

Manor Woods Valley Local Nature Reserve

Butterfly Report

2021



Prepared by Peter Loy-Hancocks

Manor Woods Valley Group



1. Introduction and Methodology

Manor Woods Valley Group members, Rachael Harvey and Peter Loy-Hancocks, undertook one and two respectively butterfly survey visits in Manor Woods Valley Local Nature Reserve during the summer of 2021. This was the third consecutive survey year. In order to facilitate comparisons within and between years, seven transects were established within the site in 2019 (see figure 1). These same transects were followed in 2020 and 2021.

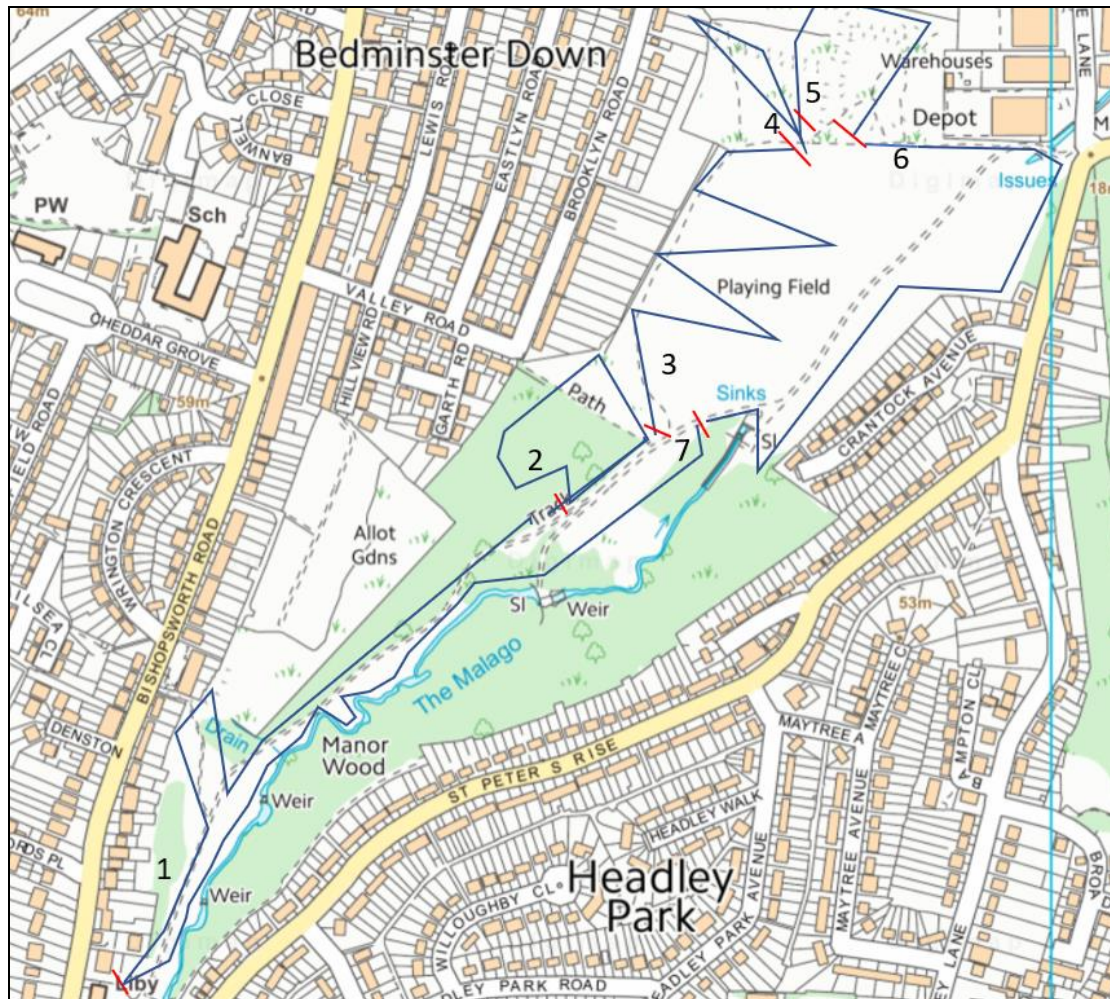


Figure 1: Butterfly survey transects within Manor Woods Valley

The numbers of each butterfly species within a 'virtual' approximately 6m wide and 6m long box, centred on the surveyor as they walked, were noted on to field recording forms. These records form the basis of this report. All relevant records were submitted to Bristol Regional Environmental Records Centre (BRERC).

Additional records were obtained through casual observations made by the surveyor and others at different times throughout the year.

2. Results

Three survey visits were made in 2021.

The first survey was conducted during the late-morning of 30th June, under 1/10 cloud cover. A total of 47 butterflies of eleven species were recorded. The counts are summarised in table 1.

Species	Transect							Total
	1	2	3	4	5	6	7	
Large White	1		1	1		2		5
Marbled White					4			4
Meadow Brown	5	3	5		4	5	1	23
Red Admiral						1		1
Ringlet			1		2	1		4
Large Skipper			1		1	1		3
Small/Essex Skipper						1		1
Small Tortoiseshell		1					1	2
Speckled Wood		3						3
Small White							1	1
	6	7	8	1	11	11	3	47

Table 1: Butterfly counts on 30 June 2021

The second survey was conducted during the late-morning of 16th July, under a clear sky. A total of 113 butterflies of eleven species were recorded. These counts are summarised in table 2.

Species	Transect							Total
	1	2	3	4	5	6	7	
Comma	6	1						7
