



**Lepidoptera Conservation Bulletin  
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**Butterfly Conservation Report No. S10-10**

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## **1 Introduction**

We have reached Lepidoptera Conservation Bulletin Number 10! Continuing on from Dr. Paul Waring's *National Moth Conservation Project* bulletins and newsletters, the Lepidoptera Conservation Bulletin first evolved to cover butterflies as well as moths. We also tried to cover the conservation efforts for Lepidoptera not just of Butterfly Conservation, but also of other organisations and agencies, such as the National Trust, Royal Society for the Protection of Birds, English Nature (now Natural England), Countryside Council for Wales, Scottish Natural Heritage and the Joint Nature Conservation Committee. However, since 2000 (the publication of the first Lepidoptera Conservation Bulletin) there have been many other changes. For example Butterfly Conservation now has offices in England, Wales, Scotland and Northern Ireland, employs a series of Regional staff, and also runs several landscape based projects, hence the bulletin has recently concentrated on these areas of work. Also, although primarily covered through other newsletters and reports, we now include brief summaries on Butterfly Conservation's significant recording and monitoring schemes, the Moths Count project (incorporating the National Moth Recording Scheme, see [www.mothscount.org](http://www.mothscount.org)), the Butterflies for the New Millenium project and the UK Butterfly Monitoring Scheme. We also report back on partnership working with other organisations. Finally, we go beyond our shores and include an annual update on Butterfly Conservation Europe.

From 2000 onwards we have produced one Lepidoptera Conservation Bulletin a year, aiming to publish this around April in advance of the main field season, with the exception of 2008 when we produced our *Conservation Review: 2000-2008*. In addition to the changes highlighted above, there have been further developments. Initially this bulletin went out to County Moth Recorders, Butterfly Conservation Branch Moth Officers, other members of the then National Moth Recording Network, Branch Conservation Officers, representatives of partner organisations and all contributors. This distribution has been expanded and now goes to a much wider range of individuals and organisations and includes all the main offices of the governmental conservation agencies. In an effort to reduce costs, but also to aid circulation, we have entered the 21<sup>st</sup> century and since last year have circulated this bulletin electronically (although hard copies are available on request). All this ensures a much wider and raised profile for moth and butterfly conservation.

From the moth recorders point of view perhaps the most exciting development of the year has seen distribution maps appearing on the internet, including for the Geometridae which will be the first time many of these have been available. Our thanks go out to all contributors and partners, and in particular the County Moth Recorders whose dedication over the years has been integral to making this happen. At the time of writing there are still a few gaps in coverage, although plans are in place to address most, if not all, of these. This is not only fascinating to look at on a species by species basis, but as a dataset will provide the basis for investigating range change, help to inform conservation priorities and further encourage recording. We have only begun to scratch the surface of this significant dataset, one of the largest insect datasets in the world.

For butterflies 2009 saw some recovery in numbers after two of the worst years on record. We are now able to assess these yearly patterns more rapidly than ever before, with 96% of data from transects coming in electronically and more of this data coming in earlier in the year. The number of monitored sites feeding into national trends also exceeded 1000 for the first time in 2009. For the Butterflies for the New Millenium project, 2009 was the final year in the five-year recording cycle with over 2.3 million records having been gathered for this latest round. As ever this impressive achievement is the result of the efforts of hundreds of volunteer recorders and the dedication of the County Butterfly Recorders who collate and verify the sightings for their area.

Again there have been some significant publications and worthy of particular mention here are new editions of two important books, Bernard Skinner's *Colour Identification Guide to Moths of the British Isles* and Paul Waring and Martin Townsend's *Field Guide to the Moths of Great Britain and Ireland*. In addition we eagerly await a new, updated edition of the classic butterfly book by Butterfly Conservation Vice President Jeremy Thomas, *The butterflies of Britain and Ireland*, due to be

published very soon. Chris Manley's *British Moths and Butterflies, A Photographic Guide* has also been reprinted after selling out its initial print run. All will help to popularise the study of lepidoptera further.

If you have any comments on this Bulletin we would of course be pleased to hear from you ([lepconsbulletin@butterfly-conservation.org](mailto:lepconsbulletin@butterfly-conservation.org)). **As this Bulletin is now primarily distributed electronically, please ensure we have been provided with an up-to date email address; paper copies will be sent on request only (email [lepconsbulletin@butterfly-conservation.org](mailto:lepconsbulletin@butterfly-conservation.org) or telephone 01929 400209).** For further information on the work of Butterfly Conservation please see our website [www.butterfly-conservation.org](http://www.butterfly-conservation.org).

