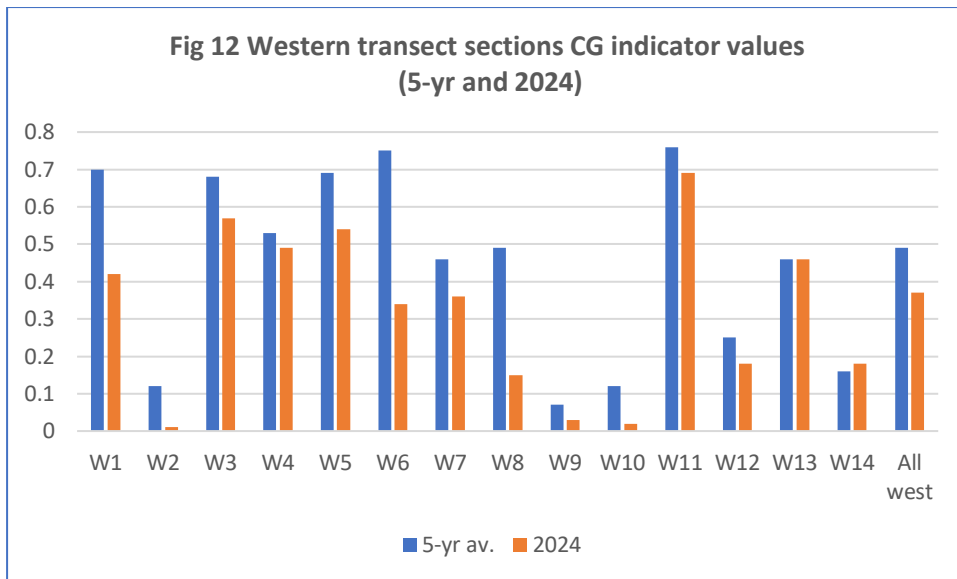
section is a rabbit grazed and foot worn path between a good hedgerow and a maintained meadow. In his 2012 National Vegetation Classification (NVC) survey, Graeme Lyons identified most of this section, and a wide strip of the adjoining meadow, as CG2 Sheep’s Fescue - Meadow oat-grass chalk grassland.

As for the other sections, Figure 11 shows that in E1, E3, E6 and E7 the CG indicator values are approximately 0.6 – so the positive species sightings are close to 60% of the total, but in the remainder the values are only between 0.5 and 0.3. (The corresponding values are in Tables A.7-8).



The western section values are lower than the eastern (though they may appear greater because the plots have different scales). The highest western value is only 0.75, in section W11. This section is similar to E12: a short sward track subject to rabbit grazing and wear from footfall, between a good hedgerow and a maintained meadow. However, unlike the meadow adjacent to E12, Graeme Lyons assigned this to the MG5 NVC, rather than a chalk grassland NVC. In the multi-year figures, one section (W6) also has a value greater than 0.7, but for the past two or three years, it’s proportion of positive species has considerably declined, in part due to lack of edge ecotone, to produce a CG value of 0.34 in 2024.

The western transect includes several narrow sections, especially W2, W9 and W10, that are paths through blocks of scrub where there is very little of the habitat favoured by the chalk grassland positive species. Here the positive species account for no more than an eighth of all sightings, producing CG indicator values less than 0.12.



There are two final points to note on the CG indicator values.

- Firstly, in nearly all of the sections of both transects, the 2024 values are lower, in some cases much lower, than the multi-year averages (which also, against statistical best practice, include the 2024 results). One of the immediate reasons for this is the much greater numbers of Meadow Brown sightings (a CG neutral species) in 2024, rather than any substantial decline of the CG positives. The greater presence of Meadow Browns may have several explanations, not least this year’s weather, but changes in the character of some of the meadow areas due to a reduction in grazing, both by livestock and rabbits, might also have a role.
- In preparing the 2021 report, the section average CG values were compared with the NVC mapping carried out by Graeme Lyons in 2012. Although there has been no attempt to systematically repeat the comparison for this year’s report, a cursory glance at the figures suggests that the CG indicator values do reflect the character of the grassland that was identified in the mapping. So, the indicator values tend to be higher in areas with chalk grassland communities: the CG2-4 NVCs and their subgroups. However, the situation is complicated on Seaford Head because MG5b, one of the main NVCs on the reserve, shares many of its flowering plants with the CG communities.

