

The Pearl-bordered Fritillary (*Boloria euphrosyne*) and Reconnecting the Wyre 2012

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Pearl-bordered Fritillary 5 June 2012

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The Pearl-bordered Fritillary is one of the fastest declining butterflies in the UK, having suffered a 61% distribution loss between 1970-82 and 1995-2004 and a 66% decline in abundance between 1977 and 2004. These losses are ongoing, with the most recent analysis showing a distribution loss of 43% (the second greatest in the UK) and a 42% decline in abundance between 1995-1999 and 2005-09 (Fox et al., 2011).

It is clear that the Wyre Forest is now a key national stronghold for the Pearl-bordered Fritillary as a result of the various management practices that are being employed here. These include coppicing, PAWS restoration work and creation of areas of permanent open space (managed in a variety of ways such as by mowing, annual cut and collect programmes, annual July Bracken rolling, grazing or gradual enlargement) and the creation and maintenance of wide rides and tracks. There is also no doubt that the Back to Orange Project work carried out here from 2007-2010 was extremely successful in its main aim of helping to conserve the fritillaries of the Wyre Forest. Pearl-bordered Fritillary moved into 13 new areas and there

Table 1. Population size of Pearl-bordered Fritillary colonies on monitored sites in the Wyre Forest from 2002-2012. Population size estimates based on Oates (2003).

Year	Total no. occupied sites	No. small colonies	No. medium colonies	No. large colonies
2002	15	11	4	0
2003	14	13	1	0
2004	14	11	3	0
2005	18	17	1	0
2006	13	11	2	0
2007	16	10	6	0
2008	18	15	3	0
2009	13	11	2	0
2010	23	16	4	3
2011	30	16	3	11
2012	59	38	16	5

were large increases in numbers on at least five other established sites (Joy, 2012).

The Reconnecting the Wyre Project follows on from these previous successes and will carry out a landscape-scale, targeted programme of coppice restoration and ride management in lowland mixed deciduous woodland within the Wyre Forest. The aims of the project are: a) to restore economically viable coppice which will provide sustainable breeding habitat for the butterfly, b) to improve connectivity across the forest thus increasing the chances of natural recolonisation of new habitat as it becomes available, and c) to continue to enlarge the volunteer network so that it can continue to undertake maintenance management and monitoring under the supervision of the West Midlands Butterfly Conservation branch both during and after the project. The land management outcomes are anticipated to be 45.3 hectares of restored and better connected habitat with the work consisting of coppice restoration, ride widening, scrub clearance, conifer felling, culverting and stump grinding.

Initially the project focussed on continuing to ensure Butterfly Conservation was well represented on the legacy work from Grow with Wyre as well as encouraging volunteers to undertake further survey work in summer 2012 following on from the successes of 2011.

2011 had been a particularly notable year for the Pearl-bordered Fritillary in the Wyre Forest. Exceptional numbers were recorded on many of the sites monitored by timed counts, it was widely distributed in many parts of the forest and was recorded on a number of new sites. This is reflected in the number of Medium (n=3) and Large (n=11) sized colonies recorded on timed count sites which was much higher than any year since 2002 (see Table 1). The exceptional year of 2011 was also reflected in the transect results. All



Pearl-bordered Fritillary on Bugle

Roger Wasley

Table 2. Wyre Forest Pearl-bordered Fritillary summary of transect data 2002-2012. This shows total numbers seen (adjusted for missing weeks), the annual index estimates from Transect Walker, and peak flights weeks. Figures in red are those calculated by Transect Walker for missing weeks from John Tilt, Transect Co-ordinator for West Midlands Butterfly Conservation.

Site	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Wyre Forest East											
Total number seen	37	34	24	29	12	25	13	6	43	186	127
Total number estimated by adjustment for missing weeks (from John Tilt)	38	40	26	37	12	34	14	7	43	186	131
Annual Index	38	40	26	37	12	34	14	37	43	186	131
Peak flight time (by recording week)	6	9	9	10	10	5	10	6	8	5	9
Wyre Forest West											
Total number seen	45	32	17	16	19	6	1	11	24	318	59
Total number estimated by adjustment for missing weeks (from John Tilt)	45	37	29	35	19	*1	3	34	25	318	59
Annual Index	45	38		16	19	6	3	16	28	318	59
Peak flight time (by recording week)	9	9	9	10	10	NED *2	NED	NED	9	7	9
Hurst Coppice Transect											
Total number seen									14	41	145
Total number estimated by adjustment for missing weeks (from John Tilt)									14	48	224
Annual Index									14	77	165
Peak flight time (by recording week)									8	5	9

Notes: *1 too many missing weeks, *2 NED = Not enough data.