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## 2 Acknowledgments

Butterfly Conservation is grateful for the continued support of the Government Agencies and their nominated officers: Natural England (David Sheppard), Countryside Council for Wales (Adrian Fowles), Scottish Natural Heritage (Chris Sydes) and Northern Ireland Environment Agency (Richard Weyl).

It would be impossible to thank all the individuals and organisations associated with the projects highlighted in this and previous Bulletins, but nevertheless, we would like to take this opportunity to express our gratitude to everyone who has made this work possible. Particular thanks are due to the County Moth Recorders, County Butterfly Recorders, Transect Co-ordinators, Butterfly Conservation Branch Moth and Conservation Officers, organisers of local moth groups, contractors and the many other individuals who have contributed time and expertise, for example by supporting Area Action Groups, the Moths Count project and assisting with individual conservation projects. Without your help only a fraction of the projects covered by these Bulletins would have been possible. Finally we would like to thank all the contributors to this Bulletin, both for their contributions and for their continued efforts to conserve Britain's moths and butterflies.

Mark Parsons, *Head of Moth Conservation* ([mparsons@butterfly-conservation.org](mailto:mparsons@butterfly-conservation.org)), Dr. Nigel Bourn, *Director of Conservation* ([nbourn@butterfly-conservation.org](mailto:nbourn@butterfly-conservation.org)) & Richard Fox *Moths Count Project Manager/Surveys Manager* ([rfox@butterfly-conservation.org](mailto:rfox@butterfly-conservation.org)).

## 3 Conservation action for UK Biodiversity Action Plan Lepidoptera

Highlights of work carried out on selected UK Biodiversity Action Plan (BAP) species are provided below. Species protected under Schedule 5 of the Wildlife & Countryside Act are also covered within this section.

Much of the work reported in this section was undertaken as part of *The Action for Butterflies & Moths Project*, however, a large number of UK BAP species are also targeted by our landscape scale project work (reported under the regional sections).

Butterfly Conservation's work is funded by a wide range of funding partners, including Natural England, Countryside Council for Wales, Scottish Natural Heritage, Northern Ireland Environment Agency, the Heritage Lottery Fund, Countdown 2010, SITA Trust, GrantScape, the Tubney Charitable Trust, Esmée Fairbairn Foundation, Forestry Commission England, Forestry Commission Wales and Forestry Commission Scotland and individual donors.

Appendix 1 gives a full list of Lepidoptera listed under the UKBAP (excluding research only species).

### 3.1 Update on UK BAP moths – a summary for the year 2009

Summaries by Mark Parsons *Head of Moth Conservation*, Tony Davis *Moth Conservation Officer*, Bernadette Noake *Conservation Officer - Threatened Species*, Amber Rosenthal *Conservation Officer - Threatened Species*, Steve Wheatley *Rother Woods Project Officer* and Dr. Tom Prescott *Species Conservation Officer, Scotland* with contributions from Dr. David Wainwright *Northern England Regional Officer*, Sharon Hearle *East of England Regional Officer*, Dr. Jenny Joy *West Midlands Senior Regional Officer*, Dr. Dan Hoare *South East England Senior Regional Officer*, Fran Thompson *Denge Woods Project Officer*, Caroline Kelly *Conservation Officer*, Russel Hobson *Head of Conservation, Wales*, John Hooson (National Trust), Paul Hatcher (Reading University) and Dr. Mark Young (University of Aberdeen).

Factsheets for many of the species covered below are available as downloads from the Butterfly Conservation website, [www.butterfly-conservation.org/mothspeciesfactsheets](http://www.butterfly-conservation.org/mothspeciesfactsheets).

#### **Argent & Sable *Rheumaptera hastata***

2009 was another good year for Argent & Sable in Scotland with around 16 records received to date. Of these three were from new 10km squares and seven were new sites. This continues the recent increase in records and probably simply reflects the higher profile that this species has enjoyed over the last six years in Scotland rather than an increase in population and range. Since 2000 it has been recorded in 77 10km squares of which 51 (66%) are “new” squares. We believe Argent & Sable is fairly widespread in the western half of Scotland and still remains under-recorded, with many new sites and 10km squares awaiting discovery!

In contrast, the situation in England and Wales is quite different as the moth continues an apparent decline and retreat from the south of Britain. Although there are records of Argent & Sable on c. 30 sites from England and Wales since 2000, and 16 sites since 2005, eight key sites have been identified in England to prioritise survey work. Argent & Sable was recorded at five of these sites in 2009. At one site in Somerset, further investigations were made into the use of bog myrtle *Myrica gale* by larvae (a foodplant usually associated with Scottish colonies) in order to inform management. Following management advice at this site, clearings within one field with 2 – 4 m tall bog myrtle and birch *Betula* spp. were cut in the winters of 2008/09 and 2009/10. In July 2009, many more Argent & Sable larvae were found in this field (from the areas cut in the winter of 2008/09) than the previous year.

