



# Pearl-bordered Fritillary

## *Boloria euphrosyne*

### Species Action Plan

## 1. Introduction

The pearl-bordered fritillary butterfly was listed as a UK BAP species and subsequently included within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

## 2. Current Status

### 2.1 Ecology and habitat requirements

The pearl-bordered fritillary is one of the earliest fritillaries to emerge and can be found as early as April in woodland clearings or on rough hillsides with bracken where it feeds on spring flowers such as bugle (*Ajuga reptans*). The most widely used larval food plants are common dog-violet (*Viola riviniana*) and early dog-violet (*V. reichenbachiana*). In all habitats it requires abundant larval food plants growing in short, sparse vegetation where there is abundant leaf litter (Asher *et al.*, 2001).

### 2.2 Population and distribution

The pearl-bordered fritillary is widespread across Europe from northern Spain to Scandinavia and eastwards to Russia and Asia. It appears to be stable in many European countries but elsewhere has undergone serious declines (e.g. populations in Belgium and Denmark show >50% decreases in 25 years). **The State of the UK's Butterflies 2015** report (Fox *et al.*, 2015) shows that the pearl-bordered fritillary underwent a rapid decline between 1976-2014 with a -95% change in occurrence and -71% change in abundance. However, from 2005-2014 the changes in occurrence and abundance are +3% and +45% respectively, indicating a recovery that can in part be attributed to successful working at a landscape scale in places such as Wyre Forest.

The Wyre Forest is a nationally important stronghold for the pearl-bordered fritillary. The species has now been recorded annually on over 50 sites within Wyre since 2012 (Joy, 2017; 2018). No other Worcestershire sites are currently known to support this species (Harper and Simpson, 2001).

### 2.3 Legislation

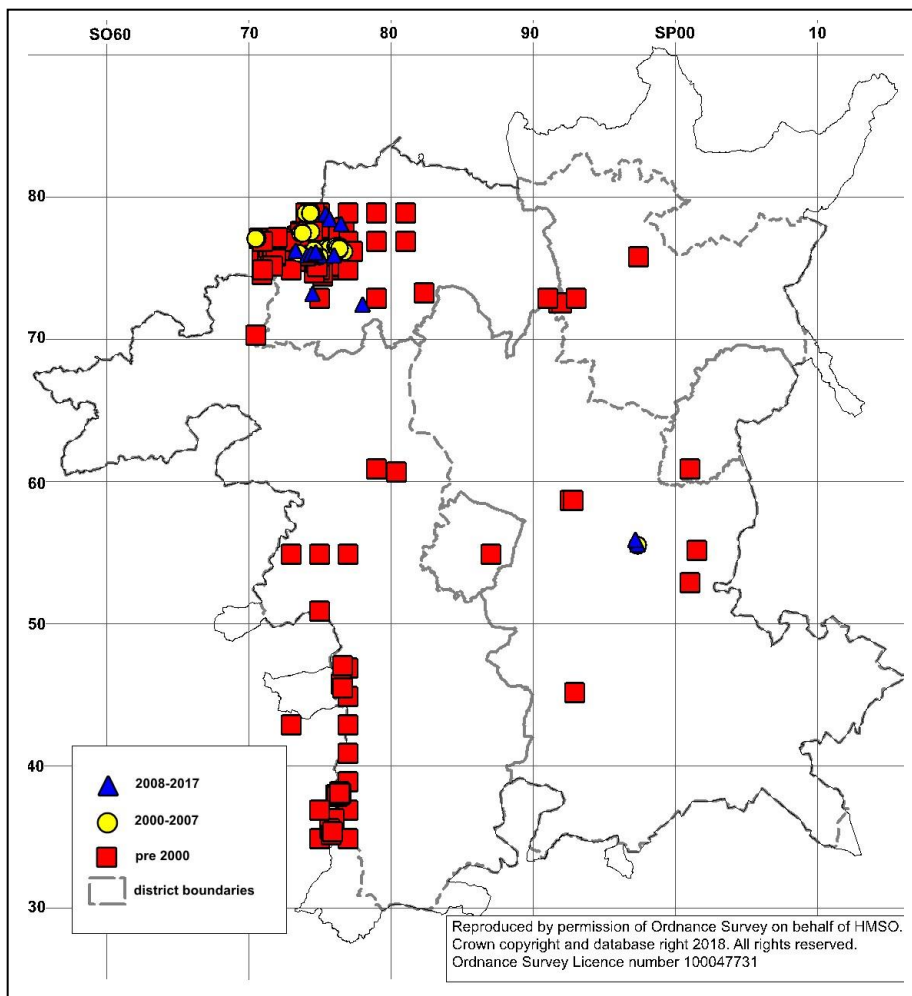
The pearl-bordered fritillary is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Section 41 of the NERC Act 2006.