## **6. Summary and concluding note**

### **6.1 Summary of main findings**

***In this section there are occasional references to individual transect sections e.g., E6 refers to the sixth section of the eastern transect. Maps showing the locations of these sections can be found on page 21 and 22.***

The current series of surveys on Seaford Head started in 2017 when we proposed and piloted two survey routes (transects) in the east and west of the Head.

Both transects were redesigned for 2018 after an analysis of the 2017 results and discussions with Sussex Wildlife Trust. The two transects aimed to cover a representative sample of the many habitats on the Head, including areas of particular interest to Sussex Wildlife Trust (SWT). The eastern transect is based in the rides and grassland between South Barn and Hope Gap; the western route covers the grassy slopes and rides between Chyngton Road and the thirteenth fairway of the golf course.

When the 2018 routes were registered with the UK Butterfly Monitoring Service (UKBMS), we hoped to keep them unchanged for at least five years in order to collect a substantial body of comparable annual data. The eastern transect has been unchanged since 2018, but sections of the western transect were bypassed in 2020 and 2021 to comply with Covid distancing regulations.

Consistent with UKBMS guidelines, surveys are conducted weekly on both transects, starting on April 1st and finishing at the end of September – though they can be optionally extended. More generally, the survey methodology, covering issues such as how and under what conditions when we record, are based on UKBMS guidelines for “Pollard Walk” surveys.

Since 2018, we have carried out 369 surveys and recorded 33,701 sightings of 35 species. All our sightings have been uploaded to UKBMS, except for those from the modified western transect in 2020 and 2021. These were lodged with the Sussex Biodiversity Records Centre Database.

The 2024 surveys had an inauspicious start due to poor weather. Sightings were well below average in the first seven weeks when we saw very few of some early emerging species. Conditions were also patchy during July, but from early August to September sightings were well above average. By the time we ended the surveys in mid-October, we had completed 56 surveys and recorded 5077 sightings of 31 species: the third highest number of sightings since the start of the surveys.

Over the years, the range of species seen on the transects has been relatively stable and of the 31 seen in in 2024, twenty-five have been recorded every year since 2018. These are listed in Table 19.

The additional ten species recorded since 2018, but not seen every year, are listed in Table 3 (on page 5). Six of these were seen in 2024: Green Hairstreak, Brown Argus, Chalkhill Blue, Green-veined White, Essex Skipper and Orange Tip.

Since the start of the current surveys, the same four species have dominated the sightings: Common Blues, Meadow Browns, Small Heaths and Gatekeepers. From 2017 to 2023 these have represented between 66% and 78% of all annual sightings and they accounted for 77% of the 2024 total. They are

more often recorded on the eastern transect – where they comprised 83% of this year’s sightings – compared with 68% in the west.

**Table 19 The 25 species seen every year since 2018 - their total sightings, annual averages and 2024 numbers.**

*Including the percentage difference between the 2024 sightings and the previous 6 year average*

	total	avge				total	avge		
	2018to23	2018to23	2024	% from avge		2018to23	2018to23	2024	% from avge
Meadow Brown	7736	1289	2141	66	Gatekeeper	3866	644	497	-23
Red Admiral	339	57	79	39	Brimstone	43	7	5	-29
Peacock	168	28	37	32	Large White	879	147	102	-31
Small White	859	143	188	31	Small Heath	4516	753	488	-35
Speckled Wood	967	161	202	25	Grizzled Skipper	83	14	9	-36
Small/Essex Skipper	330	55	69	25	Marbled White	796	133	74	-44
Small Skipper	258	43	52	21	Dark Green Fritillary	78	13	5	-62
Large Skipper	155	26	30	15	Dingy Skipper	233	39	14	-64
Wall	221	37	40	8	Painted Lady	194	32	5	-84
Comma	142	24	26	8	Clouded Yellow	127	21	3	-86
Common Blue	4738	790	805	2	Silver-spotted Skipper	55	9	1	-89
Holly Blue	47	8	7	-13	Small Tortoiseshell	58	10	1	-90
Ringlet	492	82	69	-16	White sp.	366	61	4	-93
Small Copper	599	100	80	-20					

Of these dominant four, Meadow Browns were the species seen most frequently in 2024 (2141 sightings), followed by Common Blues (805), Gatekeepers (497), and Small Heaths (488). There is a considerable gap between the numbers of these species and those that follow: Speckled Woods (202), Small White(188) and Large White(102). No other species produced more than 80 sightings in 2024.

