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Hertfordshire and Middlesex Branch

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HERTFORDSHIRE AND MIDDLESEX BUTTERFLY AND MOTH REPORT 2006

Andrew Wood &
John B. Murray



Price £5
to non branch members

Dec 2007

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Cover: Chalkhill Blues at Hexton Chalk Pit Photo by: Ian Hardy

Hertfordshire & Middlesex Butterfly and Moth Report 2006

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Introduction

We must apologise for the lateness of 2006's report. Unfortunately increased work and travel commitments greatly reduced the free time available for its production. We know from the many messages and enquiries we and other committee members have had that this publication is a valued document and we hope that its late arrival does not detract from its interest, as 2006 was in several ways an unusual year for butterflies.

We have plans to bring the report back on schedule and so we hope that this report will be more quickly followed by that for 2007.

Andrew Wood and John Murray

Contributors

The following is a list of those from whom butterfly records relating to 2006 have been received, together with the number of tetrads from which observations were received, the number of records and the number of transect walks carried out. Moth recorders are listed separately in the moth report at the end of this volume.

<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>	<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>
Jill Aberdour	1	1		Clive Burrows	4	11	
Nigel Agar	5	9		Peter Bygate	1	1	
Brian Anderson	10	17		Robert Callf	13	186	
David Anderson	3	5		Molly Campbell	1	1	
Michael Anderson	1	1		Rita Capodici	1	14	
Diane Andrews	27	85		David Chandler	9	34	
John Archer	2	2		Violet Chandler	1	26	26
Joan Austin	4	23		Trevor Chapman	13	35	6
Steve Austin	2	2		Oliver Chenery	1	1	
Helen Bantock	1	1		Joan Childs	1	1	
Mark Barclay	1	3		Tony Clancy	2	2	
Glen Barnes	1	13		Peter Clarke	1	23	23
John Bater	1	23	23	Tom Clarke	1	1	
Chris Beach	1	1		Sue Clayton	1	7	
Alan Beale	4	105	105	Bob Clift	1	24	24
Roy Beddard	1	11	11	Alan Cockburn	2	47	
David Beer	1	1		David/Jean Cooling	6	6	
Tony Bennet	1	1	1	Peter Cornhill	1	1	
Michael Berthoud	1	15	15	Chris Court	2	2	
David Bevan	1	17	17	Ashley Cox	1	1	
Geoff Beynon	1	1		Bob Cripps	5	14	
Richard Bigg	2	14	13	Simon Crockford	1	3	
Phil Bishop	3	3		Andrew Culshaw	5	121	32
Gillian Bladen-Clark	1	1		Gareth Dagnell	1	4	
Steve Bolsover	1	1		Ginger de Winter	1	1	
Nick Bowles	1	8		Derrick Dorken	1	30	
Simon Bradman	1	1	1	Alan Downie	1	1	
Adrian Brooker	1	8	8	Tom Dunbar	1	1	
Andy Brown	1	14	14	Adrienne Earney	1	2	
Andy Brown (HMWT)	1	1		John Eborall	6	12	
Betty Brown	1	1		Ian Edwards	1	2	
Richard Brown	3	4		Peter Edwards	2	3	
Lee Browne	4	6		Graham Elcombe	3	3	
Darrel Bryant	1	1		Steve Evans	1	1	
Allan Burrows	1	1		Colin Everett	43	85	4
Tony Butler	1	6					

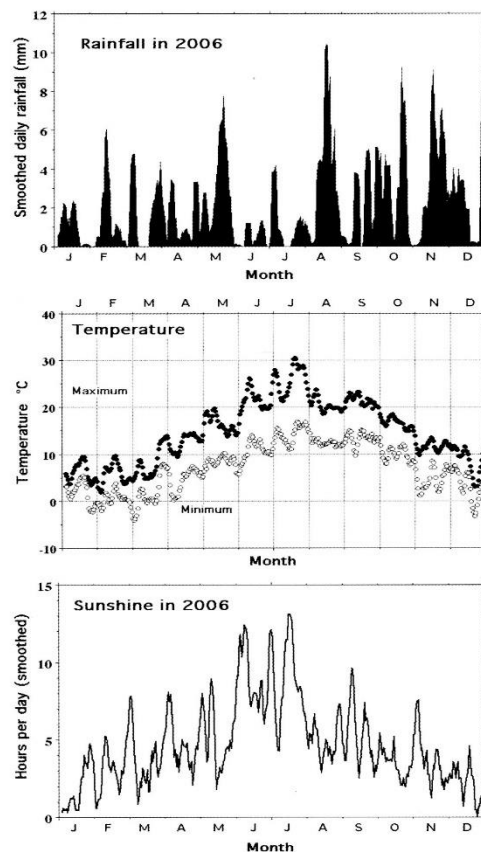
<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>	<i>Name</i>	<i>Tetrads</i>	<i>Records</i>	<i>Transects</i>
Jim Farr	1	1		Pat Langford	1	4	
Jane Fielding	1	105		Robin Law	1	1	
Adrian Fillmore	1	1		Ian Lawrence	1	7	
Kim Fleming	4	9		Sheila Lee	1	15	
Val Fullforth	3	37	22	Alex Lewis	2	2	
Nick Furtek	8	44		Chris Lloyd	1	2	
Alan Gardiner	4	4		Phil Lumley	1	23	23
Ched George	8	17		Terry Lyle	1	22	22
Helen George	2	2		Phil MacMurdie	2	6	
Jacqueline George	14	42		Andy Maguire	1	3	3
Bob Gillam	1	2	2	Guy Manners	4	4	
Quentin Given	1	1		David Martens	1	1	
Paul Gloess	1	1		Simon Mercer	1	8	17
David Gompertz	2	8		Andrew Middleton	38	129	
Terry Goody	19	74		Russell Miller	1	1	
Liz Goodyear	77	180		Ellie Minns	1	16	16
Helen Griffith	1	1		John Moss	7	130	45
Ed Griffiths	1	1		Keir Mottram	6	16	8
John Grocott	1	1		John Murray	53	123	16
Katherine Hall	2	3		Steve Murray	5	9	
Michael Hammerson	4	6		Roger Newbold	6	7	
Ian Hardy	5	12		Tom Newbold	1	1	
Celtic Harmony	1	1		Malcolm Newland	2	62	
Richard Harrington	5	8		John Noakes	1	1	
Michael Harris	3	4		Margaret Noakes	1	23	24
Jean Hayes	2	16		Barry Palfrey	1	1	
Tom Haylock	2	6		Andrew Palmer	2	7	
Michael Healy	15	44		M.A. Parker	1	9	
David Heath	2	2		Nigel Parsons	3	12	
Nick Hersey	1	1		Steve Pash	1	2	
Paul Hewitt	1	1		Stephen Patmore	1	1	
Martin Hicks	1	26	26	V.W. Patterson	9	45	
Roger Hicks	1	1		Richard Payne	1	4	4
Sezar Hikmet	1	1		G Pearman-Jenkins	1	14	14
Audrey Hind	1	12		Mark Pearson	1	1	
John Hollingdale	11	30		Michael Pearson	5	33	25
Neale Holmes-Smith	2	47	47	Malcolm Penn	1	4	
Andy Holtham	2	18	17	Peter Peritti	1	1	
Darin Horn	1	1		Jez Perkins	8	12	
Horsenden Rangers	1	4		Caroline Phillips	1	13	13
David Howdon	8	102	46	Ann Piper	21	56	
Christopher Hughes	1	1		Stuart Pittman	3	13	1
Margaret Huitson	2	2		Roger Prue	1	26	26
Malcolm Hull	27	61	21	Rupert Pyrah	4	5	
Tom Hull	1	1		Simon Rasch	4	4	
Alan Jackson	3	3		R. Renwick	1	2	2
Garry James	1	6		Alan Reynolds	3	11	
Tony James	1	13		Phil Rhodes	1	1	
Trevor James	2	2		Andrew Riche	1	1	
Paul Jeffrey	1	1		Katy Rimmer	1	1	
Phil Jeffrey	1	1		Ann Rix	1	26	26
Brian Jessop	11	131	35	Kerry Robinson	3	3	
P.J. Jones	1	15		Michael Robinson	1	1	
Steve Kiln	1	12		Julia Rolf	1	19	19
Jon King	36	100		Donald Room	1	26	26
Ken King	2	24	24	Nick Sampford	2	2	
Vincent Kinsler	2	2		David Sampson	1	1	
Lynne Lambert	1	1		Jill Saunders	1	16	
Steve Lane	7	28		Andrew Self	1	15	15

Name	Tetrads	Records	Transects	Name	Tetrads	Records	Transects
Jon Sharpe	1	30		David Waterhouse	1	4	
Martin Shepherd	7	12		Pat Watt	1	26	26
Mike Sheppard	1	1		Bob Watts	1	1	
Fraser Simpson	1	3		Richard Webb	1	1	
Ian Small	2	3		Welsh Harp Con Grp	1	27	
Carol Smith	1	1		Peter Wilkinson	1	1	
Robin Smith	1	1		Leslie Williams	1	7	14
Rob Solomon	1	10	10	Paul Wilson	1	2	
Andy Sparrow	1	2		Ian Woiwod	1	1	
Bethan Stagg	1	2		Andrew Wood	37	230	48
Sandra Standbridge	5	18		Jane Wood	1	1	
Darin Stanley	7	8		Kate Wood	1	1	
Sue Stephens	1	5	5	Russell Wood	1	1	
Robert Stroud	1	16		Stephen Wood	1	3	
Colin Sturges	1	1		Annie Woodhouse	1	20	
Mike Taylor	7	38	24	Garry Woodhouse	1	1	
Jim Terry	1	1		Phil Woodward	1	1	
Paul Tout	4	4		Jane Worroll	2	47	47
Chris Tyler-Smith	7	17		Raymond Wren	1	1	
Gavin Vicary	1	23	23				

Archiving: all original observations received for the project will be archived at the Museum Resource Centre, Bury Mead Road, Hitchin, Herts.

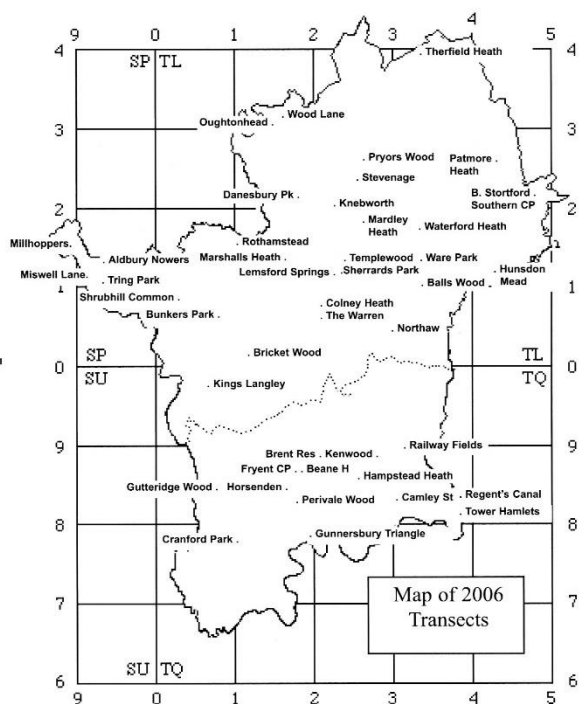
Weather in 2006

After a moderate early spring, with some good spells of sunshine in early March and the start of the transect season, mid-April was cloudy and cool, but the weather took a real nose-dive in May, with cloud and prolonged rain that produced the wettest May for 23 years, and many transect weeks were missed. Things improved at the end of the month, and then June began with a glorious spell of hot, cloudless weather that went on, and on, and on. To quote the Rothamsted Bulletin, July was "in a word - hot! To be more exact - bloody hot!". Temperatures did not really come down until August, which was actually the wettest month of the year, with repeated heavy rain in the middle of the month. September was warmer and dryer, and there was also a dry sunny spell in early November. Graphs of temperature and rainfall are shown here, recorded in John Murray's garden at Marshalls Heath. These are supplemented by records from Rothamsted Experimental Station during absences, and the sunshine graph is from Rothamsted data alone. All graphs are smoothed as 5-day moving means. The solid line in the temperature graph is the mean temperature 1992-2000, smoothed as twenty-nine point moving means.



Transect results

Transects are the main method of measuring how butterfly populations change with time. The technique is simple, involving walking the same set route every week in good weather throughout the summer months, and noting down the numbers of each species of butterfly seen within about 5 metres. The method is described later on under "How to record butterflies", but for full details, write to John Murray for a transect package.



Name	Grid Ref	Organiser	Species	Duration	Completedness
1. Aldbury Nowers	SP952129	Martin Hicks	28	63 mins	0 weeks missing
2. Balls Wood	TL344106	Andrew Wood	20	33 mins	1 weeks missing
3. Beane Hill	TQ199873	Leslie Williams	15	38 mins	5 weeks missing
4. B Stortford Southern CP	TL473193	Bob Clift	19	56 mins	2 weeks missing
5. Brent Reservoir	TQ213873	Andrew Self	23		2 weeks missing
6. Bricket Wood	TL131009	Malcolm Hull	23	94 mins	1 weeks missing
7. Bunkers Park	TL079058	Michael Pearson	23	70 mins	1 weeks missing
8. Camley Street	TQ299834	Julia Rolf	10	30 mins	6 weeks missing
9. Colney Heath	TL203057	John Moss	15	39 mins	4 weeks missing
10. Cranford Park	TQ101779	Rob Solomon	19	82 mins	15 weeks missing
11. Danesbury Park	TL230170	Pat Watt	22	36 mins	0 weeks missing
12. Fryent Country Park	TQ195876	Leslie Williams	17	82 mins	0 weeks missing
13. Gunnersbury Triangle	TQ201786	Andy Brown	15	36 mins	14 weeks missing
14. Gutteridge Wood	TQ091843	Ann Rix	19	44 mins	0 weeks missing
15. Hampstead Heath	TQ264870	Richard Payne	15	47 mins	8 weeks missing
16. Horsenden Hill East	TQ163844	David Howdon	21	47mins	1 weeks missing
17. Horsenden Hill West	TQ163844	Andy Culshaw	21	39 mins	0 weeks missing
18. Hunsdon Mead	TL416108	Ellie Minns	15	45 mins	10 weeks missing
19. Kenwood	TQ271874	Mike Taylor	20	50 mins	2 weeks missing
20. Kings Langley	TL068039	Violet Chandler	20		0 weeks missing
21. Knebworth Park	TL221208	Ken King	24	80 mins	2 weeks missing
22. Lemsford Springs	TL223121	Neale Holmes-Smith	17	26 mins	0 weeks missing
23. Mardley Heath	TL248184	Caroline Phillips	19	74 mins	9 weeks missing
24. Marshalls Heath	TL161149	John Murray	24	39 mins	4 weeks missing
25. Millhoppers	SP900149	Margaret Noakes	20	37 mins	2 weeks missing
26. Miswell Lane	SP914117	Brian Jessop	18	24 mins	8 weeks missing
27. Northaw Great Wood	TL285043	Jane Worroll	14	20 mins	2 weeks missing
28. Northaw Great Wood Bway	TL285043	Jane Worroll	14	20 mins	3 weeks missing
29. Oughtonhead Common	TL169303	Phil Lumley	20		3 weeks missing
30. Patmore Heath	TL 443257	Gavin Vicary	23	28 mins	3 weeks missing
31. Perivale Wood	TQ159837	David Howdon	20	33 mins	0 weeks missing

<i>Name</i>	<i>Grid Ref</i>	<i>Organiser</i>	<i>Species</i>	<i>Duration</i>	<i>Completedness</i>
32. Pryor's Wood	TL265265	Andy Holtham	15	28 mins	9 weeks missing
33. Railway Fields	TQ317881	David Bevan	16	24 mins	0 weeks missing
34. Regents Canal	TQ356830	Donald Room	6		0 weeks missing
35. Rothamsted Farm	TL121137	John Bater	18	39 mins	3 weeks missing
36. Sherrards Park	TL230135	G. Pearman-Jenkins	11	33 mins	13 weeks missing
37. Shrubhill Common	TL036072	Roger Prue	23		0 weeks missing
38. Stevenage	TL246234	Peter Clarke	24	78 mins	3 weeks missing
39. Templewood Vale	TL235143	Neale Holmes-Smith	16	26 mins	5 weeks missing
40. The Warren	TL204053	John Moss	17	37 mins	3 weeks missing
41. Therfield Heath	TL348401	Alan Beale	12	9 mins	5 weeks missing
42. Therfield Heath 2	TL333395	Alan Beale	18	11 mins	5 weeks missing
43. Therfield Heath 3	TL333396	Alan Beale	12	7 mins	5 weeks missing
44. Therfield Heath 4	TL353404	Alan Beale	21	13 mins	5 weeks missing
45. Therfield Heath 5	TL349398	Alan Beale	21	24 mins	5 weeks missing
46. Tower Hamlets	TQ365823	Terry Lyle	21	79 mins	1 weeks missing
47. Tring Park	SP930105	Brian Jessop	29	91 mins	8 weeks missing
48. Ware Park	TL347143	Andrew Wood	20	37 mins	2 weeks missing
49. Waterford Heath North	TQ317154	Richard Bigg	18	55 mins	13 weeks missing
50. Wood Lane, Pirton	TL140310	Val Fullforth	23		3 weeks missing

Species is the number of species recorded on the transect in 2006, *Duration* is the average time the transect took to walk, and *Completedness* gives the number of weeks out of the 26 between April 1st and September 29th when the transect could not be walked.

2006 Overview

A year that started very slowly with a cool spring and a poor May but thereafter was largely dry and warm right through into December saw some interesting trends. It was probably one of the best ever autumns for butterfly watching with several species establishing new record late flight dates.

There were very few records of any butterflies until the third week of March when **Brimstone**, **Comma**, **Peacock** and **Small Tortoiseshell** all emerged. However **Small Tortoiseshell** after an encouraging start suffered another poor year with a real paucity of records after the end of July. Migrant species had a particularly good year. **Clouded Yellows** began arriving in mid June and were recorded throughout the year right into mid November mainly in ones and twos. **Painted Ladies** were first seen in early May, with a big peak at the end of July. They persisted well into November. **Red Admirals** were very widespread with evidence of over wintering: they were seen throughout the year right up until the end of December.

All three **White** species decreased as did the **Orange Tip**, though not to the same extent. The **Brimstone** showed a small decline.

Double figure counts, off transect, of the **Dingy Skipper** and **Grizzled Skippers** were encouraging for two of our most threatened species. None of the golden skippers, **Small Skipper**, **Essex Skipper** or **Large Skipper** had good years all showing some decline.

The **Chalkhill Blue** was seen in thousands at one site but did not fare so well elsewhere. The **Small Blue** was recorded once. **Common Blue** and **Brown Argus** both had strong years while the **Holly Blue** suffered one of its periodic downturns. The **Small Copper**, a species of some concern, also had a much improved year. Differing fortunes were experienced by the Hairstreaks with the commoner **White-letter Hairstreak** and **Purple** doing pretty well, while the much more restricted **Green Hairstreak** had another poor year, though it was not lost from any sites.

Fritillaries had a bumper year with **Silver-washed Fritillary** appearing or reappearing at almost 40 different locations, while **Dark Green Fritillary** was seen at several locations, mainly in the west of Hertfordshire. **White Admiral** and **Purple Emperor** had reasonable seasons and for the first time since 1947 there was evidence of a second **White Admiral** brood with a couple of sightings in mid and late September.

There were contrasting fortunes among the brown butterflies with strong showings of **Marbled Whites** and **Ringlets**, but declines in **Gatekeeper**, **Meadow Brown**, **Speckled Wood** and **Small Heath**. Unfortunately there were no sightings at all of the **Wall**.

Transect Roundup

Aldbury Nowers SP 952 129

First walked: 1992 **2006 recorder:** Martin Hicks

"Despite a relatively poor start to the recording season, 2006 proved to be another good year at Aldbury Nowers, with just under 3,500 sightings of 30 species. All key rarities were present, namely Dingy and Grizzled Skippers and Green Hairstreak although numbers of the latter two were lower than in previous years. Additional species included Chalkhill Blue and Silver-washed Fritillary. High numbers of Small/Essex and Large Skippers were found, while Small Copper sightings tripled. Brown Argus numbers were up compared with 2005 while Common Blue were down. Marbled Whites more than doubled and Small Heath remained stable. Significant habitat management works have been undertaken over the winter and summer grazing to check regrowth of bramble and dogwood is proposed, so it will be interesting to see if this has any significant impact upon butterfly numbers in 2007." Martin Hicks

Balls Wood TL 344 106

First walked: 1994 **2006 recorders:** Andrew Wood & Rob Hopkins

"All the rides have been mowed at least twice during 2006, making the wood very accessible. The overall number of butterflies was down by 30%. Numbers were lower in most weeks compared with 2005 and although the highest weekly count was virtually the same as 2005 the peak was very short compared with 2005 (2 weeks with over 150 compared with 5 weeks in 2005). I suspect that the cold spring, followed by a hot early summer was the reason for much of this. Every species except Comma and Speckled Wood declined in overall numbers. On the up side two new species were added to the transect list, both of them expanding woodland specialists, in the shape of the Purple Emperor and Silver-washed Fritillary." Andrew Wood

Beane Hill TQ 199 873

First walked: 1988 **2006 recorders:** Leslie Williams, Michael Berthoud & Simon Mercer

"Beane Hill is an area of growing deciduous woodland planted in the late 1980s within an area of hedged fields with some suburbia on one boundary. The woodland now casts much shade, though the transect route is along mown paths alongside the hedges and through the woodland. The planting of Alder Buckthorns some years ago enabled the establishment of a population of Brimstone butterflies, though the transect count dipped in 2006. No Small Tortoiseshells were recorded in 2006. There were six weeks with no records: five due to poor weather conditions; and one week with ideal conditions but during which no butterflies were seen." Leslie Williams

Bishops Stortford Southern Country Park

First walked: 2004 **2006 recorder:** Bob Clift

This transect was notable for the very high numbers of Painted lady records during late July. Indeed the annual total of 246 was the highest recorded on any transect. Unfortunately the 2005 appearance of Marbled White was not repeated.

Brent Reservoir TQ 213 873

First walked: 2000 **2006 recorders:** Andrew Self & Roy Beddard

"The year got off to a slow start with the cold spring deterring many butterflies, in particular no Orange Tips were seen at all in April. The highlight of the year was pinning down the White-letter Hairstreak colony, although their elusiveness meant that only two were recorded on a transect. Only two Essex Skippers were seen, and the Small and Large Skippers didn't fly for long, possibly due to the hot July weather drying up their food supply. The Marbled Whites are still going strong with a peak of 23 seen." Andrew Self

Bricket Wood TL 131 009

First walked: 1997 **2006 recorders:** Malcolm Hull & Colin Everett

"Overall butterfly numbers were a third down on last year, with 23 species recorded, one less than in 2005. Four species recorded their highest totals in the ten years since the transect began:- Silver-washed Fritillary, Brown Argus, Purple Hairstreak and Ringlet. Ringlet is now a confirmed resident, numbers having increased each year since it first established in 2002. We recorded hundreds of violet plants, many near oak trees, which suggests conditions could be right for Silver-washed Fritillary to re-establish itself as a resident. Numbers of White Admiral were stable and still well above the long term average. Brown Hairstreak remains elusive, with no sightings again this year. Scrub is rapidly encroaching on the ride and clearings created in 2002 and an application of weedkiller was carried out in July to help keep it in check. The Countryside Management Service will be updating the site management plan in 2007 and we will work with them to ensure the butterfly and moth habitats are protected". Malcolm Hull.

Bunkers Park TL 079 058

First walked: 1999 **2006 recorder:** Michael Pearson

"The final index total of 1582 butterflies counted, of 23 species, was the lowest year's final count since 1999, the first year of the transect, down by 42% on 2005. However, 23 species equals the highest for a single year. Cool, wet weather during April and May undoubtedly led to a late start to the season. However, the drop in overall numbers over 2005 can be broadly attributed to sharp declines in two groups, prominent later in the year: Whites recorded their lowest ever combined total, and Browns (Gatekeeper, Meadow Brown) had numbers down by 64% from 2005 and the lowest year since 2002". - Michael Pearson

Camley Street Natural Park TQ 299 834

First walked: 2006 **2006 recorder:** Julia Rolf

This new transect in the centre of London has recorded 10 species, including Large Skipper, Common Blue and Speckled Wood. Julia Rolf writes: *"Camley Street Natural Park is a two-acre oasis of green in the hardcore urban landscape around Kings Cross Station. The site was industrialised when the Regents Canal was built and was used to store coal that was transported along the canal. By the 1970s, the site was derelict and in the 1980s the Greater London Council had plans to build a coach park there. But after a campaign by local people, the site was earmarked for a nature reserve. Features include a pond, a meadow, a marsh and woodland. The reserve provides an ideal habitat for birds, insects, butterflies, amphibians and a rich variety of plant life. A variety of trees grow in the park and these provide seeds, nuts, berries and shelter for birds and insects".*

Colney Heath Common TL 203 057

First walked: 1992 **2006 recorder:** John Moss

"Total numbers were well down on previous years, with, unusually, no record of Orange Tip. The long cold spring followed drought, which restricted development of much ground flora, undoubtedly contributing to this. However, aggressive site management, with winter removal of mature scrub followed by regular mowing of remaining margins including up to the river edge, did not help. Activity culminated in July with mowing of the important "flowery meadow" in section 5, just as Knapweed, Birdsfoot Trefoil, Clover and other flora were flowering. Butterfly (and other invertebrate) numbers plummeted after that" – John Moss

Cranford Park TQ 101 779

First walked: 1997 **2006 recorders:** Robert Solomon & Simon Bradman

"The park received a large change over of staff during spring '06 and therefore there are gaps in the survey" writes Rob Solomon.

Danesbury Park TL 230 170

First walked: 1996 **2006 recorder:** Pat Watt & Ken King

"Butterfly numbers were slightly lower than last year. I continued to see a few Small Heath butterflies, and Marbled White numbers were up again this year. The biggest drop was Gatekeepers. This year I changed the route in section 9 very slightly. I had to walk through very thick undergrowth which was becoming more and more difficult, so I cut the corner off. It only affected a third of section 9 so I don't think it made any difference to the total numbers". Pat Watt

Fryent Country Park TQ 195 876

First walked: 1986 **2006 recorders:** Leslie Williams, Michael Berthoud & Simon Mercer

"Only one Small Tortoiseshell was seen on the transect, the lowest since records commenced in 1986. The transect index for the Speckled Wood was the lowest since 1996. The Gatekeeper had the highest count since the transect commenced. To further increase the local population of the Brimstone, the planting of Alder Buckthorns continued during the winter of 2005/2006. Hedgerow restoration has also continued, particularly with the planting of old varieties of fruit trees. In the existing hedgerows work has focused on increasing the species and structural diversity of the trees, and in reducing the dominance of Blackthorn." Leslie Williams

Gunnersbury Triangle TQ 201 786

First walked: 1999 **2006 recorders:** Andy Brown, Adam Sparrow & B.Stagg

"In August I was pleased to positively identify a few Common Blues in addition to the Holly Blues. I continue to be shocked that the Small Tortoiseshell is absent. Railway lines surround the "Triangle"; this means that we have "green chains" around the reserve, which reduce the isolation of the reserve, which is otherwise enclosed by development. We live in hope that some new species may visit and take a liking to it!" – Andy Brown

Gutteridge Wood TQ 091 843

First walked: 1990 **2006 recorder:** Ann Rix

Overall numbers were slightly down here. Notable changes was an over 50% drop in Gatekeepers compared to 2005 but a very strong late summer brood of Common Blues with numbers up from 5 to 72 over the same period.

Hampstead Heath TQ 264 870

First walked: 1978 **2006 recorders:** Adrian Brooker, Bob Gillam, Richard Payne & R.Renwick

Numbers were slightly reduced overall compared to last year. The proportion of Meadow Browns in this total was almost exactly 50% in 2006 compared to under 30% in 2005. Neither the Small or Essex Skipper were recorded during 2006 walks.

Horsenden Hill East & Horsenden Hill West TQ 163 844

First walked: 2003 **2006 recorders:** David Howdon & Andy Culshaw

"2006 was a notable year for migrant species with large numbers of Red Admiral and Painted Lady showing as well as records of Clouded Yellow. The colony of White-letter Hairstreak remains strong and provided reliable viewing opportunities (not least on the joint Butterfly Conservation / LNHS visit to the site). Marbled White remains a small population but there were more sightings this year than in previous years." David Howdon

Kenwood TQ 271 874

First walked: 2005 **2006 recorder:** Mike Taylor

"Numbers for our two most common species were significantly down this year: Meadow Brown (194) and Gatekeeper (73), compared to Meadow Brown (259) and Gatekeeper (112) in 2005. This may have been partially due to the prolonged summer drought when their favoured habitat at Kenwood - the West Meadow grassland and its woodland edges with scrub and tall herbs - became severely dried out. The severity of the impact on numbers was clear to see in Week 16 when the temperature was 36°C - higher than a recordable entry allowable in 'Transect Walker' (35°C). On that extraordinary day, a large swathe of the West Meadow grassland through which the Transect runs and is usually, at this time of year, busy with butterflies, was almost totally devoid of them". Mike Taylor

Kings Langley TL 068 039

First walked: 1997 **2006 recorder:** Violet Chandler

This garden transect continues to produce a good range of species including Marbled White and Small Copper. Lower numbers were recorded than in 2005 but as David Chandler writes, *"Interestingly, despite this drop the species count is still very comparable (20) to last year's (21)"*

Knebworth Park TL 221 208

First walked: 1996 **2006 recorder:** Ken B. King

"A mixed year - what can only be described as a slow start, and when numbers are compared with those of 2005 clearly the fame expressed in the last report will not be repeated! Over the past years there has been a steady increase in the numbers of Marbled White. This year's count on one walk of 25 is an all time high, bettered only later the same day when I called out my wife (who is a Marbled White fanatic) and we saw 35 on section 1 alone. A good showing of Small Coppers at the end of the season, I am just surprised that few are seen from early broods" - Ken King.

Lemsford Springs TL 223 121

First walked: 1998 **2006 recorder:** Neale Holmes-Smith

"Total well down on last year and notably down on the 2 years prior to that. Orange Tips 23 (43 in 2005), Green-veined White 93 (183), Gatekeepers 34 (78). Red Admiral did better than recent years and I still recorded 17 species; the norm for the site." - Neale Holmes-Smith

Mardley Heath TL 161 149

First walked: 2006 **2006 recorders:** Caroline Phillips & Sue Stephens

Caroline Phillips writes: *"A new transect established this year on behalf of Welwyn Hatfield Council under the care of Christine James. We are members of the Friends of Mardley Heath work party and both new to butterfly recording: we were lucky to have the help of Patt Watt. The survey did not start until week 7, following a request for volunteers at a meeting of the Welwyn Natural History Society".* Altogether, 19 species were recorded, including a White Admiral on 22nd July.

Marshalls Heath TL 161 149

First walked: 1989 **2006 recorders:** John Murray & Trevor Chapman

At last the extensive work of scrub clearance from the original heathland area seems to be paying off, with 500 more butterflies seen this year (a rise of 35%) and an increase in species from 20 to 24. The grassland butterflies have chiefly benefitted: Brown Argus was back with a vengeance (39 seen after a total absence last year), and there were 9 Marbled White, the first time a real colony has appeared, 2 Small Heath were seen, for the first time since 1999, and 3 Small Copper after last year's blank. There is still room for improvement: White-letter Hairstreak, once a regular inhabitant, was again not recorded. Marshalls Heath achieved its brief moment of fame on July 24, when the return of Marbled Whites was used by BBC London News as an example of how butterflies might be increased by scrub clearance and felling of trees that have encroached on ancient heathland sites.