Large White	6		1	1	2	3	1	14
Marbled White	1		2	2	1			6
Meadow Brown	2		26	7		6	5	46
Red Admiral	2	2						4
Ringlet	4	1	5		5	2	2	19
Large Skipper				2	1	1		4
Small/Essex Skipper	2		3	1	1			7
Small Tortoiseshell			1					1
Speckled Wood		1			2	1	1	5
	23	5	38	13	12	13	9	113

Table 2: Butterfly counts on 16 July 2021

The third survey was conducted during the mid-afternoon of 29th July, under 5/10 cloud cover. A total of 59 butterflies of ten species were recorded. These counts are summarised in table 3.

Species	Transect							Total
	1	2	3	4	5	6	7	
Comma	2				2	1		5
Large White		4	6	1	1	2	1	15
Gatekeeper	2		1	2	1			6
Meadow Brown	2	1	9	2	1	1		16
Red Admiral								0
Ringlet			1					1
Small Coper				1	1			2
Common Blue		1	6		1			8
Small Tortoiseshell							1	1
Speckled Wood	1	1			3			5
	7	7	23	6	10	4	2	59

Table 3: Butterfly counts on 29 July 2021

The total number of butterflies recorded in each transect are summarised in table 4.

No. Butterflies	Transect							Total
	1	2	3	4	5	6	7	
30-Jun	6	7	8	1	11	11	3	47
16-Jul	23	5	38	13	12	13	9	113
27-Jul	7	7	23	6	10	4	2	59
Total	36	19	69	20	33	28	14	219

Table 4: Total butterflies in each transect 2021

Other sightings include a Fritillary butterfly (species unknown, but Silver-washed Fritillary most likely) flying across transect 6 during the survey of 16 July, and Brimstones and Orange Tips earlier in the year, before the monitoring visits took place.

3. Discussion

As a mostly highly visible group of insects, butterflies are relatively easy to identify and count. Their numbers can vary greatly from year to year, but when monitored over a number of years, general population trends can be detected. In this context, butterflies are a good way of monitoring the general health of the natural environment. This has revealed that since 1976, the unsmoothed habitat specialist butterflies index has fallen by 68% and for species of the wider countryside has fallen by 30% (<https://jncc.gov.uk/our-work/ukbi-c6-insects-of-the-countryside/>).