The list of species in Table 19 is sorted by the difference between their 2024 sightings and their average over the previous six years. Sightings of many species in 2024 were within a reasonable distance (say between -30 to +30%) of the average. But there are several where the differences and possible trends are worth a mention.

- 2024 was very good year for Meadow Browns – sightings were 66% above the 6-year average. Good weather during the second half of their emergence period, the rather longer grasses on the Head due to limited grazing, and their ability to fly in less sunny conditions than many other species, may all have contributed.
- As usual, the migrant species had mixed fortunes. Red Admirals had a relatively good year 39% above average, but only 5 Painted Ladies were seen, compared with an average of 32. And only 3 Clouded Yellows were seen compared with an average of 21.

- Numbers of both Small and Large Whites exceeded our averages – especially the former. As in a few previous years, these 2024 totals were boosted by late continental arrivals in September.
- In 2024 only four sightings were assigned to the combined White Sp. group: the 6-year average is 53. Since 2023, surveyors have been encouraged to produce more precise identifications of Whites and avoid this combined group, which is not accepted by UKBMS.
- Early emergers were hit by poor Spring weather in 2024 which may account for the below average sightings of Dingy and Grizzled Skippers and Small Tortoiseshells. However, the averages for both Dingy Skippers and Small Tortoiseshells are inflated by much higher sightings in the early years of the surveys, and their 2024 sightings are not inconsistent with those of more recent years.
- In 2024 the later and more abundant Large and Small Skippers did relatively well as the weather had improved by the time they emerged.
- Spells of poor weather in July may have suppressed Marbled White numbers.
- Green Hairstreaks are omitted from Table 19, because they were not recorded in every year. They were not seen in 2020, probably due to our Covid induced late start. But in 2024, Green Hairstreaks were seen more often than in most other years of the surveys and were much admired by surveyors.
- The 2024 sightings could suggest a continuing revival of Small Copper numbers. They are a species prone to population collapses in cool wet summers and sightings fell to 23 in 2022 – having been between 87 and 162 in previous years. But they have since risen to 42 in 2023 and to 80 in 2024.
- Ringlet sightings had been building from 33 in 2018 to 161 in 2022, when they were most frequently seen on the hedgerow edges of sections W5 and W6. But the numbers seen on the surveys have since fallen, following quite radical edge cutting in these sections.
- The number of Green-veined White sightings in 2024 (15) was a joint high with 2018. But it is impossible to say whether this reflects any change in the abundance of the species, or greater ability of the surveyors to distinguish the Whites.

More details of all of these can be found in Section 4 of the main text.

The 2021 report introduced three summary indicators that may reflect conditions on the 26 transect sections: 12 in the east and 14 in the west. These indicators are:

1. A measure of the density (rates) of sightings per section. This might be interpreted as a possible indicator of the quality of the habitat, such as the availability of: nectar sources, shelter and breeding locations. The indicator is the average numbers of butterflies seen in a single survey along 250 metres of each transect section. When a section is shorter than 250m, the values are weighted-up.
2. The total number of species recorded per section is used as a crude indicator of species diversity and therefore of the range of habitats in each transect section.
3. A measure specific to chalk grassland: the ratio of the sightings of “chalk positive” species with a preference for the types of short/fine sward and combinations of flora



found on chalk grassland to those of “chalk neutral” species which have other, or less specific, habitat preferences.

The following summary of the indicator values covers all sections of both transects. Unless otherwise stated, all values are multi-year averages. For the eastern transect, these are based on all years from 2018, but those for the west they exclude data from 2020 and 2021 when some sections of the transect were by-passed.

Three sections of the eastern transect have **sightings rates** greater than 15 per 250metres: E5, E10 and E12. The fourth highest E11, has a 2018-2024 average of 11.4, but its single year rate in 2024 is 17.9. Since 2022, both E11 and E10 have been periodically cut to remove coarser grasses and encroaching scrub and encourage a more open sward with greater floristic interest. The section with the second highest rate (E12) is a path of short sward alongside a meadow that is regularly cut or grazed. The highest rate is recorded in section E5, which was drastically cleared several years ago and quickly developed a range of flowering plants that produced by far the highest rates of sightings of all the transect sections on the Head. By 2023 it was becoming somewhat overgrown, but it has subsequently been cleared and by 2024 again had the highest rate among the eastern sections.