Millhoppers SP 900 149

First walked: 1998 **2006 recorder:** Margaret Noakes

"An exceptionally hot summer saw an explosion of most of our grassland butterflies, as well as Common Blues and immigrants such as Painted Ladies and Silver Ys. Many Red Admirals were feeding on the ivy right into October. Sadly the farmer can no longer provide cattle for grazing and 'man management' needs to be more in place again. In addition we now have an information board in place on the reserve and a leaflet available for everybody." Margaret Noakes

Miswell Lane SP 914 117

First walked: 1999 **2006 recorder:** Brian Jessop

"18 species this season, only one down on last year but a much larger total. Essex Skipper a definite record and Marbled Whites produced 4. Holly Blue never showed on the transect. The Browns accounted for the large increase in numbers. Common Blue and Brown Argus never showed this season, but are about on areas near the transect walk." – Brian Jessop.

Northaw Great Wood TL 280 040

First walked: 1999 **2006 recorder:** Jane Worroll

The two transects here do not produce huge numbers of butterflies, but the White Admiral was present in 2006, although down to one compared to 2005. Totals for Gatekeeper and Meadow Brown were slightly lower but the Ringlet dropped to half of its 2005 total.

Oughtenhead TL 169 303

First walked: 2005 **2006 recorder:** Phil Lumley

A big drop in common species Gatekeeper, Large Skipper and Green-veined White but good increases for Marbled White and Ringlet.

Patmore Heath TL 443 257

First walked: 1996 **2006 recorder:** Gavin Vicary

"Small Heath was regularly seen throughout its flight periods with a total of 16 sightings, whereas in the five years between 2000 – 2004 only 3 were seen. Brown Argus and Common Blue both had the highest number of sightings this year from the 11 years that I have been doing the transect. Patmore Heath is one of the best sites in Hertfordshire for Small Copper and so I always think of this as one of our most important butterflies, and numbers were again reasonably good this year. It's been a little bit of a frustrating year regarding management of the reserve as there has been no grazing since last September because the grazing license had to be renewed. However the sheep have just returned and HMWT and the CMS have both had work parties to help remove the scrub which has grown up this summer without the grazing. A number of large birches and small oaks were removed last winter and a lot of saplings with a digger to remove the root as well. As long as grazing is maintained there is reason for optimism that Patmore Heath will continue to recover and maintain its current range of butterflies." Gavin Vicary

Perivale Wood TQ 159 837

First walked: 2005 **2006 recorder:** David Howdon

"General trends very much as for the neighbouring Horsenden Hill transects. The White-letter Hairstreak population remains smaller than that on Horsenden Hill, and managed for a second year to hide from transect walkers." David Howdon

Pryor's Wood TL 265 265

First walked: 2000 **2006 recorder:** Andy Holtham

"Highlights this year were the first records for Small Heath, Marbled White and Essex Skipper (although this last might have been present before and mis-recorded as Small Skipper). Also there were good numbers of Ringlet again and an explosion of Meadow Browns. Some of the new sightings and increased numbers may well be linked to the development of the fields to the north of the wood: having been bulldozed in 2004 and since left alone, this year they had a good cover of low to medium height flowers and grasses. Speckled Wood numbers disappointing again." – Andy Holtham

Railway Fields TQ 317 881

First walked: 1997 **2006 recorders:** David Bevan & Keir Mottram

"Despite excellent records elsewhere in Haringey, Railway Fields had a very poor year. Total numbers of butterflies was the lowest since 1999, and we only just scraped 16 species, with singletons of Brimstone, Small Skipper and Painted Lady. Gatekeepers were less than half those seen in 2004 & 2005, and Speckled Woods had their poorest year since 1999. Numbers were particularly low in the first half of the recording season: only reaching double figures in 3 of the first 13 weeks. This period included some very poor weather" – David Bevan

Regents Canal TQ 356 830

First walked: 2001 **2006 recorder:** Donald Room

"In 2004 the new director of Mile End Park changed the grass cutting mode from short "green concrete" to somewhat neglected "meadow". There has since been a small increase in the insect population and we hope for further increases as more insects move in". – Donald Room.

Rothamsted Farm TL 121 137

First walked: 1991 **2006 recorders:** John Bater & Phil Gould

Small Skipper, Clouded Yellow and Painted Lady were recorded in 2006, having been absent in 2005, but Holly Blue was absent. Marbled Whites showed a good increase over 2005. Unfortunately Small Tortoiseshell numbers fell sharply after a big increase in 2005.

Sherrards Park Woods (Reddings) TL 230 135

First walked: 2001 **2006 recorder:** G. Pearman-Jenkins

"Woodland floor very dry, with cracks appearing at the end of June – not usual here. Undergrowth at floor dying back in section 1 by mid July, damp again by September 15th. Sector 2 appears to be benefitting from opening up by strimming and odd felling" – from notes on transect sheets by Gwyneth Pearman-Jenkins.

Shrubhill Common TL 036 072

First walked: 2001 **2006 recorder:** Roger N. Prue

"I saw a record number of 23 different species, 3 more than in 2005. The 3 species were Painted Lady, Brown Argus and a very surprising Silver-washed Fritillary on 4 July. Meadow Brown, Ringlet, Marbled White and Small/Essex Skipper numbers increased significantly, and the number of Common Blue sightings reached a record high since I started recording. This may have been because less than half the grassland was mown during the previous winter. This autumn, 75% of the grassland has been mown, so we will see how this affects the butterfly counts". - Roger Prue.

Stevenage TL 246 234

First walked: 1993 **2006 recorder:** Peter J. Clarke

"2006 has been a great year for butterflies and the Stevenage transect was no exception. The highlight was the sighting of 2 Silver-washed Fritillaries (might even be the same specimen!) in late July. On that same day some 80 Painted Ladies were seen - fantastic! Numbers were higher for most species but Speckled Wood did not fare too well although some were still seen well into September." Peter Clarke

Templewood Vale TL 235 143

First walked: 1998 **2006 recorder:** Neale Holmes-Smith

"Sadly with new contractors the mown margins of half the site were mown in early recording weeks, which in particular must have resulted in a big fall in Meadow Browns, in part offset by Painted Ladies which unlike all other butterflies, just loved the flowering knapweed. Only recorded half the total overall compared to 2005, namely 341 (695 in 2005) and well below the 2 years prior to 2005, but still recorded 16 species, the norm". – Neale Holmes-Smith

Therfield Heath TL 348 401

First walked: 1988 **2006 recorder:** Alan J. Beale

"Only fair on Church Hill again this year. 8 Clouded Yellow seen during the summer, not all on my counting sections though. Good year for Painted Ladies and Marbled Whites" – Alan Beale

The Warren TL 204 053

First walked: 1991 **2006 recorder:** John Moss

"The long cold spring meant it was June before significant numbers of butterflies appeared. Even then, totals were down on previous years, possibly because much of the site's vegetation was soon too dried out to sustain wildlife. Disappointingly I saw no Purple Hairstreak this year. Perhaps they were resting in the middle of the day. However, there were good numbers of Small Heath and Small Copper well into September. Management was limited to mowing nettle beds and the path round the boundary". – John Moss

Tower Hamlets Cemetery Park TQ 365 823

First walked: 1999 **2006 recorders:** Terry Lyle, K. Greenway & A. McGuire

"Overall, it's been a good year. There was one additional species recorded: a dead Purple Hairstreak found on a path on July 17. The Silver-washed Fritillaries were a great surprise (seen on July 22, 23, 24, 25 & August 4). We do have large populations of Sweet Violet and Dog Violet, so breeding is a possibility" – Terry Lyle

Tring Park SP 930 105

First walked: 1996 **2006 recorder:** Brian Jessop

"Numbers up by nearly 50% on last season, due mainly to the Browns. Good to see Dark Green Fritillary again although only a singleton. Silver-washed Fritillary did well and they were recorded in another local wood. Small Copper did exceptionally well (17 seen) normally only the odd one or two recorded. Blues did really well but whites were down on last year. Small Heath doubled its numbers to 4, although the main areas where they breed are not covered by the transect". – Brian Jessop

Ware Park TL 347 143

First walked: 1996 **2006 recorder:** Andrew Wood

"There was little change to the farming practices or path and track maintenance this year, however the meadow that used to be cattle-grazed alongside section four is now only grazed by rabbits and much of it is covered by nettle, thistle and ragwort. Overall numbers were down 23% after last year's 33% rise, so going back to something near to the longer term average for the transect. The big decreases were in the Small/Essex Skippers, Large, Green-veined and Small Whites, Small Tortoiseshell, Gatekeeper and Meadow Brown. On the positive site there were signs of recolonisation by Brown Argus and Common Blue." - Andrew Wood

Waterford Heath North TL 317 154

First walked: 2000 **2006 recorder:** Richard Bigg

Unfortunately Richard Bigg moved away from Hertfordshire during 2006 and so was unable to do the transect, apart from a couple of late summer visits, after mid June, so comparisons are difficult. Luckily the Grizzled Skipper season was covered and three were seen on the transect. Further good news is that we have found a replacement walker for 2007.

Wood Lane Pirton TL 140 310

First walked: 2005 **2006 recorder:** Val Fullforth

This year saw encouraging rises in numbers of Small Heath, and Marbled White, but large drops in numbers of Small Skippers, Small and Large Whites despite many more weeks being walked than in 2005. The Essex Skipper was not recorded.



Balls Wood Transect
Photo: Andrew Wood



Ware Park Transect
Photo: Andrew Wood

Annual totals

The table below summarises the results of each of the transects above except those which were walked too few times for totals to be meaningful. It gives the sum of the weekly totals for each species for the entire year, corrected for any gaps in the record. Figures in italics indicate poor coverage, and where coverage is too poor or non-existent for a particular species, a question mark has been entered. The weekly transect data is also used in the species accounts later on, where it is presented as an abundance graph for the season.

	Abney Park	Aldbury Nowers	Balls Wood	Beane Hill	Bishops Stratford South	Brent Reservoir	Bricket Wood	Bunkers Park	Canley Street	Coleley Heath	Cranford Park	Danesbury	Fryent County Park	Gunnerbury Triangle	Gutteridge Wood	Hampstead Heath	Horsenden Hill east	Horsenden Hill West	Hunsdon Mead	Kenwood	Kings Langley	Knobworth	Lemsford Springs	Mardley Heath	Marshalls Heath	Millhoppers	Miswell Lane	
Small Skipper	67	41			56	82	65	102		18	69	15		16	52			68	18		47	3	113	4	11	111	12	
Essex Skipper	116				7	2	45	9				44		5				26	2		10					89	56	4
Small Essex Skipper									11				3														30	5
Large Skipper	54	50	10	4	46	67	7	7	7	2	40	5	7		5	15	27	7		8	8	91	3	3	3	30	3	
Dingy Skipper	7																											
Grizzled Skipper	3																											
Clouded Yellow																												
Brimstone	57	5	5	2	6	80	3					1	4	3	13	15	2			1	3	1				8	12	22
Large White	30	30	19	71	34	54	11	69	12	29	14	25	7	14	22	13	12	52	15	50	52	28	46	43	23	43		
Small White	51	3	29	39	17	24	70		23	50	6	42	48	2	3	21	26	46	31	38	14	3	77	83	72	74		
Green-veined White	56	25	14	3	62	82	97		19	44	16	18	11	28	3	15	27	12	15	25	119	35	27	10	56			
Orange Tip	3	35	5	43	23	8	56			9	9	4		5	5	1	2	2	2		2	26	6	17	2	17		
Green Hairstreak	1																											
Purple Hairstreak					14	60								2		7	3					32						
White-letter Hairstreak					3											3	31					14						
Small Copper	62	1			15		17			39	4				4	6	18	29	27	23	1	34		3	4	2		
Brown Argus	176				13	5				14																39		
Common Blue	118			87	41	1	334	1	15	19	9	1	4	72		3	9	15	1			32	3	4	84			
Chalkhill Blue	6																											
Holly Blue	3		2	5	5	3	7	17		22	7	1	11	8	3	4	3			5	6	1				7	5	
White Admiral		29				26																						
Purple Emperor	1																											
Red Admiral	2	13	5	11	8	20	3	13	8	68	14	9	2	5	9	9	7	25	8	5	14	16	11	10	36	30		
Painted Lady	19	3	6	213	2	14	5		3	5	17	2	2	2		16	9	5	30	5	24	1	45	19	3	5		
Small Tortoiseshell	5	1		18	2	3			7	4	11	1				1		1			1	11	14	13	1	5	2	23
Peacock	45	29	16	30	15	56	65		1	32	8	39	1	8	12	6	9	1	25	26	41	30	27	25	9	37		
Comma	19	56	26		22	46	9	2	6	56	15	13	12	13	18	26	9	1	9	5	13	24	25	12	19	36		
Dark Green Fritillary	1	2																										
Silver Washed Fritillary	1																											
Speckled Wood	10	402	189	2	51	85	21	38	8	129	33	48	58	197	25	57	10	9	62	2	121	21	32	104	103	74		
Marbled White	606				49	37	69			27				1	2						1	53				9	14	6
Gatekeeper	311	136	130	192	424	239	150	26	44	154	235	147	46	84	26	137	471	3	73	15	334	46	166	381	82	162		
Meadow Brown	1326	98	140	279	306	294	590	11	281	546	424	1234	16	137	158	394	1345	226	194	53	1398	24	240	648	354	202		
Small Heath	126				1				15	115	4															2	10	
Ringlet	181	497			20		99	7				8									2	262	9	108	13	78	29	
Total butterflies:	3485	1454	694	1080	1224	1421	1576	194	458	1441	928	1596	238	652	318	860	2030	417	628	266	3028	371	846	1746	923	822		
Number of Species	28	20	15	19	23	23	23	10	15	21	22	17	15	19	15	21	21	15	20	20	24	17	19	24	20	18		

Regional Indices

compiled by Leslie Williams

This index uses transect data from eight long-running transects (four in Hertfordshire and four in Middlesex, though the index has been depleted by the loss of two of the Hertfordshire transects). The transects are Hampstead Heath 1978-2006, Fryent Country Park 1986-2006, Beane Hill 1988-2006, Gutteridge Wood 1990-2006, Gobions Woodland 1990-2001, South Mimms 1990-2000, Aldbury Nowers 1992-2000 and 2002-2006, and Marshall's Heath 1992-2006. The indices are set at 100 in 1990, or the first year of record for a species. Note that for any one species the indices are relative from year to year, not from species to species. The indices are more useful when looking at longer terms trends than for year to year changes. Similarly, indices may be less reliable for localized and less frequent species.

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Small & Essex Skippers	52	82	128	118	100	227	199	97	114	127	254	236	74	102	67	111	90	121	141	92	115
Large Skipper	53	124	63	204	100	58	201	161	180	140	91	80	54	77	50	77	138	161	77	89	80
Dingy Skipper					100	0	0	100	150	0	0	200	0	0	100	NA	150	0	600	0	700
Grizzled Skipper								100	75	0	0	200	0	75	100	NA	0	250	150	300	150
Clouded Yellow											100	0	20	0	420	0	50	0	0	0	0
Brimstone					100	183	317	294	268	155	224	243	324	297	475	243	237	166	321	332	165
Large White	144	39	142	322	100	62	427	107	107	68	16	97	156	53	69	56	76	64	88	67	88
Small White	574	123	173	251	100	220	427	120	350	406	227	550	220	113	163	228	241	178	376	211	233
Green-veined White	64	33	140	162	100	55	250	72	101	96	66	178	258	67	63	73	172	82	168	115	74
Orange Tip	2	18	10	35	100	70	90	90	47	77	43	93	84	46	78	58	58	41	122	81	32
Green Hairstreak							100	144	310	166	77	310	266	144	116	NA	77	17	6	28	6
Purple Hairstreak							100	120	40	60	310	150	300	475	205	80	65	65	130	70	40
White-letter Hairstreak							100	100	50	50	700	400	500	150	175	481	0	0	0	150	0
Small Copper	3	18	9	52	100	40	15	3	11	15	36	32	11	4	3	2	1	12	40	15	38
Small Blue							100	0	0	0	0	0	0	0	0	NA	0	0	0	0	0
Brown Argus							100	32	118	373	548	468	127	289	570	NA	76	62	213	378	683
Common Blue	8	8	0	54	100	48	41	20	41	39	35	49	15	26	14	10	5	15	17	27	32
Chalkhill Blue												100	0	0	0	0	0	0	100	300	800
Holly Blue	0	0	0	105	100	12	1	0	0	4	26	3	6	2	1	4	6	1	7	4	3
Duke of Burgundy							100	20	80	20	0	0	0	0	0	NA	0	0	0	0	0
White Admiral													100	100	0	0	0	0	0	0	0
Red Admiral	0	0	100	25	100	90	179	101	63	190	164	85	111	81	191	89	142	140	64	102	173
Painted Lady	0	0	100	0	100	17	25	0	17	11	655	8	20	9	31	0	101	208	70	0	187
Small Tortoiseshell	239	344	460	256	100	150	761	206	93	187	273	475	137	102	21	23	10	16	36	12	8
Peacock	130	191	160	120	100	130	372	249	147	196	329	245	384	328	409	214	192	93	155	192	191
Comma	79	134	140	185	100	142	365	124	145	224	196	188	169	152	185	135	127	187	187	128	214
Dark Green Fritillary							100	0	0	0	100	0	0	0	0	NA	0	0	100	100	0
Silver Washed Fritillary																					100
Speckled Wood	0	18	59	139	100	117	208	236	363	212	116	204	259	277	298	222	299	312	194	170	193
Wall Brown	27	21	0	89	100	21	9	4	8	3	2	0	0	1	0	0	0	0	0	0	0
Marbled White							100	151	211	136	91	99	174	308	387	NA	120	81	306	196	493
Gatekeeper	0	0	0	0	100	87	71	38	58	61	69	63	55	66	68	72	56	49	96	86	88
Meadow Brown	32	110	158	162	100	193	101	48	74	88	121	117	137	131	120	55	42	120	80	97	88
Small Heath	42	57	11	37	100	59	30	9	8	2	15	33	20	9	5	NA	7	1.7	10	24	22
Ringlet					4	0	100	271	419	138	49	96	96	170	246	NA	194	183	278	272	293

Species Mapping

Area covered by the survey

A map of the boundaries of our survey area is shown on the inside back cover (bottom). For Hertfordshire we are using the present County boundaries as the limits of our survey, whereas for Middlesex, we use the old Watsonian Vice County boundaries. This includes most of Central London north of the Thames, the River Lea forming the easterly boundary, so that places such as Stepney, Westminster and Fulham are all within the survey area, as are Sunbury, Staines and Heathrow in the west.

Built-up areas cover more than 10% of Hertfordshire, and about 70% of Middlesex; these are shown as stippled areas in the map on the inside back cover. Such areas obviously provide few possibilities for butterflies to breed, but much of the rest of the area is covered by arable farmland where modern techniques, particularly spraying with insecticide and weedkiller, also restrict butterfly breeding. Nature reserves where butterfly breeding is encouraged constitute less than 1% of the total area, so most butterflies recorded in this report will be surviving wherever they can on untended scraps of land, woodland edges and those road verges left uncut in the summer months.

A total of 594 *tetrads* (a tetrad is a 2 x 2 km square, its borders being the even-numbered kilometre lines of the National Grid shown on Ordnance Survey maps) lie within the survey area, or have more than half of their area within it. 414 of these lie in Hertfordshire, and 180 in Middlesex.

Observer coverage

Tetrad squares recorded

Observations have been received from 435 tetrads in 2006, or 76% of the total. This year we are showing maps of records for 2005-2006. The number of visits to each tetrad in 2005-2006 are shown in the map at the **top left, inside back cover**. When using the species distribution maps later, comparison with this map will give some idea as to how any recorder bias affects apparent distribution. The number of species recorded in each tetrad in 2005-2006 is shown in the map at **top right, inside back cover**.

Butterflies of 2006

The following sections are species by species accounts of butterflies seen (or in some cases not seen) in Hertfordshire and Middlesex during 2006. Each species is headed by a distribution map of the tetrads in which it was recorded, a flight diagram comprising mean weekly numbers, dates of first and last sightings, and various values indicating how well the butterfly fared in 2006.

The **numbers on the maps** indicate the maximum number of butterflies seen in each tetrad by one observer at any one visit throughout the year. Thus if an observer sees, for example, 25 Small Skippers on one morning and returns to find 25 the same afternoon, or the following week in the same tetrad, then 25 is the value recorded for that square, provided no one else sees a higher total at other times during the year. A few observers gave lists of butterflies for given sites without any indication of numbers seen. In such cases one sighting only is logged for that square, which is usually far too small. Please try and note numbers of butterflies seen, and other information as indicated on the branch recording sheets, which can be downloaded from the website at: <http://www.hmbutterflyconservation.org.uk>

The **Peak date** listed for each species is determined from the transect data only. The date when the highest numbers of a given species were observed on each transect count is averaged. This average has been weighted according to the numbers seen at each transect, so that sites with the highest populations contribute most to the determination of the mean date. If the species is bivoltine or trivoltine, the highest peak on the average curve is selected, and the date of highest numbers for that brood only is averaged. Where numbers are low an overall peak date cannot be sensibly determined, whereas for some species such as the Speckled Wood which have several peaks throughout the year, the highest peak may be quite different from place to place.

The **Maximum number seen** records the greatest number seen in 2006 at one locality at one time out of all records for Hertfordshire or Middlesex. It may represent the number of butterflies seen on one Buddleia bush, for example, or within the confines of a garden or field, or the number seen during a transect walk. If the period of observation takes longer than one hour, however, the hourly rate only is used, and an asterisk* is placed after it.

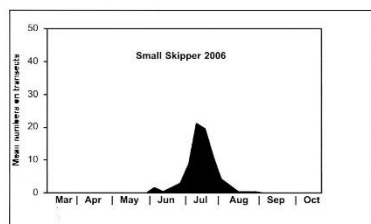
The **Index of abundance** for a given species is the average of the sum of the weekly totals seen on transect walks where the butterfly has been recorded. The **Change in abundance since 2005** is the percentage change in abundance averaged for those transects for which 2005 data is also available. For example, twice as many butterflies as last year is given as a 100% increase; a quarter of last year's total is a 75% decrease. Again there is much variation from site to site for many species, but the average gives the best overall indication of the general state of that species within the region as a whole. Note that a comparison of the two years' indices of abundance will not always give the same change in abundance, as many of the 2006 transects on which this figure was based were not walked in 2005. Values in brackets are unreliable due to the small sample.

The **number of tetrads** in which the species was recorded in 2006 is also given, together with the same value expressed as a percentage of those tetrads actually visited by recorders.

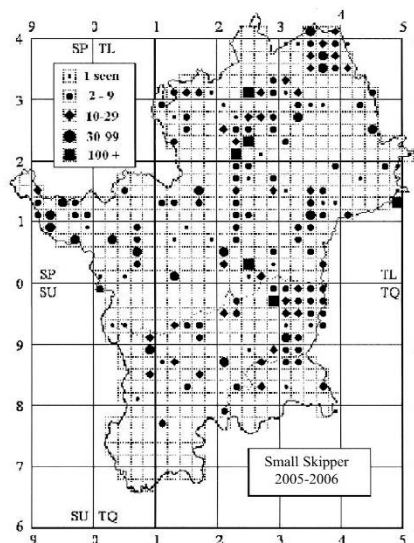
Finally, the **Range change since 2005** is given for some species, which compares the percentage of visited tetrads in which the species was found in 2005 and 2006.

Small Skipper *Thymelicus sylvestris*

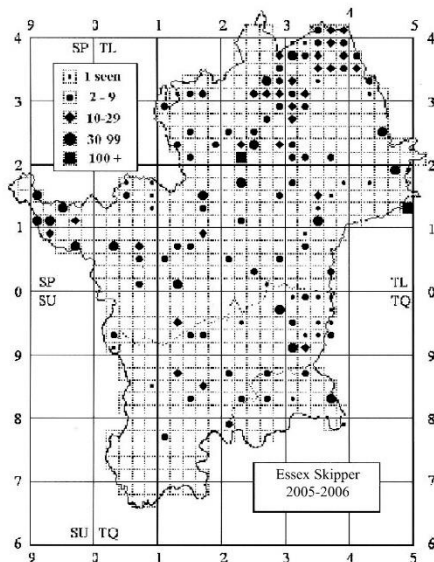
First seen: 5th June at Colney Heath (John Moss)
Last seen: 15th August at Bricket Wood (Colin Everett)
Peak date: 12th July
Maximum number seen: 71* at Stevenage on 8th July (Peter Clarke)
Mean index of abundance: 56
Change in abundance since 2005: 16% decrease
Recorded in: 115 tetrads (27% of those covered)
Range change since 2005: No significant change



Small Skipper
 Photo: Andrew Wood

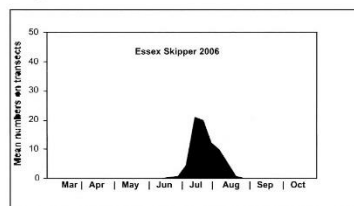


A slight decrease in numbers this year, after 3 years of modest increases. “*The Small Skippers didn’t fly for long, possibly due to the hot July weather drying up their food supply*” writes Andrew Self of Brent Reservoir. Although the distribution map only as yet reflects two years’ worth of data, it is looking rather thin compared with 2000-1 and 1995-6, especially in central Hertfordshire.



Essex Skipper *Thymelicus lineola*

First seen: 22nd June at Tower Hamlets (Terry Lyle)
Last seen: 8th August at Oughtonhead & Tring Park (Phil Lumley & Brian Jessop)
Peak date: 13th July
Maximum number seen: 51 near Odsey on July 15th (John Murray)
Mean index of abundance: 58
Change in abundance since 2005: 24% decrease
Recorded in: 77 tetrads (18% of those covered)
Range change since 2005: 13% contraction



Yet another decrease in numbers and contraction in range for this species, which has declined in four years out of the past five. “*Only two Essex Skippers were seen*” reports Andrew Self from Brent Reservoir, whilst Andrew Wood did not positively identify any at Balls Wood.

Essex Skipper
 Photo: Richard Bigg

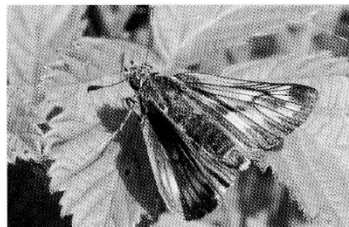
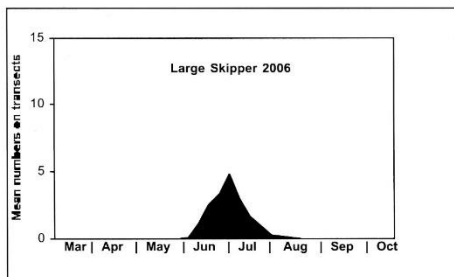


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<i>Knebworth:</i>		248	244	194	776	337	511	570	171	657	1067	324
<i>Marshall's Heath:</i>	118	305	470	265	169	119	197	150	135	166	50	89
<i>Patmore Heath:</i>		94	32	21	46	7	18	13	25	9	33	76
<i>Ware Park:</i>		66	187	138	58	14	13	11	13	8	12	?

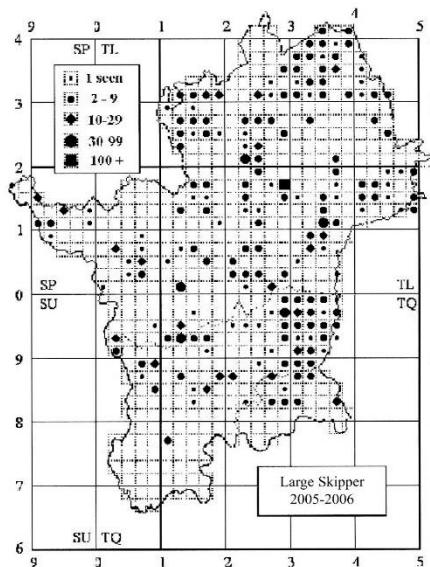
It now seems to be less widespread than the Small Skipper, though there may be some under-recording, as several recorders do not distinguish between Small & Essex Skippers. If you have not checked the antennae, always record a Small Skipper as "Small/Essex Skipper".

Large Skipper *Ochlodes venata*

- First seen:** 4th June at Maple Cross (Ann Piper)
- Last seen:** 22nd August at Weston (Alan Cockburn)
- Peak date:** 1st July
- Maximum number seen:** 22* at Aldbury Nowers on 3rd July (Martin Hicks)
- Mean index of abundance:** 17
- Change in abundance since 2005:** 31% decrease
- Recorded in:** 127 tetrads (30% of those covered)
- Range change since 2005:** No significant change



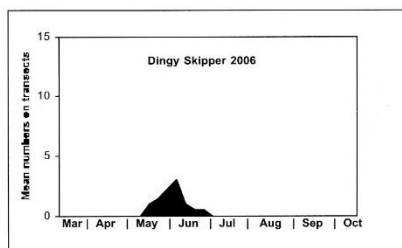
Large Skipper
Photo: Andrew Middleton



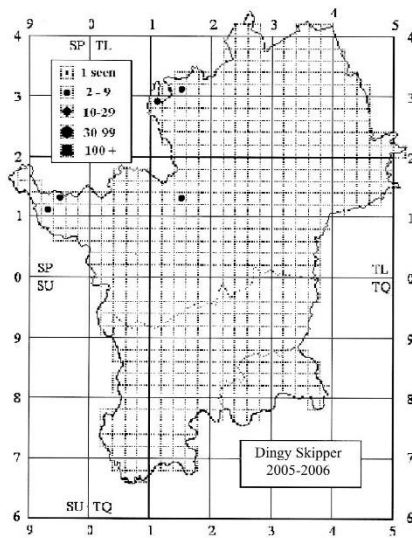
The Large Skipper had a better year than the other golden skippers, perhaps an illustration of its tolerance of a wider range of environments than its smaller relations. This species should be found during June and July wherever there is grassland without too much shade. The increase in range in the north east of the county is attributable to deliberate targetting of those generally little visited areas rather than a true expansion.

Dingy Skipper *Erynnis tages*

- First seen:** 11th May at Telegraph Hill & Aldbury Nowers (Andrew Middleton & Michael Pearson)
- Last seen:** 24th June at Tring Park (Brian Jessop)
- Peak date:** 4th June
- Maximum number seen:** 2 at three locations
- Mean index of abundance:** 10
- Change in abundance since 2005:** 59% decrease
- Recorded in:** 5 tetrads (1.2% of those covered)
- Range change since 2005:** 12% expansion



Andrew Palmer writes: With such low numbers one has to be careful when attempting to draw conclusions but the background trend suggests that on some sites at least numbers were down on 2005, which appears to have been a 'good year'. The exceptions were Aldbury Nowers which only supports tiny numbers and Hexton Chalk Pit which is generally under-recorded and where the population appears stable. Numbers at Tring Park and Telegraph Hill were



down on 2005 but comparable with the immediate preceding years. However the longer-term trend at Telegraph Hill is of concern.

More significant to the overall picture is that in 2006 a small team of volunteers undertook a thorough search of sites with historic records as well as possible new sites. Amongst the former were two private sites, one in the Pegsdon area where a healthy colony was re-discovered (having not been seen since 1995); the other in the Tring Area which was last visited in 1997. Here an extensive colony occupying early-successional chalk habitat was re-discovered and numbers seen were nearly three times as large as any other known Hertfordshire colony. These re-discoveries are important but probably don't represent any real increase in the county population. Urgent efforts must now be directed toward improving habitat conditions on the sites which hold colonies, and promising discussions with land managers have already begun. Significantly extensive chalk grassland restoration works have been commenced at Aldbury Nowers and it is hoped that this will ultimately lead to the establishment of a greater number of larval food plants. There is also a real opportunity to work with other local land owners and statutory organisations to ensure that

a series of inter-linking sites can be established spanning the Herts-Bucks-Beds border. This is the best chance of ensuring the species conservation in the long-term.

