



Lepidoptera on Forestry Commission Land in England

Conservation Strategy 2007-2017

Butterfly Conservation is the UK charity working towards a world where butterflies and moths can thrive for future generations to enjoy. Through conservation programmes on threatened species, management of nature reserves, survey and monitoring, education, training, raising awareness and carrying out research, Butterfly Conservation's work contributes not only to the conservation of biodiversity but also to the creation of a healthier world in which we all can live.

Butterfly Conservation
Manor Yard
East Lulworth
Wareham
Dorset
BH20 5QP

Telephone: 01929 400209
email: info@butterfly-conservation.org
Web: www.butterfly-conservation.org

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Forestry Commission England is the Government Department responsible for protecting, expanding and promoting the sustainable management of woodlands and increasing their value to society and the environment.

Forest Enterprise England is an agency of the Forestry Commission whose purpose is "to manage the public forest estate owned by the Secretary of State for Environment, Food and Rural Affairs in a sustainable way, so as to contribute towards the economic, social and environmental objectives of the England Forestry Strategy"

Forestry Commission
Forestry Commission England
340 Bristol Business Park
Coldharbour Lane
Bristol
BS16 1EJ

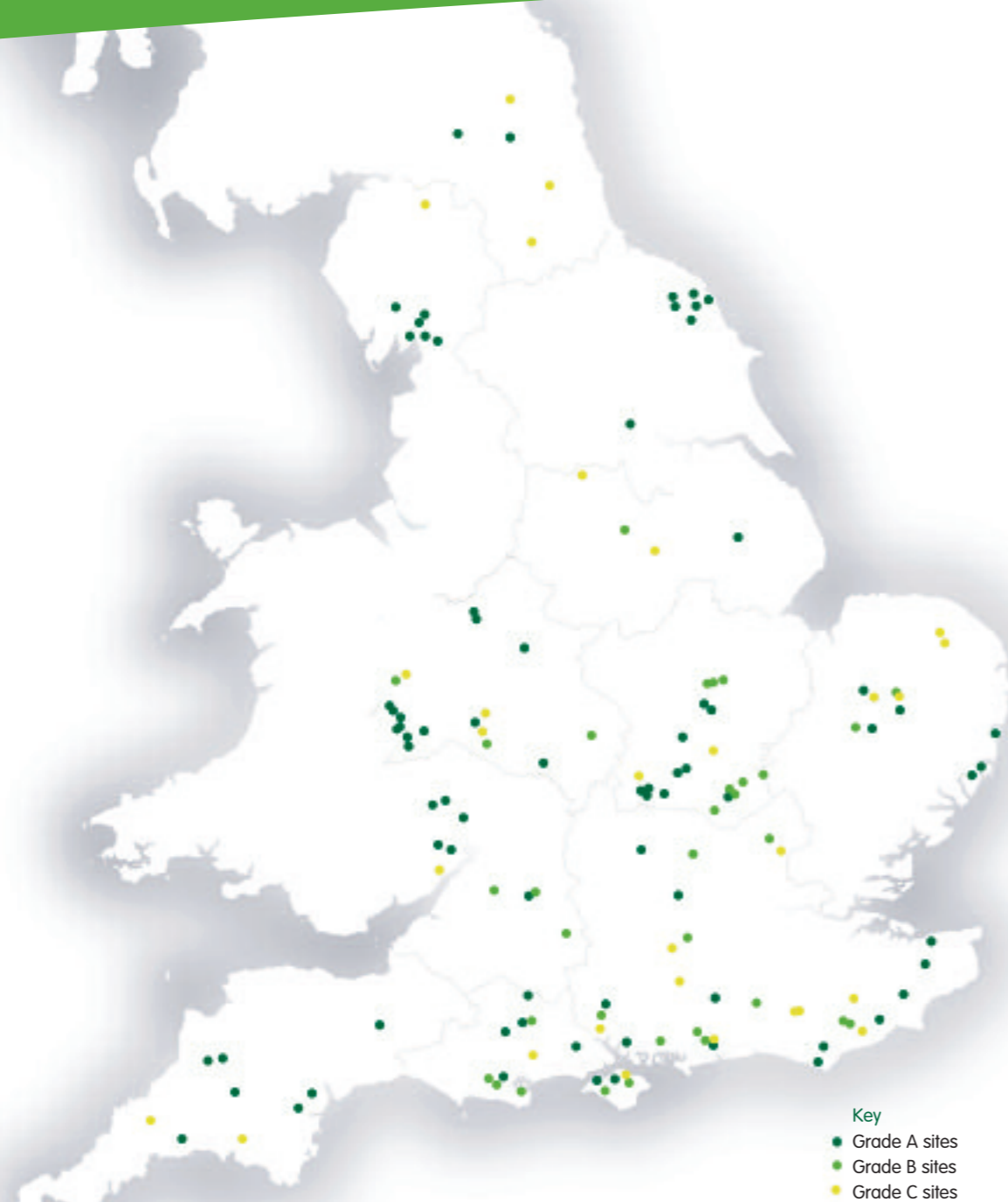
Telephone: 0117 906 6000
email: fcengland@forestry.gsi.gov.uk
Web: www.forestry.gov.uk

