



# Wyre Forest Study Group

## Butterflies of the Wyre Forest ~ the last five years

Jenny Joy

I first became involved in survey work for butterflies in the Wyre Forest back in 2002 when I organised a widespread survey for the Pearl-bordered Fritillary *Boloria euphrosyne*. Back then the Wyre Forest was known to be an important national and regional stronghold for this butterfly which has undergone a dramatic decline over the past 100 years. The importance of the Wyre Forest as a national and regional stronghold for the Pearl-bordered Fritillary has if anything increased since 2002 due to the accelerating rate of decline of this butterfly in many parts of Britain. In 2004, Butterfly Conservation carried out a major survey of all the species' known sites across England and Wales, the first such survey since 1997 (see Hoare, 2005). The figures revealed a national catastrophe. The number of breeding colonies of this butterfly in England had declined by 33% in just seven years. Since 1997, the species has become extinct in Somerset, Dorset and Kent and there are now thought to be only 170 colonies surviving across all of England. Sadly, these very recent losses also include Shropshire as this butterfly has now virtually disappeared from the Oswestry Uplands which was the only other remaining county stronghold for the Pearl-bordered Fritillary still existing outside the Wyre Forest.

Nevertheless, my five years of involvement in the Wyre Forest have made me realise just how important the Wyre Forest is not only for Pearl-bordered Fritillary but for the amazing diversity and striking abundance of the many butterflies and moths that occur here. Where else in the region can you find the forest alive with many regional rarities in May (e.g. butterflies such as Pearl-bordered Fritillary, Small Pearl-bordered Fritillary, Wood White, Grizzled Skipper, Dingy Skipper and moths such as the Small Purple-barred) then return in July to see Silver-washed Fritillary gliding around every corner and White Admiral flitting around the honeysuckle?

The extreme diversity of the Wyre Forest has recently been summed up by Dave Grundy in a report entitled 'A list of significant species of Lepidoptera recorded in the Wyre Forest' (Grundy, 2006), a report which was funded by English Nature. Dave reports that the Wyre Forest has one of the largest Lepidoptera species lists for any site in Britain with just short of 1,200 species having been recorded (1,186). Very few British sites record more than 1,000 species and the total of 1,186 Lepidoptera species is nearly half of the

total number of species ever recorded in Britain (just over 2,500). The reason for this incredible diversity is the forest's historical management and the subsequent mosaic of habitats present. One of the other intriguing results to come out of this work is the importance of heathland habitats within the Wyre Forest. Of the 393 significant Wyre Lepidoptera species identified by Dave, 18% were associated with heathland. Likewise, 28% of all Lepidoptera extinctions identified by Dave were apparently associated with heathland habitats. This link is perhaps not surprising as heathland would have resulted from past forest clearances which were formerly much more prevalent in the Wyre Forest than they are today.

So, having established that the Wyre Forest is still a hugely important area for butterflies and moths on both a national and regional basis what have Butterfly Conservation been doing in the forest for the past five years? Firstly, and perhaps most importantly, has been the continuation of butterfly monitoring in the forest by two transects (the Wyre Forest East and the Wyre Forest West). The butterfly transect is the best way of butterfly monitoring, because it gives us a scientific way of understanding butterfly population trends, both within and between sites. The method involves counting butterflies on fine days along a set route every week from April until the end of September. The two tables below give an indication of the huge numbers of butterflies that have been recorded by transect monitoring in the Wyre Forest (selected years only) and how abundant the Silver-washed Fritillary is in the forest (although the transect data suggests it is not nearly as numerous now as it was back in the early 1990s).

Table 1  
Total number of butterflies counted on the Wyre Forest East transect

Year	Number
2000	1520
2001	651
2002	750
2003	944
2004	1195
2006	818

Table 2  
The number of Silver-washed Fritillary recorded on the Wyre Forest West transect

Year	Number
1989	192
1990	186
1992	369
1995	260
2000	51
2003	90
2005	54

The main problems with butterfly transects is that they are static and have to involve monitoring the same route from year to year in order for direct comparisons of numbers to be made. This means they are not necessarily the best way of monitoring butterflies which move around the forest to breed in newly created areas of habitat, and butterfly numbers are bound to change if there are significant changes in the habitats present along the transect route. For example, Table 2 suggests that Silver-washed Fritillary numbers have significantly dropped in the Wyre Forest in recent years. While this may be the case along the Wyre Forest West transect route (as it has become a lot more shaded), the apparent drop in numbers may simply reflect the fact that Silver-washed Fritillary have moved elsewhere in the forest and, overall, numbers could be similar to what they were in the early 1990s.