Grizzled Skipper *Erynnis tages*

First seen: 2nd May at Waterford Heath (Liz Goodyear)

Last seen: 24th June at Tring Park (Brian Jessop)

Peak date: 1st June

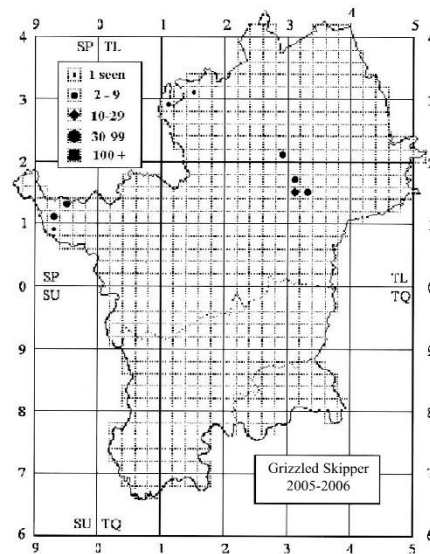
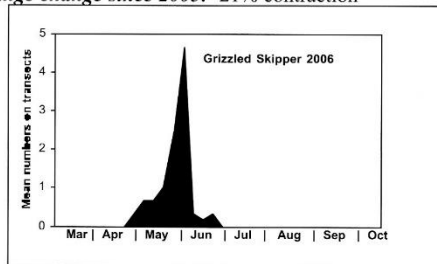
Maximum number seen: 16 at Waterford on 25th May (Liz Goodyear)

Mean index of abundance: 11

Change in abundance since 2005: 40% decrease

Recorded in: 7 tetrads (1.7% of those covered)

Range change since 2005: 21% contraction



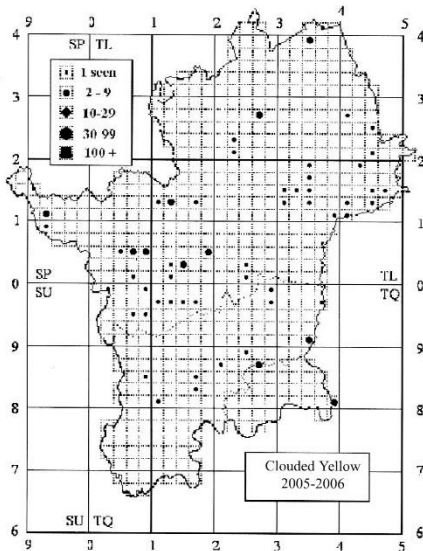
Jez Perkins writes: Grizzled Skipper sightings continue to increase with 88 reported during 2006. This shows a steady increase of individual sightings, however the expansion and colonisation of other sites outside of the species' strongholds is limited.

Year	2003	2004	2005	2006
Sightings	27	51	71	88

Waterford Pit remains the best site within Hertfordshire with 19 sightings recorded in a single visit, however Tring Park is becoming an increasingly important site on the west side of the county. Grizzled Skipper remains a priority species within the Hertfordshire Biodiversity Action Plan and work over the short term will be focusing on not only securing the future of this species on the existing sites but also establishing new sites where this species can expand

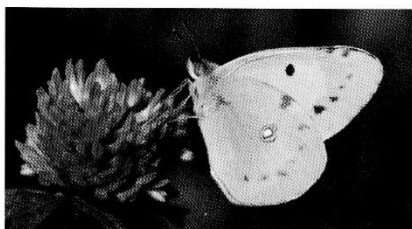
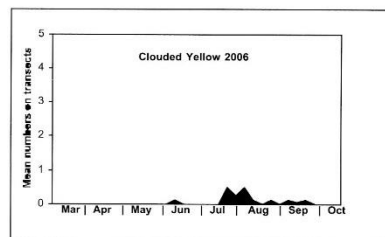


Grizzled Skipper
Photo: Andrew Wood



Clouded Yellow *Colias croceus*

First seen: 13th June at Kenwood (Mike Taylor)
Last seen: 4th November near Ware (Alan Reynolds)
Peak date: 26th July
Maximum number seen: 7* near Hemel Hempstead on 15th August (Michael Pearson)
Mean index of abundance: 5
Change in abundance since 2005: 406% increase
Recorded in: 51 tetrads (12% of those covered)
Range change since 2005: 473% expansion

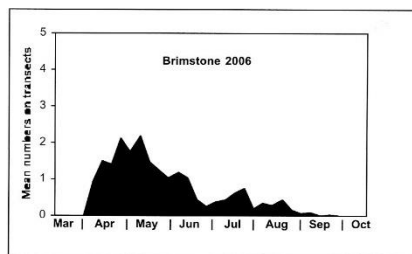


Clouded Yellow
Photo: Clive Burrows

This migrant was relatively well represented during 2006, a distinct contrast to 2005 when there were very few sightings. This is an illustration of the randomness of migrants reaching inland UK. There were a handful of earlier records in May and June, but the main influx seems to have been during the last week of July and the first week of August. There were then scattered records throughout the rest of August, September and October, with a notable concentration in the third week of October. Many of these may well have been home bred offspring of the earlier migrants. A few hung on into November.

Brimstone *Gonepteryx rhamni*

First seen: 11th January at Aldbury Nowers (Michael Pearson)
Last seen: 24th October at Ickleford (Stuart Pittman)
Peak date: 5th May
Maximum number seen: 24 at Aldbury Nowers on 27th August (Malcolm Hull)
Mean index of abundance: 18
Change in abundance since 2005: 16% decrease
Recorded in: 144 tetrads (34% of those covered)
Range change since 2005: 21% contraction

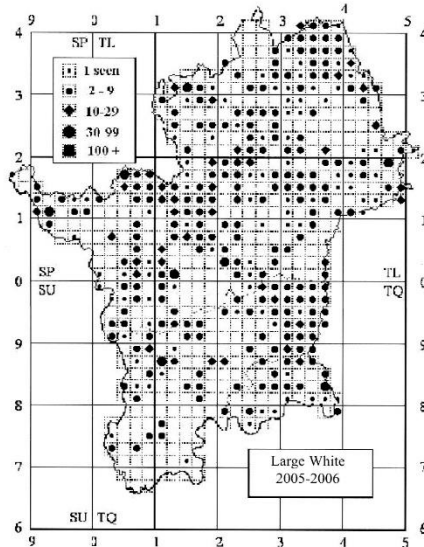
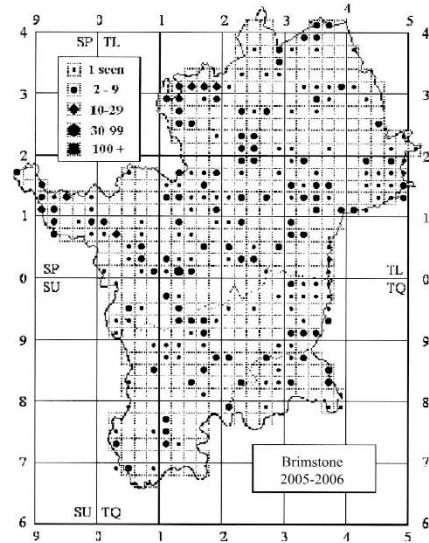




Brimstone

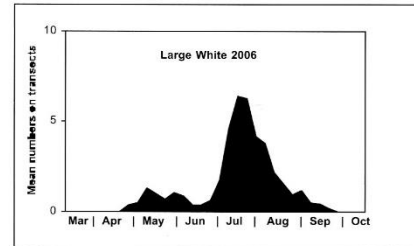
Photo: Clive Burrows

Apart from one January record at Aldbury Nowers the emergence from hibernation of this, one of our most consistent species, was well coordinated in the third week of March. Most of 2006's offspring had gone into hibernation by the end of September with just a few seen during October.



Large White *Pieris brassicae*

- First seen:** 14th April at St Albans (Malcolm Hull)
- Last seen:** 16th October at North Mymms (Jane Fielding)
- Peak date:** 18th July
- Maximum number seen:** 40* at Tower Hamlets on 29th July (Andy Maguire)
- Mean index of abundance:** 35
- Change in abundance since 2005:** 32% decrease
- Recorded in:** 206 tetrads (48% of those covered)
- Range change since 2005:** 18% contraction



As in 2005 there was a small spring brood for the Large White followed by a much larger emergence during the summer, although the peak record was about three weeks earlier reflecting the milder conditions. The proportion of squares in which it was recorded was down compared to earlier years, but not to any great degree. There is no current evidence to suggest that this species is in any trouble.

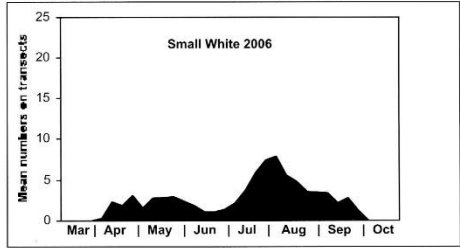
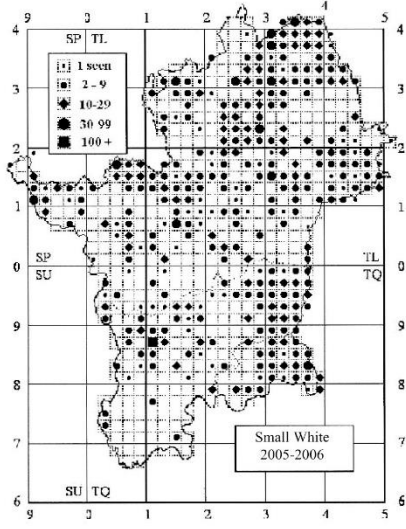


Large White

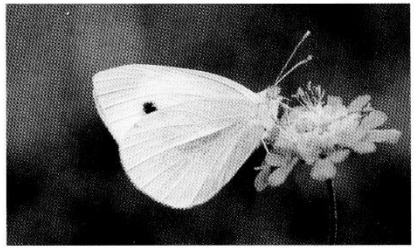
Photo: Andrew Wood

Small White *Pieris rapae*

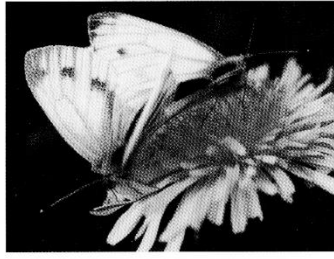
First seen: 23rd March at Ruislip (Nick Furtek)
Last seen: 4th November at Enfield (Martin Shepherd)
Peak date: 28th July
Maximum number seen: 48 near Odsey on July 16th (John Murray)
Mean index of abundance: 48
Change in abundance since 2005: 39% decrease
Recorded in: 215 tetrads (51% of those covered)
Range change since 2005: 14% contraction



The Small White parallels the Large White in terms of brood abundance and flight periods, although its peak flight date was actually 11 days later in 2006 compared to 2005. It was again recorded in just over half of the tetrads surveyed, though doubtless the difficulty in distinguishing it from the Green-veined White in flight means that it is probably somewhat under-recorded. The exceptionally late sighting on 4th November is the latest ever by nine days.



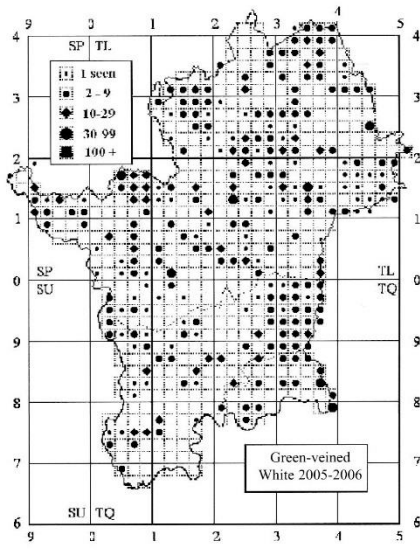
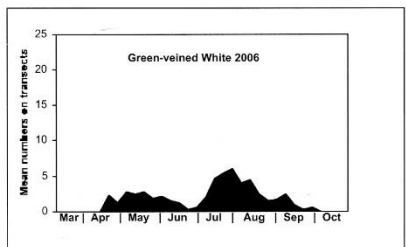
Small White
 Photo: Clive Burrows



Green-veined White
 Photo: Clive Burrows

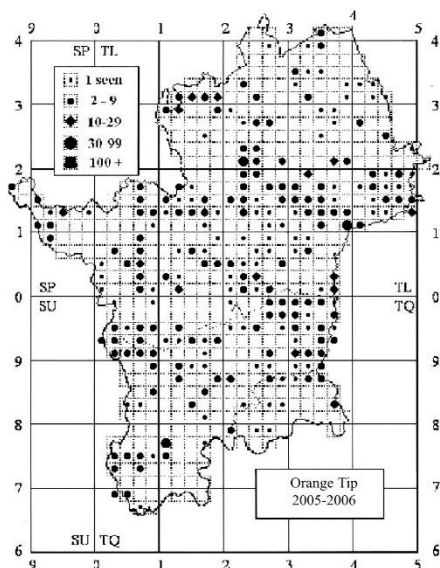
Green-veined White *Pieris napi*

First seen: 13th April at Stevenage (Steve Lane)
Last seen: 30th September at Tring Park (Brian Jessop)
Peak date: 21st July
Maximum number seen: 45* at Tower Hamlets on 17th July (Terry Lyle)
Mean index of abundance: 38
Change in abundance since 2005: 43% decrease
Recorded in: 156 tetrads (37% of those covered)
Range change since 2005: 23% contraction



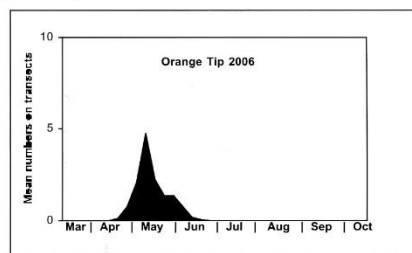
The flight period and peak date were very similar to 2005, but actual numbers recorded showed a continuing pattern of decline. This is reflected in the transect data below, which shows an average drop of 30% to 50% after a period of relative consistency. However looking back this may just be part of a pattern for this species with similar drops evident for 1996 and 2001, both of which were followed by recoveries

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Beane Hill:	70	51	115	28	61	28	9	25	22	37	43	14
Colney Heath:	84	24	51	50	53	44	29	38	24	30	45	19
Fryent Country Pk:	76	25	123	142	49	49	25	34	29	46	38	18
Gutteridge Wood:	70	25	104	134	24	16	19	82	27	49	41	28



Orange Tip *Anthocharis cardamines*

First seen: 21st April at 5 locations
Last seen: 20th June at Pirton (Val Fullforth)
Peak date: 10th May
Maximum number seen: 24 at Hemel Hempstead & Bishops Stortford on 10th & 11th May (Michael Pearson & Bob Clift)
Mean index of abundance: 14
Change in abundance since 2005: 28% decrease
Recorded in: 150 tetrads (35% of those covered)
Range change since 2005: 24% contraction



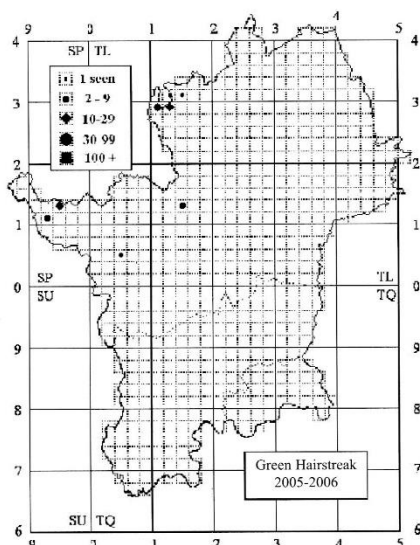
Not a great year for this species, with a late first appearance date and no instances of possible second broods. It was absent at some sites, "Unusually, no record of Orange Tip", writes John Moss of the Colney Heath transect. However it still remains a widespread butterfly and the fluctuations are probably natural variability rather than anything more significant.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Hampstead Heath:	1	3	13	8	8	3	8	6	2	2	9	5
Patmore Heath:						5	4	2	5	3	5	3
Rothamsted Farm:	3	4	14	2	3	9	12	1	3	6	13	3
Smallford Lake:	20	33	38	20	12	15	10	13	3	8	26	32



Orange Tip
 Photo: Andrew Wood

Green Hairstreak *Callophrys rubi*



First seen: 11th May at Tring Park & Telegraph Hill (4 observers)

Last seen: 24th June at Tring Park (Brian Jessop)

Peak date: 6th June

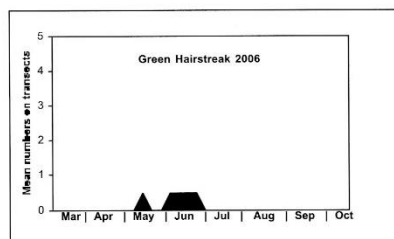
Maximum number seen: 14 at Telegraph Hill on 11th May (A.Middleton, A.Palmer & E.Goodyear)

Mean index of abundance: 2.5

Change in abundance since 2005: 50% decrease

Recorded in: 5 tetrads (1.2% of those covered)

Range change since 2005: 25% contraction



A continued fall in numbers and range is disappointing after last year's increases. This butterfly has decreased in numbers in 4 years out of the last 5, and reliable colonies seem to be restricted to three sites only, all of them on the chalk: Tring Park and Aldbury Nowers in the far west, and Highdown in the north. This year it did put in an appearance at Telegraph Hill, where it has been intermittently seen in recent years, and Nigel Agar reports "Probably the best Green Hairstreak day ever: 3 to 4 egg-laying females". He was promptly upstaged by the arrival of Liz Goodyear and Andrews Middleton & Palmer, who documented 14 separate individuals flying there in about 50 minutes after lunch

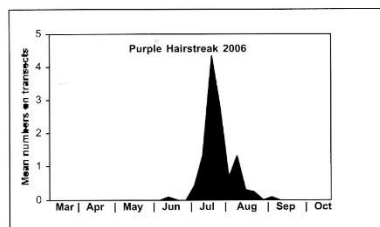


Green Hairstreak
Photo: Clive Burrows

Brown Hairstreak *Thecla betulae*

"Large stretches of suckering Blackthorn hedge suitable for Brown Hairstreak have been removed" remarks Malcolm Hull on 3rd September from the transect at Bricket Wood, its last locality in the two counties, and later on 17th September: "Blackthorn hedge in section 7 trimmed unsympathetically" at the same locality.

There is a tantalising possible sighting by Val Fullforth who reports seeing this butterfly twice on August 25th at Wood Lane, Pirton, "firstly flying alongside the field in section 1 at the beginning of the transect and later flying down by the hedgerow from section 4 at the end of the lane. It was flying faster than I could keep up with it and had no chance to photograph it". Unfortunately Val did not see the butterfly settling; the day flying Vapourer Moth has a similar pattern and orange/ochre colouring and so the two can easily be confused.



Purple Hairstreak *Quercusia quercus*

First seen: 15th June at Pirton (Val Fullforth)

Last seen: 3rd September at Bricket Wood (Malcolm Hull)

Peak date: 18th July

Maximum number seen: 42* at Edmonton on 1st July (Andrew Middleton)

Mean index of abundance: 13

Change in abundance since 2005: 41% increase

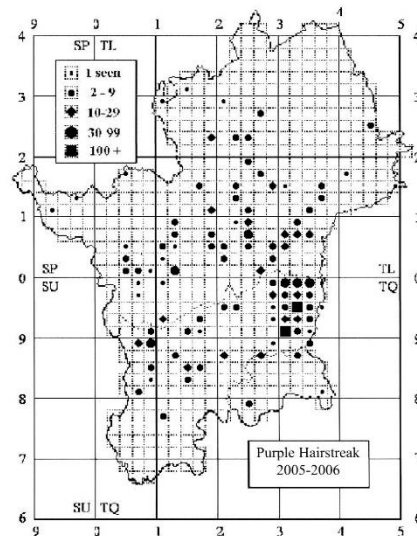
Recorded in: 74 tetrads (17% of those covered)

Range change since 2005: 15% expansion

This butterfly is doing well at the moment, with increases in each of the past three years and a substantial increase this year. Colin Everett noted single caterpillars "on rural roads passing beneath oaks at Grove Mill Lane, Watford (28th May) and by Park Wood, Chiswell Green (1st June). Malcolm Hull reports "Large numbers of Purple Hairstreak seen low down" at Bricket Wood on 15th July. Colin Everett recorded an interesting incident on August 5th: "An adult was being attacked by a social wasp (*Vespula* spp.) on the ground along a bridle path by Great Wood at Apsley. The two insects separated when I placed a small transparent container over them, the hairstreak then flying up into the treetops".



Purple Hairstreak
Photo: Andrew Wood



White-letter Hairstreak *Satyrrium w-album*

First seen: 21st June at Maple Cross (Andrew Middleton, Liz Goodyear & Ann Piper)

Last seen: 6th August at Knebworth (Ken King)

Peak date: 1st July

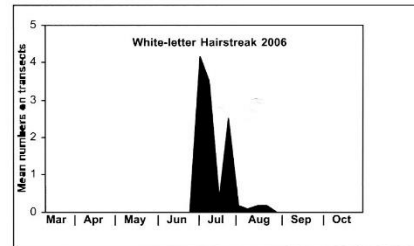
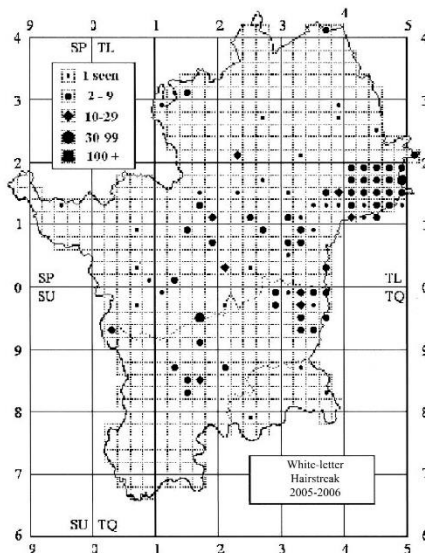
Maximum number seen: 30 at Spellbrook on 27th June (Liz Goodyear & Andrew Middleton)

Mean index of abundance: 10

Change in abundance since 2005: 131% increase

Recorded in: 73 tetrads (17% of those covered)

Range change since 2005: 143% expansion



This butterfly thrived this year, with big increases in numbers recorded on transects. The expansion in range is also substantial, reflected in comments such as "the highlight of the year was pinning down the White Hairstreak colony" (Andrew Self from Brent Reservoir). But the expansion may be partly due to Liz Goodyear and Andrew Middleton, who are initiating a national survey of this species in all its stages, which they believe may be much more widespread than is indicated by its designation as a UK priority species. Their hunch seems to be correct, for by diligent searching she has found it in every single tetrad of the TL41 decade, hence the concentration in that square of the distribution map. However, Malcolm Hull reports "a poor year in the west side of St Albans. I searched its former strongholds in Verulam Park and Everlasting Lane without success. At both locations most of the taller elm suckers have now succumbed to Dutch Elm disease and the new growth is mostly below 10 ft. tall. I found one new site on Batchwood Drive where one sucker over 30 ft survived. The final Wych Elm at Folly Lane also died early this year and I found none at this site".

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Gutteridge Wood:	0	3	0	0	0	0	0	0	0	0	0	0
Horsenden Hill East:									4	6	0	3
Marshalls Heath:	1	8	6	6	3	2	1	0	0	0	2	0
The Warren:	7	15	5	0	2	0	4	1	6	0	0	0

Small Copper *Lycaena phlaes*

First seen: 4th May at Fir & Pond Woods (David Gompertz)

Last seen: 29th October at Potters Bar (David Gompertz)

Peak date: 18th September

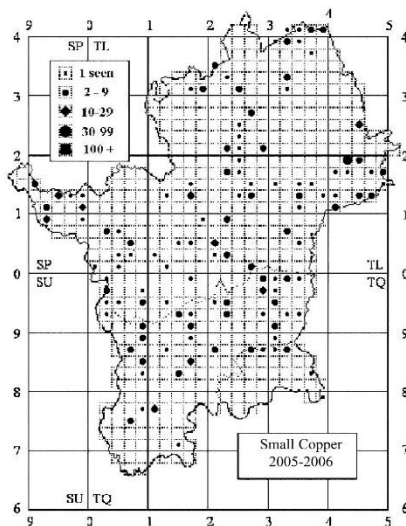
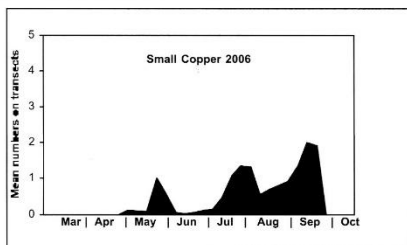
Maximum number seen: 23 at Much Hadham on 14th September (Liz Goodyear & Andrew Middleton)

Mean index of abundance: 14

Change in abundance since 2005: 55% increase

Recorded in: 98 tetrads (23% of those covered)

Range change since 2005: 49% expansion



On 5th September Diane Andrew reported "very pleased to see 5 Small Coppers on thistle heads, only 2 seen in 2005" at Alexandra Palace. Ken King writes of "A good showing at the end of the season. I am just surprised that few are seen from earlier broods. As can be seen each brood produced higher peak numbers than the previous one, this is very different to 2005 when the second two were almost equal and the first greatly different". This is also illustrated by Malcolm Hull's comments, "Very few seen until September when numbers soared, probably as a result of the hot summer. I saw 21 at Nomansland Common on 10th September, my best ever hourly count in St Albans district". The overall numbers show less of a pattern if one looks at the central Hertfordshire transects below.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Colney Heath:	88	41	30	11	3	3	1	0	41	16	3	0
Danesbury:				467	234	92	196	76	103	107	96	152
Knebworth:	190	148	253	439	284	59	162	81	130	88	213	167
Stevenage:				126	101	122	207	200	296	144	91	46

Small Blue *Cupido minimus*

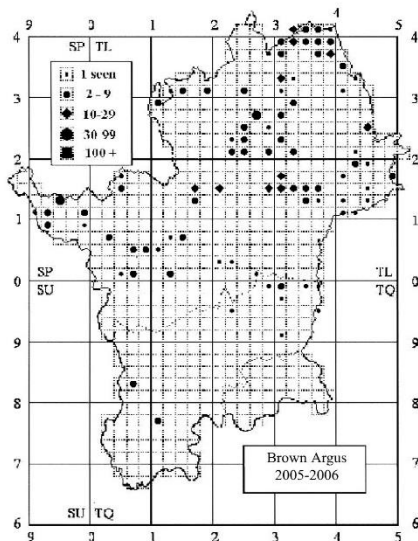
Sole sighting: 21st July at Aldbury Nowers (Malcolm Hull)

Maximum number seen: 1

Recorded in: 1 tetrad (0.2% of those covered)

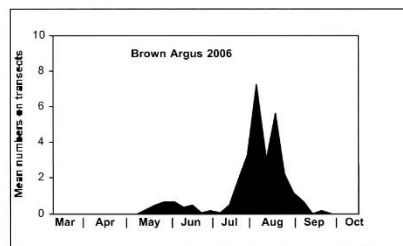
Range change since 2005: Not seen in 2005

Andrew Palmer writes: As with 2005, the year produced a solitary record, although one seen by Malcolm Hull in the field below Aldbury Nowers on 21 July is much less surprising than the previous year's record from St. Albans. "Crossing the field from the layby, I saw a large patch of Bird's-foot Trefoil, just before reaching the chalk bank, about 10 metres to the left, at the edge of the field. I spent some time trying to photograph the Brown Argus. One of them perched, opened its wings showing rich chocolate brown wings with no orange markings. It quickly closed up displaying a dull brown underside. I managed three rather poor photos, but was in no doubt it was Small Blue and this is confirmed by the spot pattern in the photos. I saw it twice more in the next 30 minutes but it did not settle again. It flew backwards & forth over the Bird's-foot Trefoil, interacting with the Brown Arguses". The field where the Small Blue was recorded lies less than 2 km from the nearest colonies at Church End and College Lake just over the county boundary in Buckinghamshire, and one of these is the most likely origin of the butterfly. The Herts and Middlesex Wildlife Trust have undertaken significant chalk grassland restoration works at the Nowers at the beginning of 2007 and this has resulted in significant areas of chalk scree and soil being exposed. Natural England have approved a small scale seeding project to re-establish native provenance Kidney Vetch on the site and it is hoped that by the end of the decade the vetch will be flowering again on the Nowers and may eventually support colonies of Small Blue.



Brown Argus *Aricia agestis*

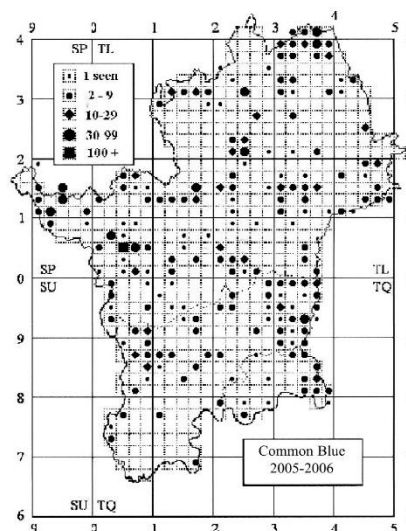
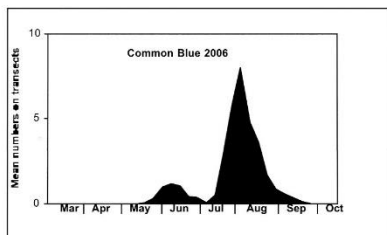
First seen: 10th May near Waterford
Last seen: 23rd September at Ponders End & Aldbury Nowers (Andrew Middleton & Martin Hicks)
Peak date: 13th August
Maximum number seen: 53 at Aldbury Nowers on 20th August (Martin Hicks)
Mean index of abundance: 28
Change in abundance since 2005: 48% increase
Recorded in: 67 tetrads (16% of those covered)
Range change since 2005: 54% expansion



In contrast to many species the Brown Argus underwent a considerable expansion in both range and numbers, a not uncommon occurrence in this species in recent years. Notably new colonies were found in urban Middlesex as well as rural Hertfordshire. Steve Pash found a colony on the Brunel University campus in Uxbridge: "This was on land formerly used as a nursery and not scrubbed over due to unofficial horse grazing". This shows the value of brown field sites for butterfly populations. At Patmore Heath total numbers were at their highest in 11 years of recording and at the opposite end of the county there were 13 on the Bricket Wood transect compared to a total of 2 in all of the previous 9 years.