With three years' worth of data, it may be possible to start to draw some usable conclusions about butterfly numbers and species compositions in Manor Woods Valley.

It appears that 2019 was a particularly good year for butterflies in Manor Woods Valley; with 443 being recorded in that year compared with 202* in 2020 and 219 in 2021 (see table 5).

The survey transects vary in length; when this is factored-in and the number of butterflies per 100m of transect length is calculated it is evident that transects 3, 4 and 5 are in the region of 2.5 to 3 times more attractive to butterflies than the other transects (see table 5), These transects cover the Wildflower Meadow, Rabbit Field and Manor Woods Orchard respectively, and demonstrate the importance of sunny flower-rich meadows to butterflies.

Transects 1, 2 and 6 have similar butterfly levels. These cover predominantly woodland edges combined with regularly mown amenity grassland.

The relatively much lower count in transect 7 is probably due to the predominance of regularly mown amenity grass and a north-facing aspect along the transect.

Butterflies		Transect						
Year	1	2	3	4	5	6	7	Total
2019	42	19	236	29	55	35	27	443
2020*	46	7	40	31	37	30	9	202
2021	36	19	69	20	33	28	14	219
Total	124	45	345	80	125	93	50	864
Transect length (m)	675	350	700	160	235	650	750	3520
Butterflies/100m	18	13	49	50	53	14	7	25

Table 5: Butterfly counts per 100m length of transect

There are 57 resident butterfly species in the UK, several of these have a limited geographical distribution. There are also 3 migrant species that occur often, but do not establish self-sustaining populations. 38 species have been recorded in the Bristol region since 2014 and reported to the BRERC online database. Exactly half of these – 19 - including one migrant, Painted Lady, have been recorded in Manor Woods Valley during the butterfly monitoring surveys (see table 6).

Two resident species, Brimstone and Orange Tip, occur frequently in Manor Woods Valley, but their peak numbers tend to pass before the summer survey window opens. An additional migrant species, the Clouded Yellow, has been recorded outside of the survey window. Therefore, a total of 22 of our 38 locally occurring resident or regular migrant butterfly species have been recorded in Manor Woods Valley since 2019.

There are several butterfly species that have not been recorded in Manor Woods (since 2014), but which could occur. These include the Small Heath and Wall which favour open habitats and various Fritillaries and Hairstreaks which favour woodlands and woodland edges.

A third of the butterfly species that have been recorded in Manor Woods Valley have no particular habitat preferences, a third are grassland specialists and a third are scrub or hedgerow (including woodland edge) specialist. Only

one recorded species prefers woodlands proper. This breakdown reflects the range of habitats that occur on the site and likely under-recording of woodland specialist species.

Species	2019	2020*	2021		Flowery Grassland	Scrub/ Hedges	Woods	All
Large White	19	33	34	86				✓
Small White	15	9	1	25				✓
Green-veined White	4	0	0	4				✓
Small Copper	0	0	2	2		✓		
Holly Blue	0	2	0	2		✓		
Brown Argus	5	0	0	5	✓			
Common Blue	25	9	8	42	✓			
Peacock	5	2	0	7				✓
Red Admiral	4	4	5	13				✓
Painted Lady	1	0	0	1				✓
Comma	2	2	12	16		✓		
Small Tortoiseshell	2	2	4	8		✓		
Marbled White	40	26	10	76	✓			
Meadow Brown	189	37	85	311	✓			
Gatekeeper	25	0	6	31		✓		
Ringlet	54	45	24	123		✓		
Speckled Wood	5	9	13	27			✓	
Small/Essex Skipper	27	18	8	53	✓			
Large Skipper	21	4	7	32	✓			
	443	202	219	864	6	6	1	6
* adjusted for 3 visits								

Table 6: Butterfly species and habitat preferences