In Northern Ireland, a total of 199 larvae were found by four people searching various locations in Ballintempo Forest. Another new site was also found at Killeter Forest in West Tyrone where an adult Argent & Sable was seen in June and two 1<sup>st</sup> instar larvae were found in July.

Further surveys are required in some areas of England, anyone wishing to help should contact Bernadette Noake ([bnoake@butterfly-conservation.org](mailto:bnoake@butterfly-conservation.org) 01929 406004).

#### **Barberry Carpet *Pareulype berberata***

(Schedule 5 Wildlife & Countryside Act species)

Efforts continued in 2009 to gather and consolidate information about all known Barberry Carpet sites. Staff and volunteers visited 34 sites providing good coverage of all 16 areas with records since 2000. Larvae were recorded from sites in nine of these areas, with a ‘core’ stronghold in north Wiltshire and into Gloucestershire and Oxfordshire; the status of two further areas remains unknown after two years with no records, and the remaining five are thought to have gone extinct. Four of these extinctions are former introduction sites in the east of the country where there are no longer other extant sites. Pleasingly, larvae were recorded after two negative years at the one Dorset site, however this raises questions over the ability of sampling to detect the species at sites if occurring at low levels. A number of additional sites in and around the core area have again been searched for barberry *Berberis vulgaris* and Barberry Carpet but no new sites for the moth discovered this year.

Plantings of barberry at one Forestry Commission site in 2003 and 2006 have had a success rate of around 80% but growth appears to be slow and it may be some time before these bushes offer

suitable habitat. Further investigation into the one successful reintroduction site has revealed that success here may be attributable both to its proximity to the remaining 'core' sites but also to the augmentation of stock over a number of years. All work for this species is carried out under licence from Natural England, and hedges containing barberry should only be disturbed to look for larvae by those covered by a current licence.

### **Barred Tooth-striped *Trichopteryx polycommata***

Gerry Haggett (on behalf of Butterfly Conservation) continued to survey for larvae of this species in the Brecks in 2009 recording it from five sites, with the species surprisingly being found in marshy conditions as well as in drier more open Breck conditions (an area of former plantation). Advice on management of clearings was given to the Forestry Commission at one site. In Lancashire this moth was recorded from seven previously known sites within the Silverdale limestone area, whilst in Gloucestershire the first Barred Tooth-striped for the county since 1958 was trapped at Culkerton. In Dorset the moth was found at the county's sole known breeding site with two single individuals appearing away from this site. Searches were undertaken in an attempt to locate additional Dorset sites, but none were found. The species was also looked for in Hampshire and Sussex but only found in the latter. This species is one of several being worked on in the Brecks, see also Basil Thyme Case-bearer and Lunar Yellow Underwing.

### **Basil Thyme Case-bearer *Coleophora tricolor***

The survey/monitoring in 2009, undertaken by Gerry Haggett, only located the species at four sites, all from one metapopulation. All were found on sites that had been scarified the previous spring and in a plantation restocking area. In recent years the combination of wet, cool weather and mild winters has led to a reduction in potentially suitable habitat and the encouragement of coarser swards: and it is considered that increased disturbance, such as scarification, is required to ensure the survival of Basil Thyme Case-bearer and other Breckland specialist. This species is one of several being worked on in the Brecks, see also Barred Tooth-striped and Lunar Yellow Underwing.

### **Beautiful Pearl *Agrotera nemoralis***

### **New UK BAP species**

A visit by Butterfly Conservation staff to East Blean Woods, Kent, in early August resulted in the discovery of several larvae on hornbeam *Carpinus betulus*, which were later confirmed as those of *A. nemoralis*. These were found along a narrow shaded ride with dappled sunlight coming through the trees. This is thought to be one of the few occasions that larvae of this species have been found in the wild in this country, although Tony Rouse also found larvae this year in late July. These were located in open situations on young coppice and along the edges of coppice in the same woodland complex, indicating that the species can tolerate a range of conditions. These are both important observations as further coppicing and ride widening is planned in this woodland, which is also a key site for Heath Fritillary *Melitaea athalia*. Kent Wildlife Trust, who manage these woodlands, have been informed of these findings. The adult moth was also recorded from the site by day and to light.

Faggs Wood, Kent, was also searched for this species, although none were found. David Gardner has provided details of a sighting in 2007 at a site elsewhere in Kent, with a hornbeam coppice nearby.