Common Blue *Polyommatus icarus*

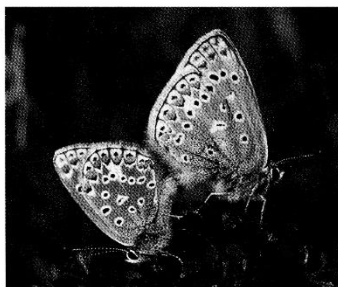
First seen: 23rd May near Waterford (Andrew Middleton)
Last seen: 24th October at Ickleford (Jez Perkins & Stuart Pittman)
Peak date: 5th August
Maximum number seen: 84 near Barley on 6th August (John Murray)
Mean index of abundance: 41
Change in abundance since 2005: 39% increase
Recorded in: 137 tetrads (32% of those covered)
Range change since 2005: No significant change



There was a significant increase in this species this year, which Pat Watt, (Watt 2006) at Danesbury Park, explains in terms of its foodplant: "The Birdsfoot Trefoil flowered well this year which resulted in an increase in sightings of Common Blue butterflies". There was also an increase at Bunkers Park, once a spectacular stronghold for this species: "the Common Blue index for 2006 is 334, up 12% on 2005. This compares with 910 in 2001, since when there has been a clear downward trend in the annual indices for this species". However, this is not really the case for transects elsewhere:

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Colney Heath:	42	15	20	6	17	18	5	4	35	18	34	15
Knebworth:		33	27	6	21	6	11	3	29	30	17	32
Marshall's Heath:	186	126	155	13	76	29	19	3	71	10	11	84
Patmore Heath:				3	20	9	2	4	7	13	9	40

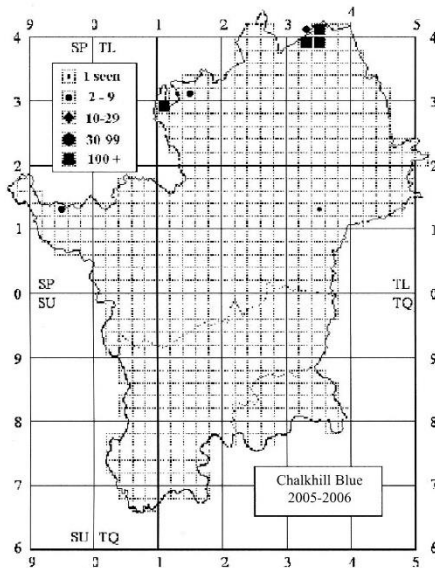
Michael Pearson was initially concerned for the Common Blues when the enclosures and Bottom Field of Bunkers Park were cut in mid-June instead of after the second week of July as agreed. However, on July 25th he writes: "I am happy to report that Common Blue is present on Bottom Field in fair numbers. I think that it is probable that the Common Blue species counts for my transect sections 1, 2 & 3 will be down on what otherwise could be expected, as the cut area has, in many places, been taken right up to the transect route. However, the indications are positive for next year - all else being equal from now on. Common Blue is present in good numbers over the uncut strips down the centre of the field; flowering birdsfoot trefoil is abundant throughout. Indeed, it is noticeable that the early hay cut has benefitted the birdsfoot trefoil, in that the cut-over clumps have regenerated to flowering size weeks earlier than in most previous years."



Common Blue
Photo: Alan Downie

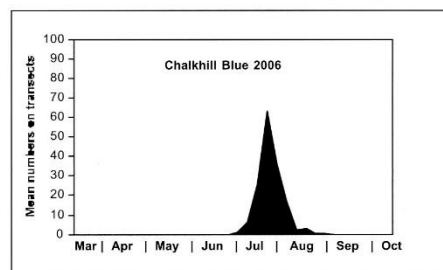


Chalkhill Blue
Photo: Ian Small



Chalkhill Blue *Lysandra coridon*

First seen: 3rd July at Therfield Heath (Alan Beale)
Last seen: 8th October 2006 at Therfield Heath (David Heath)
Peak date: 25th July
Maximum number seen: 1450 at Hexton on 20th July (Malcolm Hull)
Mean index of abundance: 155
Change in abundance since 2005: 11% decrease
Recorded in: 7 tetrads (1.7% of those covered)
Range change since 2005: 10% contraction



Despite the decreases in both abundance and range, this species is continuing to thrive at its few strongholds along the chalk hills on the north borders of Hertfordshire. Steve Lane estimated the Hexton population at 2000 on July 21st, and Ian Hardy arrived at a similar figure on August 8th. It was seen essentially at 4 localities: Hexton Chalk Pit, Telegraph Hill nearby, Therfield Heath, and also at Aldbury Nowers. It has been seen at the latter locality intermittently in the past, but this year it was reported there on seven occasions with a maximum count of 4. Hopefully the work there on increasing the chalk grassland will provide it with a permanent home. The only outlier was one male seen by Alan Reynolds at Kings Mead, near Hertford, on July 30th.

Holly Blue *Celastrina argiolus*

First seen: 1st April at Tring (Brian Jessop)

Last seen: 9th November at St Albans & Pinner (Clive Burrows & Graham Elcombe)

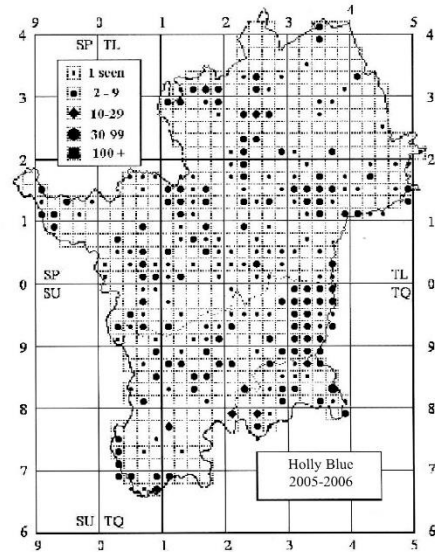
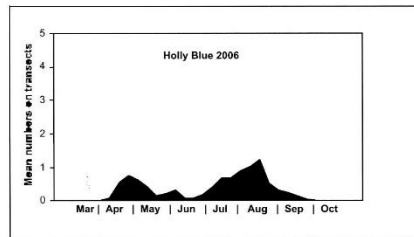
Peak date: 30th July

Maximum number seen: 19* at Tower Hamlets on 5th August (Terry Lyle)

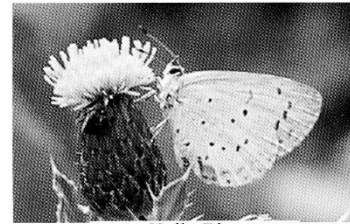
Mean index of abundance: 9

Change in abundance since 2005: 46% decrease

Recorded in: 127 tetrads (30% of those covered)



The Holly Blue is well known for the rapid fluctuations in its population and 2006 proved to be one of its lower years, being seen at fewer sites and in lower numbers. A hopeful sign is that the summer brood was larger than the spring one. A small or partial third brood now seems to be established with again several records from late September through October and into November. For many years a 1902 record of 22nd September was the latest flight date (Sawford, 1987), but latest dates in October onwards have been recorded virtually every year since this series of reports began in 1995.



Holly Blue

Photo: Andrew Wood

White Admiral *Limenitis camilla*

First seen: 18th June at Ruislip (Ched George)

Last seen: 21st September at Balls Wood (Andy Holtham)

Peak date: 1st July

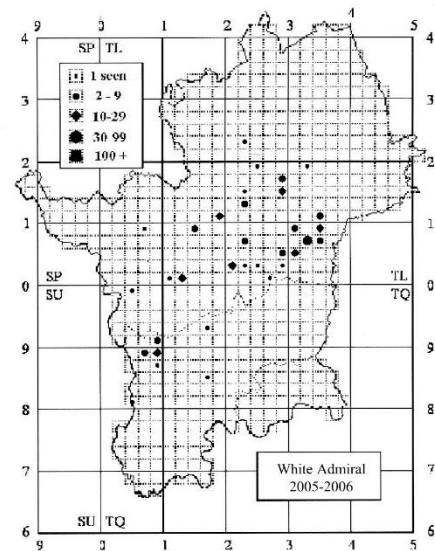
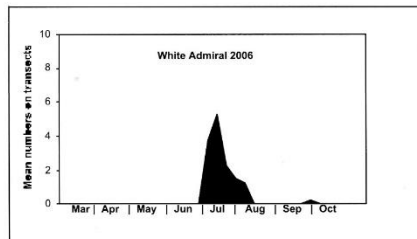
Maximum number seen: 12 at three locations, 1st-15th July

Mean index of abundance: 14

Change in abundance since 2005: 15% decrease

Recorded in: 24 tetrads (6% of those covered)

Range change since 2005: 8% expansion



The contrary abundance and range changes in this species continue this year, with a decrease in abundance being accompanied by an expansion in range. This has been such a consistent characteristic of the population dynamics of this species (it has occurred 8 times out of the past 9 years, whether populations are rising or falling) that one feels

that it must have some significance, especially as it is a much less common event with other butterflies. As in recent years, the range expansion produced some garden sightings: "An adult briefly on bramble in my garden at Garston (Watford) in the afternoon of 23rd June is the first record for the site and the tetrad. The location is just 1 km west of the existing population at Bricket Wood" (Colin Everett).

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Balls Wood:	19	24	37	42	15	20	6	3	9	32	32	29
Bricket Wood:			32	39	4	3	1	1	7	12	28	26

A most extraordinary event occurred in September: there was a brief second brood, with four sightings on 10th, 11th, 17th and 21st September at Ruislip and Balls Wood. This has only ever been recorded once before: in 1947 in Hertfordshire (Sawford 1987), when an emergence was reported on 30th September at Hertford Heath (presumably Balls Wood) and at three locations in Essex. 1947, like 2006 was a year of temperature extremes, with a late heavy snowfall in mid March and a very hot summer.

Purple Emperor *Apatura iris*

First seen: 25th June at Broxbourne (Joan Childs)

Last seen: 1st August at Northaw Great Wood (Andrew Middleton)

Peak date: 16th July

Maximum number seen: 6 at Broxbourne on 4th July (several observers)

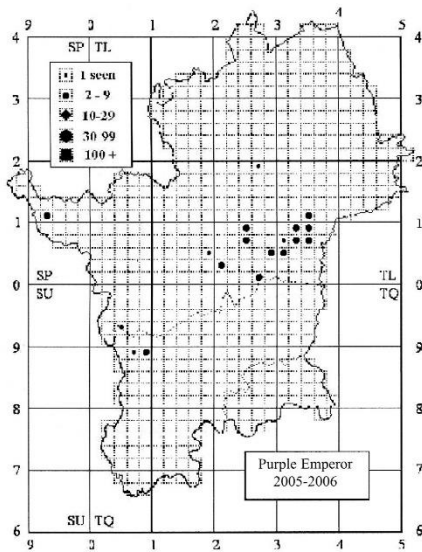
Mean index of abundance: 1

Change in abundance since 2005: 67% decrease

Recorded in: 14 tetrads (3% of those covered)

Range change since 2005: 16% contraction

Liz Goodyear & Andrew Middleton write: Despite the heat, 2006 was very successful although there were several days when the heat took away all the enthusiasm to search out new woods and survey for potential territories. The season started on the 25th June, when Joan Childs visiting the Paradise Wildlife Park on the south-eastern side of the Broxbourne Woods complex saw a male Purple Emperor enjoying the delights of *Capybura* 'poo.' On the 29th June, Andrew had two males at the Northaw territory - our key site for first and last dates. The last reported sighting was at Northaw on the 1st August.

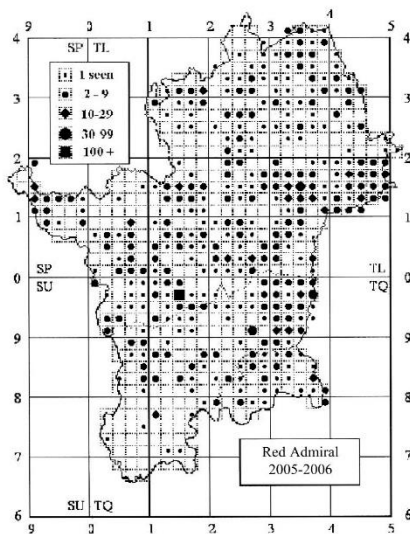


On the 3rd July, we walked the entire length of the Wormley Woods NNR ridge (2km!) with our heads fixed upwards and thanks to a helpful pigeon, found the true territory, a minute gap between oaks. Wormley Woods is different as the high ridge runs through the wood rather than along the edge. The territory was on the edge of the high canopy where it meets the younger willow-rich plantations. We had three males clash here, which for Hertfordshire is very rare.

Ultimate highlight came quite late in the season on a day when the heat had subsided and we felt more inclined to do some walking! An area to the west of the Broxbourne complex was identified by us in 2005 as having potential and although a wood is named on maps much has been cleared for horse paddocks. All that remains is a wide 'green lane' lined with some willows and the occasional cluster of mature oaks. We thought the territory would be in the tall trees by the houses about 1km along the path. We were wrong but saw a female Purple Emperor flying around a willow here. We started to walk back quite pleased with this result, stopping at every cluster of oak to look up, and then suddenly a male flew beside a tall oak and we knew we had cracked another territory!

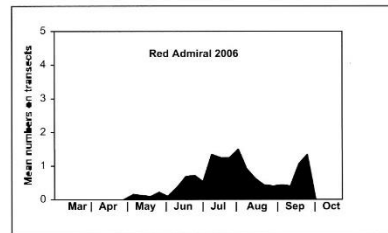
All our sites have low population levels, and patience is a huge requirement, observing behaviour other than territorial is only occasional and this year few females were observed apart from those at Broxbourne egg-laying, taking moisture from the ground or feeding at a sap-run. Our key site for non-territorial behaviour is the Broxbourne Wood Nature Reserve, a site popular with photographers. Here the early bird definitely got the photograph this year with groundings being recorded as early as 8.30am. However, after only a few days the groundings stopped and by the date of the first field trip on the 8th July most sightings were of females. Afternoons have in previous years been times when they have been seen patrolling the willows but unfortunately as the willows grow taller this is becoming increasingly harder to observe.

In March 2006, the revised Hertfordshire Biodiversity Action Plan was launched with Purple Emperor added with its own Species Action Plan written by us. We can only hope that this will help ensure positive management in Hertfordshire woodlands - there are unfortunately several woods that need some serious work done, if the butterfly is going to prosper there.



Red Admiral *Vanessa atalanta*

First seen: 21st January at Ware (Liz Goodyear)
Last seen: 30th December near Wilstone Reservoir (Brian Jessop)
Peak date: 20th July
Maximum number seen: 296 at Hilfield Park on October 12th (Steve Murray)
Mean index of abundance: 13
Change in abundance since 2005: 55% increase
Recorded in: 292 tetrads (69% of those covered)
Range change since 2005: 59% expansion

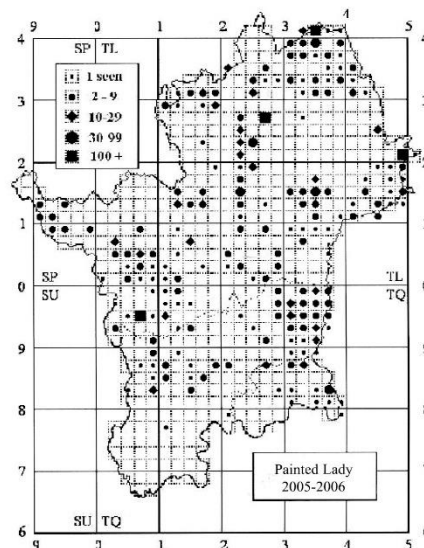
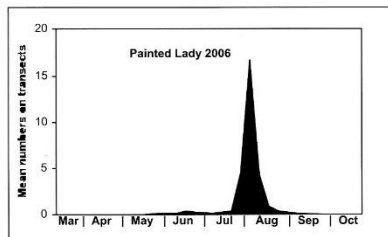


Red Admiral had another excellent year, with plenty of apparent winter survivors, and a substantial immigration beginning in early June and good numbers building up in July and early August. There was also a well defined return flight south in the autumn.

Regarding behaviour, Gwyneth Pearman-Jenkins at Reddings Wood on October 7th was watching a Red Admiral mud-puddling: "It appeared to take moisture on the mud then flew up to my trouser leg where it was appreciably warmer than in the shaded areas (16°C)." and the next day Colin Everett recorded "two individuals flying in dense fog at 08h45m- 09h00m at Round Bush, Aldenham."

Painted Lady *Cynthia cardui*

First seen: 5th May at Tring Park (Brian Jessop)
Last seen: 6th November at Potters Bar & Ware (Jon King & Andrew Wood)
Peak date: 29th July
Maximum number seen: 126 at Therfield Heath on 29th July (Alan Beale)
Mean index of abundance: 27
Change in abundance since 2005: 1950% increase
Recorded in: 189 tetrads (44% of those covered)
Range change since 2005: 448% expansion



A very definite peak in immigration at the end of August with hundreds recorded near Croxley Common Moor on July 27th, Bishops Stortford on the 26th and Stevenage on 25th July. The data below graphically illustrates the 2006 influx.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Beane Hill:	0	43	0	0	0	0	0	2	6	0	0	6
Danesbury:		33	0	1	1	1	0	0	18	1	1	17
Rothamsted Farm:	1	35	0	0	0	0	0	0	12	2	0	4
Stevenage:	1	56	1	0	0	2	0	8	53	9	1	143



2006 was the best Camberwell Beauty year on record for Hertfordshire. Lisa Collins was lucky enough to get a photograph of this one in Sawbridgeworth on the 1st September

For the first time since 1947 a second generation of White Admirals was recorded. Andy Holtham saw this one on 21st September in Balls Wood, Hertfordshire.

Photo: Lisa Collins

Photo: Andy Holtham



The Grizzled Skipper is the symbol of the Waterford Heath reserve. These were seen on 25th May. On the left is a female heavy with unlaidd eggs and on the right a mating pair.

Photo: Liz Goodyear

Photo: Liz Goodyear



Photo: Alan Reynolds

The Chalkhill Blue occurs in good numbers on the chalk in the north of Hertfordshire but this example turned up at Kings Meads in the Lea Valley between Hertford and Ware on 30th July.



Photo: Malcolm Hull

The Small Blue (above) has been on the brink of extinction in our area for several years while the Dark Green Fritillary (right) has been threatening to spread into Hertfordshire. On a memorable day at Aldbury Nowers on 21st July Malcolm Hull was able to find and photograph both species.



Photo: Malcolm Hull



Photo: Nick Bowles

The Red Admiral had an unprecedented showing late in the year. As well as many adults this larva ready to pupate (left) was found in Tring on the very late date of 12th November.



Photo: Geoff Horn

2006 was a fantastic year for the Silver-washed Fritillary in our area. This one was at Symonshyde on 27th July.



Photo: Glen Barnes



Photo: Glen Barnes

Glen and Moira Barnes found these early stages of the White Admiral in Bricket Wood. The egg and young larva (left and centre) were seen on 11th July, while the mature larva (right) was photographed on 25th July.



Photo: Glen Barnes



Photo: Geoff Horn



Photo: Chris Lloyd



Photo: Gill Bladen-Clarke

The Purple Emperor has been intensively studied in Herts and Middx by Liz Goodyear and Andy Middleton and this has led many other observers to look for this magnificent species. These three photos show how the insect can appear very different depending upon the way the light falls upon them. These were photographed at (left) Broxbourne Woods on 5th July, (centre) Broxbourne Woods on 6th July and (right) Tring Park on 2nd July. All are males.



Photo: David Howdon



Photo: David Howdon



Photo: Andrew Wood



Photo: David Howdon



Photo: Andrew Wood



Photo: Andrew Wood

MOTHS OF 2006

Top Row: (left) Tree Lichen Beauty, once a rare migrant, but now regularly found in Middlesex, this one is from Perivale Woods on 21st July. (centre) Only the second ever adult specimen of *Eaia vitella* for Britain found in Barnet, Middlesex on 24th July. (right) A rare visitor is the attractive pyralid *Palpita vitrealis* seen in Bengoe on 3rd September.

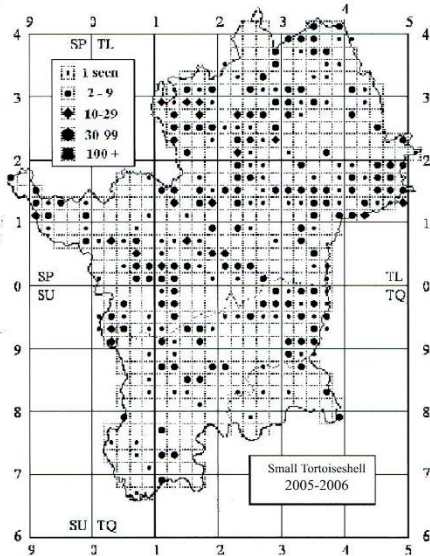


Photo: Andrew Wood



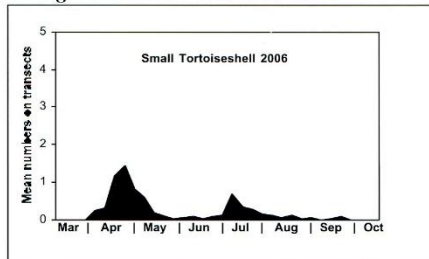
Photo: Andrew Wood

Second row: (left & Centre). The rather variable Scarce Bordered Straw is generally a rare migrant but in 2006 it was widespread, seen here in Barnet, Middx on 14th September and Bengoe on 31st August. (right) The attractive micromoth *Nemophora fasciella* has only been recorded twice in Hertfordshire, this in Ware on 14th June. Third row (left) The Leek Moth is a first for Hertfordshire from Bengoe on 17th August. (right). The Clouded Magpie is an attractive but rarely seen moth, this one in Bengoe on 5th July.



Small Tortoiseshell *Aglais urticae*

First seen: 3rd March at Hertford Heath (Derrick Dorken)
Last seen: 3rd November at Rabley Heath (Jacqueline George)
Peak date: 20th April
Maximum number seen: 9 at Hemel Hempstead on 17th April (Roger Prue)
Mean index of abundance: 7
Change in abundance since 2005: 60% decrease
Recorded in: 164 tetrads (39% of those covered)
Range change since 2005: 23% contraction



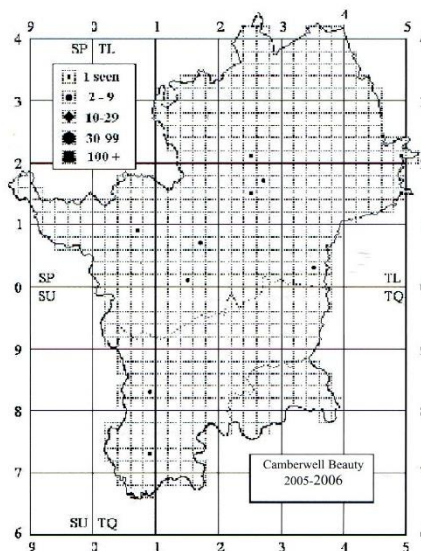
The data above and the comments below paint all too powerfully the continued decline of what, a few years ago, was the quintessential garden butterfly. Ann Piper noted "I only saw one batch of larvae in early July whereas in most years I see plenty...I've seen no Small Tortoiseshells since July". At Ware Park where 239 were recorded in 1996, just 3 were recorded. Malcolm Hull writes of "Another dire year for this species", with none on the Bricket Wood Transect and drastically lower numbers at strongholds around St Albans. Prophetically he adds, "next year promises to be worse - for the first time there are none hibernating in my outhouse this winter (2006/2007)".

Camberwell Beauty *Nymphalis antiopa*

First seen: 15th August at Bishops Stortford (David Sampson)
Last seen: 27th September at Bishops Stortford (Colin Plant)
Peak date: 25th August
Maximum number seen: 1 at each location
Mean index of abundance: ?
Change in abundance since 2005: ?
Recorded in: 11 tetrads (2.6% of those covered)
Range change since 2005: 889% expansion

A pleasure to report the highest total ever recorded of this rare migrant in our branch area, with a total of 15 sightings. David Sampson was the first to sight one at Bishops Stortford on August 15th "feeding on a buddleia in my garden at 1.30 this afternoon. It was just a chance sighting as I was only taking a peek out of the kitchen window". Two were seen on the following day at Hemel Hempstead (Carol McNaughton) and St Albans (Hannah Perryman), and then on the 19th at Radlett (Ginnie Parker), with two the next day at Tewin Wood (Pat Langford) and Berkhamstead (Brian Roberts).

There were also two on the 23rd; one of these was again at Radlett (Ginnie Parker) and Graham Dawson describes seeing the other on brambles near North Acton station "flying with a gliding action that reminded me of a White Admiral". 3 were seen on the 25th, one at Cheshunt Park (Terry Goddard), another at Knebworth station, where Brian & Elizabeth Nicholls had taken their grand-daughters: "a thrill for us all", and the third flew in front of Bob Cripps' car at Abbots Langley. Richard Staines saw one at Bedfont Lakes on the 27th, and Isobel Collins at Sawbridgeworth on September 1st. The same day, Bob Cripps saw a second, flying across his garden at Abbots Langley. There was

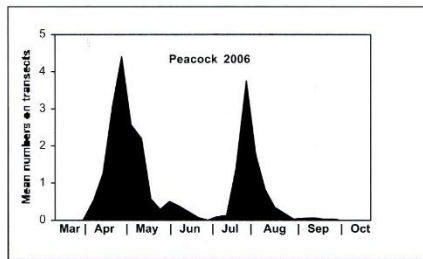


then a gap of nearly 4 weeks before Colin Plant saw one at Bishops Stortford on September 27th. It is interesting that this bumper year follows a year when just one was seen. Looking at the records since our branch was formed, the previous record year of 1995 was followed by decreasing numbers in the following 3 years, quite possibly the result of winter survival:

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Branch area:	8	4	1	1	0	0	0	0	0	0	1	13

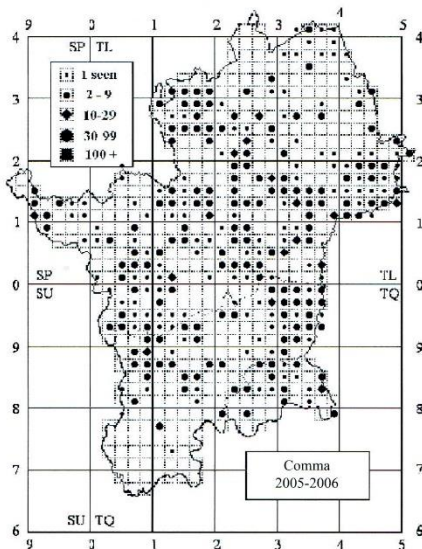
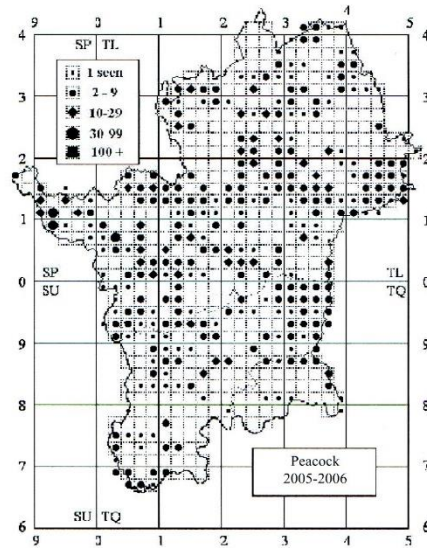
Peacock *Inachis io*

First seen: 17th February at Hitchin (Nick Hersey)
Last seen: 9th November at North Mymms (Jane Fielding)
Peak date: 26th April
Maximum number seen: 22* at Tring Park on 22nd July (Brian Jessop)
Mean index of abundance: 24
Change in abundance since 2005: 15% decrease
Recorded in: 224 tetrads (53% of those covered)
Range change since 2005: No significant change



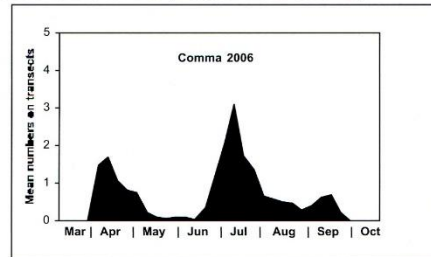
Peacock
 Photo: Andrew Wood

By contrast to the Small Tortoiseshell, the Peacock displays a general stability of numbers and distribution. The earliest record is the only record before the last week of March, an indication of the unexceptional nature of the early part of the year. However there was a notable concentration of late records during October and November well after the normal hibernation period for the summer emergence. Andrew Wood saw larval nests during late September in Ware Park and several adults nearby during October and November. Could there have been a partial second brood following the warm summer?



Comma *Polytonia c-album*

First seen: 19th March at Hemel Hempstead (Malcolm Newland)
Last seen: 30th November at Bishops Stortford (Stephen Patmore)
Peak date: 8th July
Maximum number seen: 20* at Tower Hamlets on 8th April (Terry Lyle)
Mean index of abundance: 20
Change in abundance since 2005: 12% increase
Recorded in: 206 tetrads (48% of those covered)



The Comma had a reasonably stable year. As predicted in (Wood 2005) there was a strong emergence from hibernation in the Spring. There were no unusually early emergences with first records at many sites being in the final ten days of March. As with other vanessids there were many October and November sightings with a mild autumn following a warm summer.

Queen of Spain Fritillary *Issoria lathonia*

Sole sighting: 26th September at Vicarge Farm, Enfield (Robert Callf)

Maximum number seen: 1

Recorded in: 1 tetrad (0.2% of those covered)

Range change since 2005: Not seen in 2005

Robert Callf reports a sighting of this extremely rare migrant from the Vicarge Farm area of Enfield at the end of September, where he had been walking with Robin White: "I noticed an orange/brown butterfly land ahead of me. I raised my binoculars, edged a bit closer and suddenly realised I was watching a fritillary. I quickly checked the underside which showed large white "mirrors" and immediately realised I was watching a Queen of Spain Fritillary – a species new to me. I shouted to Robin, at which the butterfly took flight, never to be seen again". This is the first sighting of this species in our area since 1996, when one was seen in Digswell, and only the 5th since Stephens (1828) saw them "in plenty" at Hertford in August and September 1818.

Dark Green Fritillary *Argynnis aglaja*

First seen: 1st July at Tring Park (Brian Jessop)

Last seen: 30th July at Aldbury Nowers (Lynne Lambert)

Peak date: (1st July)

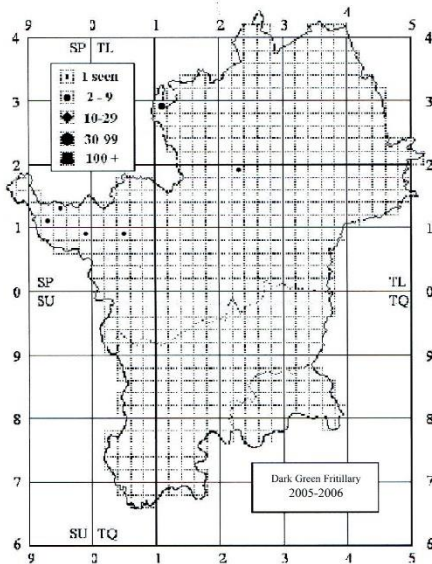
Maximum number seen: 1 at each location

Mean index of abundance: 1

Change in abundance since 2005: No change

Recorded in: 7 tetrads (1.7% of those covered)

Range change since 2005: 529% expansion



Dark Green Fritillary

Photo: Andrew Self



Silver Washed Fritillary

Photo: Andrew Wood

There were 7 separate sightings of this butterfly in 2006, between July 1st and 30th. Many of these are by inexperienced observers without specific descriptions, so it is possible that some of them relate to Silver-washed Fritillary, since the upper wings are quite similar in pattern and the two flight periods overlap in July. However, there is little doubt that it was seen at both Tring Park and Aldbury Nowers, though not on transect walks at the latter location.