Most of the other eastern sections tend to have rates between 5 and 10 sightings per 250m, but E3 and E8 both have rates below 5 and are the joint lowest on the Head.

There is less variation in the western rates, where the multi-year values for most of the sections are between 7 and 12. Six sections have values between 10 and 12. The highest is 11.6 in W12 – though this is lower than the rates in three of the eastern sections. The lowest western rate is in section W14, part of the main access track.

Arguably, the **numbers of species seen along a transect section** tend to reflect the variety of habitats in a transect section. Ironically, this may be a negative indicator of our transect design, which attempted to base each section on a single habitat. Sections with high species diversity may not be those with the highest rates of sightings. The latter is arguably more a reflection of habitat quality. For example, one of the sections with a high rate of sightings on the eastern transect (E11) was 11<sup>th</sup> lowest (out of 12) in the number of species seen. The greatest diversity occurs in some of the more complex rides. For example, since the start of the surveys 32 different species have been seen along the very varied section E2, and 29 have been recorded in E12 – the latter consisting of a short sward path, bordered by a mixed hedgerow and a relatively floristic meadow. There was also high diversity (30 species) in the small and highly floristic section (E5).

Since 2018, thirty different species have been recorded on the entire western transect. Two western sections W6 and W3 stand out for their diversity of species and we have seen 27 species in both of these during the five years on which the values are based (2018,19,22, 23 and 24). The two Covid affected years (2020 and 2021) are omitted because of the modifications to the western transect. It is, of course, debatable whether the numbers of species seen in the western sections are lower than those in the east because they are based on data from five rather than seven years.

The single year figures for diversity are inevitably lower than the multi-year values and can be quite volatile. However, in recent years, the use of heavier edge cutting machinery in the west does seem to correspond to a reduction in both the sightings rates and diversity along some of the rides.

**The chalk grassland CG condition** indicator is *the ratio of the number of sightings of species with a preference for the types of short/fine sward found on chalk grassland (the CG positive species) to those of other species (the CG neutrals)*. So, it will have values of 1.0 or more when butterflies favouring the shorter sward and vegetative communities found on chalk grassland are in the majority. In 2024, none of the individual transect sections had a value greater than 0.87, but the multi-year average for section E12 was 1.18 and its single year value for 2022 was even higher (1.85). This has consistently been the only section with CG indicator values greater than 1.0

The single year 2024 CG values for the both western and eastern transects are lower than the transect multi-year averages – by 31% in the east and 24% in the west.

Interpreting changes over time in the CG values is not entirely straightforward because a decrease may not mean a decline in the sightings of the positive species, but an increase in the neutrals. Both factors seem to be responsible for the decline in CG values in 2024. Of the two main CG positive species on the Head, Common Blues had above average sightings, but there was a decline in the number of Small Heaths. However, both of these variations were outweighed by the increase in the sightings of CG neutral Meadow Browns, which is likely to have produced the lower CG values in almost all transect sections in 2024. The exceptions, transect sections where multi-year and 2024 CG values are similar, are mostly those with habitats least likely to attract Meadow Browns.

As noted in the 2021 report, the section average CG values have been compared with the vegetative communities mapping carried out by Graeme Lyons in 2012. Again, it looks as though the CG indicator values do reflect the character of the grassland, as they tend to be higher in areas with chalk grassland vegetative communities: the CG2-4 communities and their subgroups. However, the situation is complicated because a major grassland NVC in the east (MG5b) is one which shares many of its flowering plants with the CG communities.

These indicators should have some value in monitoring the relation between habitat and butterflies in specific areas of the Head, but they must be very cautiously interpreted because of the relatively small number of annual sightings in some sections, and the possibility of large fluctuations due to weather or simply random factors, rather than any systematic change in habitat.

## **6.2 Concluding/authorial note**

Earlier in this summary, and in the species reports in section 4, there have been some speculative attempts to relate variations in sightings of individual species to factors such as habitat management and weather conditions. This final sub-section provides a broad overview of those factors likely to influence both the actual butterfly numbers and how many we get to see and record during the surveys.

