



Wyre Forest Study Group

Results for the Earnwood Pipeline Butterfly Transect 2005-2010

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Method

In recent years transect data has been collected for butterflies at Earnwood Copse in the Wyre Forest. The walk starts at the car park at SO743784 and follows the forestry track to the Elan Valley pipeline. The route then follows the pipetrack uphill to the north-east as far as the concrete inspection building at SO744778, back down the length of the pipeline as far as the top of the steep slope at SO736776, then back up to where the forestry track crosses. This track is followed back to the car park to complete the route. Therefore each section of the route is walked twice, covering one side on the outward route, and the other side on the return walk. All butterflies seen and identified are recorded.

This transect walk has been undertaken up to three times a week between April and August in recent years. It always occurs between 10.00 and 14.00 when butterflies tend to be most active. A steady pace is maintained to standardise the method, and no stops or deviations to the route are made to identify individual butterflies. Weather records are kept, plus notes about butterfly behaviour. The route is divided into timed sections although this is not a standard Butterfly Conservation transect as not all those conditions apply.

Less visits are made in the latter part of the season due to other commitments from mid-July though August. In 2007 the walks were restricted due to flash flooding.

Results

The total numbers of butterflies are recorded as well as number of species. From this the number of butterflies per hour is noted and the Index of Diversity (IOD) deduced (see Review 2008 pp54, 55).

$$\text{Diversity} = \frac{N(N-1)}{\sum n(n-1)}$$

N – total number of observations, n = number of individuals for each species

The results are shown in Table 1.

Conclusions

Overall, the area shows stability (ignoring 2007) with the Index of Diversity increasing, though comparative numbers of butterflies per hour are falling. Both indices are subject to statistical variation, but taken together indicate general stability with some fluctuations for individual species.

The hope is that recent forestry management will lead to increases in IOD and numbers of sightings per hour. This is a complex issue since climate, predation, disease, parasitism and migratory factors all interact.

Table 1. Species observed in rank order of total observations for the period 2005 – 2010 followed by annual frequencies.

Rank	SPECIES	TOTAL	2005	2006	2007	2008	2009	2010
1	Ringlet	4598	923	940	54	2288	30	363
2	Meadow Brown	3027	541	506	67	1675	59	179
3	Gatekeeper	699	239	209	-	198	3	50
4	Parl-bordered Fritillary	569	15	83	71	165	93	142
5	Speckled Wood	557	100	56	6	206	66	123
6	Common Blue	394	49	61	33	55	1	195
7	Green-veined White	345	47	37	9	69	37	146
8	Small / Essex Skipper *	340	97	194	-	19	6	24
9	Silver-washed Fritillary	307	111	104	2	66	-	24
10	Large Skipper	205	68	71	1	28	2	35
11	Small White	167	63	19	2	48	10	25
12	Large White	159	40	19	2	49	31	18
13	Dingy Skipper	104	8	21	5	16	12	42
14	Small Pearl-bordered Fritillary	81	12	42	6	13	5	3
15	Peacock	70	16	14	-	5	1	34
16	Brimstone	69	2	39	6	13	4	5
17	Red Admiral	55	15	22	4	10	-	4
18	Painted lady	41	-	6	2	-	33	-
19	Orange-tip	30	-	4	-	11	4	11
20	Comma	27	12	5	-	3	1	6
21	Small Copper	16	3	-	-	-	3	10
22	Grizzled Skipper	14	-	10	3	1	-	-
23	Small Tortoiseshell	9	-	7	-	-	-	2
24	Holly Blue	7	-	1	-	3	2	1
25	Purple Hairstreak	6	-	1	-	5	-	-
26	Marbled White	5	-	2	-	3	-	-
27	White Admiral	4	-	1	-	1	-	2
28	Small Heath	2	-	-	-	-	-	2
29	Wood White	1	-	-	-	1	-	-
29	Large Fritillary **	1	-	1	-	-	-	-
Total number of sightings		2346	2475	273	4951	403	1446	
Number of species		19	27	16	25	20	24	
Butterflies per hour -1		138	119	40	106	32	85	
Index of Diversity		4.46	4.80	5.49	3.00	7.80	7.87	

* Both present but not scored independently

** One individual at close range, definitely not Silver-washed Fritillary