Silver-washed Fritillary *Argynnis paphia*

First seen: 29th June at Broxbourne Woods (Andrew Middelton)

Last seen: 25th August at Broxbourne Woods (Steve Kiln)

Peak date: 27th July

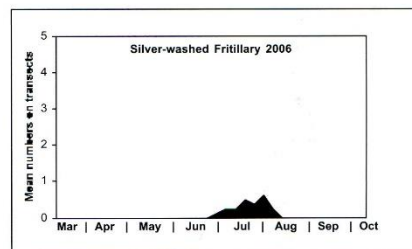
Maximum number seen: 3 at Tring Park on 28th July (Brian Jessop)

Mean index of abundance: 2.4

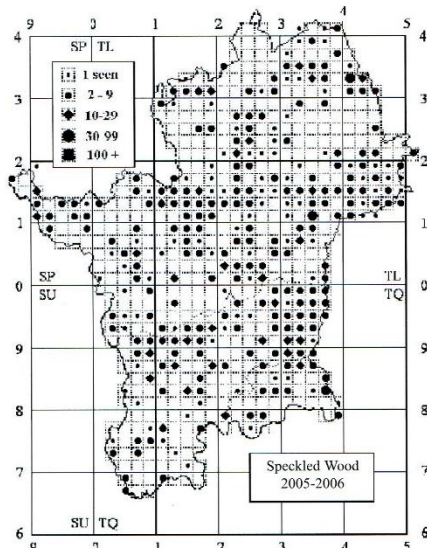
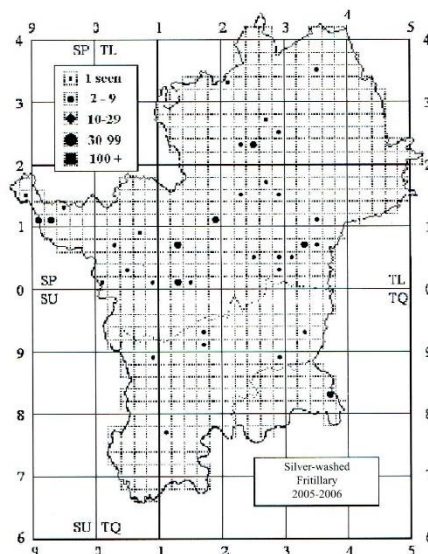
Change in abundance since 2005: 19% increase

Recorded in: 33 tetrads (8% of those covered)

Range change since 2005: 889% expansion

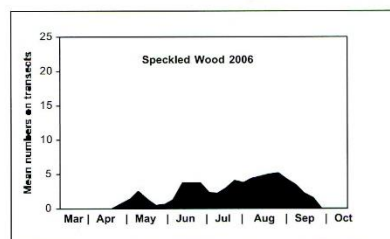


This species, previously considered virtually extinct as a breeding species in Hertfordshire and Middlesex since about 1970, has had a most spectacular revival in 2006. There were 59 separate sightings on 30 different dates spanning an eight week flight period, at 35 different localities. Not only did it appear at several of its old sites such as Bricket Wood, Aldbury Nowers, Symondshyde Wood, Broxbourne Woods, Balls Wood, Northaw Great Wood and Prae Wood, but it was also seen in Middlesex and London, with sightings at Ruislip Woods, Tower Hamlets Cemetery, Highgate Wood, Stanmore Country Park and Edmonton. From late July it began to appear in gardens, in Hemel Hempstead (Malcolm Newland), Abbots Langley (Clive Burrows), Tewin Wood (Pat Langford) and Welwyn Garden City (Geoff Beynon). Sawford (1987) documents the early history of this species in Hertfordshire: it seems to have been common in many of the larger woods until the turn of the 19th century, after which it declined until the warmer summers of the 1940s, when it returned and built up strong populations in several of its earlier haunts. Populations again fell steadily between the late 1950s and 1970, when it may have become extinct in the county. Since then there have been occasional sightings in warmer summers, but with many blank years, most recently 2002. The origins of the present revival appear to have been in 2003, when it was seen at 3 localities, and then in 2004 it expanded to 10 sites, back to 3 again in 2005, and then rocketing to 35 sites in 2006. The distribution map shows it to be widespread over our entire region. There is little doubt that it is breeding at several sites such as Bricket Wood: "it is the third consecutive year that the species has been seen here, and the behaviour of a female seen on 10th July 2005 indicated that she was almost certainly prospecting for egg-laying sites". (Colin Everett). Its survival there does depend on keeping clearings and rides open by scrub clearance and felling encroaching trees. Colin also reports sightings from Whippendell Wood: "2 males patrolling adjacent territories in a clearing on 21st July, occasionally meeting and chasing. This appears to be the first record since 1982 for this wood, which was formerly a stronghold for this species (D.Marriott, pers. Comm.)." He suggests that this record, plus two seen on August 5th at Scatterdells Wood, Chipperfield, and Bury Wood, Felden, were primary immigrants from other locations, perhaps outside the county, although breeding may result.



Speckled Wood *Pararge aegeria*

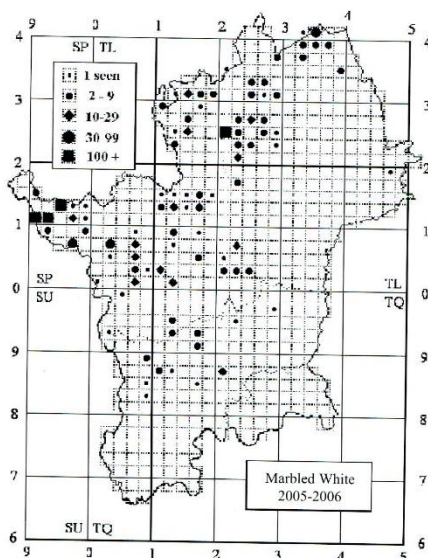
First seen: 5th April at Danesbury Park (Pat Watt)
Last seen: 9th December at St Albans (Vincent Judd)
Peak date: 22nd August
Maximum number seen: 68 at Balls Wood on 22nd August (Andrew Wood)
Mean index of abundance: 64
Change in abundance since 2005: 14% decrease
Recorded in: 212 tetrads (50% of those covered)
Range change since 2005: 8% contraction



Another small contraction for this woodland butterfly. Perhaps not surprisingly given the summer the peak date was two weeks earlier than 2005. The transect graph shows a steady building of numbers through the various broods of the year in contrast to the flattened graph for 2005. At Balls Wood where this species is generally at its most abundant in our area Andrew Wood reports, "Numbers were up about 14% after last year's big drop and the traditional late August peak was restored after last year's blip. The cool spring presumably accounted for no records until May" Colin Everett reported rarely, observed behaviour with a female "laying on *Brachypodium sylvaticum*, a common woodland grass, at Bricket Wood Common on 20th May". Perhaps most notable was Vincent Judd's extremely late record from 9th December; this beats by almost a month the previous late date of 13th November 1999.

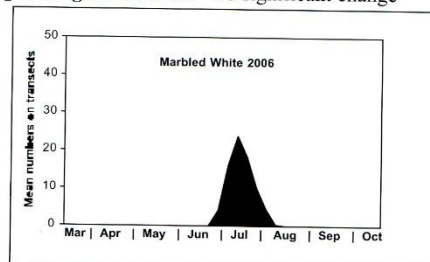
Wall *Lasiommata megera*

No sightings were reported of this butterfly in 2006. Having been among our most common butterflies until about 1990, it can now be considered effectively extinct as a breeding species in our two counties.

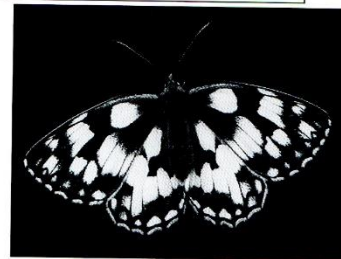


Marbled White *Melanargia galathea*

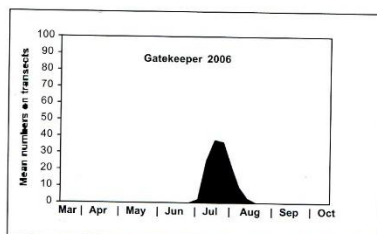
First seen: 3rd June at Letchworth (Gareth Dagnall)
Last seen: 5th August at Aldbury Nowers & Tring Park (Martin Hicks & Brian Jessop)
Peak date: 10th July
Maximum number seen: 145 near Tring on 11th July (Brian Jessop)
Mean index of abundance: 79
Change in abundance since 2005: 65% increase
Recorded in: 63 tetrads (15% of those covered)
Range change since 2005: No significant change



The Marbled White continues to be a bright spot in the fortunes of our butterflies with evidence of growing numbers and expansion eastwards. It was recorded on 25% more transects in 2006 than 2005, including at Horsenden Hill where none were seen in 2005. Other good news from Middlesex came from Andrew Self who writes that the colony at Brent Reservoir "is still going strong with a peak of 23 seen", Ken King on his Knebworth transect reports encouraging news, "This year's count on one walk of 25 is an all time high, bettered only later the same day when...my wife and I saw 35 on section 1 alone." At Bricket Wood the total on the transect was the highest in ten years of recording. At Bunkers Park this species increased for the 7th year in 8 years of recording.



Marbled White
 Photo: Alan Downie



Gatekeeper *Pyronia tithonus*

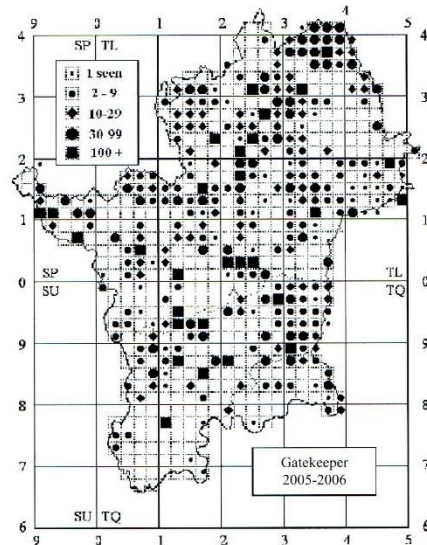
First seen: 22nd June at Hertford Heath (Derrick Dorken)
Last seen: 20th September at Tring Park (Brian Jessop)
Peak date: 16th July
Maximum number seen: 173 at Horsenden Hill on 22nd July (Andrew Culshaw)
Mean index of abundance: 140
Change in abundance since 2005: 26% decrease
Recorded in: 187 tetrads (44% of those covered)
Range change since 2005: 24% contraction

Some contrasting reports for this species in 2006. "The Gatekeeper has established a population since the transect commenced in 1988 and the highest counts have been during the years 2004-2006" (Leslie Williams, Beane Hill) compares to "Over a 50% drop to give the worst total since 1999 - a complete contrast to 2005. The flight period was just 5 weeks compared to 8 last year. I think these changes are due to poor conditions for breeding in 2005 followed by the cool Spring and then a hot Summer." reported by Andrew Wood at Balls Wood. However this remains a common summer butterfly across the whole of our area. As with some other species the apparent expansion in North East Hertfordshire compared to 2005 is probably an artifact of targetted recording rather than a real expansion.



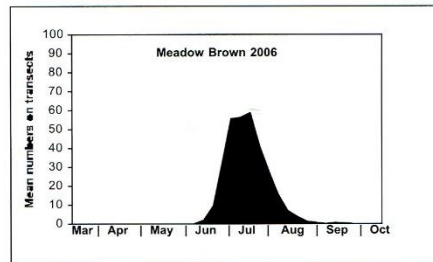
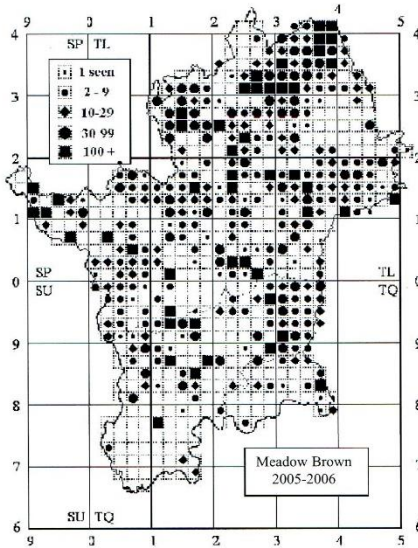
Gatekeeper

Photo: Andrew Wood



Meadow Brown *Maniola jurtina*

First seen: 10th June at Cheshunt & Hanwell (Roger Newbold & John Eborall)
Last seen: 30th September at Tring Park (Brian Jessop)
Peak date: 12th July
Maximum number seen: 340 at Horsenden Hill on 16th July (Andrew Culshaw)
Mean index of abundance: 314
Change in abundance since 2005: 19% decrease
Recorded in: 227 tetrads (53% of those covered)
Range change since 2005: 12% contraction



The fortunes of the Meadow Brown during 2006 closely reflect those of the Gatekeeper. At Ware Park Andrew Wood noted "Down by over 50% compared to 2005, which was actually a very good year, so probably not a significant change." Interestingly given the remarkable extended flight periods for many species in 2006 the Meadow Brown was unrecorded in October, unlike 2005. It may be that the dry summer and autumn affected the more open grassland habitats favoured by this species, reducing nectar sources and good egg laying prospects.



Meadow Brown

Photo: Andrew Wood

Ringlet *Aphantopus hyperantus*

First seen: 17th June at 3 localities

Last seen: 8th August at Tring Park (Brian Jessop)

Peak date: 7th July

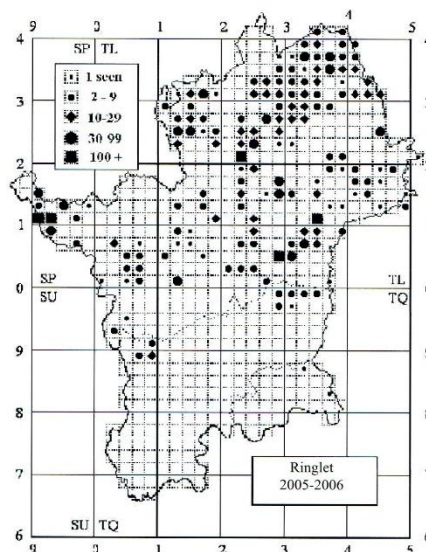
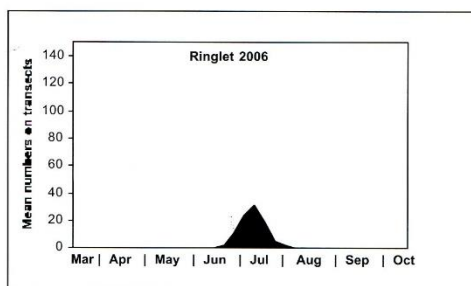
Maximum number seen: 209 at Balls Wood on 13th July (Andrew Wood)

Mean index of abundance: 92

Change in abundance since 2005: 17% increase

Recorded in: 129 tetrads (30% of those covered)

Range change since 2005: 45% expansion



Another substantial increase in numbers and range, as has occurred in 5 years out of the last 6, means that this butterfly is on a much more substantial footing than it was in the 1990s. After only two years, the distribution map is already filling up over most of Hertfordshire. Malcolm Hull recorded 53 on July 9th at his transect at Bricket Wood, "Record numbers since the transect began", and at Marshalls Heath, where it reappeared in 2003, it reached its highest ever annual total. At Balls Wood it was "Slightly down on 2005 but a measure of its abundance is that this species made up 34% of all the butterflies recorded on the transect and with the Speckled Wood these two browns make up 62% of all butterflies on the transect" (Wood 2006a)

Small Heath *Coenonympha pamphilus*

First seen: 10th May near Waterford (Andrew Middleton)

Last seen: 1st October Vicarage Farm, Enfield (Robert Callf)

Peak date: 25th June

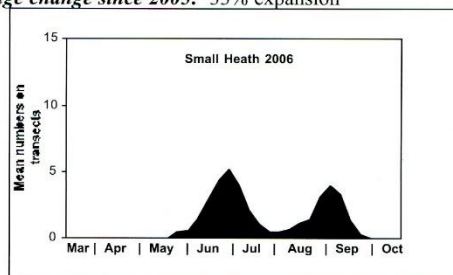
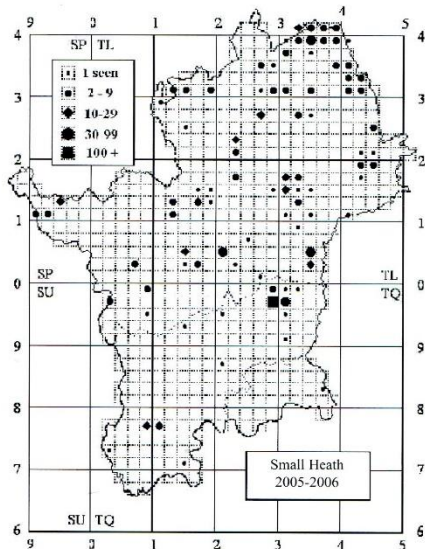
Maximum number seen: 48 at Trent Park on 10th June (Robert Callf)

Mean index of abundance: 38

Change in abundance since 2005: 37% decrease

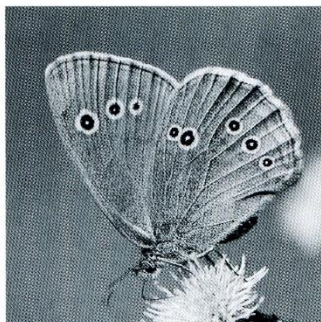
Recorded in: 68 tetrads (16% of those covered)

Range change since 2005: 33% expansion

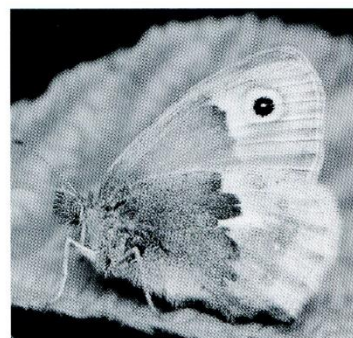


At first sight contradictory evidence for this species in 2006 with it appearing at many new sites compared to 2005 but present only in relatively small numbers. However many of the "new" sites are those subject to targeted recording in North East Herts. The fortunes of this small butterfly give some cause for concern, however there was some positive news, for instance: "Good numbers of Small Heath well into September" (John Moss at The Warren), "My first ever sighting of a Small Heath here", Diane Andrews writing about Alexandra Palace and Gavin Vicary reports very

encouraging news at Patmore Heath, "Small Heath was regularly seen throughout its flight periods with a total of 16 sightings whereas in the five years between 2000-2004 only 3 were seen with two years when no sightings were made at all"



Ringlet
Photo: Clive Burrows



Small Heath
Photo: Clive Burrows

Unusual sightings

These are records for butterflies that are not native to Britain but have been observed flying freely during 2006.

Diadem *Hypolimnas misippus*

Mike Taylor saw a specimen of this native of Africa outside Syon House at lunchtime on August 10th. "It must have escaped from the Butterfly House about 20 metres away. It was flying round and round in the canopy of an oak tree".

Non-British Swallowtail-like butterfly, Finsbury Park, 22nd July, John Palmer "I had a Swallowtail in Finsbury Park, today 22nd July. It was there between 1pm and 4pm on privet-like bushes, amongst buddleia. It looked knackered with abraded wings, flying briefly the rain making it settle." "It was in the rock garden south of the Lake"

Plain Tiger *Danaus chrysippus*

Malcolm Newland saw a Plain Tiger at Chelsea Physic Garden on 2nd August. "Apparently several specimens had developed successfully from early stages on some imported plants and hatched in late July."

How to record butterflies

Butterfly Mapping

Butterfly mapping is probably the most enjoyable form of recording there is. It can only be done in fine, warm weather, and it gets you to different places you would never otherwise think of visiting, and gives you the best opportunity of making important discoveries. There is nothing more satisfying than a long summer's day, a pub lunch and dozens of beautiful butterflies at site after site in far-flung corners of the countryside.

2006 was the second year of a new 5-year project to map the distribution of butterflies in Hertfordshire and Middlesex, in which we are concentrating on getting as good a coverage as possible. This means that rather than visiting the same site every week, you should aim to find a new tetrad (2 x 2 km square) each time you record. Borders of tetrads are marked as the even numbered grid lines on Ordnance Survey maps; if you are not sure where tetrad boundaries lie near you then write to John Murray for information. Try and make sure that the places you visit have not been

recorded by others. There are already 50 transects in which butterflies are recorded every week, so do not visit sites in the same tetrad as these. There is also a map on the website under "mapping challenge" that shows where the unvisited sites are. As soon as all tetrads have been visited, then start going through tetrads again, preferably in a different month of the year from before, or else at a different site in a different 1 km square.

A single site visit should normally last about half an hour or more in good weather, though if there are dozens of butterflies, 20 minutes will sometimes be enough, then move on to the next tetrad. The butterflies will not come to you, so do not stand still, but take a circular walk around the site, visiting the different likely habitats such as woodland edges or glades, grassland, clumps of wild flowers or overgrown footpaths, or waste land, Buddleia bushes, and gardens in towns, and note the numbers of each species of butterfly that you see. Numbers of each species are easy enough when butterflies are few and far between, but when faced with a field alive with clouds of Meadow Browns and Skippers it's not so easy. When numbers are high it doesn't matter too much if you accidentally leave some out or count some twice; counting is always better than a rough guess. Always make sure of the species; get a good view of the butterfly, preferably settling, before noting it down. Remember that a smallish white butterfly, for example, is not necessarily a Small White, but could also be a Green-veined White, female Orange Tip, or even a small specimen of a Large White. Make sure you record the time you start and end such a walk, to the nearest minute. Sites can either be visited by car, or another way of doing it is to plan a longer walk that takes you through several different tetrads. Always give the grid reference to at least the nearest 1 km grid square; a six-figure (100 metre) grid reference is best of all. Always start a new column on the recording form each time you cross into a new kilometre square, and note the length of time spent in each. The best time for butterfly mapping is probably a heatwave in July or the first half of August, when you will certainly see the most butterflies, but visits on fine days in April and May are important as well to get the spring species such as Orange Tip.

Use the recording forms sent out with this report (extra ones can be downloaded from the website at <http://www.hertsmiddx-butterflies.org.uk>). If you are able to help, then please contact John Murray at j.b.murray@open.ac.uk or in the evenings on 01582 833544, who will put you in contact with your local decad co-ordinator. Decad coordinators will be responsible for seeing that each tetrad gets at least one visit per year throughout the project. Mapping records should be sent to John Murray at intervals throughout the year, rather than all at once at the end, so that the workload of entering them onto the database can be spread more evenly.

Transects

Transects should only be carried out by experienced observers who can recognise virtually all butterfly species on the wing. The method consists in walking the same route at least once a week between 1st April and 29th September under standard meteorological conditions of temperature, wind and sunshine, and noting the numbers of each species of butterfly seen within a set distance from the observer, usually 5 metres. This method gives information on the variation in butterfly numbers within the season, and from year to year. It is the main method by which declines in species can be quantified, and as such is extremely important.

A transect walk involves committing an hour or so per week throughout the spring and summer months; if you would like to start one going, write to John Murray for a transect package which includes full instructions and a set of recording forms, or download them from the website at: <http://www.hertsmiddx-butterflies.org.uk>. Select a route near you that takes about 30 minutes to walk when there are no butterflies, as this will expand to more than an hour at the height of summer. The transect should be walked between 10.45 a.m. and 3.45 p.m. when the temperature is above 13°C and the winds below strength 5 (fresh breeze; small trees in leaf begin to sway). When the temperature is between 13°C and 17°C, the transect may be walked if there is at least 60% sunshine. Above 17°C, the transect can be walked in any conditions except rain. There are some weeks, particularly early in the season, when these meteorological conditions cannot be met. Again it is better to walk the transect when it is a bit too cold or too cloudy rather than not to walk it at all, but a careful note of conditions should always be kept.

Butterfly behaviour and casual records

In addition to the records above, don't forget to add notes of any unusual behaviour or other interesting information. This might include observations of early stages, unusual foodplants, species new to your area, trends or changes from previous years, or simply anecdotes that bring life to the report. Finally, I should say that we are pleased to receive records of butterfly sightings from anyone at any time; the *minimum* requirements for a record are:

1. butterfly species 2. date seen 3. place seen 4. number seen.

plus of course your name, address and telephone number. If the species is rare, describe as much as you can about the appearance of the butterfly, where you saw it, how it behaved, how you identified it, and if possible get a photograph.

Butterfly records should be sent to John Murray at the address on the back cover before **9th November 2007**: Latest sightings can be viewed at <http://www.hertsmiddx-butterflies.org.uk>



Mullein larva
Andrew Wood



Cinnabar larva
Andrew Wood

HERTFORDSHIRE AND MIDDLESEX MOTH REVIEW FOR 2006

ANDREW WOOD - BRANCH MOTH OFFICER

This review considers notable moth records from across our two counties during 2006. These may be nationally rare species, migrant moths, unusual flight times or locally notable species that may be widespread but are only rarely recorded. A number of new species for both counties are listed here and this all goes to show that there is always something new to be discovered. All records of moths in Hertfordshire and Middlesex are stored in a database, which is maintained by Colin Plant as the formal County Recorder. Only validated records are added to the database, a duplicate copy of which is kept by Andrew Wood. The information presented in this report is extracted from the database after validation. We are grateful to Colin for making this data readily available to us for this review. Records shown without a county are for Hertfordshire.

The database can be accessed by contacting Colin. There is no charge for the data as long as you are not making a profit from it. Your records from both vice-county areas are tremendously important - please do keep them coming in. Please send all moth records to the recorder for Hertfordshire and Middlesex:

Colin W. Plant
14 West Road
Bishops Stortford
Herts. CM23 3QP

Tel/Fax: 01279 507697
email: cpauk1@ntlworld.com

Colin is happy to receive specimens for identification, be these samples from moth traps or dead specimens from window sills, light fittings etc. All specimens must be packed to avoid damage (telephone first for advice if you wish) and must have the place and date of capture/discovery attached. If you want the specimens back you should say so (or they will be binned/released) and please enclose the return postage. He is also prepared to try to identify moths from photographs, though success is not always guaranteed as critical features may not be visible.

I would recommend anyone interested in moths in Hertfordshire to join the Herts Moth Group c/o Colin Plant at the above address or see the group's website at <http://www.hertsmothgroup.org.uk>. There is no membership fee.

NOTABLE RECORDS FOR 2006

2006 saw low numbers during a cold damp spring, followed by a warm dry summer. It was a good year for migrant moths with many records for the common migrants such as Hummingbird Hawk-moth and Silvet Y. Such species are not included in the listings below

This report lists records that stand out for a number of reasons: they may be rarely recorded, or first records for some time or occasionally new to Hertfordshire or Middlesex. The records for the micro moth groups may include some species that are actually quite well-distributed or common but because few people record them, and in the past perhaps even fewer, the number of records give the appearance of rarity or limited distribution.

In each species, the record is of the adult, unless otherwise noted in brackets e.g. (mine) and is of one specimen unless otherwise noted in brackets e.g. (2).

Hepialidae

Gold Swift *Hepialus hecta* Hatfield, 3-Jul - Colin Plant.

Nepticulidae

Ectoedemia argyropeza (mine) Box Wood, 2-Nov - Liz Goodyear.

Ectoedemia septembrella (mine) Eastcote Common, 1-Nov - Ched George; Baldock, 7-Nov - Liz Goodyear; Great Hornead, 30-Oct - Liz Goodyear.

Stigmella continuella (mine) Box Wood Stevenage, 2-Nov - Liz Goodyear
Stigmella catharticella (mine) Chorleywood Common, 21-Oct - Colin Plant; Throcking, 7-Nov - Liz Goodyear
Stigmella glutinosae (mine) Sawbridgeworth Marsh, 19-Oct - Colin Plant; Tednambury Farm, 19-Oct - Colin Plant
Stigmella alnetella (mine) Hertford, 15-Nov - Liz Goodyear; Waterford Heath, 15-Nov - Liz Goodyear
Stigmella confusella (mine) Hatfield, 27-Oct - Colin Plant

Tischeriidae

Tischeria dodonaea (mine) Chorleywood Common, 21-Oct - Colin Plant

Incurvariidae

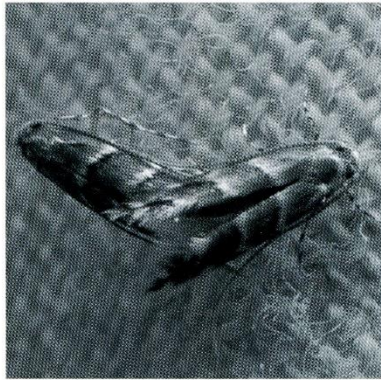
Nemophora fasciella Ware, 14-Jun - Andrew Wood
Nemophora minimella Wilstone Sewage Farm, (11) 21-Jul - C. Lambert
Antispila treitschkiella (mine) Redbournbury, 24-Oct - Wendy Hatton; Bamville Wood, 20-Oct - Wendy Hatton

Psychidae

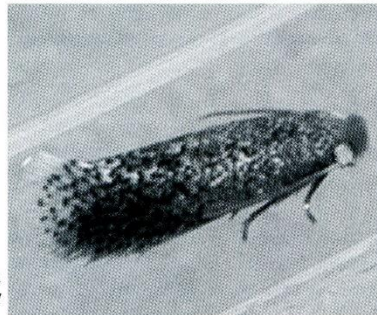
Psychoides verhuella (larva) Bayfordbury, 4-May - Raymond Uffen. **A new species for Hertfordshire**

Tineidae

Case-bearing Clothes Moth *Tinea pellionella* Bishops Stortford, 1-Aug - Rachel Terry



Horse Chestnut Leaf-miner
 Photo: Andrew Wood



Bucculatrix cristatella
 Photo: Andrew Wood

Lyonetiidae

Bucculatrix cristatella Bengoe, 4-May - Andrew Wood
Bucculatrix thoracella (mine) Baldock, 7-Nov - Liz Goodyear; St Bartholomews Church, 30-Oct - Liz Goodyear
Bucculatrix bechsteinella Stapleford, 24-Oct - Liz Goodyear
Bucculatrix demaryella (mine) Chorleywood Common, 21-Oct - Colin Plant. **First Herts record since 1890**

Gracillariidae

Caloptilia cuculipennella Bricket Wood, 6-Jul - Henry Ellis
Caloptilia falconipennella (mine) Widford, 9-Nov - Liz Goodyear; Bishops Stortford, 20-Apr - Colin Plant
Phyllonorycter cydoniella (mine) Eastcote Common, Middx., 1-Nov - Ched George; Great Bradwins Wood, 2-Nov - Charles Baker
Phyllonorycter viminetorum (mine) Tednambury Farm area, 19-Oct - Colin Plant; Roydon area, 19-Oct - Liz Goodyear

Horse Chestnut Leaf-miner *Cameraria ohridella* In just 3 years this species has spread across our whole area and the mines are a common sight in the host tree. The adults will sometimes swarm at light with, for instance, 163 being counted on a sheet behind a light in Bengoe on 21 Jul.