The **weather** influences both abundance and recording in several ways. For example:

- Cold or very wet winters can kill overwintering adults and larvae.
- Periods of poor weather later in the year will reduce the numbers successfully emerging.

- Weather anomalies can hasten or slow the development of nectar sources and larval food plants, making them unavailable when butterflies emerge and breed. More generally, weather conditions may encourage the development of vegetation that is unsuited to the resident butterfly population and produce changes in the distribution of species.
- As all surveyors are aware, the proportion of the butterflies present that will actually be seen is substantially influenced by the weather at the time of the survey.

In 2024, as in 2023, the poor early weather will have produced unsuitable conditions for the early species to emerge and we had very few sightings in the first weeks of surveying. Emergers also faced similar problems during some weeks in July. Conversely, relatively good late-summer weather encouraged emergence, especially of single brooded species that were not reliant on the success of previous broods earlier in the year.

One problem throughout 2024, which affected surveyors more than the butterflies, was trying to find weather windows that satisfied UKBMS criteria. UKBMS criteria are relatively relaxed and they will accept data from surveys conducted when the temperature is 13°C, wind speed is 24mph and there is only 60% sun; or when there is no sun, the wind speed is 24mph and the temperature is 18°C. But as we all know, sightings will be far higher when the sun is fully shining and there is no wind. UKBMS accepts that there will be weeks when there are no suitable weather windows, but these are unusual in Seaford. In 2024 we only lost one transect survey for one week because the weather failed to meet UKBMS criteria. But we often struggled to arrange survey times in advance because the weather was fluctuating and forecasts were understandably unreliable. And given these difficulties of advance planning, together with sustained periods of poor weather, we frequently ending-up surveying in sub-optimal conditions – albeit ones that were acceptable to the UKBMS.

In previous years I have tried to relate the patterns of survey sightings to downloaded Met Office weather data, but there are limits to what data are freely available and daily records from a Seaford weather station could well be helpful in understanding variations in sightings.

Equally, it would be useful to have a diary of the emergence of the main flowering plants on the Head, and/or those that are larval food plants for key indicator butterfly species. This would enable us to assess whether butterfly emergence coincided with suitable breeding conditions.

The three indicators discussed in section 5 of the report, and briefly mentioned earlier in this summary, were devised in order to assess the condition of the **habitat** in each of the transect sections. The next part of this note briefly describes how weather and habitat management influenced these conditions.

There were several periods in 2024 when the weather encouraged rapid vegetative growth and sections of the transects became overgrown. Fortunately, volunteer work parties have responded quickly and have been able to keep the transects clear for most of this year. However, SWT cattle are still restricted and have not been available to graze the eastern meadows. SWT are currently exploring the possibility of using local cattle on the Head. In the absence of grazing cattle, “cut and collect” mowing with light machinery has been used to manage sward height and reduce scrub development on the eastern meadows. Arguably, we are still benefitting from work done in 2022 on

parts of the eastern transect and the eastern sightings have risen from 2156 in 2022 to 2849 in 2023 and to 3221 in 2024. But mowing, unlike cattle, does not produce broken sward that encourages plant development. And it is limited to level ground.

Sheep are regularly and successfully used to maintain the western grassland, and were also briefly put on the eastern meadows in 2024. In the past two or three years, heavy mechanical edge cutting, has been used on some of the wider western rides where there are limited maintenance options. But this may have decreased the ecotone of some ride edges and contributed to the decline in sightings along some western sections. But it is debatable whether this has had an impact on the numbers and diversity of butterflies on the Head as a whole, rather than just what we see and record on the transect.

Grazing by rabbits is crucial for maintaining herb rich short sward chalk grassland and the long term decline in rabbit numbers has had an impact on the condition of parts of Seaford Head. From personal observation, there have been minor signs of a rabbit revival, but it is unclear whether rabbit numbers are actually increasing and whether there is any reduction in the impact of rabbit haemorrhagic disease (RHD) and myxomatosis.

Post-Covid, the habitats on the Head had to cope with a massive increase in visitor numbers, especially along the coast path and in the eastern areas reached from South Hill Barn. There are some areas where high visitor numbers have adversely affecting the habitat, such as creating bare patches on the coast path, but increased footfall may help maintain low tight sward on some paths, though it could also discourage rabbit grazing – as might any increase in dog walking.