Cover photo: Wood Whites at Chiddingfold Forest (Jim Asher)



This document provides an overview of the Conservation Strategy for Lepidoptera on Forestry Commission land in England, an agreement between Forestry Commission England and Butterfly Conservation. Forestry Commission England has agreed to manage the Public Forest Estate to encourage and support Lepidoptera and in turn Butterfly Conservation will monitor species populations and provide encouragement, management advice and support. Both organisations will strive towards achieving favourable conservation status for the butterflies and moths identified in the Strategy across the Priority Sites on the Forestry Commission England Estate.

Introduction



- Butterflies and moths are now known to be valuable indicators of the changes affecting the wider countryside.
- A large number of species are in rapid decline. Butterflies and moths are one of the most threatened wildlife groups that inhabit the Forestry Commission landholding.
- As active land managers, the Forestry Commission is able to play an important role in their future.
- The Priority Lepidoptera Sites identified in the Conservation Strategy cover up to 8000 hectares of woodland and associated open habitats such as heathland and limestone pavement.
- They represent 3% of the total Forestry Commission England landholding and 50% of them have SSSI designation.
- The sites support populations of some of the UK's most endangered woodland butterflies and moths including the Pearl-bordered Fritillary and the Argent & Sable.

A key objective of the Conservation Strategy is to raise awareness of the woodlands that have been identified as Priority Sites and of the Lepidoptera species they support. The Strategy has been written to ensure that these sites feature as priorities in both the Forest Design Planning process and the daily management of our woodlands. The delivery of Priority Site conservation and management should be viewed as part of a much wider programme of delivery to ensure that these diverse and beautiful insects are allowed to increase and thrive in our English woodlands.

Importance of the Forestry Commission Landholding for Lepidoptera

There are over 219,000 hectares of broadleaved and coniferous woodlands throughout the Forestry Commission England landholding. This represents some 19% of the total woodland area in England.

Seventeen of Britain's 59 resident butterfly species rely on woodland in all or part of their range, or have a large proportion of their population associated with woodlands, whilst nearly three-quarters of all British butterflies use woodland as breeding habitat. Over 500 of the total c.900 larger moth species occur regularly in woodland habitats, occupying a variety of niches including open clearings, rides, broadleaved and coniferous forests.

Open space within and surrounding woodland provides a refuge for species of open habitats. The Forestry Commission England landholding includes over 40,000 hectares of non-woodland habitats including areas of unimproved grassland, upland and lowland heath and mires. These open habitats provide important spaces for species such as the Large Heath and Grayling.

Together, the range of habitats found across the Forestry Commission landholding comprises an extremely important suite of habitats for a wide range of British Lepidoptera.



Drab Looper (David Green)



Woodland Management (Forestry Commission Picture Library)



Pearl-bordered Fritillary (Jim Asher)

Status of Woodland Lepidoptera

Woodland management has changed dramatically over the last century with a move from extensive coppicing in favour of high forest and the widespread introduction of conifers to previously broadleaved woodland. This has altered the structure and composition of woods, often resulting in increased shade, fewer open spaces and a decline in plant diversity.

This change in management has been reflected in the changing status of many Lepidoptera populations. Species that depend on early rotation coppice, open glades and interconnecting rides such as the Pearl-bordered Fritillary and Drab Looper have declined rapidly.

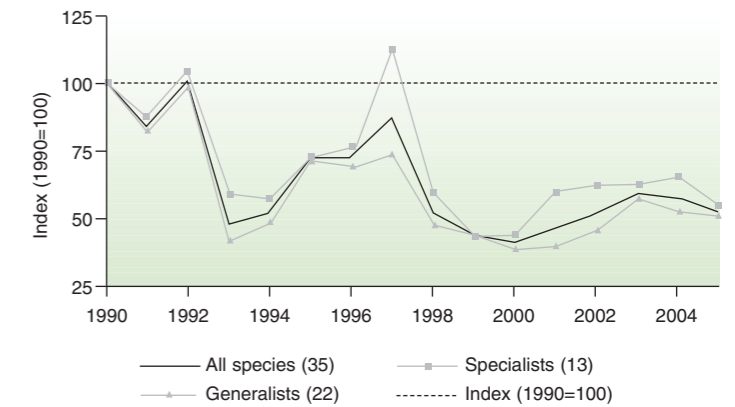
Some species have benefited. The Speckled Wood is a woodland butterfly that can tolerate shade and is currently thriving in mature deciduous woodlands. Moth species such as Spruce Carpet, Pine Beauty and Satin Beauty rely on coniferous forests and their populations are also on the increase.