Sesiidae – Clearwing moths

Orange-tailed Clearwing *Synanthedon andrenaeformis* Bishops Stortford, (2) 25-Jun - Colin Plant
Red-belted Clearwing *Synanthedon myopaeformis* Hertford, 25-Jun - Andrew Wood; Bengoe, (2) 11-Jun, (4) 18 Jun - Andrew Wood; Bishops Stortford, (2) 25-Jun - Colin Plant;
Red-tipped Clearwing *Synanthedon formicaeformis* Hayes, Middx. 12-Jul - Chris Court; Rye Meads, 15-Jun - Joan Childs; Waterford Marsh, 30-Jun - Andrew Wood

Yponomeutidae

Willow Ermine *Yponomeuta rorrella* Broad Colney Lakes, 5-Aug - Colin Plant

Ypsolopha alpella Perivale Wood, Middx., 23-Sep - David Howdon; Fir and Pond Woods Nature Reserve, 23-Sep - Rachel Terry

Ypsolopha sylvella Perivale Wood, Middx.(3) 23-Sep - David Howdon

Ypsolopha vittella Royston, 27-Aug - John Chainey & Jenny Spence

Eidophasia messingiella Cassiobury Park, 1-Jul - Colin Plant

Orthotelia sparganella Broad Colney Lakes, 5-Aug - Colin Plant

Leek Moth *Acrolepiopsis assectella* Bengoe, 17-Aug - Andrew Wood. **A new species for Hertfordshire**

Phaulernis dentella Wilstone Reservoir, 24-Sep - C. Lambert. **A new species for Hertfordshire**

Coleophoridae

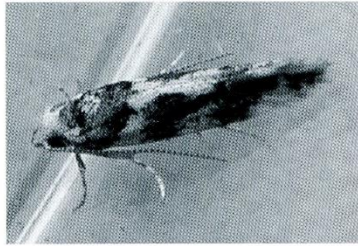
Coleophora luscinaepennella Totteridge Fields, 8-Jul - Colin Plant

Elachistidae

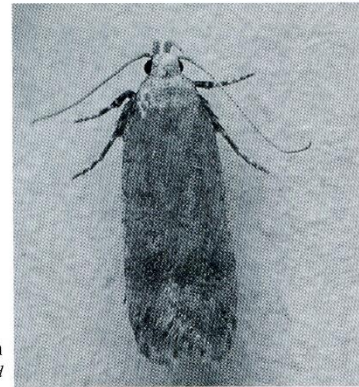
Elachista maculicerusella Cassiobury Park, 1-Jul - Colin Plant

Oecophoridae

Parsnip Moth *Depressaria heraclei* Tring, 28-Jun - Ian Burrus



Parachronistis albiceps
Photo: Andrew Wood



Hollyhock Seed Moth

Photo: Andrew Wood

Gelechiidae

Metzneria lappella Bengoe, 6-Jul - Andrew Wood

Monochroa cytisella Ashridge Monument, Ashridge Estate, 29-Jul - Colin Plant; Hatfield, 3-Jul - Colin Plant

Monochroa palustrella Hatfield, 3-Jul - Colin Plant; Marshall's Heath, 16, 17, 23 - Jul - John Murray

Chrysoesthia drurella (mine) Barkway, 23-Jul - K. Robinson

Parachronistis albiceps Bovingdon Brick Pits, 24-Jun - Colin Plant; Chorleywood Common, 26-Jun - Colin Plant

Carpatolechia fugitivella Bengoe, 2-Jul - Andrew Wood

Hollyhock Seed Moth *Pexicopia malvella* Bengoe, 28-Jun - Andrew Wood. **2nd Herts record, first since 1900**

Syncopacma larseniella Totteridge Fields, 8-Jul - Colin Plant

Anacampsis populella Ashridge Monument, Ashridge Estate, 29-Jul - Colin Plant; Chorleywood Common, 20-Jul - Colin Plant

Anacampsis blattariella Chorleywood Common, 20-Jul - Colin Plant

Hyapatima rhomboidella Fir and Pond Woods Nature Reserve, 23-Sep - Rachel Terry; Marshall's Heath, 21 Jul - John Murray

Stathmopoda pedella Cassiobury Park, 1-Jul - Colin Plant

Batrachedridae

Batrachedra praeangusta Broad Colney Lakes, 5-Aug - Colin Plant

Momphidae

Mompha raschkiella (mine) Chorleywood Common, 21-Oct - Colin Plant; Bovingdon Brick Pits, 13-May - Colin Plant

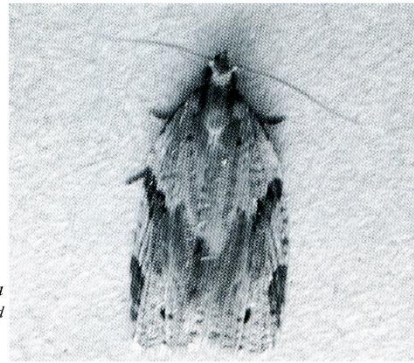
Mompha ochraceella Cassiobury Park, 1-Jul - Colin Plant.

Tortricidae

- Aethes piercei* Tring, 28-Jun - Ian Burrus; **First Herts record since 1890**
Commosphila aeneana Wheathampstead, 18-Jun - Trevor Chapman
Cochylis molliculana Bishops Stortford, 23-Aug - Jim Fish & Julian Reeves
Rose Tortrix *Archips rosana* Bricket Wood, 15, 16 Oct - Henry Ellis
Psycholomoides aeriferanus London Colney, 20-Jun - Bill & Pearl Page
Cyclamen Tortrix *Clepsis spectrana* Cassiobury Park, 1-Jul - Colin Plant; Sawbridgeworth Marsh, (2) 25-Aug - Colin Plant
Psycholoma lecheana Bishops Stortford, 9-Jun - Jim Fish & Julian Reeves
Cnephasia longana Bengoe, 17-Jul - Andrew Wood; Marshall's Heath (several) 21-27 Jul - John Murray
Cnephasia pasiuana Hanstead Wood, 15-Jul - Colin Plant
Cnephasia genitalana Bishops Stortford, 29-Jul - Jim Fish & Julian Reeves
Eana incanana Bengoe, 5-Jul, 6-Jul - Andrew Wood; Totteridge Fields, 8-Jul - Colin Plant; Marshall's Heath (several) 8-24 Jul - John Murray
Acleris emargana Broad Colney Lakes, 5-Aug - Colin Plant; Fir and Pond Woods Nature Reserve, 23-Sep - Rachel Terry
Celypha rosaceana Bishops Stortford, 24-Jul - Jim Fish & Julian Reeves
Lobesia littoralis Bishops Stortford, 9-Jun - Jim Fish & Julian Reeves; Royston, 19-Aug - John Chainey & Jenny Spence
Bactra lancealana Broad Colney Lakes, 5-Aug - Colin Plant
Ancylis mitterbacheriana Wick Nature Reserve St Albans, 10-Jun - Colin Plant



Eana incanana
Photo: Andrew Wood



Clepsis spectrana
Photo: Andrew Wood

- Ancylis badiana* Ashridge Monument, Ashridge Estate, 29-Jul - Colin Plant;
Epinotia brunnichana Ashridge Monument, Ashridge Estate, 29-Jul - Colin Plant
Epinotia solandriana Bishops Stortford, 19-Jul - Jim Fish & Julian Reeves
Gypsonoma minutana Broad Colney Lakes, 5-Aug - Colin Plant
Epiblema roborana Hanstead Wood, 15-Jul - Colin Plant; Marshall's Heath 15-Jul - John Murray
Eucosma conterminana Bengoe, 1-Jul - Andrew Wood; Marshall's Heath 7-Aug - John Murray
Eucosma campoliliana Bishops Stortford, 29-Jul - Jim Fish & Julian Reeves
Eucosma hohenwartiana Cassiobury Park, 1-Jul - Colin Plant
Pine Leaf-mining Moth *Clavigesta purdeyi* Bengoe, (2) 23-Jul - Andrew Wood
Pine Shoot Moth *Rhyacionia buoliana* Cassiobury Park, 1-Jul - Colin Plant
Plum Fruit Moth *Grapholita funebrana* Bengoe, 23-Jun - Andrew Wood

Pyralidae

- Chilo phragmitella* Royston, 30-Jul - John Chainey & Jenny Spence
Donacaula forficella Cassiobury Park, 1-Jul - Colin Plant; Royston, 25-Jun - John Chainey & Jenny Spence
Donacaula mucronellus Cassiobury Park, 1-Jul - Colin Plant
Eudonia pallida Bishops Stortford, 8-Sep - Colin Plant; Perivale Wood, Middx. 23-Sep - David Howdon
Evergestis pallidata Bishops Stortford, 29-Jul - Jim Fish & Julian Reeves
Stiochroa palealis Therfield Heath, 15-Jul - Andrew Wood; Phasels Wood Scout Camp, 15-Jul - Ian Burrus
European Corn Borer *Ostrinia nubilalis* Bengoe, 10 Jul - Andrew Wood
Nascia ciliatilis Sawbridgeworth Marsh, 25-Aug, (9) 20-May - Colin Plant
Duponchelia fovealis Bishops Stortford, 21-Oct - Jim Fish & Julian Reeves;

Palpita vitrealis Bengoe, 3-Sep - Andrew Wood; Bishops Stortford, 10-Oct - Jim Fish & Julian Reeves; **2nd and 3rd Herts records, first since 1982**

Lesser Wax Moth *Achroia grisella* Bengoe, 4-Jul - Andrew Wood; Marshall's Heath 5-Aug - John Murray
Trachycera suavella Cassiobury Park, 1-Jul - Colin Plant; Royston, 16-Jul - John Chainey & Jenny Spence
Nephotrix angustella Bengoe, 18-Jun - Andrew Wood; Royston, 8-Aug - John Chainey & Jenny Spence

Pterophoridae

Platyptilia gonodactyla Kempton Water Works NR, 20-Sep - Colin Plant
Stenoptilia bipunctidactyla Hemel Hempstead, 21-Aug - Roger Prue

Lasiocampidae – Eggars

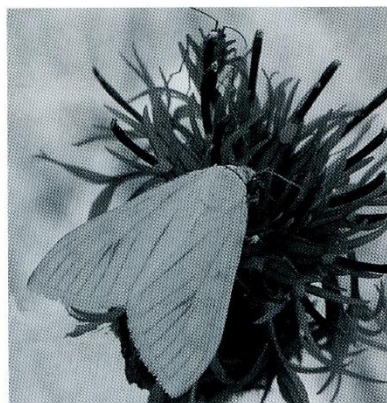
Oak Eggar *Lasiocampa quercus quercus* Chorleywood Common, 20 Jul - Colin Plant; Bishops Stortford, 11 Jul T.J. Lewis; Marshall's Heath 18-Jul - John Murray

Saturniidae

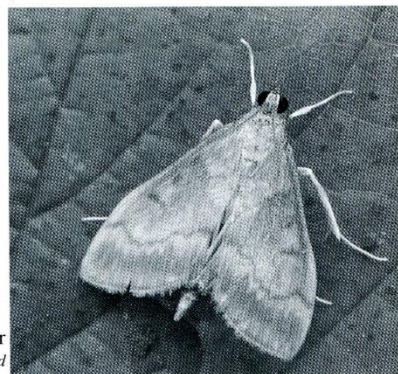
Emperor *Saturnia pavonia* Berkhamstead Common, 11-May - Charles Baker; Rye Meads, 3-May - Paul Roper;

Drepanidae - Lutestrings

Common Lutestring *Ochropacha duplaris* Baldock, 9-Jun - T. Brown;



Sitochroa palealis
Photo: Andrew Wood



European Corn-borer
Photo: Andrew Wood

Geometridae - Geometers

Little Emerald *Jodis lactearia* Weston, 18-Jun - Alan Cockburn; Bishops Stortford, 28-Jun, 9-Jul, 12-Jul - T. J. Lewis

Birch Mocha Parliament Hill, 23-Aug - Raymond Softly

Mullein Wave Bishops Stortford, 4-Aug - Jim Fish & Julian Reeves

Lesser Cream Wave *Scopula immutata* Gubblecote, 22-Aug - Peter Bygate

Satin Wave *Idaea subsericeata* Weston, 12-Jun - Alan Cockburn; Bishops Stortford, 5-Aug - Jim Fish & Julian Reeves; Rye Meads, 24-Jun, 7-Jul - Paul Roper

Plain Wave *Idaea straminata* Wilstone Reservoir, 2-Jul - C. Lambert; Bricket Wood, 23-Jul -, (2) 22-Jul - Henry Ellis

Vestal *Rhodometra sacraria* Much Hadham, 14-Sep - Liz Goodyear; Bricket Wood, 25-Jul - Henry Ellis; Gubblecote, 12-Sep - Peter Bygate; Hemel Hempstead, 14-Sep - Roger Prue; Shenley, 18-Sep - Bill & Pearl Page. **A significant number of records for this migrant**

Balsam Carpet *Xanthorhoe biriviata* Cassiobury Park, (2) 1-Jul - Colin Plant

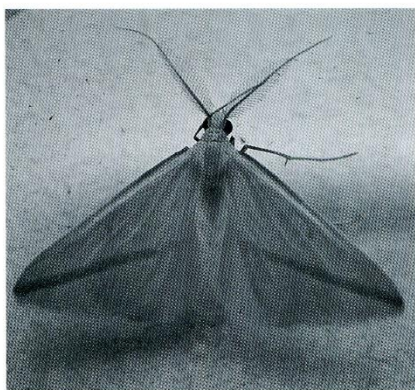
Ruddy Carpet *Catarhoe rubidata* Ashwell Quarry, 4-Jul - Emil De Maria; Bishops Stortford, 3-Jul - Jim Fish & Julian Reeves

Royal Mantle *Catarhoe cuculata* Bishops Stortford, 2-Jul - Colin Plant

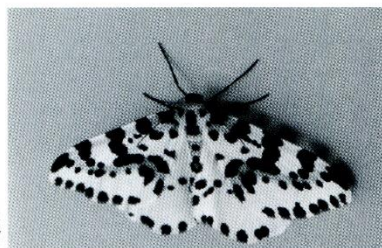
Beautiful Carpet *Mesoleuca albicillata* Great Bradwins Wood, 17-Jul - Charles Baker; Hatfield, 3-Jul - Colin Plant

Water Carpet *Lampropteryx suffumata* Great Bradwins Wood, 4-Apr - Charles Baker; Tring, 28-Jun - Ian Burrus; Hemel Hempstead, 28-Apr - Roger Prue; Oaklands Park Bishops Stortford, 25-Apr, 28-Jun - T. J. Lewis; Bottom Wood, Maple Cross, (3) 3-May - Ched George

Cypress Carpet *Thera cypressata* Hemel Hempstead, 14-Oct - Roger Prue; **First Hertfordshire record**
Brown Scallop *Philereme vetulata* Tring, 28-Jun - Ian Burrus
Sharp-angled Carpet *Euphyia unangulata* Hatfield, 3-Jul - Colin Plant
Barred Rivulet *Perizoma bifaciata* Weston, 30-Jul - Alan Cockburn; Bricket Wood, 1-Aug - Henry Ellis
Grass Rivulet *Perizoma albulata* Gubblecote, 7-Jun - Peter Bygate
Netted Pug *Eupithecia venosata* Chorleywood, 10-Jun, 11-Jun - Richard Ellis
Satyr Pug *Eupithecia satyrata* Royston, 23-Jun - John Chainey & Jenny Spence
Yarrow Pug *Eupithecia millefoliata* Bovingdon Brick Pits, 24-Jun - Colin Plant; Bricket Wood, 28-Jul - Henry Ellis; Bishops Stortford, 30-Jul, 5-Aug - Jim Fish & Julian Reeves
Plain Pug *Eupithecia simpliciata* Bishops Stortford, 20-Jul - Jim Fish & Julian Reeves; Hemel Hempstead, 4-Aug - Roger Prue
Early Tooth-striped *Trichopteryx carpinata* Rye Meads, 5-May - Paul Roper; **First Herts record since 1985**
Magpie Moth *Abraxas grossulariata* Bishops Stortford, 16, 25-Jul - Colin Plant; Gubblecote, 30-Jul - Peter Bygate; Hemel Hempstead, 10-Jul - Roger Prue; Bishops Stortford, 28-Jun - T. J. Lewis. **A much declined species, possibly showing a recovery.**
Clouded Magpie *Abraxas sylvata* Bengoe, 5-Jul - Andrew Wood; Great Bradwins Wood, 17-Jul - Charles Baker
 Bishops Stortford, 17-Jul - Colin Plant
Large Thorn *Ennomos autumnaria* Bishops Stortford, 16-Sep - Colin Plant
August Thorn *Ennomos quercinaria* Baldock, 18-Aug - T. Brown
Great Oak Beauty *Hypomecis roboraria* Rye Meads, 8-Jun - Paul Roper
Grey Birch *Aethalura punctulata* Rye Meads, 2-May - Paul Roper
Straw Belle *Aspitates gilvaria* Bricket Wood, 21-Oct - Henry Ellis; **First Herts record since 1924**



Vestal
 Photo: Andrew Wood



Magpie Moth
 Photo: Andrew Wood

Sphingidae Hawk-moths

Convolvulus Hawk-moth *Agrius convolvuli* Croxley Green, 16-Sep - Colin Grant; Hemel Hempstead, 19-Sep - F. Tuck; Harpenden, 23-Sep - Phil Gould; Hunsdon, 23-Sep - Sue Staniforth; Shenley, 16-Sep - Bill & Pearl Page.
Largest annual total in Herts ever for this migrant.
Death's-head Hawk-moth *Acherontia atropos* Hunsdon, 4-Jul - Anon;

Notodontidae

Scarce Prominent *Odontotia carmelita* Hatfield 28-Apr - Colin Plant; Wheathampstead, 29-Apr - Trevor Chapman

Lymantriidae

Gypsy Moth *Lymantria dispar* Buckingham Palace Garden, (3) 26-Jul - Tim Freed. **Extinct as a native species, a serious forestry pest in many countries.**

Arctiidae – Footman and Tiger Moths

Red-necked Footman *Atolmis rubricollis* Bishops Stortford, 4-Jul - Jim Fish & Julian Reeves; Hatfield, (2) 3-Jul - Colin Plant. **The 2nd and 3rd Herts record for this migrant species**
Four-spotted Footman *Lithosia quadra* Bishops Stortford, 21, 22 Sep - Jim Fish & Julian Reeves; Bishops Stortford. **The first Herts records since 1985**
Garden Tiger *Arctia caja* Hemel Hempstead, 23 Jun, 9-Jul - Roger Prue; Wilstone Sewage Farm, 21-Jul - C. Lambert

Noctuidae

Garden Dart *Euxoa nigricans* Bricket Wood, 29, 30 -Jun, 3-Jul, (2) - Henry Ellis

Stout Dart *Spaelotis ravida* Ellenbrook, 11-Jun - A. Bristow

Double Dart *Graphiphora augur* Wilstone Reservoir, 2-Jul - C. Lambert; Bovingdon Brick Pits, 24-Jun - Colin Plant; Gubblecote, 16-Jun - Peter Bygate

Autumnal Rustic *Eugnorisma glareosa* Kempton Water Works NR, 20-Sep - Colin Plant; Perivale Wood, Middx.(2) 23-Sep - David Howdon

Triple-spotted Clay *Xestia ditrapezium* Rye Meads, 26-Jun (4),1-Jul, (2), 7-Jul - Paul Roper

Square-spotted Clay *Xestia rhomboidea* (larva) Fox Covert, (4) 31-Mar - Colin Plant; Ashwell Quarry, 18-Aug - Emil De Maria; Royston, 30-Jul - John Chainey & Jenny Spence; Bengco, 19-Jul, 16-Aug (2) - Andrew Wood

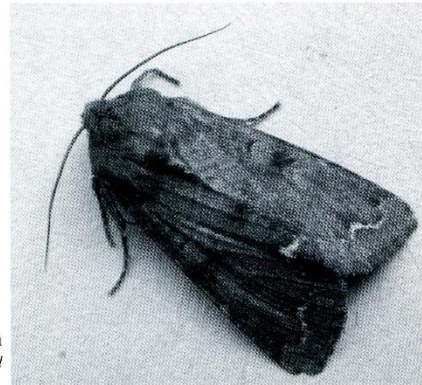
Great Brocade *Eurois occulta* Bishops Stortford, 4-Aug - Colin Plant; Palace Gate N22, 3-Aug - Diane Andrews Bricket Wood, 5-Aug - Henry Ellis; Royston, 21-Aug - John Chainey & Jenny Spence; Bishops Stortford, 6,13-Aug - Jim Fish & Julian Reeves; Hornsey, 6-Aug - Marcel Ashby; Shenley, 7-Aug - Bill & Pearl Page

Green Arches *Anaplectoides prasina* Cassiobury Park, 1-Jul - Colin Plant; Bishops Stortford, 23-Jun - Jim Fish & Julian Reeves



Garden Dart

Photo: Andrew Wood



Broom Moth

Photo: Andrew Wood

White-marked *Cerastis leucographa* Bovingdon Brick Pits, 13-May - Colin Plant

Pale Shining Brown *Polia bombycina* Rye Meads, 8-Jun - Paul Roper

Bordered Gothic *Heliophobus reticulata* Rye Meads, 15-Jul - Paul Roper

Broom Moth *Melanchra pisi* Wheathampstead, 12-Jun - Trevor Chapman

Small Ranunculus *Hecatera dysodea* (larva) Maple Cross, 20-Aug, 25-Aug - Ann Piper; (larva) Watford Allotments, 24-Aug - Ann Piper; Long Marston, 9-Sep - Alan Bernard; Cuffley, 10-Jul - Alan Bolitho; Greenford, 14-Jul - Andrew Culshaw; Ware, 2-Sep - Liz Goodyear; Hornsey, 10-Jun, 5-Jul, 17-Jul, 14-Sep - Marcel Ashby; Ware, 28-Jun - Mike Lawrence; West Mead South Ruislip, 28-Jun, 6-Jul - Dick Middleton; Chiswell Green, 9-Aug - Bill & Pearl Page; Greenford, (2) 10-Aug, (3) 18-Aug, (3) 22-Aug - Andrew Culshaw

Tawny Shears *Hadena perplexa perplexa* Weston, 18-Jun - Alan Cockburn; Royston, 12-Jun - John Chainey & Jenny Spence

Antler *Cerapteryx graminis* Hatfield, 23-Aug - Colin Plant; Chorleywood Common, 20-Aug - Colin Plant

Hedge Rustic *Tholera cespitis* Royston, 6-Sep - John Chainey & Jenny Spence

White-point *Mythimna albipuncta* Bishops Stortford, 21-Aug - Colin Plant; Bishops Stortford, 13-Jun, 18-Aug, 25-Aug, 27-Aug - Jim Fish & Julian Reeves; Rye Meads, 17-Jun - Paul Roper; Chiswell Green, 5-Jul - Bill & Pearl Page; Marshall's Heath 21, 25-Jun - John Murray **This represents over half of all Herts records ever.**

Delicate *Mythimna vitellina* Bishops Stortford, 10, 18, 21-Oct - Jim Fish & Julian Reeves

Wormwood *Cucullia absinthii* (larva) Whiteley Hill, 10-Sep - John Chainey & Jenny Spence

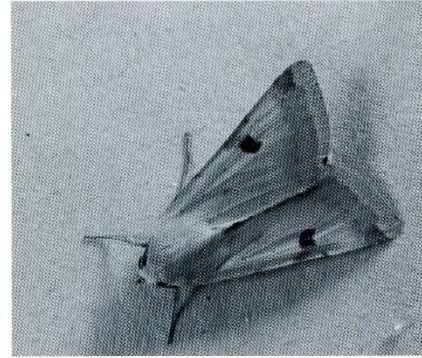
Toadflax Brocade *Calophasia lunula* (larva) Montagu Road Edmonton, 23-Aug - Andrew Middleton; (larva) Alverstone Avenue East Barnet, 1-Aug - P. Alton; (2 larvae) Greenford, 15-Aug - N. Anderson; Bursland Road Enfield, 23-Jul - Andrew Middleton; Greenford, 25-Jul - Andrew Culshaw; Harp Island Close Wembley, 8-Jul - Andrew Self; Hornsey, 11-Jun, 28, 29-Jul, 6, 26-Aug - Marcel Ashby; Parliament Hill, 21-Jul - Raymond Softly

Dark Brocade *Blepharita adusta* Rye Meads, 17-Jun - Paul Roper; Bishops Stortford, (10) 19-Jul - Colin Plant; Marshall's Heath 6-Aug - John Murray

Feathered Ranunculus *Polymixis lichenea* Bishops Stortford, 24-Sep - Jim Fish & Julian Reeves
Dotted Chestnut *Conistra rubiginosa* Bottom Wood, Maple Cross, 3-May - Ched George; Thunderdell Wood Ashridge, 12-Apr - Colin Plant; Hatfield, 13-Apr - Colin Plant; Ware, 8-Oct - Liz Goodyear
Flooned Chestnut *Agrochola helvola* Ashwell Quarry, 28-Jun - Emil De Maria
Suspected *Parastichtis suspecta* Hatfield, 3-Jul - Colin Plant; Ware, 28-Jun - Mike Lawrence
Dusky-lemon Sallow *Xanthia gilvago* Ware, 12-Sep - Liz Goodyear; Bishops Stortford, 16-Sep - Jim Fish & Julian Reeves; Ware, 28-Jun - Mike Lawrence
Reed Dagger *Simyra albovenosa* Bishops Stortford, 26-Jul - Colin Plant
Tree-lichen Beauty *Cryphia algae* Ponders End, 20-Jul, 25-Jul, 26-Jul, 2-Aug - Andrew Middleton; Bursland Road Enfield, 2-Jul, 20-Jul, 25-Jul, 26-Jul - Andrew Middleton; Bishops Stortford, 26-Jul - Jim Fish & Julian Reeves; Hornsey, 28-Jun, 18-Jul (3), 19-Jul, 21-Jul (2), 22-Jul, 23-Jul, 24-Jul, (6) 26-Jul, 29-Jul, 4-Aug (2), 5-Aug - Marcel Ashby; Parliament Hill, 28-Jun - Raymond Softly; House of Commons (roof), 1-Jul - unknown; Dukes Avenue Chiswick, (2) 22-Jul - Tim Freed; Buckingham Palace Garden, (52) 26-Jul - Tim Freed
Angle-striped Sallow *Enargia paleacea* Gubblecote, 12-Sep - Peter Bygate
Reddish Light Arches *Apamea subultristis* Bovington Brick Pits, 24-Jun - Colin Plant; Gubblecote, (2) 27-Jun, 6-Jul - Peter Bygate
Rufous Minor *Oligia versicolor* Royston, 20-Jul - John Chainey & Jenny Spence
Rosy Minor *Mesoligia literosa* Royston, 23-Jul - John Chainey & Jenny Spence; Gubblecote, 16-Jun - Peter Bygate; Cavehall Cottage Wyddial, 22-Jul - T. Casey



Rosy Minor
 Photo: Andrew Wood



Bordered Straw
 Photo: Andrew Wood

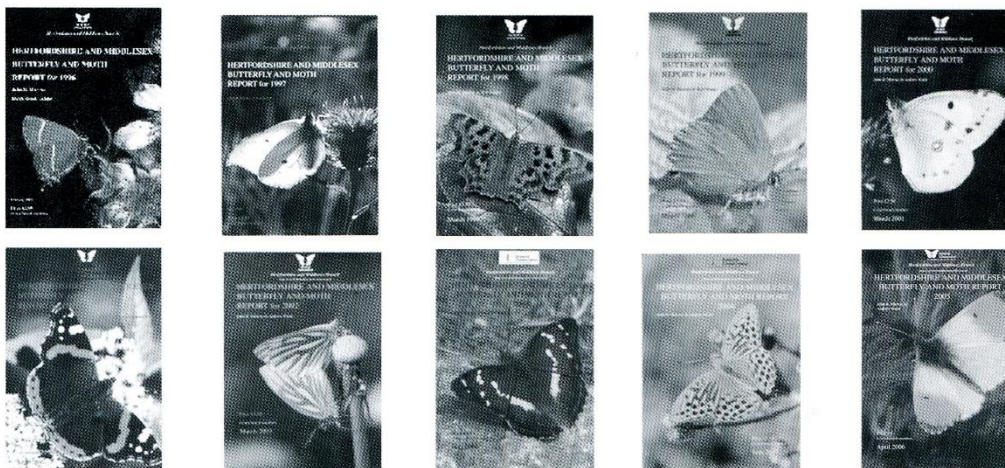
Small Wainscot *Chortodes pygmina* Weston, 8-Aug - Alan Cockburn; Chorleywood Common, 20-Jul - Colin Plant
Butterbur *Hydraecia petasitis* Digswell Lake, 10-Aug - Tom Gladwin
Crescent *Celaena leucostigma* Sawbridgeworth Marsh, (3) 25-Aug - Colin Plant
Bulrush Wainscot *Nonagria typhae* Wilstone Reservoir, 29-Jul - C. Lambert; Bishops Stortford, 17-Aug, 18-Aug - Jim Fish & Julian Reeves; Sawbridgeworth Marsh, (5) 25-Aug - Colin Plant
Brown-veined Wainscot *Archanara dissoluta* Wilstone Reservoir, 29-Jul - C. Lambert
Webb's Wainscot *Archanara sparganii* Broad Colney Lakes, 5-Aug - Colin Plant; Ware, 28-Jun - Mike Lawrence; Rye Meads, 8-Jul, (2) 22-Jul - Paul Roper; Sawbridgeworth Marsh, (20) 25-Aug - Colin Plant
Fen Wainscot *Arenostola phragmitidis* Wilstone Sewage Farm, 21-Jul - C. Lambert; Bishops Stortford, 22-Jul - Colin Plant; Bishops Stortford, (2) 19-Jul - Jim Fish & Julian Reeves
Small Mottled Willow *Spodoptera exigua* Ashridge Estate, 29-Jul - Colin Plant; Bishops Stortford, 18-Jun - Jim Fish & Julian Reeves; , (2) 30-Jul, 1, 5 (2), 6, 11, 14, 17, 24-Aug; Gubblecote, (3) 5-Aug, 18-Nov - Peter Bygate; **A migrant species**
Scarce Bordered Straw *Helicoverpa armigera* Bengoe, 31-Aug, 2, 3, 4-Sep - Andrew Wood; Bovington Brick Pits, 23-Sep - Colin Plant; Ware, 10-Nov - Liz Goodyear; Weston, 27-Sep - Alan Cockburn; Gubblecote, (4) 15-Sep, 18-Nov - Peter Bygate; Harmondsworth Moor, 23-Sep - Andrew Blake; Bishops Stortford, 17, 31-Aug, 6, 14, 15, 16, 17, 18, 27 Sep, 2, 14-Oct - Jim Fish & Julian Reeves; Royston, 29-Jul, 20, 27-Aug - John Chainey & Jenny Spence; Bishops Stortford, 2, 14, 16, 26-Sep - Colin Plant; Wheathampstead, (2) 23-Sep - Trevor Chapman. **A large migrant influx**
Bordered Straw *Heliothis peltigera* Ashridge Monument, Ashridge Estate, 29-Jul - Colin Plant; Bengoe, 20-Jun, 6-Sep - Andrew Wood; Ellenbrook, 21-Jun - A. Bristow; Bishops Stortford, 5-Jul, (2) 28-Jul, 10-Aug - Jim Fish & Julian Reeves; Royston, 30-Jul - John Chainey & Jenny Spence; Bishops Stortford, 15-Aug - Colin Plant; Wilstone Sewage Farm, 30-Aug - C. Lambert; **A migrant species**

Cream-bordered Green Pea *Earias clorana* Cavehall Cottage Wyddial, 24-Jun - T. Casey
Ni Moth *Trichoplusia ni* Bishops Stortford, 28-Jul, 5-Aug - Jim Fish & Julian Reeves.. **2nd & 3rd Herts records and the first since 1964 for this scarce migrant**
Gold Spot *Plusia festucae* Hemel Hempstead, 6-Aug - Roger Prue
Buttoned Snout *Hypena rostralis* Bishops Stortford, 3-Jun - Jim Fish & Julian Reeves; Bishops Stortford, 28-Jun, 21 Sep - T.J. Lewis; Marshall's Heath 9-Jun - John Murray
Pinion-streaked Snout *Schrankia costaestrigalis* Hatfield, 3-Jul - Colin Plant; Sawbridgeworth Marsh, (10) 25-Aug - Colin Plant
Plumed Fan-foot *Pechipogo plumigeralis* Buckingham Palace Garden, 4-Jul - Tim Freed
Dotted Fan-foot *Macrochilo cribrumalis* Bishops Stortford, 20-Jul - Jim Fish & Julian Reeves

References

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- Wood, A. 2006b. Ware Park Transect Report 2006. *Privately circulated manuscript*. 3pp

Previous Editions



Previous editions of the branch Annual Report from 1996 onwards are still available:

If you would like a copy of any of these reports, please contact John Murray or Malcolm Hull. Contact details are on the back cover of this report.

Appendix

The tables below and on the following pages give numbers of butterflies counted on each of the weekly transect walks described in the Transect Roundup, listed by species. Values in italics indicate weeks when the transect could not be walked, and are interpolated between numbers counted in the previous and following weeks. Only those transects where there is reasonably complete coverage during the flight season are included. Mean values for all transects are listed along the bottom for each species; these are plotted as graphs for each separate species on pages 14 to 36.

The weeks 1 to 26 listed across the top refer to the 26 weeks starting on April 1st and ending on September 29th. The peak date listed in the final column is the actual date when highest numbers were seen in the case of univoltine species. For bivoltine or trivoltine species the date when the highest numbers for the particular brood that had highest peak values in the mean of all transects is used. The mean peak date for each species at the bottom right is weighted according to the total numbers seen on each transect.