More data on the factors influencing the condition of the habitat could help us test for any relation with the numbers of butterfly sightings. For example, it would be useful if surveyors could note any recent habitat management on or near the transects, though this is difficult when the transects are not regularly walked by the same surveyors. More challenging still, can we and/or SWT, devise and implement a method for establishing whether rabbit numbers on the Head are changing, and in what direction.

As for monitoring visitor numbers, Seaford Town Council is conducting a long-term vehicle monitoring exercise at South Hill Barn, presumably to decide whether there is any need to increase parking or the width of the access track. But this will not measure footfall directly. Nor will it count the very considerable number of visitors arriving via the coast path.

Despite this complex set of factors impinging on the butterflies and habitats of the Head, and comments in the national press of a decline in butterfly numbers, our 5077 sightings in 2024 were the third highest since the start of our surveys 4% higher than those in 2023 and 27% higher than 2022. The species distribution remains relatively stable, although there has been a slight decline in the number of sightings of species associated with chalk grassland vegetative communities and an increase in sightings of those that can cope with a wider range of conditions – especially Meadow Browns. In 2024, as in 2023, Meadow Brown sightings contributed substantially to both the overall increase in the all-species annual total and the proportion of CG neutral sightings. In 2023 Meadow Brown sightings increased from 958 to 1645: a 72% rise from what had, admittedly, been a poor year in 2022. And they increased further to 2141 in 2024.

As already noted, the weather was probably responsible for some species having below average sightings in 2024, especially the early emerging Skippers, and species with broods emerging in July, but there were several encouraging signs: not least the revival of Small Coppers and the above average sightings of Green Hairstreaks.

In concluding last year's report, I questioned whether this is an appropriate scale of reporting and wondered if something much shorter would be preferred. Since the 2022 epic I have tried to reduce the length of the reports, but have not entirely succeeded with either the 2023 or 2024 versions. Comments on this would be very welcome.

Finally, and again, many thanks must go to the many surveyors who have reported the 33,701 sightings since our start in May 2017 and especially to Clare Mayers for all her work on the rotas and the data transfer to UKBMS. There were a number of new people on the surveys this year and I hope that the weather and associated problems of arranging survey times hasn't been too discouraging. Nor the experience of the early weeks, when little was seen in very marginal conditions. Let's hope for better weather in 2025.

## Appendix A Supplementary Tables

### 1. UKBMS Calendar

Table A.1 UKBMS Survey Calendar							
Week	Dates		Week	Dates		Week	Dates
1	April 1 - 7		11	June 10 - 16		21	August 19 - 25
2	April 8 - 14		12	June 17 - 23		22	August 26 - Sept 1
3	April 15 - 21		13	June 24 - 30		23	September 2 - 8
4	April 22 - 28		14	July 1 - 7		24	September 9 - 15
5	April 29 - May 5		15	July 8 - 14		25	September 16 - 22
6	May 6 - 12		16	July 15 - 21		26	September 23 - 29
7	May 13 - 19		17	July 22 - 28		27	Sept 30 - Oct. 6
8	May 20 - 26		18	July 29 - August 4		28	October 7 - 13
9	May 27 - June 2		19	August 5 - 11		29	October 14 - 20
10	June 3 - 9		20	August 12 - 18		30	October 21 - 27
	These are optional - the standard calendar ends with week 26.						