### **Belted Beauty *Lycia zonaria britannica***

Survey and monitoring at the Lancashire site is co-ordinated by Stephen Palmer (Lancashire Moth Group). Moths were recorded from 24 March to 29 April 2009 with a peak (and record) count occurring on 19 April when 232 female and 217 males were recorded during a very well attended event. Coverage achieved at the site was c.80% of the suitable habitat, the first time this has been achieved. Additionally, a 125W MV light trap run regularly about 500m to the south of the colony trapped two males on 24 April. At the main site a common lizard *Lacerta vivipara* was noted preying upon a female Belted Beauty, whilst several adult males were also found in spiders' webs.

There were at least four recorded from the Cheshire site this year, an improvement on the single reported record in 2008. However, the news is more gloomy from North Wales with Mike Howe (Countryside Council for Wales, CCW) reporting the peak number of females at the sole Welsh site being just three on 19 & 20 April. An introduction attempt was undertaken at another site in Wales in May through CCW, with 100 larvae and two females being released.

### **Black-veined Moth *Siona lineata***

*(Schedule 5 Wildlife & Countryside Act species)*

By the end of the 2009 survey season, it is probable that discrete populations of this moth occur at eight localities, treating the Wye NNR, Kent, as two separate colonies. Four individuals were also recorded at an additional site, and further survey is planned in 2010 to try to confirm the presence of a discrete population in this area, since it is possible these were wandering individuals from a nearby site. Sixty-six adults were recorded on the five transects, down from 109 in 2008, with 20 recorded on the four sites with timed counts, also down on 2008.

Whilst the steady improvement in the number of colony sites in the last few years is good news, there are still concerns. Following on from records in 2008 one site was confirmed as having been recolonised in 2009, the species having been previously lost in 2002. However, numbers remain low, although the sward in the upper sections of the site continues to improve for the species. At another site numbers were under half those recorded in 2008, probably due to increasing scrub. It is hoped that hand control of the scrub will take place here in winter 2009/10, along with division of the site to allow some control over livestock movements. At a third site the numbers recorded reached their lowest level in recent years, with only three adults seen. It is felt that grazing needs to be relaxed at this site to allow the sward to recover, whilst the most established scrub requires clearance and control. Finally, at Wye NNR, a change of grazier has led to inappropriately high grazing levels in parts of the site, with significant drops in numbers in some of the reserves compartments. Natural England are continuing to work closely with the grazier to manage the grazing more sensitively for the Black-veined Moth.

The survey and monitoring during 2009 was undertaken by Sean Clancy (on behalf Butterfly Conservation), with the assistance of Butterfly Conservation staff and others.

### **Bright Wave *Idea ochrata***

Sean Clancy again undertook survey and monitoring of this species on behalf of Butterfly Conservation. The moth is currently restricted to several sites along an 18km stretch of coastline in East Kent between Ramsgate and Kingsdown. Transects were undertaken at four sites with timed counts at a further four sites. A total of 249 Bright Wave were seen during this survey representing a recovery in recorded numbers following the 145 in 2008, and broadly in line with those found in 2006 and 2007. The higher numbers in 2009 are attributed to drier conditions during the previous winter and spring which are thought to have benefitted larval survival. Additionally, dry conditions were encountered during the survey period.

Sarah Roberts who was undertaking preliminary work associated with a post-graduate course, also noted high counts. As part of this preliminary study she undertook a mark/release/recapture experiment in an attempt to determine population size, adult longevity and mobility.

Habitat condition appears to be declining on at least one of the golf-course sites, this is thought to be due to golf-course management practices such as enrichment of the fairways and uncontrolled disposal of grass cuttings. As the area is within an SSSI a meeting is planned with Natural England early in 2010 to try to address this. Initial discussions have also taken place about the removal of rapidly encroaching non-native plants at Kingsdown. Additionally there are plans to remove coal shale deposits due to potential pollution issues at the old hoverport site. This has the potential to significantly impact on the Bright Wave population here and Butterfly Conservation is currently in discussion with Thanet District Council to try to minimise any impact on the moth's population.

### **Chalk Carpet *Scotopteryx bipunctaria***

The results from the surveys carried out between 2005 and 2009 have been collated and analysed. They show that, although the moth is still present in all the main areas in which it used to occur, it is declining in all regions. Analysis of the survey results shows that the declines have been significantly worse on grassland sites that lack large-scale bare ground, than in other habitats. This may be due to changes in the density of turf on calcareous grassland but further work is needed to confirm this. If anyone knows an MSc student who would be interested in studying the causes of decline in the Chalk Carpet, please put them in touch with Tony Davis at Butterfly Conservation ([tdavis@butterfly-conservation.org](mailto:tdavis@butterfly-conservation.org)).