### 2.4 Summary of important sites

The **Wyre Forest** is one of the largest ancient semi-natural woodlands in Britain extending to over 2,400 hectares. Approximately half of the forest is in Shropshire and half in Worcestershire. Large areas are managed by the Forestry Commission and Natural England with the remainder being privately owned. 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. This represents nearly half of the total number of species recorded in Britain (Grundy, 2006).

The Wyre Forest continues to be a well known stronghold for a significant number of nationally and regionally important butterflies and moths such as small pearl-bordered fritillary (*Boloria selene*), silver-washed fritillary (*Argynnis paphia*), common fan-foot (*Pechipogo strigilata*), great oak beauty (*Hypomecis roboraria*), orange moth (*Angerona prunaria*) and the dead wood specialist moths *Schiffermuellerina grandis* and *Oecophora bractella*. The reason for this incredible diversity is the forest's historical management, large size and the consequent mosaic of habitats present. Butterfly Conservation's Regional Action Plan 2016-2025 confirms the wider Wyre as having the greatest number of priority Lepidoptera species of all the priority landscape areas identified within the region.



**Figure 1. Records for pearl-bordered fritillary in Worcestershire. Data provided and maps produced by Worcestershire Biological Records Centre.**

### 3. Current Factors Affecting the Species

Nationally and locally the species has suffered losses due to:

- Changes in woodland management.
- Continuing decline in the market for coppice products.
- Changes in bracken management.
- Fragmentation of existing habitats and potential habitats.

### 4. Current Action

#### 4.1 Local protection

Large parts (over 1700 hectares) of the Wyre Forest are designated as a Site of Special Scientific Interest (SSSI). Part of the forest is also designated a National Nature Reserve (NNR). The two largest landowners, Forestry Commission and Natural England, have recently published the 'Wyre Forest National Nature Reserve and Forest Plan 2016-2026' supported by a formal agreement providing a framework for joint working. The NNR is due to be re-designated to cover the full extent of the forest included within the new management plan, which will create England's largest woodland NNR.

#### 4.2 Site management and programmes of action

- Various management techniques are currently being employed to maintain the pearl-bordered fritillary in the Wyre Forest. They include coppicing, bracken rolling, ride-edge management and the opening up of new areas on land managed by both Natural England and Forestry Commission.
- Butterfly Conservation has worked with local partners on a series of funded projects within the Wyre Forest from 2003 to the present day, including the 3-year SITA Trust-funded project 'Back to Orange' from 2007-2010. One of the main aims of all of this work is to improve and increase habitat for the pearl-bordered fritillary along with other Lepidoptera species.
- A landscape scale re-introduction programme was attempted in 2006 in the Forest of Feckenham area of Worcestershire following on from habitat assessment surveys of a number of woodlands where coppicing had been reintroduced (Barker, 2002). Captive stock was set up from wild Wyre Forest stock (Joy, 2006) but unfortunately the re-introduction was unsuccessful.

#### 4.3 Survey, research and monitoring

- An initial targeted survey of the Wyre Forest for pearl-bordered fritillary adults took place in 2002. Based on these survey results a timed count monitoring programme was established and now takes place on over 50 sites annually.
- Transect monitoring by Butterfly Conservation volunteers takes place weekly from April to September in four areas of the Wyre Forest: the Wyre Forest East transect since 1979; the Wyre Forest West transect since 1989; the

Hurst Coppice transect since 2010 and the Pound Green Common transect since 2013. All of these transects recorded pearl-bordered fritillary in 2017.

- As part of the legacy of the 'Back to Orange' project the Wyre Forest Butterfly Group was set up in 2010 to encourage more local people to become involved in survey and monitoring work across the forest. Membership of this group has gradually increased to 40 active volunteers in 2017.

## 5. Associated Plans

Woodland.

## 6. Conservation Aim

The core population of pearl-bordered fritillary in the Wyre Forest has been maintained and the species has successfully colonised new sites in the wider Wyre area.

## 7. Conservation Objectives

- Maintain suitability of existing habitat across a network of sites in the Wyre Forest
- Continue with existing annual monitoring programme of pearl-bordered fritillary populations
- Work at a landscape level to provide opportunities for possible expansion of range of the existing population at the Wyre Forest with the aim of successful long term colonisation of five new sites
- Carry out an annual survey of sites in Wyre with potentially suitable habitat to identify new site colonisations

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