Pine Beauty (Les Hill)



Abbots Wood, Sussex (Dan Hoare)



Indicator of butterfly populations in woodland 1990 - 2005

The collated index of butterfly populations from woodland transects shows a significant decline in abundance by over 40% since 1990. The woodland butterfly index has been developed as a key indicator within the England Biodiversity strategy (source Butterfly Conservation and Centre for Ecology and Hydrology (CEH). www.ukbms.org.uk).

Priorities for actions

Forty species of moth and nineteen species of butterfly have been considered in the Conservation Strategy. The majority are UK Biodiversity Action Plan Priority Species. These have been divided up for the purposes of the Strategy into four categories.

Species that principally occur in woodland and require urgent targeted management for their continued survival	e.g. Pearl-bordered Fritillary, Duke of Burgundy and Argent & Sable
BAP Priority Species where woodland is a secondary habitat or active management less critical	e.g. Dingy Skipper, Barred Tooth-striped and Common Fan-foot
BAP Priority Species not requiring long term management i.e. associated with mature trees	e.g. Dark Crimson Underwing
Species of Conservation Concern occurring in woodland	e.g. Purple Emperor

140 sites known to be important for butterfly and moth species have been identified and form the basis of this Strategy.

- 77 sites have been graded A because they support Priority Species such as the Pearl-bordered Fritillary and Argent & Sable that depend specifically on woodland and require urgent, sustained targeted management.
- 33 sites are graded B. These sites support a lesser variety of Priority Species or species that are not so reliant on urgent woodland management such as the Grizzled Skipper.
- 30 sites are graded C. These sites support more generalist priority or species of conservation concern such as the White Admiral.



Coppice work at Revell Wood, Sussex. Morag McCracken

Conservation Successes

Although many Lepidoptera species have suffered population declines, considerable efforts are now taking place in many areas of the country to help ensure species recovery.

With advice and support from Butterfly Conservation, the Forestry Commission is undertaking a range of woodland management operations including ride widening and scalloping, coppicing, ancient woodland site and open habitat restoration.

This work will benefit many species of Lepidoptera whilst meeting other Forestry Commission objectives such as SSSI condition enhancement, timber production, meeting Habitat Action Plan targets and the provision of areas for the general public to relax in the company of some of Britain's rarest butterflies and moths.



Butterfly transect monitoring (Tom Breton).

Case Studies

Dalby Forest, North York Moors Forest District

The most important populations of Small Pearl-bordered Fritillary in the North of England are to be found on the North York Moors. In 2003 The Forestry Commission and other partners funded a survey of the species by Butterfly Conservation. Of the 33 sites recorded in 2003, 17 were on land managed by the Forestry Commission. The sites are now protected and management strategies are in place ensuring as far as possible the continuance of this threatened species.

Breckland sites, East Anglia Forest District

At Breckland sites, such as Cranwich Camp and Kings Forest, the Forestry Commission are undertaking on-going management to benefit the Lunar Yellow Underwing and Basil Thyme Case-bearer moths. This management has involved extensive ride scarification to encourage growth of Basil Thyme, maintaining swards to encourage fine-leaved grasses and advising on sheep-grazing levels. Butterfly Conservation plan to continue co-ordination of the monitoring of these sites to ensure appropriate management continues.

Monitoring

Butterfly Conservation and Centre for Ecology and Hydrology (CEH) through the UK Butterfly Monitoring Scheme (UKBMS) run an extensive programme of monitoring on a number of Forestry Commission sites. Individual Forestry Commission staff with an interest in Lepidoptera also undertake valuable monitoring. This resource will be used in conjunction with information gathered during the Forest District reviews of the Conservation Strategy to ensure that populations of our most important Lepidoptera are properly monitored. Declining populations must be noted before they reach critical levels and successful management operations must be used to help guide best practice throughout the Forestry Commission.

Looking Forward

A key objective of this new 10-year strategy is to raise further awareness of the most important sites for Lepidoptera found across the Forestry Commission England landholding and to ensure that beneficial work continues. If Priority Lepidoptera Sites feature prominently in both the Forest Design Planning Process and the daily management of our woodlands the future of these species will be assured. The Conservation Strategy also provides an opportunity to underpin a bid for external funding to give the Forestry Commission the best chance of achieving the aims of the Strategy by 2017.