### **Clay Fan-foot *Paracolax tristalis***

Butterfly Conservation's *South East Woodlands Project* in Rother Woods, Sussex, has enabled access to potential sites and focused recording efforts during the Clay Fan-foot flight period. Very high numbers of this moth were recorded at two sites in the first half of July 2009, including 66 recorded at one site on 7 July (the most recorded in Sussex since 1958). A search at the same site on 22 July yielded 11 individuals.

It has been suggested that the species has a preference for large overhanging oaks in sheltered locations, and observations in the Rother would seem to support this: with surveys in 2009 showing a strong correlation between this moth and recently coppiced woodland with oak standards. Within managed woods, only traps in the coppiced areas attracted significant numbers of Clay Fan-foot, traps in nearby uncut coppice attracting far fewer.

It is anticipated that 20 coppiced woodlands will be surveyed during the Clay Fan-foot flight season in 2010 – the 'Fan-foot Festival'. Efforts will be coordinated by Steve Wheatley, *Rother Woods Project Officer* ([swheatley@butterfly-conservation.org](mailto:swheatley@butterfly-conservation.org)).

### **Common Fan-foot *Pechipogo strigilata***

Common Fan-foot was recorded from six sites during 2009, three of these new for the species (or without a 2000 onwards record). At one site larvae were found not just in association with decaying leaves from this year, but also on a branch that had fallen over two years previously and still had dead leaves on it, as well as from old lop and top piled up into a heap, this cutting undertaken at the time of bud burst (the shrivelled leaves being very small).

At another site, discussion with the Forestry Commission resulted in the delaying of thinning of a compartment of trees where the moth was known to occur, although this felling eventually took place. The site was surveyed prior to felling and will be monitored in the forthcoming year.

Dave Grundy continued to survey for the Common Fan-foot in the Wyre Forest during 2009.

### **Cousin German *Protolampra sobrina***

Cousin German had a good year in 2009, with eleven records, five of which were from new 10km squares. This was primarily due to targeted recording at locations in unrecorded 10km squares by Amy Huff, British Trust for Conservation Volunteers (BTCV) Lepidopterist Apprentice. All the new sites were within or immediately adjacent to the Cairngorms National Park.

Cousin German is known to feed on birch *Betula* spp. in the autumn, hibernate as a larva feeding on bilberry (blaeberry) *Vaccinium myrtillus* and possibly heather in the spring. It was noted that there was a lack of bilberry at many of the new sites supporting the case for heather and possibly other ericaceous shrubs (e.g. cowberry *V. vitis-idaea*) as a spring foodplant.

Last year's surveys suggest that Cousin German is still under-recorded and further targeted surveys will result in the discovery of several new sites. The moth can also be very common at some sites

with 48 being recorded at Glen Feshie but this is still short of the record catch of 79 at Ben Lawers in 2008.

### **Dark Bordered Beauty *Epione vespertaria***

In Scotland the Dark Bordered Beauty is known from two very small sites. Both sites are not designated and are under private, but sympathetic, ownership. This has led to the development of plans to introduce the moth to a third site. These proposals have the support of the Dark Bordered Beauty UKBAP Steering Group as well as backing from Scottish Natural Heritage and the owners of both the donor and receptor sites. There are still a few hoops to go through but if all goes according to plan then it is hoped that the first release of captive bred larvae will be made in the summer of 2011.

Adult numbers were high in Deeside in 2009 with counts of 42 and 48 adults at the two colonies (sub-sites). Management work, mainly removal of scrub and cutting back tall aspen *Populus tremula* suckers, is planned at both sites. In addition there was a record of an adult from a new site but it is unknown as yet if this is a new colony or just a stray individual from the nearest population c1.5km away.

In Strathspey most of the 21 clearings created two years ago are now looking in suitable condition but only one of these areas was found to be occupied by the moth. The total adult count from the site in 2009 was ten. This site is now managed specifically for Dark Bordered Beauty and other key Lepidoptera under the Scottish Rural Development Programme (SRDP) by winter sheep and cattle grazing.

It has always proved difficult for landowners to purchase local provenance aspen to help increase and link Scotland's scarce aspen resource. However, the Highland Aspen Group has recently established an aspen tree nursery and is propagating aspen from root cuttings, including clones from the Dark Bordered Beauty sites. There are also plans to create an aspen seed orchard to increase both genetic diversity and stock production. This will allow further areas of suitable habitat to be created adjacent to the current colonies.