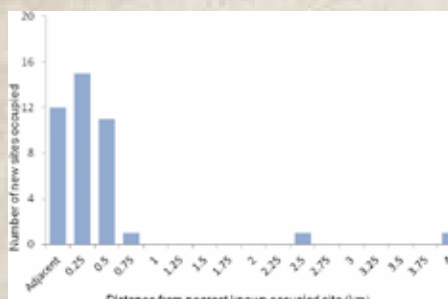
three transects in the main block recorded significantly more Pearl-bordered Fritillaries than in any other year since 2001 with the annual indices for the Wyre Forest East and Wyre Forest West both being above 180 (see Table 2). Overall the population index for the Wyre Forest between 2002 and 2011 increased by 113% in comparison to a non-significant trend across the whole UK during the same period. In 2011, data from 10 years of recording were also assessed to determine a) how effectively Pearl-bordered Fritillary moved into new areas created across the Wyre Forest (see Figure 1), and b) when most of the new sites became occupied (see Figure 2). Figure 1 shows that over half (66%) of new Pearl-bordered Fritillary sites are adjacent to or within 0.25km of an existing known site. Only a very small percentage (7%) of new sites were further away than 0.5km from an existing site and all of these more distant new sites were only occupied in 2011 when weather conditions were exceptional. Figure 2 provides a clear indication of an upward trend in 2010 and 2011. Very few new sites were identified prior to 2008, with 76% of new sites being occupied from 2009 - 2011 (see Joy, 2012, Joy & Ellis, 2012 for more analysis of data and site maps).

In 2012, volunteer activities in the area have continued to increase with the support of Butterfly

Conservation's West Midlands branch and again over 20 recorders were involved in the survey for Pearl-bordered Fritillary alone. Despite the poor weather, Pearl-bordered Fritillary numbers held up well on both the sites monitored by timed counts (Table 1) and on the transects where the numbers on the Wyre Forest East and Wyre Forest West dropped from their all time highs in 2011 but were still higher than for any year since 2001 (Table 2). The Pearl-bordered Fritillary was also recorded on 17 new sites in 2012 which is a clear indication that it is now dispersing well in certain parts of the Forest. This included a site to the east of the River Severn which was the first report of Pearl-bordered Fritillaries on the far side of the river since 1999. A new butterfly trail was launched in May which passes through several of the areas managed as part of the earlier Back to Orange project and gives Butterfly Conservation its first visible presence at the Wyre Forest. Our project work here has continued to receive good publicity in the local media.

The land management part of this new project commenced in autumn 2012 with a programme of coppice re-spacing and scrub removal which has involved contractors and volunteer work parties. The first re-spacing plot was completed in October with

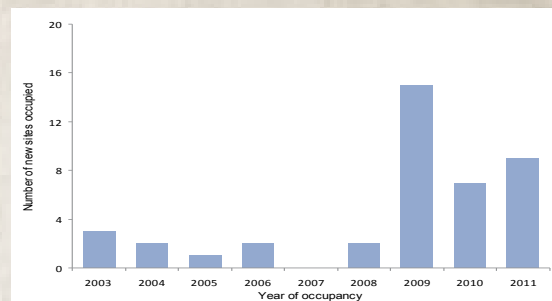
Figure 1. Proximity of new Pearl-bordered Fritillary sites to nearest occupied site in the Wyre Forest 2003-2011.



a further 10 sites due for completion by April 2013. Stump grinding work is due to take place on four sites in the next few months as is some further conifer removal work. In addition to this, Forestry Commission England and Natural England are both continuing to take opportunities to create more wide rides and linking corridors. Closer partnership working is also taking place and there is now increasing awareness of other sites in the wider area which have the potential to support our key species. Eight Butterfly Conservation work parties will take place over the winter months mainly undertaking ride work in key areas but also assisting with some of the re-spacing work.

The appointment of a new Strategic Development Manager for Wyre, which is a joint appointment between the Forestry Commission and Natural England, and the decision to produce a joined-up management plan for the whole Forest should offer many new opportunities to create and maintain Pearl-

Figure 2. Number of new sites occupied annually by Pearl-bordered Fritillary at the Wyre Forest 2003-2011 (n = 41).



bordered Fritillary habitat in what is now one of the premier sites for the species in England.

Acknowledgements

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Respaced coupes

Jenny Joy



Violets under Bracken

Jenny Joy