## 2. Annual sightings of each species

Species	Numbers seen per year								N in east and west		% in east and west	
	2018	2019	2020	2021	2022	2023	2024	All years	N East	N West	% East	% West
Adonis Blue	2		1	9	9		0	21	20	1	95.2	4.8
Brimstone	3	9	1	22	3	5	5	48	32	16	66.7	33.3
Brown Argus	5	20	2	8	0	11	3	49	38	11	77.6	22.4
Chalkhill Blue	6	16	7	6	14		2	51	50	1	98	2
Clouded Yellow	32	8	36	21	25	5	3	130	113	17	86.9	13.1
Clouded Yellow (pale)	2							2	2		100	0
Comma	46	11	4	26	34	21	26	168	59	109	35.1	64.9
Common Blue	1159	327	934	805	760	753	805	5543	3220	2323	58.1	41.9
Dark Green Fritillary	10	20	18	20	4	6	5	83	69	14	83.1	16.9
Dingy Skipper	37	82	5	74	23	12	14	247	90	157	36.4	63.6
Essex Skipper	8	5		6	2	9	1	31	10	21	32.3	67.7
Gatekeeper	605	648	587	678	539	809	497	4363	2164	2199	49.6	50.4
Green Hairstreak	22	77		2	2	1	22	126	76	50	60.3	39.7
Green-veined White	15	6		3	0	1	15	40	20	20	50	50
Grizzled Skipper	18	17	3	26	16	3	9	92	57	35	62	38
Holly Blue	5	8	4	3	1	26	7	54	5	49	9.3	90.7
Large Skipper	41	37	16	20	19	22	30	185	86	99	46.5	53.5
Large White	144	96	120	375	50	94	102	981	686	295	69.9	30.1
Marbled White	112	153	82	130	167	152	74	870	509	361	58.5	41.5
Meadow Brown	1561	1232	888	1452	958	1645	2141	9877	6620	3257	67	33
Orange Tip				1	0		1	2	1	1	50	50
Painted Lady	5	131	4	31	20	3	5	199	145	54	72.9	27.1
Peacock	47	43	4	17	29	28	37	205	104	101	50.7	49.3
Red Admiral	19	42	31	103	18	126	79	418	237	181	56.7	43.3
Ringlet	33	78	35	132	161	53	69	561	48	513	8.6	91.4
Silver Washed Fritillary		1			0		0	1	1	0	100	0
Silver-spotted Skipper	11	9	14	11	9	1	1	56	45	11	80.4	19.6
Small Blue	1							1	1		100	0
Small Copper	171	87	162	114	23	42	80	679	515	164	75.8	24.2
Small Heath	1598	796	339	625	587	571	488	5004	3475	1529	69.4	30.6
Small Skipper	51	6	27	49	27	98	52	310	77	233	24.8	75.2
Small Tortoiseshell	20	10	2	9	13	4	1	59	44	15	74.6	25.4
Small White	124	163	119	266	86	101	188	1047	798	249	76.2	23.8
Small/Essex Skipper	50	71	46	51	77	35	69	399	119	280	29.8	70.2
Speckled Wood	230	247	43	49	204	194	202	1169	134	1035	11.5	88.5
Wall	22	24	32	51	65	27	40	261	197	64	75.5	24.5
White sp.	57	60	50	151	40	8	4	370	275	95	74.3	25.7
Grand Total	6273	4540	3616	5346	3985	4866	5077	33703	20143	13560	59.8	40.2

### 3. Rates of sightings in transect sections

<b>Table A.3 Rates of sightings in transect sections</b>					
<i>N seen per survey along 250m of each section</i>					
<b>Eastern transect</b>			<b>Western transect</b>		
<b>Section</b>	<b>7-yr av.</b>	<b>2024</b>	<b>Section</b>	<b>5-yr av.</b>	<b>2024</b>
E1	8.6	6.9	W1	10.4	10.5
E2	6.6	5.8	W2	11.2	8.8
E3	4.3	3.4	W3	8.3	9.6
E4	6.4	5.5	W4	7.1	5.5
E5	20.7	21.9	W5	9.7	8.9
E6	8.6	13.1	W6	8.7	6.1
E7	6.1	6.5	W7	7.7	5.8
E8	4.3	3.1	W8	10.8	5.7
E9	6.8	4.5	W9	10.2	8.3
E10	15.9	18.6	W10	10.3	8.1
E11	11.4	17.9	W11	9.6	11
E12	18	20.3	W12	11.6	9.9
			W13	8.9	12.8
			W14	4.7	4.3

<b>Table A.4 Ranked Section Sightings Rates (Rank 1 = highest)</b>							
<i>N seen per survey along 250m of each section</i>							
<b>Rank</b>	<b>Section</b>	<b>7-yr av.</b>	<b>2024</b>	<b>Rank</b>	<b>Section</b>	<b>5-yr av.</b>	<b>2024</b>
1	E5	20.7	21.9	14	W6	8.7	6.1
2	E12	18	20.3	15	E1	8.6	6.9
3	E10	15.9	18.6	16	E6	8.6	13.1
4	W12	11.6	9.9	17	W3	8.3	9.6
5	E11	11.4	17.9	18	W7	7.7	5.8
6	W2	11.2	8.8	19	W4	7.1	5.5
7	W8	10.8	5.7	20	E9	6.8	4.5
8	W1	10.4	10.5	21	E2	6.6	5.8
9	W10	10.3	8.1	22	E4	6.4	5.5
10	W9	10.2	8.3	23	E7	6.1	6.5
11	W5	9.7	8.9	24	W14	4.7	4.3
12	W11	9.6	11	25	E3	4.3	3.4
13	W13	8.9	12.8	26	E8	4.3	3.1