At Strensall Common, Yorkshire, the only site in England where the moth survives, Terry Crawford and David Baker continued the monitoring programme initiated in 2007. Their methodology is based on a modified UKBMS transect. Terry's first records for 2009 were made on the 30 June when four adults were counted on the transect route (this is nine days earlier than 2008). The year's maximum count was recorded on July 13 (76 adults, compared with a maximum count of 64 in 2008). Terry and David have been investigating whether the timing during the day of the transect count is critical. Their preliminary results suggest it may be, as transects walked on July 9 yielded counts of seven and 63 adults respectively! Similar results occurred in both 2008 and 2009 (although not on every occasion) – the later count was not always the most productive. These results suggest that count data for this species should be interpreted with some caution. The latest date on which the species was recorded was 28 July (six adults). In total, 318 adults were recorded on the Strensall transect in 2009.

### **Dingy Mocha *Cyclophora pendularia***

In 2009, a larval survey was carried out at those sites in Dorset and the New Forest where larvae were not recorded during the 2008 survey, at other sites with potential habitat and those sites which required further survey work. Larval searches were also carried out in north Devon and Wales. Larvae were not found in the New Forest, Devon or Wales, but were recorded from three sites in Dorset in 2009 (including two new sites). During the surveys in 2008 and 2009, Dingy Mocha was not recorded in the New Forest or in two 10km squares with previous Dingy Mocha records from the eastern Purbeck area. More help is needed to search for adults and, in particular, larvae in Dorset and the New Forest. For more information and to help with survey work, please contact Bernadette Noake ([бноake@butterfly-conservation.org](mailto:бноake@butterfly-conservation.org), 01929 406004).

### **Drab Looper *Minoa murinata***

A woodland management training workshop at Moor Copse in Berkshire involved 17 people and included advice on management for the Drab Looper. Over 30 people attended other public events which included a focus on this species. Meanwhile coppicing took place at two sites (one in Kent and another in Hampshire), and conifers were removed from a further site in Kent with the aim of benefitting this and other species. Management advice was provided at a further nine sites.

### **Fenn's Wainscot *Chortodes brevilinea***

**New UK BAP species**

We have collated records for this species from 2000 onwards resulting in records for just eight 10km squares, with a record of a singleton from one additional 10km square. All nine 10km squares are in Norfolk and Suffolk, from Minsmere in the south to Hickling in the north.

### **Fiery Clearwing *Pyropteron chrysidiformis***

*(Schedule 5 Wildlife & Countryside Act Species)*

Monitoring of the number of eggs at all known sites showed some improvement during 2009, primarily as a result of improved weather during the flight period. Concerns remain, however, regarding the future of some sites which are subject to coastal erosion.

Further small-scale scrub clearance and mowing has taken place at one site in order to maintain the colony until major restoration can secure the long-term future of the moth there. Discussions are taking place regarding developments at two sites which have the potential to impact on the Fiery Clearwing, but which also present positive opportunities for site improvements.

### **Forester *Adiscita statices***

**New UK BAP species**

The compilation of a Forester database is the first step in gaining a better understanding of this species' distribution and current status. Various sources have been used in establishing this database, including data from the National Moth Recording Scheme, as well as follow up contact with a number of County Recorders.

Survey undertaken in 2009 in Norfolk and Suffolk located the moth at several sites (12). In Suffolk two of these are thought to be new sites for the species, three are possibly new sites within a previously occupied area and four are previously known sites. In Norfolk there were four records covering three sites which are possibly also new for the moth. The Forester was found on a Butterfly Conservation reserve in Dorset which also supports the Cistus Forester *Adscita geryon*, with the moth being recorded in numbers at two other sites in the county. Nectar sources used by the moth on these Dorset sites were primarily marsh thistle *Cirsium palustre* on the neutral grassland habitat and common valerian *Valeriana officinalis* on the downland. In Lancashire effort was undertaken to locate (or relocate) this species with negative results, despite some sites appearing to be suitable.

The Forester has a very restricted distribution in Scotland, with just a handful of sites in Argyll centred around Oban and the adjacent Argyll islands of Mull, Islay and Jura. There are also a couple of sites in south-west Scotland in Dumfries and Galloway. In 2009 a new site was found in Argyll near Kilmartin, c30km south of Oban. However, the most exciting news was of the occurrence of a 1992 record, supported by a photograph, of an adult recorded north of Glenelg in Wester Ross some 80km north of the next nearest record!

Two sites, as well as several potential sites, in Argyll are now being managed specifically for the Forester under Scotland's new agri-environment scheme SRDP (Scottish Rural Development Programme).