Silver-washed Fritillary feeding on bramble  
a common sight in the Wyre Forest in July David Green

As the Wyre Forest is such an important area for the Pearl-bordered Fritillary (as discussed earlier), some additional monitoring in the

form of timed counts has taken place here by Butterfly Conservation since 2003 (e.g. see Joy, 2003, 2004 and 2005) thanks to financial support from English Nature (now Natural England) and the Forestry Commission, England. Timed counts consist of recording the number of butterflies seen during a systematic search of the flight area in a measured time period. At the Wyre Forest, ten areas were selected for timed counts in 2003 (based on the results of the extensive 2002 survey of the Wyre Forest for Pearl-bordered Fritillary - see Joy, 2002) and since then the sites monitored by timed counts have been reviewed annually so they adapt to the changing circumstances within the forest.



Pearl-bordered Fritillary nectaring on bugle, a common sight in the Wyre Forest in late May and early June Mike Williams

Table 3  
The number of Wyre Forest areas monitored by timed counts since 2002 and the colony sizes.

Year	Sites <sup>2</sup>	POPULATION SIZE <sup>1</sup>	
		Medium	Small
2003	10	2	8
2004	10	3	7
2005	19	1	16
2006	12	2	10

<sup>1</sup> Taken from Oates (2003) Medium = peak season counts of 21-49 adults and Small = peak season counts < 21 adults

<sup>2</sup> Number of Sites covered by timed counts

The results from the timed count monitoring have shown that the Pearl-bordered Fritillary is still relatively widespread in the Wyre Forest



(although it is not nearly as common now here at it has been in the past, John Bingham, pers. comm.) and that it is fairly stable (i.e. there are similar numbers of small and medium colonies each year, see Table 3). This monitoring data has also shown that the Pearl-bordered Fritillary is still capable of colonising new areas of habitat which are created close to the main centre of population (from the railway line north up to the pipeline in the Wimpherhill, Longdon and Chamberline Wood areas of the forest) but frequently does not appear to be reaching newly created areas of suitable habitat away from this main centre (e.g. the Bell Coppice and New Parks areas). The monitoring data is also able to provide us with information on the colonisation of some coppice coupes as well as giving us some indication of coupe longevity for Pearl-bordered Fritillary (see Table 4).

Table 4  
Numbers of Pearl-bordered Fritillary recorded by timed counts on three sites

Year	Site A	Site B	Railway cutting
2003	8	5	10
2004	15	34	8
2005	1	16	2
2006	Not recorded	11	0

**Site A** (coppice coupe in the Shelfheld area)

**Site B** (coppice coupe in the Witherbed Wood)

Until recently, most of the attention directed at creating and maintaining butterfly habitats has focussed on the needs of the larvae and their microhabitats. However, recent research (based on work carried out at the Wyre Forest) on a long term study of flower preferences of butterflies (Tudor et al., 2004) suggests that management for adult nectar sources may be just as important as management for larval host plants for those woodland butterflies which feed on a low range of flower species such as the Pearl-bordered Fritillary.

So we still probably have a lot to learn about both our rare butterflies as well as some of the common ones. Much of our knowledge of British butterflies has been based on one or two studies typically carried out on habitats in the south of Britain so the study conclusions may not be relevant for the butterflies of the Wyre Forest. There are consequently still

huge opportunities in the Wyre Forest to get involved with survey and monitoring work on both the common and rarer butterflies. There are also many opportunities for research work both on butterflies and moths. Dave Grundy has carried out a fascinating research study into the Common Fan-foot moth in the Wyre Forest over the past five years and is just starting to get to grips with the ecological needs of this species (but that is another story!). So if you would like to become more involved with the work of Butterfly Conservation in the Wyre Forest please make contact with us – we would very much like to hear from you.

I would like to take this opportunity to thank both the Forestry Commission England (Richard Boles and Phil Rudlin) and Natural England (John Bingham, Tim Dixon and Simon Walker) both for their support and encouragement with regard to the butterfly monitoring programme and their huge efforts on the management front (a combination of coppicing, clearing, bracken rolling, scallop creation, mowing and meadow grazing) which has helped the Wyre Forest to continue to be one of those nationally unique areas for Lepidoptera.

Thanks also to all the past and present Wyre Forest transect walkers including Tony and Gill Bache, Jane Chance, Terry Higgins, Frank and Pat Lancaster, Phil Rudlin, Jim and Hazel Sayner, Mike Williams and Rosemary Winnall.

Much of my work in the Wyre Forest over the past year has been funded by Butterfly Conservation's Countdown 2010 Project (Conserving Butterflies and Moths at a Landscape Level in the Midlands).



**STOP PRESS** ~ We have just heard that the Lepidoptera project 'Back to Orange' (based on the conservation of the Wyre Forest fritillaries amongst other species) which is part of the wider Wyre Forest Project has been successful in achieving funding from the SITA Trust (which allocates funding through the Landfill Communities Fund). This is fantastic news and will allow a coordinated programme of survey, research and monitoring work on butterflies and moths to take place in the Wyre Forest for the next three years as well as management work directed at key species in specific areas.

## REFERENCES

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Wood White in the Wyre Forest

Rosemary Winnall