#### 4. Numbers of species seen in transect sections

Table A.5 Number of species seen in each transect section					
Eastern transect			Western transect		
Section	7-yr total	2024	Section	5-yr total	2024
E1	25	16	W1	21	12
E2	32	18	W2	22	11
E3	27	16	W3	27	17
E4	28	16	W4	22	12
E5	30	14	W5	21	15
E6	24	15	W6	27	20
E7	23	12	W7	23	12
E8	18	7	W8	22	12
E9	23	9	W9	20	13
E10	25	17	W10	22	13
E11	20	10	W11	26	13
E12	29	18	W12	19	12
			W13	12	10
			W14	18	13

Table A.6 Ranked number of species seen in transect sections (1=Most species)							
<i>Multi-year totals based on 7 years for eastern sections and 5 years for western</i>							
Rank	Section	Multi-yr total	2024	Rank	Section	Multi-yr total	2024
1	E2	32	18	14	E9	23	9
2	E5	30	14	15	W2	22	11
3	E12	29	18	16	W4	22	12
4	E4	28	16	17	W8	22	12
5	W3	27	17	18	W10	22	13
6	W6	27	20	19	W1	21	12
7	E3	27	16	20	W5	21	15
8	W11	26	13	21	W9	20	13
9	E1	25	16	22	E11	20	10
10	E10	25	17	23	W12	19	12
11	E6	24	15	24	W14	18	13
12	W7	23	12	25	E8	18	7
13	E7	23	12	26	W13	12	10

## 5. CG indicator values for transect sections

Eastern transect			Western transect		
Section	7-yr av.	2024	Section	5-yr av.	2024
E1	0.61	0.37	W1	0.7	0.42
E2	0.37	0.24	W2	0.12	0.01
E3	0.67	0.66	W3	0.68	0.57
E4	0.49	0.24	W4	0.53	0.49
E5	0.51	0.39	W5	0.69	0.54
E6	0.62	0.43	W6	0.75	0.34
E7	0.62	0.49	W7	0.46	0.36
E8	0.35	0.26	W8	0.49	0.15
E9	0.36	0.19	W9	0.07	0.03
E10	0.52	0.27	W10	0.12	0.02
E11	0.48	0.23	W11	0.76	0.69
E12	1.18	0.87	W12	0.25	0.18
All east	0.64	0.44	W13	0.46	0.46
			W14	0.16	0.18
			All west	0.49	0.37

Rank	Section	multi-yr	2024	Rank	Section	multi-yr	2024
1	E12	1.18	0.87	14	W8	0.49	0.15
2	W11	0.76	0.69	15	E4	0.49	0.24
3	W6	0.75	0.34	16	E11	0.48	0.23
4	W1	0.7	0.42	17	W7	0.46	0.36
5	W5	0.69	0.54	18	W13	0.46	0.46
6	W3	0.68	0.57	19	E2	0.37	0.24
7	E3	0.67	0.66	20	E9	0.36	0.19
8	E6	0.62	0.43	21	E8	0.35	0.26
9	E7	0.62	0.49	22	W12	0.25	0.18
10	E1	0.61	0.37	23	W14	0.16	0.18
11	W4	0.53	0.49	24	W2	0.12	0.01
12	E10	0.52	0.27	25	W10	0.12	0.02
13	E5	0.51	0.39	26	W9	0.07	0.03

## Appendix B. Books mentioned in the report

Two books are mentioned in this report. They are:

- Lewington, R. (2013 & later) Pocket Guide to the Butterflies of Great Britain and Ireland
- Blencowe M and Hulme N (2017) The Butterflies of Sussex – A 21<sup>st</sup> Century Atlas

The most extensive field guide to the butterflies of Great Britain and Ireland is:

- Newland D, Still R, Swash A and Tomlinson D (2020) Britain's Butterflies – a field guide to the butterflies of Great Britain and Ireland