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Small Skipper 2006																												
Aldbury Nowers										0	0	0	0	1	2	19	49	14	2	0	0	0	0	0			87	18-Jul
Balle Wood										0	0	0	0	0	0	5	12	12	12	0	0	0	0	0			41	16-Jul
Bishops Stortford Southern Country Park										0	0	0	0	1	2	31	21	1	0	0	0	0	0	0			56	12-Jul
Brent Reservoir										0	0	0	0	0	42	27	11	2	0	0	0	0	0	0			82	1-Jul
Bricket Wood										0	0	0	0	0	3	17	16	17	3	8	2	0	0	0			65	23-Jul
Colney Heath										0	3	0	0	2	0	8	4	1	0	0	0	0	0	0			18	11-Jul
Danesbury Park										0	0	0	0	0	9	0	0	5	1	0	0	0	0	0			15	3-Jul
Gunnersbury Triangle										0	0	0	3	6	2	5	0	0	0	0	0	0	0	0			16	24-Jun
Gutteridge Wood										0	0	0	0	3	5	24	9	10	1	0	0	0	0	0			52	12-Jul
Horsenden Hill East										0	0	0	0	6	18	26	17	1	0	0	0	0	0	0			68	8-Jul
Horsenden Hill West										0	0	0	0	1	4	8	5	0	0	0	0	0	0	0			18	8-Jul
Kenwood										0	0	0	0	1	11	27	8	0	0	0	0	0	0	0			47	19-Jul
Kings Langley										0	0	0	0	0	3	0	0	0	0	0	0	0	0	0			3	8-Jul
Knebworth Park										0	0	1	5	9	19	17	41	11	9	2	0	0	0	0			113	20-Jul
Lansford Springs										0	0	0	0	0	0	0	0	2	2	0	0	0	0	0			4	
Marley Heath										0	0	0	0	2	1	0	4	1	1	1	1	1	1	0			11	15-Jul
Marshall's Heath										0	0	0	0	0	16	50	29	10	5	0	0	0	0	0			111	11-Jul
Millhoppers										0	0	0	0	0	0	0	11	1	1	0	0	0	0	0			12	28-Jul
Oughtonhead Common										0	0	0	1	4	6	8	23	17	0	0	0	0	0	0			58	18-Jul
Patmore Heath										0	0	0	0	6	17	11	0	19	11	1	0	0	0	0			65	22-Jul
Perivale Wood										0	0	0	0	0	2	1	0	0	0	0	0	0	0	0			3	1-Jul
Priory Wood										0	0	0	0	0	1	3	2	0	0	0	0	0	0	0			6	8-Jul
Railway Fields										0	0	0	0	0	0	0	1	0	0	0	0	0	0	0			1	17-Jul
Rothamsted Farm										0	0	0	0	0	0	2	3	1	0	0	0	0	0	0			6	17-Jul
Shrubhill Common										0	0	0	0	0	30	53	27	37	0	0	0	0	0	0			147	14-Jul
Stevenage										0	0	0	0	0	15	142	130	27	2	0	0	0	0	0			315	8-Jul
Templewood Vale										0	0	0	0	2	3	0	0	5	0	1	0	0	0	0			11	24-Jul
The Warren										0	0	0	0	4	3	19	16	11	3	4	0	0	0	0			60	11-Jul
The Field Heath (Base of Church Hill)										0	0	0	0	0	0	0	1	0	0	0	0	0	0	0			1	16-Jul
The Field Heath (Lankester Hill)										0	0	0	0	0	4	8	13	12	1	0	0	0	0	0			38	15-Jul
The Field Heath (Rifle Range)										0	0	0	0	1	0	0	4	2	0	0	0	0	0	0			7	15-Jul
The Field Heath (Top of Rifle Range)										0	0	0	0	0	2	4	3	1	1	0	0	0	0	0			11	8-Jul
Tower Hamlets Cemetery Park										0	0	0	0	0	9	4	22	3	0	0	0	0	0	0			38	17-Jul
Tring Park										0	0	0	0	1	5	85	75	65	36	7	0	0	0	0			274	12-Jul
Wood Lane, Pirton										0	0	0	1	0	0	1	3	2	1	0	0	0	0	0			8	19-Jul
Mean Small Skipper										0.0	1.5	0.5	1.7	3.0	8.8	21.1	19.6	10.6	4.4	2.2	0.5	0.3	0.5	0.0			53.3	12-Jul
Essex Skipper 2006																												
Aldbury Nowers															0	0	0	6	56	33	19	2	0	0	0		116	11-Jul
Bishops Stortford Southern Country Park															0	0	0	2	2	0	2	1	0	0	0		7	
Brent Reservoir															0	0	0	0	0	2	0	0	0	0			2	26-Jul
Bricket Wood															0	0	0	0	6	32	6	0	2	0	0		45	15-Jul
Danesbury Park															0	0	0	0	18	20	5	1	0	0	0		44	16-Jul
Gunnersbury Triangle															0	0	0	0	5	0	0	0	0	0	0		5	8-Jul
Horsenden Hill East															0	0	0	4	10	12	0	0	0	0	0		26	16-Jul
Horsenden Hill West															0	0	0	0	0	2	0	0	0	0	0		2	16-Jul
Kenwood															0	0	0	0	0	0	2	8	0	0	0		10	29-Jul
Knebworth Park															0	0	0	23	73	70	73	60	25	0	0		325	14-Jul
Marshall's Heath															0	0	0	0	13	4	44	24	3	2	0		89	22-Jul
Millhoppers															0	0	0	0	36	18	2	0	0	0	0		56	13-Jul
Miswell Lane															0	0	0	0	1	3	0	0	0	0	0		4	15-Jul
Oughtonhead Common															0	0	0	4	8	24	0	2	2	0	0		40	18-Jul
Patmore Heath															0	0	0	0	23	39	6	7	1	0	0		76	18-Jul
Perivale Wood															0	0	0	0	1	0	2	0	0	0	0		3	29-Jul
Priory Wood															0	0	0	0	2	1	0	0	0	0	0		3	8-Jul
Shrubhill Common															0	0	0	0	30	27	5	0	0	0	0		62	14-Jul
Stevenage															0	0	0	0	68	59	16	0	1	0	0		145	8-Jul
Tower Hamlets Cemetery Park															0	1	5	33	35	29	0	0	0	0	0		103	12-Jul
Tring Park															0	0	0	5	51	42	33	20	7	0	0		157	12-Jul
Ware Park															0	0	0	0	1	0	0	0	0	0	0		1	14-Jul
Mean Essex Skipper										0.0	0.3	0.7	4.3	20.8	19.8	12.0	9.8	5.0	0.5	0.0						60.0	13-Jul	

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak								
Large Skipper 2006																																				
Albury Nowers										0	0	9	5	28	6	4	1	0	1	0	0							54	3-Jul							
Balls Wood										0	6	3	8	14	4	6	9	0	0	0	0							50	2-Jul							
Beane Hill										0	3	2	0	2	2	1	0	0	0	0	0							10	16-Jun							
Bishops Stortford Southern Country Park										0	0	0	0	0	1	0	0	0	0	0	0							4	12-Jul							
Brent Reservoir										0	4	17	14	7	4	0	0	0	0	0	0							46	17-Jun							
Bricket Wood										0	1	7	22	18	11	6	1	0	1	0	0							67	24-Jun							
Camley Street Natural Park										0	0	0	5	0	0	2	0	0	0	0	0							7	29-Jun							
Colney Heath										0	0	0	1	1	0	0	0	0	0	0	0							5	3-Jul							
Danebury Park										0	0	0	0	5	0	0	0	0	0	0	0							7	3-Jul							
Fryent Country Park										0	1	1	2	3	0	0	0	0	0	0	0							7	3-Jul							
Gutteridge Wood										0	0	1	0	1	2	1	0	0	0	0	0							5	12-Jul							
Hampstead Heath										0	0	0	0	10	5	0	0	0	0	0	0							15	6-Jul							
Horsenden Hill East										0	3	6	7	9	2	0	0	0	0	0	0							27	2-Jul							
Horsenden Hill West										0	0	1	3	1	1	1	0	0	0	0	0							7	24-Jun							
Kenwood										0	0	0	0	1	5	0	2	0	0	0	0							8	11-Jul							
Kings Langley										0	0	0	0	0	6	2	0	0	0	0	0							8	15-Jul							
Knebworth Park										1	7	12	17	26	20	7	0	1	0	0	0							91	4-Jul							
Lemsford Springs										0	0	1	1	0	0	1	1	0	0	0	0							3	21-Jun							
Marley Heath										0	2	1	0	0	0	0	0	0	0	0	0							3	10-Jun							
Marshall's Heath										0	0	1	1	0	1	0	0	0	0	0	0							3	7-Jun							
Millhoppers										0	3	9	6	5	7	3	0	0	0	0	0							30	23-Jun							
Miswell Lane										0	0	1	1	1	1	0	1	1	0	0	0							5	12-Jul							
Oughtonhead Common										0	0	0	0	0	0	0	1	0	0	0	0							1	25-Jul							
Putmore Heath										0	1	1	1	1	0	0	0	0	0	0	0							4	4-Jul							
Pervale Wood										0	0	1	1	0	0	0	0	0	0	0	0							2	18-Jun							
Pryor's Wood										0	0	0	0	0	1	0	1	0	0	0	0							2	2-Jul							
Railway Fields										0	0	0	0	1	1	0	0	0	0	0	0							3	3-Jul							
Rothamsted Farm										0	0	0	0	1	0	3	0	0	0	0	0							4	17-Jul							
Stonibill Common										0	1	1	6	2	2	1	0	0	0	0	0							14	25-Jun							
Stevenage										0	0	1	5	6	4	3	0	0	0	0	0							19	1-Jul							
Templewood Vale										0	0	0	0	0	0	0	2	0	0	0	0							2	24-Jul							
The Warren										0	0	1	0	0	0	0	0	0	0	0	0							1	22-Jun							
Tierfield Heath (Lankester Hill)										0	0	5	1	0	0	0	0	0	0	0	0							4	20-Jun							
Tierfield Heath (Top of Rifle Range)										0	0	0	0	1	3	2	0	0	0	0	0							6	3-Jul							
Tower Hamlets Cemetery Park										0	0	0	0	4	11	20	12	6	2	2	1	0						58	12-Jul							
Tring Park										0	9	10	11	22	2	4	5	4	2	1	0							69	1-Jul							
Ware Park										0	0	3	1	0	0	0	0	0	0	0	0							4	20-Jun							
Wood Lane, Pirton										0	2	0	3	5	6	5	4	2	0	0	0							27	13-Jul							
Mean Large Skipper										0.0	1.1	2.5	3.4	4.8	3.0	1.6	0.9	0.2	0.2	0.1	0.0						17.8	1-Jul								
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak								
Dingy Skipper 2006																																				
Albury Nowers										0	0	1	2	3	1	0	0	0	0	0								7	6-Jun							
Tring Park										0	2	2	3	3	1	1	0	0	0	0								13	3-Jun							
Mean Dingy Skipper										0.0	1.0	1.5	2.3	3.0	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	4-Jun							
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak								
Grizzled Skipper 2006																																				
Albury Nowers										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6-Jun						
Tring Park										0	0	0	0	0	2	3	8	12	0	1	1	0	0	0	0	0	0	0	26	3-Jun						
Waterford Heath North										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	10-May						
Mean Grizzled Skipper	0.0	0.0	0.0	0.0	0.3	0.7	1.0	2.5	4.7	0.3	0.2	0.3	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	10.7	1-Jun								
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak								
Clouded Yellow 2006																																				
Bishops Stortford Southern Country Park										0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	5-Aug							
Horsenden Hill West										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5-Aug							
Hudson Mead										0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	3	27-Jul							
Kenwood										0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13-Jun							
Knebworth Park										0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6-Aug							
Rothamsted Farm										0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	24-Jul							
Tierfield Heath (Top of Rifle Range)										5	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	1	0	4	24-Jul							
Tring Park										0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	4	5-Aug							
Mean Clouded Yellow	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.3	0.5	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	1.9	26-Jul								
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak								
Brimstone 2006																																				
Albury Nowers										0	9	0	9	0	1	0	8	4	3	2	5	2	1	0	0	0	0	8	2	3	0	0	0	0	0	57
Balls Wood										0	3	1	1	0	0	0																				

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Large White 2006																												
<i>Albury Novers</i>	0	0	0	0	0	1	1	3	1	0	0	1	5	4	2	3	4	1	2	0	1	0	1	0	0	0	30	11-Jul
<i>Balls Wood</i>	0	0	0	3	1	0	0	3	0	0	0	1	3	7	5	7	0	0	0	0	0	0	0	0	0	0	30	16-Jul
<i>Beane Hill</i>	0	1	0	1	0	1	1	0	0	0	0	0	3	2	1	3	2	2	1	1	1	0	0	0	0	0	19	12-Jul
<i>Bishops Stortford Southern Country Park</i>	0	0	0	2	1	0	1	2	0	0	1	0	12	7	16	8	3	7	9	1	0	1	0	0	0	0	71	25-Jul
<i>Brent Reservoir</i>	0	0	0	0	0	0	0	2	1	1	0	6	11	3	2	4	0	2	1	0	0	0	1	0	0	1	34	16-Jul
<i>Bricket Wood</i>	0	0	0	0	0	2	1	0	1	3	4	3	12	12	1	8	1	0	2	3	0	1	0	0	0	0	54	15-Jul
<i>Camley Street Natural Park</i>	0	0	0	3	3	3	0	1	1	0	3	4	8	7	5	0	6	5	3	6	2	4	3	2	0	0	69	12-Jul
<i>Colney Heath</i>	0	0	0	0	0	0	0	0	0	0	1	2	3	1	0	2	0	3	0	0	0	0	0	0	0	0	12	21-Jul
<i>Danesbury Park</i>	0	0	0	2	0	0	0	1	1	0	0	0	2	2	0	2	1	3	0	0	0	0	0	0	0	0	14	15-Aug
<i>Fryent Country Park</i>	0	3	1	3	0	0	0	0	2	1	1	9	1	0	1	3	0	0	0	0	0	0	0	0	0	0	25	12-Jul
<i>Gunnersbury Triangle</i>	0	0	0	0	0	0	0	0	1	1	0	0	0	1	2	1	0	1	0	1	0	0	0	0	0	0	7	30-Jul
<i>Gutteridge Wood</i>	0	0	0	0	1	0	0	1	0	0	1	4	3	1	1	0	1	0	0	1	0	0	0	0	0	0	14	12-Jul
<i>Hampstead Heath</i>	0	0	2	3	2	0	1	1	0	0	0	2	2	2	1	0	2	1	0	1	1	1	1	1	1	1	22	12-May
<i>Horsenden Hill East</i>	0	0	0	0	0	1	0	0	0	0	0	4	3	0	1	3	0	1	0	0	0	0	0	0	0	0	13	8-Jul
<i>Horsenden Hill West</i>	0	0	0	0	0	2	0	0	0	0	3	0	1	1	1	2	0	1	0	1	0	0	0	0	0	0	12	1-Jul
<i>Hunsdon Mead</i>	0	0	0	0	0	2	1	0	0	1	2	0	9	11	3	1	5	3	5	6	2	1	0	0	0	0	52	
<i>Kew Wood</i>	0	0	0	3	2	0	0	0	0	1	2	3	0	2	1	0	0	0	1	0	0	0	0	0	0	0	15	
<i>Kings Langley</i>	0	0	0	5	0	3	0	1	0	0	0	0	3	9	0	2	13	4	0	5	1	4	0	0	0	0	50	12-Aug
<i>Knebworth Park</i>	0	0	0	1	0	0	0	2	1	0	3	12	7	7	3	8	3	2	2	1	0	0	0	0	0	0	52	14-Jul
<i>Langford Springs</i>	0	0	0	0	0	0	0	0	0	0	0	13	8	2	1	3	0	0	0	1	0	0	0	0	0	0	28	14-Jul
<i>Marsley Heath</i>	0	0	0	0	0	0	0	1	0	2	3	15	8	1	6	7	1	1	1	0	0	0	0	0	0	0	46	15-Jul
<i>Marshall's Heath</i>	0	0	1	0	0	1	2	3	0	0	0	3	1	4	6	7	7	6	1	2	0	0	0	0	0	0	43	5-Aug
<i>Millhoppers</i>	0	0	2	0	0	2	1	0	0	0	2	3	4	5	0	0	1	1	1	1	0	0	0	0	0	0	23	28-Jul
<i>Miswell Lane</i>	0	0	0	1	0	0	0	0	1	1	2	2	12	13	6	3	2	0	0	0	1	0	0	0	0	0	43	24-Jul
<i>Northan Great Wood</i>	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5-May
<i>Northan Great Wood Bridleway</i>	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	1	11-Aug
<i>Oughtonhead Common</i>	0	0	0	0	0	0	0	2	0	0	3	6	2	3	1	5	6	0	0	0	0	0	0	0	0	0	28	
<i>Patmore Heath</i>	0	0	0	2	2	0	0	0	0	0	11	4	1	14	7	2	2	2	1	2	0	0	0	0	0	0	48	29-Jul
<i>Pervale Wood</i>	0	0	0	0	0	0	1	0	0	2	1	0	3	1	3	2	0	1	0	5	0	0	0	0	0	0	19	3-Sep
<i>Pryor's Wood</i>	0	0	0	0	0	0	2	1	0	0	2	3	3	0	0	2	1	0	0	0	0	0	0	0	0	0	14	
<i>Railway Fields</i>	0	0	0	0	1	0	0	0	0	2	1	5	2	1	1	2	1	1	2	1	0	2	0	0	0	0	18	12-Jul
<i>Rothamsted Farm</i>	0	1	2	0	0	1	1	0	0	1	5	4	7	18	0	3	0	0	0	0	0	0	0	0	0	0	43	24-Jul
<i>Shevards Park Reddings</i>	0	0	0	0	0	0	1	0	0	0	2	3	2	5	2	0	0	0	0	0	0	2	1	0	0	0	18	25-Jul
<i>Strubhill Common</i>	0	0	0	0	0	1	0	0	0	0	0	4	9	15	0	14	1	8	0	6	4	2	0	0	0	0	64	25-Jul
<i>Stevage</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	18	15-Jul
<i>Templewood Vale</i>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	2	0	2	1	1	0	0	0	0	0	14	24-Jul
<i>The Warren</i>	0	0	0	0	0	0	0	0	0	1	0	2	0	3	2	4	0	0	1	1	0	0	1	0	0	0	15	8-Aug
<i>Tierfield Heath (Base of Church Hill)</i>	0	0	0	0	0	0	0	0	0	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	6	24-Jul
<i>Tierfield Heath (Church Hill)</i>	0	0	0	0	0	0	0	0	0	0	0	2	3	0	1	0	0	0	0	0	0	0	0	0	0	0	11	24-Jul
<i>Tierfield Heath (Lankester Hill)</i>	0	0	0	0	0	0	0	0	0	0	0	13	8	2	0	0	0	1	0	0	0	0	0	0	0	0	24	15-Jul
<i>Tierfield Heath (Rifle Range)</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	6	29-Jul
<i>Tierfield Heath (Top of Rifle Range)</i>	0	0	0	0	0	0	0	0	0	0	1	0	3	4	1	0	0	0	0	0	0	0	0	0	0	0	9	24-Jul
<i>Tower Hamlets Cemetery Park</i>	0	9	8	24	21	8	26	9	5	5	7	20	26	51	29	50	22	11	0	7	7	4	1	0	0	0	350	17-Jul
<i>Tring Park</i>	0	0	1	0	5	2	5	8	0	0	0	10	18	26	18	10	8	5	3	0	0	0	0	0	0	0	118	22-Jul
<i>Ware Park</i>	0	2	1	0	1	2	0	0	0	2	1	7	4	7	6	4	3	4	2	1	0	0	0	0	0	0	47	14-Jul
<i>Wood Lane, Pirton</i>	0	0	0	0	6	7	0	0	0	3	1	14	28	39	32	28	24	7	8	0	4	2	2	1	0	0	213	19-Jul
Mean Large White	0.0	0.3	0.4	1.3	0.9	0.6	1.0	0.9	0.4	0.3	0.6	1.7	4.6	6.4	6.3	4.2	3.8	2.1	1.5	0.9	1.2	0.5	0.4	0.1	40.4	18-Jul		
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Small White 2006																												
<i>Albury Novers</i>	0	1	0	1	1	0	0	5	5	3	0	0	0	1	3	13	6	5	0	0	3	5	0	0	0	0	51	25-Jul
<i>Balls Wood</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	13-Jul
<i>Beane Hill</i>	0	0	0	0	2	0	0	3	0	0	1	0	0	3	3	0	5	2	3	3	2	1	1	0	0	0	29	29-Jul
<i>Bishops Stortford Southern Country Park</i>	0	0	0	0	1	1	1	0	0	0	0	0	0	5	4	7	2	1	0	5	6	3	0	2	0	0	39	25-Jul
<i>Brent Reservoir</i>	0	0	0	0	0	1	1	0	2	1	0	0	0	1	1	3	0	0	1	3	2	0	0	0	0	0	17	
<i>Bricket Wood</i>	0	0	0	0	1	0	0	0	0	0	0	0	2	10	2	2	5	0	2	0	0	0	0	0	0	0	24	23-Jul
<i>Colney Heath</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	1	6	0	4	3	1	1	0	0	0	0	23	8-Aug
<i>Danesbury Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	1	0	0	0	0	6	5-Aug
<i>Fryent Country Park</i>	0	0	0	2	0	2	0	3	0	1	1	0	6	11	0	7	1	0	3	0	2	2	0	1	0	0	42	17-Jul
<i>Gunnersbury Triangle</i>	0	0	0	0	0	3	0	2	4	2	0	1	2	0	5	2	4	6	5	3	4	5	0	0	0	0	48	30-Jul
<i>Gutteridge Wood</i>	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11-May
<i>Hampstead Heath</i>	0	0	0	0	0	0	1	1	0																			

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Purple Hairstreak 2006																												
Brent Reservoir	0	0	0	0	0	0	0	0	0	0	0	2	4	6	0	1	0	1	0	0	0	0	0	0	0	0	14	26-Jul
Bricket Wood	0	0	0	0	0	1	7	34	13	1	5	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	60	15-Jul
Gutteridge Wood	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16-Jul
Horsenden Hill East	0	0	0	0	0	3	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2-Jul
Horsenden Hill West	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1-Jul
Kenwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	32	24-Jul
Marshall's Heath	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	19-Aug
Patmore Heath	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	5	5-Aug
Perrivale Wood	0	0	0	0	0	0	0	4	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	6	15-Jul
Sherrards Park Reddings	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	15-Jul
Stevensage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	15-Aug
Wood Lane, Pirton	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	1	15-Jun
Mean Purple Hairstreak	0.0	0.1	0.0	0.0	0.4	1.3	4.3	2.8	0.7	1.3	0.3	0.3	0.0	0.1	0.0												11.5	18-Jul
White-letter Hairstreak 2006																												
Brent Reservoir	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	3	1-Jul
Horsenden Hill East	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	3	2-Jul
Horsenden Hill West	0	18	11	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	24-Jun
Knebworth Park	0	0	1	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	20-Jul
Patmore Heath	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	13-Jul
Wood Lane, Pirton	0	7	5	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	28-Jun
Mean White-letter Hairstreak	0.0	4.2	3.5	0.3	2.5	0.2	0.1	0.2	0.2	0.0																	11.1	1-Jul
Small Copper 2006																												
Albury Novers	0	0	0	0	1	0	0	0	0	0	0	0	0	2	6	5	11	4	2	1	2	7	9	12	6	2	62	24-Sep
Balls Wood	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	1	22-May
Brent Reservoir	0	2	2	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	3	0	0	0	0	0	15	8-Sep
Danzbury Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	4	15-Aug
Gutteridge Wood	0	0	1	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12-Jul
Hampstead Heath	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6-Jul
Horsenden Hill East	0	0	0	0	3	1	0	0	0	0	0	0	0	2	1	0	4	0	0	2	0	1	2	2	2	2	18	6-Aug
Horsenden Hill West	0	0	0	0	13	5	0	0	0	0	1	0	3	1	1	0	0	0	0	1	2	2	2	2	2	2	29	28-May
Hunsdon Mead	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	9	6	4	2	2	2	27	6-Sep
Kenwood	0	0	0	0	0	0	0	0	0	3	0	2	5	0	0	0	4	2	0	2	4	1	2	3	1	2	23	24-Jul
Kings Langley	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	7-Jun
Knebworth Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	1	6	5	3	4	4	2	2	2	34	30-Jul
Mardley Heath	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	1	1-Jul
Marshall's Heath	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	4	4-Jul
Millhoppers	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	2	28-Jul
Patmore Heath	0	0	0	0	0	0	0	1	0	1	2	3	9	1	0	0	0	1	3	14	7	4	2	7	4	2	42	16-Sep
Perrivale Wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	1	1	1	15	28-May
Shrubhill Common	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	5	6-Aug
Stevensage	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	4	3-Jun
The Warren	0	1	0	0	0	0	0	0	0	0	1	2	2	3	2	1	1	6	0	1	4	7	3	1	1	1	31	24-Sep
Therfield Heath (Base of Church Hill)	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	6	23-Sep
Therfield Heath (Top of Rifle Range)	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	1	19-Aug
Tower Hamlets Cemetery Park	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	1	11-Sep
Tring Park	0	0	0	0	0	1	0	0	0	0	1	2	4	5	3	0	1	1	1	1	1	1	1	1	1	1	20	5-Aug
Mean Small Copper	0.0	0.1	0.1	0.1	0.6	0.6	0.4	0.5	0.1	0.1	0.2	0.5	1.1	1.4	1.3	0.5	0.7	0.8	0.9	1.4	2.0	1.9				20.8	18-Sep	
Brown Argus 2006																												
Albury Novers	0	0	1	2	2	0	0	0	0	0	0	0	5	9	10	42	9	53	22	14	5	0	2	2	2	2	176	20-Aug
Bricket Wood	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	13	5-Aug
Marshall's Heath	0	0	0	0	0	0	0	0	0	0	0	0	0	6	9	12	8	4	0	0	0	0	0	0	0	0	39	5-Aug
Patmore Heath	0	0	0	0	0	0	0	0	0	1	0	4	6	15	9	5	1	0	0	0	0	0	0	0	0	0	41	5-Aug
Shrubhill Common	0	0	0	1	1	0	5	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	10	20-Jun
Stevensage	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	1	0	0	0	0	0	0	0	0	5	5-Aug
Therfield Heath (Base of Church Hill)	0	2	3	2	1	1	0	0	0	0	0	0	1	3	3	11	2	6	0	1	0	0	0	0	0	0	26	29-Aug
Therfield Heath (Church Hill)	0	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	2	4	1	0	0	0	0	0	0	0	25	6-Aug
Therfield Heath (Lankester Hill)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	4	19-Aug
Therfield Heath (Rifle Range)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	3	19-Aug
Therfield Heath (Top of Rifle Range)	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	11	29-Jul
Tring Park	0	0	0	1	2	2	2	1	2	0	2	3	8	12	8	3	2	0	1	0	0	0	0	0	0	0	47	5-Aug
Ware Park	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	3	12-Sep
Wood Lane, Pirton	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	3	5-Aug
Mean Brown Argus	0.0	0.2	0.5	0.6	0.6	0.4	0.5	0.1	0.1	0.1	0.5	1.9	3.3	7.3	3.0	5.6	2.3	1.1	0.6	0.0	0.1					28.9	13-Aug	
Common Blue 2006																												
Albury Novers	0	2	2	7	0	8	0	0	0	0	4	19	8	22	13	17	9	5	2	1	1	1	1					

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak	
Chalkhill Blue 2006																													
Aldbury Nowers														0	0	0	0	0	1	4	0	1	1	1	0		8	5-Aug	
Tierfield Heath (Base of Church Hill)														0	0	4	50	48	17	15	1	2	0	1	0		118	21-Jul	
Tierfield Heath (Church Hill)														0	0	5	42	153	41	45	3	3	1	1	0		294	24-Jul	
Tierfield Heath (Lankester Hill)														0	0	0	5	38	30	6	4	0	0	0	0		83	22-Jul	
Tierfield Heath (Rifle Range)														0	4	22	50	52	13	7	0	1	0	0	0		149	24-Jul	
Tierfield Heath (Top of Rifle Range)														0	2	6	25	89	115	24	5	10	0	0	0		276	29-Jul	
Mean Chalkhill Blue														0.0	1.0	6.2	25.3	63.3	36.2	16.8	2.2	2.8	0.3	0.5	0.0		154.7	25-Jul	
Holly Blue 2006																													
Aldbury Nowers		0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6-Jun	
Beane Hill		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	2	24-Jul	
Bishops Stortford Southern Country Park		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	5	8-Aug	
Brent Reservoir		0	0	0	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2-May	
Bricket Wood		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	3		
Camley Street Natural Park		0	0	0	1	2	1	0	0	0	0	0	0	1	3	6	0	2	0	0	0	0	1	0	0	0	17	12-Jul	
Danebury Park		0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	7	25-Jul	
Fryent Country Park		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	22-Apr	
Gunnerbury Triangle		0	0	0	0	0	0	1	2	1	0	0	0	0	0	4	0	1	1	1	0	1	0	0	0	0	11	8-Jul	
Gutteridge Wood		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	2	0	0	0	0	0	8	24-Jul	
Hampstead Heath		0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3		
Horsenden Hill East		0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	29-Apr	
Horsenden Hill West		0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	22-Apr	
Kenwood		0	0	0	0	2	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5		
Kings Langley		0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	6		
Knebworth Park		0	0	0	2	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	14-Jul	
Marshalls Heath		0	0	0	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
Millhoppers		0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	5		
Northaw Great Wood Bridleway		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	5-May	
Oughtonhead Common		0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	5		
Pervaise Wood		0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	7	22-Apr	
Railway Fields		0	0	1	0	2	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0	0	0	0	8		
Sherwards Park Reddings		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1		
Slimshill Common		0	0	0	2	0	1	0	0	0	0	0	0	0	3	3	0	0	3	0	3	0	0	0	0	0	15	14-Jul	
Stevensonage		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	5-Aug	
Tierfield Heath (Lankester Hill)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	29-Jul	
Tierfield Heath (Top of Rifle Range)		0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3-May	
Tower Hamlets Cemetery Park		0	1	10	6	5	8	2	2	2	0	2	3	5	4	12	9	21	24	13	1	8	4	1		143	5-Aug		
Tring Park		0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	16-Jun	
Ware Park		0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	0	9		
Wood Lane, Pirton		0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	6		
Mean Holly Blue		0.0	0.1	0.5	0.7	0.6	0.4	0.2	0.2	0.3	0.1	0.1	0.2	0.4	0.7	0.7	0.9	1.0	1.2	0.5	0.3	0.3	0.1	0.0		9.6	5-Aug		
White Admiral 2006																													
Balls Wood														0	8	9	5	2	4	0	0	0	0	0	1	0	29	2-Jul	
Bricket Wood														0	6	12	4	4	0	0	0	0	0	0	0	0	26	1-Jul	
Marshalls Heath														0	0	0	0	1	0	0	0	0	0	0	0	0	1	22-Jul	
Northaw Great Wood														0	1	0	0	0	0	0	0	0	0	0	0	0	1	28-Jun	
Mean White Admiral														0.0	3.8	5.3	2.3	1.5	1.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	14.3	1-Jul	
Purple Emperor 2006																													
Balls Wood																											0		
Mean Purple Emperor																												1.0	16-Jul
Red Admiral 2006																													
Aldbury Nowers					0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2		
Balls Wood					0	0	0	1	1	0	0	1	2	0	1	1	3	1	0	0	1	0	1	0	0	0	13	22-Jul	
Beate Hill					0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	1	5		
Bishops Stortford Southern Country Park					0	0	0	0	0	0	0	0	1	0	1	3	1	0	0	1	0	0	0	1	2	1	11	18-Jul	
Brent Reservoir					0	0	0	0	0	0	2	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	2	8	
Bricket Wood					0	0	0	0	0	0	1	1	0	0	6	5	1	1	1	1	0	1	0	1	0	1	20	9-Jul	
Camley Street Natural Park					0	1	1	0	0	1	0	0	0	0	2	0	3	2	0	0	1	0	1	1	1	1	13	25-Jul	
Colney Heath					0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	6	21-Jul	
Danebury Park					0	0	0	0	0	0	1	2	0	0	1	1	0	6	0	0	0	2	0	1	0	0	14	30-Jul	
Fryent Country Park					0	0	0	0	0	2	1	0	0	0	2	0	1	3	0	0	0	0	0	0	0	0	9	29-Jul	
Gunnerbury Triangle					0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	2	30-Jul	
Gutteridge Wood					0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	5	12-Jul	
Hampstead Heath					0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	1	1	9		
Horsenden Hill East					0	0	0	0	0	1	0	1	0	2	0	0	0	3	1	0	0	0	1	0	0	0	9	4-Aug	
Horsenden Hill West					0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	2	7	17-Sep	
Hansdon Mead					0	0	0	7	1	1	2	2	1	2	3	1	2	0	0	1	0	2	1	1	0	0	26		
Kenwood					0	0	0	0	0	0	0	0	0	0	1	2	2	2	0	0	1	0	0	0	0	0	8		
Kings Langley					0	0	0	0	0	0	0	0	0	1	0	0	2	1	1	0	0	0	0	0	0	0	5	22-Jul	
Knebworth Park					1	0	0	0	0	1	1	0	2	0	0	0	3	0	0	1	1	1	0	1	2	1	14	30-Jul	
Lemsford Springs																													