If surveying specifically for this species in 2010 we would be pleased to hear from you. If you do record this species it would be helpful to note the nectar source used (if appropriate) as well as the broad habitat type and current management (if known). Contact Mark Parsons ([mparsons@butterflyconservation.org](mailto:mparsons@butterflyconservation.org)).

### **Greenweed Flat-body *Agonopterix atomella***

**New UK BAP species**

In May 2009 Butterfly Conservation staff and the Dorset County Council Ecologist, Phil Sterling, met with National Trust staff on a Dorset site to highlight the importance of dyer's greenweed *Genista tinctoria* for a suite of scarce species, including this UK BAP moth. Past and present management was discussed, as were plans to encourage the foodplant at the site. Subsequently James McGill and Bill Urwin (Lepidopterists from Somerset) were shown the site and how to find the species, which led to the discovery of a site for the moth in Somerset. In early November a site meeting was held with Defence Estates staff and contractors on this Somerset site to address various management issues, including maintaining open grassland habitats and to arrange for the removal of a pile of grain that had been dumped on part of a key area of grassland.

### **Heart Moth *Dicycla oo***

A Moths Count event at Windsor Great Park, Berkshire, targeted the Heart Moth, with 15 people attending. Twelve Heart Moths were recorded. A new site for the moth was also found in Berkshire and the species was recorded in Surrey in a part of the county with no previous records. In West Sussex a single individual was found at a new site, a garden, with potentially suitable habitat for the species nearby.

### **Large Gold Case-bearer *Coleophora vibicella***

**New UK BAP species**

Phil Sterling and Butterfly Conservation staff again liaised closely with the MoD at this species' sole Dorset site to ensure appropriate management and protection for this species. Grazing is not possible because the site is an active firing range, so the moths' survival here depends on a rotational mowing regime. The four transects established in 2008 were again monitored with 27 cases found, down on the 41 in 2008. Areas were identified for mowing and this advice forwarded to relevant MoD staff.

Elsewhere, one site was badly damaged by cattle grazing, whilst a sub-site of another area was badly damaged by unauthorised horse grazing. Three former or potential sites in Sussex were surveyed, although the species was not found. At none of these was there considered to be enough foodplant to support the species.

### **Lesser Owlet *Scythris siccella***

**New UK BAP species**

With the consent of Natural England and Crown Estates small areas were stripped of turf in 2008 at the only known site in this country (this site measuring approx. 100m by 1m) in an attempt to create conditions suitable for this extremely scarce species. Some of these scrapes looked potentially suitable for colonisation in 2009, although this cannot be confirmed until spring 2010 as the adult moth would only have laid eggs in these areas during the summer of 2009. Potential and occupied areas were digitally mapped and the resulting GIS layers supplied to Natural England and Dorset County Council for use with their mapping systems. Additional scrapes were dug by Butterfly Conservation and Dorset County Council staff in November 2009, again with the consent of Natural England and Crown Estates.

### **Lunar Yellow Underwing *Noctua orbona***

Larval surveys were undertaken on over 20 Breckland sites during the winter of 2008/2009, co-ordinated by Gerry Haggett (on behalf of Butterfly Conservation) with larvae found at 12 sites, six in sites recently replanted by the Forestry Commission, with these supporting the majority of the larvae found. There is a concern that the continuing cool and wet conditions encountered in the Brecks are impacting on the sward structure of many sites making them inhospitable for the Lunar Yellow Underwing. To encourage open conditions and avoid competition with more vigorous plants, soil disturbance is required: this is clearly demonstrated by the higher numbers of larvae being found in

the recently restocked areas.

Butterfly Conservation is also a partner in the Breckland Biodiversity Audit which is assessing the distribution of this species. Lunar Yellow Underwing is one of several species being worked on in the Brecks, see also Barred Tooth-striped and Basil Thyme Case-bearer

### **Marsh Mallow Moth *Hydraecia osseola hucherardi***

The species is now known to survive on at least five sites on Romney Marsh, Kent/Sussex. Sean Clancy (on behalf of Butterfly Conservation) continues to survey and monitor these populations, with this programme ongoing since 2000. Numbers continued an apparent decline at two of these sites, one due to increasing competition from other plants, in particular club-rushes and common reed *Phragmites communis*. At one site numbers are increasing, this being a site that had been artificially created through extensive planting of the hostplant, whilst the remaining two sites continue to be relatively stable, although one of these only supports a small population of the moth. At least six individual moths were recorded on the Marsh away from these five colonies.