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak		
Painted Lady 2006																														
Aldbury Nowers									0	0	0	0	0	0	1	0	5	1	8	0	2	0	2	0			19	5-Aug		
Balls Wood									0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0			3	29-Jul		
Beane Hill									0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0			6	29-Jul		
Bishops Stortford Southern Country Park									0	0	0	0	0	0	1	9	52	146	2	1	0	0	0	1			213	29-Jul		
Brent Reservoir									0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0			2			
Bricket Wood									1	2	0	0	0	0	0	0	0	2	7	0	0	0	1	0			14	5-Aug		
Colney Heath									0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0			3			
Danesbury Park									0	0	0	0	0	0	0	0	8	6	1	2	0	0	0	0			17	25-Jul		
Egypt Country Park									0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0			2	16-Jun		
Gammerstbury Triangle									0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0			2	21-Jul		
Gutteridge Wood									0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0			2	24-Jul		
Horsenden Hill East									0	0	0	0	0	0	0	0	0	9	0	0	0	0	1	0			10	4-Aug		
Horsenden Hill West									0	0	1	1	0	0	0	0	0	5	2	0	0	0	0	0			9	29-Jul		
Hunsdon Mead									0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	0			5	13-Jul		
Kenwood									0	0	0	1	1	0	0	0	0	8	19	0	1	0	0	0			30	29-Jul		
Kings Langley												0	0	0	0	0	5	0	0	0	0	0	0	0			5	22-Jul		
Knebworth Park									0	0	0	0	0	0	0	0	1	20	1	0	1	1	0	0			24	30-Jul		
Lemsford Springs									0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0			1	29-Jul		
Marsley Heath									0	0	0	1	0	1	1	0	2	27	13	0	0	0	0	0			45	29-Jul		
Marshall's Heath									0	0	0	0	0	0	0	0	1	3	5	5	4	1	0	0			19	5-Aug		
Millhoppers									0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0			3			
Miswell Lane									0	0	0	1	1	1	0	0	0	1	1	1	0	0	0	0			5	29-Jun		
Northaw Great Wood									0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0			1	28-Jun		
Northaw Great Wood Bridleway									0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0			1	27-Jul		
Oughtonhead Common									0	0	0	0	0	0	0	0	25	3	2	0	0	0	0	0			30	25-Jul		
Patmore Heath									0	0	0	0	0	0	0	1	2	18	3	0	0	0	0	0			24	29-Jul		
Pertvale Wood									0	0	0	1	0	0	0	0	0	8	0	0	0	0	0	0			9	29-Jul		
Railway Fields									0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0			1	30-Jul		
Regents Canal									0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0			2	28-Jun		
Rothamsted Farm									0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0			4			
Shrubhill Common									0	0	0	0	0	0	0	0	13	4	8	0	0	0	0	0			25	25-Jul		
Stevenage									0	0	0	0	0	0	0	0	2	89	48	3	1	0	0	0			143	29-Jul		
Templewood Vale									0	0	0	0	0	0	0	0	2	33	12	0	0	0	0	0			47	29-Jul		
The Warren									0	0	0	0	0	0	0	0	6	5	0	0	0	0	0	0			11	25-Jul		
Therfield Heath (Base of Church Hill)									0	0	0	1	0	0	0	0	0	5	1	0	1	1	0	0			9	30-Jul		
Therfield Heath (Church Hill)									0	0	0	2	0	0	0	0	1	2	3	5	0	0	0	0			13	6-Aug		
Therfield Heath (Lanckester Hill)									0	0	0	0	0	0	0	0	6	126	25	1	0	0	0	0			158	29-Jul		
Therfield Heath (Rifle Range)									0	0	0	0	1	0	0	0	15	21	1	0	0	0	0	0			36	29-Jul		
Therfield Heath (Top of Rifle Range)									0	0	0	0	0	0	0	0	14	79	3	1	2	0	0	0			99	29-Jul		
Tower Hamlets Cemetery Park									0	2	0	2	2	0	2	1	0	3	44	4	2	0	2	0	0			64	29-Jul	
Tring Park									0	1	1	0	1	1	0	0	0	13	25	14	3	2	0	0			60	5-Aug		
Ware Park									0	0	0	0	0	0	1	0	11	7	0	3	1	0	0	0			23	24-Jul		
Wood Lane, Pirton									0	0	0	1	0	0	0	0	4	4	4	4	0	0	0	0			17			
Mean Painted Lady									0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.2	0.3	4.5	16.7	4.2	0.9	0.4	0.2	0.1	0.0		28.2	29-Jul		
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak		
Small Tortoiseshell 2006																														
Aldbury Nowers	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	5	21-Apr	
Balls Wood	0	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	1	1	29-Jul
Bishops Stortford Southern Country Park	0	0	2	7	1	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	1	16	22-Apr	
Brent Reservoir	1	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	2	1-Apr	
Colney Heath	0	1	1	0	1	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	7		
Danesbury Park	1	0	1	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	22-Apr	
Egypt Country Park	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	1		
Hampstead Heath	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	1	15-Jun	
Horsenden Hill West	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	0	1	8-Apr	
Kenwood	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	1	11-Jul	
Kings Langley	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4	0	4	0	0	0	0	0	0	0	1	11	22-Jul	
Knebworth Park	1	0	2	1	0	2	0	0	0	0	0	1	2	0	3	2	0	0	0	0	0	0	0	0	0	0	0	14	14-Jul	
Lemsford Springs	0	0	7	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	21-Apr	
Marsley Heath	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	1	15-Jul	
Marshall's Heath	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	5	22-Apr	
Millhoppers	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	28-Apr	
Miswell Lane	0	0	0	4	3	0	0	0	0	0	0	0	0	1	2	4	1	1	0	1	2	0	0	0	0	0	0	23	22-Apr	
Oughtonhead Common	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3		
Patmore Heath	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	1	0	2		
Pertvale Wood	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	1	9-Jul	
Railway Fields	0	0	2	0	1	0	0	0</																						

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

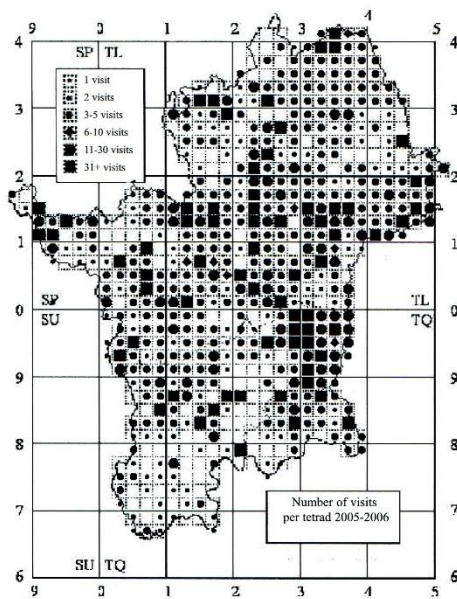
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Peacock 2006																												
<i>Aldbury Nowers</i>	0	6	10	9	2	6	0	2	4	1	0	1	0	0	0	1	0	0	1	2	0	0	0	0	0	0	45	21-Apr
<i>Balls Wood</i>	0	0	7	8	8	3	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	29	4-May
<i>Beane Hill</i>	0	0	0	6	5	1	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	16	22-Apr
<i>Bishops Stortford Southern Country Park</i>	0	0	0	6	0	3	2	0	1	0	1	0	0	0	0	1	12	4	0	0	0	0	0	0	0	0	30	25-Jul
<i>Brent Reservoir</i>	0	0	0	2	1	5	3	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	12-May
<i>Bricket Wood</i>	0	0	11	15	8	8	4	0	0	0	1	0	0	0	0	0	7	0	1	0	0	0	0	0	1	0	56	22-Apr
<i>Colney Heath</i>	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	1	
<i>Danesbury Park</i>	0	0	2	3	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	22-Apr
<i>Flyent Country Park</i>	0	0	6	18	3	9	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	39	22-Apr
<i>Gunnerbury Triangle</i>	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	1	7-May
<i>Gutteridge Wood</i>	0	0	1	2	2	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	27-Apr
<i>Hampstead Heath</i>	0	0	1	2	2	1	1	0	1	1	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	12	
<i>Horsenden Hill East</i>	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6	16-Apr
<i>Horsenden Hill West</i>	0	0	1	5	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	22-Apr
<i>Hunsdon Mead</i>	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	1	13-Jul
<i>Kenwood</i>	0	0	0	4	1	2	3	3	2	1	0	0	0	0	1	2	4	0	1	1	0	0	0	0	0	0	25	
<i>Kings Langley</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	9	10	2	2	0	0	0	0	0	0	0	26	22-Jul
<i>Knebworth Park</i>	4	4	4	3	6	8	3	2	0	2	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	41	12-May
<i>Lemsford Springs</i>	0	1	6	5	4	2	0	0	0	0	0	0	1	1	0	2	4	2	1	0	0	0	1	0	0	0	30	21-Apr
<i>Marley Heath</i>	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	17	5	3	0	0	0	0	0	0	0	27	22-Jul
<i>Marshall's Heath</i>	1	1	1	1	4	1	0	0	0	1	0	0	0	0	0	0	1	4	6	4	1	0	0	0	0	0	25	5-Aug
<i>Millhoppers</i>	0	0	0	5	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	9	28-Apr
<i>Mizwell Lane</i>	0	0	0	3	8	6	1	1	2	2	1	1	0	0	0	0	7	4	0	1	1	0	0	0	0	0	37	5-May
<i>Northav Great Wood</i>	0	0	2	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	8	21-Apr
<i>Northav Great Wood Bridleway</i>	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	7	
<i>Oughtonhead Common</i>	1	3	6	5	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	19	21-Apr
<i>Patmore Heath</i>	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	1	3	6	1	0	0	0	0	1	0	0	19	
<i>Pervale Wood</i>	0	4	8	3	1	0	0	0	0	3	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	23	17-Apr
<i>Pipor's Wood</i>	0	0	3	5	5	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15	
<i>Railway Fields</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
<i>Rothamsted Farm</i>	0	0	3	4	2	1	0	0	0	0	0	0	0	0	0	2	8	0	0	0	0	0	0	0	0	0	24	24-Jul
<i>Shrubhill Common</i>	6	6	5	6	8	4	0	0	3	2	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	44	29-Apr
<i>Stevenage</i>	8	2	8	15	0	3	0	1	1	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	41	22-Apr
<i>Templewood Yale</i>	3	5	8	7	5	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	30	17-Apr
<i>The Warren</i>	0	1	2	0	7	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	3-May
<i>Therfield Heath (Base of Church Hill)</i>	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	1	24-Jul
<i>Therfield Heath (Lankester Hill)</i>	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	1	0	0	0	0	0	7	22-Jul
<i>Therfield Heath (Rifle Range)</i>	0	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	1	29-Jul
<i>Therfield Heath (Top of Rifle Range)</i>	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	0	0	0	0	0	15	24-Jul
<i>Tower Hamlets Cemetery Park</i>	0	0	4	2	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	0	0	17	
<i>Tring Park</i>	0	3	5	13	2	7	0	0	0	0	0	0	0	1	0	22	43	28	12	7	1	1	1	0	0	0	144	22-Jul
<i>Ware Park</i>	0	13	7	14	4	0	0	0	0	0	0	0	0	0	1	0	16	8	0	0	0	0	0	0	0	1	64	24-Jul
<i>Wood Lane, Piton</i>	0	0	4	10	13	8	9	6	3	2	0	0	0	0	3	1	8	8	5	2	0	0	0	0	1	1	85	27-Apr
Mean Peacock	0.5	1.2	3.0	4.4	2.6	2.2	0.6	0.3	0.5	0.4	0.2	0.1	0.0	0.1	0.1	1.4	3.8	1.8	0.8	0.4	0.2	0.0	0.1	0.1	0.1	0.1	24.8	26-Apr
Comma 2006																												
<i>Aldbury Nowers</i>	0	1	2	2	0	0	0	0	0	0	0	0	1	0	1	2	2	0	0	2	0	1	3	2	0	0	19	8-Sep
<i>Balls Wood</i>	9	8	3	2	0	0	0	0	0	0	0	0	7	1	2	1	3	1	0	0	2	1	4	6	3	3	56	5-Apr
<i>Beane Hill</i>	5	0	0	4	2	1	0	0	0	0	0	0	3	3	3	1	2	2	0	0	0	1	1	0	0	0	26	22-Apr
<i>Brent Reservoir</i>	2	0	0	0	0	1	1	0	0	0	0	0	3	2	2	2	2	2	0	0	3	2	0	0	0	0	22	24-Jun
<i>Bricket Wood</i>	1	3	10	5	3	0	0	0	0	0	1	0	0	4	7	1	6	0	1	0	0	0	2	1	0	0	46	17-Apr
<i>Camley Street Natural Park</i>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
<i>Colney Heath</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	6	11-Jul
<i>Danesbury Park</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	5	1	0	1	0	1	1	0	0	0	0	15	
<i>Flyent Country Park</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	1	7	0	1	2	0	0	0	0	1	0	0	0	13	12-Jul
<i>Gunnerbury Triangle</i>	0	0	0	0	0	0	0	0	0	0	1	2	3	4	0	1	1	1	0	0	0	0	0	0	0	0	12	8-Jul
<i>Gutteridge Wood</i>	3	1	1	0	2	0	0	0	1	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	13	1-Apr
<i>Hampstead Heath</i>	1	0	0	0	3	0	0	0	1	2	0	0	2	6	3	0	0	0	0	0	0	0	0	0	0	0	18	6-Jul
<i>Horsenden Hill East</i>	0	6	0	2	3	0	0	0	0	0	0	0	3	1	9	0	0	0	1	0	0	0	0	2	1	0	28	8-Jul
<i>Horsenden Hill West</i>	0	0	0	1	2	0	0	0	0	0	0	0	1	3	1	1	0	0	0	0	0	0	0	0	0	0	9	1-Jul
<i>Hunsdon Mead</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	16-Aug
<i>Kenwood</i>	2	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	1	0	0	0	0	0	0	0	0	0	9	
<i>Kings Langley</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	1	5	
<i>Knebworth Park</i>	2	1	1	0	0	0	0	1	0	0	0	0	0	2	1													

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

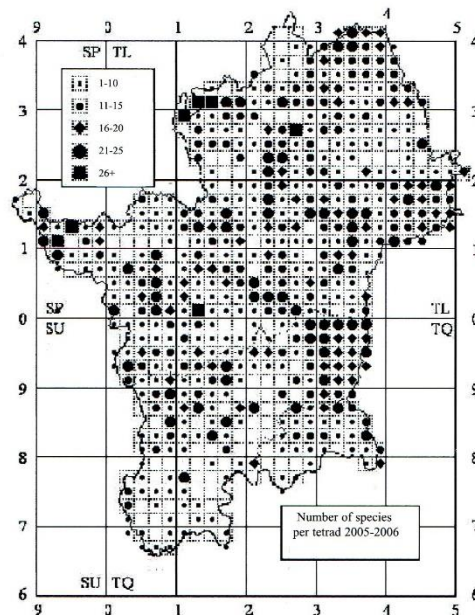
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak			
Gatekeeper 2006																															
<i>Aldbury Nowers</i>												0	1	9	67	73	79	56	26	0	0	0	0	0	0	0	311	25-Jul			
<i>Balls Wood</i>												0	0	0	36	61	23	12	4	0	0	0	0	0	0	0	136	16-Jul			
<i>Beane Hill</i>												0	0	0	30	66	24	10	0	0	0	0	0	0	0	0	130	17-Jul			
<i>Bishops Stortford Southern Country Park</i>												0	0	0	49	45	60	27	9	2	0	0	0	0	0	0	192	25-Jul			
<i>Brant Reservoir</i>												0	0	4	112	219	56	29	4	0	0	0	0	0	0	0	424	16-Jul			
<i>Bricket Wood</i>												0	0	0	35	70	82	16	32	1	0	0	0	0	0	0	239	23-Jul			
<i>Camley Street Natural Park</i>												0	0	1	15	7	2	1	0	0	0	0	0	0	0	0	26	12-Jul			
<i>Colney Heath</i>												0	0	7	14	14	7	2	0	0	0	0	0	0	0	0	44	11-Jul			
<i>Danebury Park</i>												0	0	0	66	73	43	34	19	0	0	0	0	0	0	0	235	16-Jul			
<i>Fryent Country Park</i>												0	0	2	33	68	26	17	1	0	0	0	0	0	0	0	147	17-Jul			
<i>Gunnersbury Triangle</i>												0	0	0	11	11	10	9	5	0	0	0	0	0	0	0	46				
<i>Gutteridge Wood</i>												0	2	3	36	17	25	1	0	0	0	0	0	0	0	0	84	12-Jul			
<i>Hampstead Heath</i>												0	0	3	4	4	6	9	0	0	0	0	0	0	0	0	26	3-Aug			
<i>Horsenden Hill East</i>												0	0	7	23	57	24	9	7	0	0	0	0	0	0	0	137	16-Jul			
<i>Horsenden Hill West</i>												1	0	0	88	173	173	31	6	0	0	0	0	0	0	0	471	22-Jul			
<i>Hunsdon Mead</i>												0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13-Jul			
<i>Kenwood</i>												0	0	0	10	8	34	17	1	3	0	0	0	0	0	0	73	24-Jul			
<i>Kings Langley</i>												0	0	0	0	6	5	1	1	1	1	0	0	0	0	0	15	15-Jul			
<i>Knebworth Park</i>												0	0	1	55	48	37	117	61	12	2	1	0	0	0	0	334	30-Jul			
<i>Lemsford Springs</i>												0	1	1	11	12	12	7	3	0	0	0	0	0	0	0	46	25-Jul			
<i>Mansley Heath</i>												0	0	7	14	41	26	23	18	4	2	1	0	0	0	0	166	22-Jul			
<i>Marshalls Heath</i>												0	0	2	65	86	126	74	21	11	0	1	0	0	0	0	385	22-Jul			
<i>Millhoppers</i>												0	0	2	11	9	48	8	4	0	0	0	0	0	0	0	82	28-Jul			
<i>Miswell Lane</i>												0	0	5	9	38	67	31	8	4	0	0	0	0	0	0	162	24-Jul			
<i>Norshaw Great Wood</i>												0	0	0	12	24	18	0	0	0	0	0	0	0	0	0	54	21-Jul			
<i>Norshaw Great Wood Bridleway</i>												0	0	0	1	2	2	0	0	0	0	0	0	0	0	0	5				
<i>Oughtonhead Common</i>												0	1	13	24	73	31	14	9	2	0	0	0	0	0	0	167	18-Jul			
<i>Patmore Heath</i>												0	0	0	27	25	20	37	12	2	1	0	0	0	0	0	124	29-Jul			
<i>Perivale Wood</i>												0	0	3	9	19	20	16	4	0	0	0	0	0	0	0	71	23-Jul			
<i>Pryor's Wood</i>												0	0	0	2	0	8	0	0	1	0	0	0	0	0	0	11	23-Jul			
<i>Railway Fields</i>												0	0	7	39	17	13	13	2	0	0	0	0	0	0	0	91	12-Jul			
<i>Regents Canal</i>												0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	28-Jun			
<i>Rothamsted Farm</i>												0	0	1	16	17	21	3	0	0	0	0	0	0	0	0	58	24-Jul			
<i>Sherwards Park Reddings</i>												0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3	8-Jul			
<i>Shrubhill Common</i>												0	0	1	39	52	53	9	20	0	0	0	0	0	0	0	154	25-Jul			
<i>Stevenage</i>												0	0	1	15	72	99	107	86	37	3	0	0	0	0	0	420	29-Jul			
<i>Templewood Vale</i>												0	0	0	0	0	6	9	5	0	0	0	0	0	0	0	20	29-Jul			
<i>The Warren</i>												0	0	0	13	11	16	6	2	0	0	0	0	0	0	0	48	25-Jul			
<i>Therfield Heath (Base of Church Hill)</i>												0	0	3	1	9	24	6	1	0	0	0	0	0	0	0	44	24-Jul			
<i>Therfield Heath (Church Hill)</i>												0	0	0	6	1	6	13	5	0	0	0	0	0	0	0	31	30-Jul			
<i>Therfield Heath (Lanckester Hill)</i>												0	0	0	6	24	35	24	7	1	0	0	0	0	0	0	97	22-Jul			
<i>Therfield Heath (Rifle Range)</i>												0	0	0	1	2	9	4	0	0	0	0	0	0	0	0	16	24-Jul			
<i>Therfield Heath (Top of Rifle Range)</i>												0	0	1	8	10	21	21	4	0	0	0	0	0	0	0	65	24-Jul			
<i>Tower Hamlets Cemetery Park</i>												0	0	8	48	44	66	58	12	6	0	0	0	0	0	0	242	24-Jul			
<i>Tring Park</i>												0	0	2	106	145	184	122	59	30	0	0	0	0	0	0	649	22-Jul			
<i>Ware Park</i>												0	1	0	35	55	38	21	4	1	1	0	0	0	0	0	156	17-Jul			
<i>Wood Lane, Pirton</i>												0	0	4	20	20	34	22	10	4	0	0	0	0	0	0	114	28-Jul			
Mean Gatekeeper	0.0	0.1	1.9	25.5	37.7	36.3	21.5	9.7	2.6	0.2	0.1	0.0														135.7	16-Jul				
Week Number:																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak			
Meadow Brown 2006																															
<i>Aldbury Nowers</i>												0	0	0	8	81	168	146	209	156	196	145	86	50	32	17	11	10	11	1326	18-Jul
<i>Balls Wood</i>												0	0	0	6	17	14	26	25	5	3	0	1	1	0	0	0	98	13-Jul		
<i>Beane Hill</i>												0	0	1	13	19	38	17	37	13	1	1	0	0	0	0	0	140	12-Jul		
<i>Bishops Stortford Southern Country Park</i>												0	0	0	7	39	71	63	50	29	13	0	7	0	0	0	0	279	1-Jul		
<i>Brant Reservoir</i>												0	0	0	10	34	58	68	77	29	16	13	0	1	0	0	0	306	16-Jul		
<i>Bricket Wood</i>												0	0	0	0	45	51	57	91	23	6	13	6	1	0	1	0	294	15-Jul		
<i>Camley Street Natural Park</i>												0	0	0	3	0	4	1	1	0	1	0	0	0	0	0	0	11	4-Jul		
<i>Colney Heath</i>												0	0	1	33	55	74	40	16	17	7	2	0	0	0	0	0	281	11-Jul		
<i>Danebury Park</i>												0	0	0	4	22	77	111	84	51	45	21	6	3	0	0	0	424	12-Jul		
<i>Fryent Country Park</i>												0	0	5	10	129	298	200	369	125	87	9	1	0	0	1	0	0	1234	17-Jul	
<i>Gunnersbury Triangle</i>												0	0	0	0	0	4	2	3	3	3	2	0	0	0	0	0	16	8-Jul		
<i>Gutteridge Wood</i>												0	0	0	0	13	32	21	16	29	18	5	2	0	1	0	0	0	137	1-Jul	
<i>Hampstead Heath</i>												0	0	0	2	14	31	38	44	10	11	4	3	1	1	0	0	0	158	16-Jul	
<i>Horsenden Hill East</i>												0	0	0	2	33	65	56	76	61	55	29	8	0	0	1	0	0	394	16-Jul	
<i>Horsenden Hill West</i>												0	0	0	1	67	218	248	340	278	130	55	0	5	2	1	0	0	1345	16-Jul	
<i>Hunsdon Mead</i>												1	21	40	18	25	51	44	7	7	2	0	0	0	0	0	0	226	5-Jul		
<i>Kenwood</i>												0	0	0	0	10	31	56	22	36	27	6	5	1	0	0	0	194	11-Jul		
<i>Kings Langley</i>																															

Appendix Tables of numbers of butterflies counted on weekly transect walks (continued):

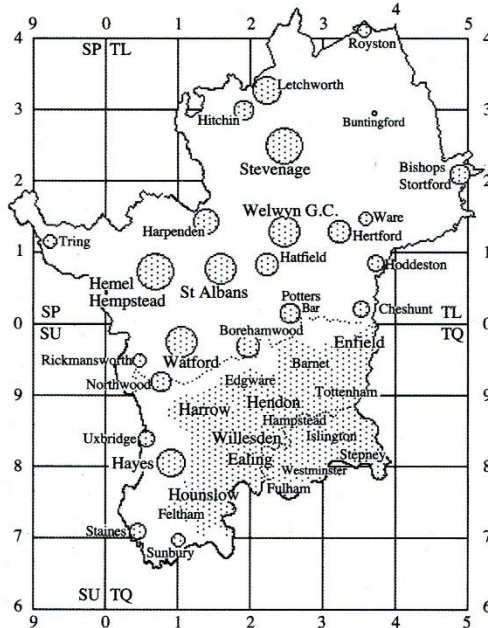
Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	TOTAL	Peak
Small Heath 2006																												
Aldbury Nowers						0	0	7	2	5	4	14	19	17	5	0	0	1	0	4	4	15	13	11	5	2	128	30-Jun
Brent Reservoir						0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	16-Aug
Cobn's Heath						0	0	0	1	1	4	4	2	0	0	0	0	0	0	0	2	1	0	0	0	0	15	22-Jun
Daneshbury Park						0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	4	15-Aug
Hunsdon Mead						0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7-Jun
Kings Langley						0	0	0	0	1	2	0	0	0	1	2	1	0	0	0	0	0	2	0	0	0	9	
Knebworth Park						0	0	0	0	0	0	0	2	0	1	2	3	0	0	0	0	0	0	0	0	0	8	30-Jul
Marshall's Heath						0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
Marwell Lane						0	0	0	0	0	3	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	29-Jun
Popmore Heath						0	0	0	0	0	1	4	0	0	0	0	0	2	1	0	4	4	0	1		17		
Pror's Wood						0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
The Warren						0	0	0	1	20	29	24	7	6	11	3	0	2	7	9	21	22	18	2	1	183	22-Jun	
Therfield Heath (Base of Church Hill)						0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	2	1	3	2	0	17	16-Jun	
Therfield Heath (Church Hill)						0	0	0	0	3	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	11	3-Jul	
Therfield Heath (Lankester Hill)						0	0	0	0	4	0	5	4	3	0	0	2	0	2	3	3	1	0	0	0	27	28-Jun	
Therfield Heath (Rifle Range)						0	0	0	4	8	4	12	13	12	9	2	2	1	9	1	4	6	7	6	9	0	109	28-Jun
Therfield Heath (Top of Rifle Range)						0	1	2	6	10	15	8	25	17	11	5	1	2	2	6	9	26	17	8	2	175	4-Sep	
Tring Park						0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	2	0	0	5	15-Sep	
Wood Lane, Piton						0	0	0	2	0	4	1	2	5	0	0	0	0	0	0	0	0	0	0	0	0	14	13-Jul
Mean Small Heath						0.0	0.1	0.5	0.6	1.5	3.0	4.4	5.2	4.0	2.1	1.1	0.5	0.5	0.7	1.2	1.5	3.1	4.0	3.3	1.4	0.3	38.8	25-Jun
Ringlet 2006																												
Aldbury Nowers						0	0	1	24	57	62	26	10	1	0	0										181	11-Jul	
Balls Wood						0	0	0	59	57	209	124	37	11	0	0										497	13-Jun	
Bishops Stortford Southern Country Park						0	0	1	0	6	9	1	2	1	0	0										20	12-Jul	
Bricket Wood						0	0	0	2	4	53	40	0	0	0	0										99	9-Jul	
Daneshbury Park						0	0	0	1	1	2	4	0	0	0	0										8	16-Jul	
Kings Langley						0	0	0	0	0	0	0	2	0	0	0										2	22-Jul	
Knebworth Park						0	0	24	48	107	83	17	3	0	0	0										282	4-Jul	
Lemsford Springs						0	0	0	0	0	4	3	2	0	0	0										9	14-Jul	
Mardley Heath						0	0	0	28	27	26	15	11	1	0	0										108	27-Jun	
Marshall's Heath						0	0	0	0	5	0	5	2	1	0	0										13	2-Jul	
Millhoppers						0	0	2	25	35	10	6	0	0	0	0										78	4-Jul	
Marwell Lane						0	0	0	0	3	6	11	0	0	0	0										20	15-Jul	
Northan Great Wood						0	0	0	17	4	11	17	0	0	0	0										49		
Northan Great Wood Bridleway						0	0	0	5	2	2	2	0	0	0	0										11	30-Jun	
Oughtonhead Common						0	0	0	25	42	59	28	2	0	0	0										156	11-Jul	
Popmore Heath						0	3	5	14	14	25	30	8	6	0	0										105	15-Jul	
Pror's Wood						0	0	0	4	12	47	27	6	0	0	0										96	8-Jul	
Rothamsted Farm						0	0	0	3	0	2	0	0	0	0	0										5	29-Jun	
Shrubhill Common						0	0	0	9	19	10	5	0	0	0	0										43	4-Jul	
Stevenson						0	0	0	3	41	73	45	15	2	0	0										177	8-Jul	
Templewood Vale						0	0	0	3	5	0	0	0	4	2	0										15		
Therfield Heath (Base of Church Hill)						0	0	0	0	2	1	1	0	0	0	0										4	3-Jul	
Therfield Heath (Lankester Hill)						0	0	0	0	1	1	3	0	0	0	0										5	15-Jul	
Therfield Heath (Top of Rifle Range)						0	0	0	0	1	1	2	0	0	0	0										4	15-Jul	
Tower Hamlets Cemetery Park						0	0	0	0	0	1	0	0	0	0	0										1	12-Jul	
Tring Park						0	0	15	30	193	160	103	45	23	1	1										570	1-Jul	
Ware Park						0	0	0	2	0	1	0	0	0	0	0										3	30-Jun	
Wood Lane, Piton						0	0	0	7	18	7	11	0	0	0	0										43	4-Jul	
Mean Ringlet						0.0	0.1	1.7	11.0	23.4	30.9	18.7	5.2	1.8	0.1	0.0										92.9	7-Jul	



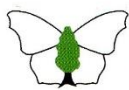
Map showing the number of recording visits made in 2005-2006 for each tetrad.



Map showing the numbers of species of butterfly recorded in each tetrad (2 x 2 Km square) during 2005-2006



Map of the Hertfordshire and Middlesex survey area showing the main towns (circles) and built up areas (shaded).



**Butterfly
Conservation**

Saving butterflies, moths and their habitats

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