Initial discussions are underway with several organisations and individuals in an attempt to establish further stands of the foodplant (marsh mallow *Athaea officinalis*) across the Marsh. Sean Clancy has collected and is storing seed over the winter, whilst the Romney Marsh Countryside Project plans to grow on 500 plants which, if planted out together on one site, could support a colony of the moth in a few years time. Butterfly Conservation is working with Natural England, Nikki Gammans (Bumblebee Project Officer) and Barry Yates (Rye Harbour LNR) to progress this.

At Medway a new population was confirmed on a Kent Wildlife Trust reserve. At all the Medway sites the hostplant is present in insufficient numbers to sustain the moth over the long term. Reed cutting was carried out at two sites over the 2009/10 winter and the possibility of planting additional marsh mallow plants is being investigated. In addition, the Environment Agency has been asked to avoid mowing the foodplant during flood bank maintenance at one site.

### **Marsh Moth *Athetis pallustris***

(NB: All known sites for this species are in Lincolnshire.) A Moths Count training event was held at Saltfleetby NNR, led by Dr. Paul Waring and attended by 16 people, including reserve staff. Seventy-six larvae of the Marsh Moth were found under 12 litter piles (piles of grass cuttings) during this event, this total comparing very favourably with the last two years and approaching the total for 2006 (that from more litter piles). Twenty larvae were translocated to a site at the north end of the reserve which has been restored from an arable field, and this site will be monitored in 2010. The litter pile technique was also attempted at Gibraltar Point NNR, although no larvae were found; only two individual moths have been seen at this site since 2000.

Earlier in the year light trapping recorded 11 Marsh Moth at the Saltfleetby reserve on 2 June, this comparing well with the best trap counts in recent years. Additionally, Risby Warren, thought to be a potential site, was light trapped and also had litter piles put down, unfortunately no Marsh Moth were located, although effort here is planned again for 2010. Two former sites in Lincolnshire (Calceby Beck Marsh and Swaby Marsh) were also surveyed using the litter pile technique in late October, again no Marsh Moth were found.

### **Mistletoe Marble *Celypha woodiana***

During 2009 Butterfly Conservation worked closely with the National Trust's Conserving and Restoring Traditional Orchards in England Project in conjunction with their project officer, Kate Merry. A training event at Barrington Court, Somerset, in May, aimed at raising awareness of this and other mistletoe *Viscum album* associated invertebrates. This was attended by 21 people, including representatives from The People's Trust for Endangered Species, Natural England, Somerset County Council and Herefordshire Nature Trust. Butterfly Conservation produced a factsheet on the species, primarily aimed at land owners and site managers, but also as an aid to recording. This is available

as a download at [www.butterfly-conservation.org/mothspeciesfactsheets](http://www.butterfly-conservation.org/mothspeciesfactsheets). Early in the year an article was published in *Ent. Rec. J. Var.* (121: 59-62), discussing how to survey for the species and giving the known distribution at the time. An article was also produced with Anita Burrough from The People's Trust for Endangered Species for the magazine *World of Trees* aimed at tree surgeons/arboriculturalists.

In addition James McGill, with assistance from Butterfly Conservation staff and others, undertook a survey for the species, locating it at ten new sites and 14 sites overall: these covering the counties of Somerset, Gloucestershire, Herefordshire and Worcestershire. The moth has also been recorded from a few additional sites subsequently. The survey identified several potential threats to the species and management advice was provided for various sites. For example as a result of this survey, apple trees supporting the moth were protected and retained whilst a new car park was built at one site, with new planting of apple trees also incorporated into the site plan. Much of the effort during 2009 was made possible through the National Trust's project which is funded by Countdown 2010 through Natural England.

The Moths Count project also held a training event in Herefordshire, run by local expert Norman Lowe, concentrating on moths of traditional orchards, including this species.

### **Narrow-bordered Bee Hawk- Moth *Hemaris tityus***

In Wales successful larval searches at known sites on the Gower were followed by searches at two other recently discovered sites in Glamorgan. A single larva was found at one of these; and this site has been put forward for housing development. Butterfly Conservation has lodged an objection to the site being included in the Local Development Plan and has held a meeting with Neath Port Talbot Council, the Countryside Council for Wales and Forestry Commission Wales to discuss best way forward.

2009 was another good year for Narrow-bordered Bee Hawk-moth in Scotland with 36 records received to date. Of these nine were from new 10km squares. Since 2000 Narrow-bordered Bee Hawk-moth has been recorded in 54 10km squares in Scotland of which 40 (74%) are "new" squares. In addition several Marsh Fritillary *Euphydryas aurinia* sites are now being specifically managed under Scotland's new agri-environment scheme SRDP (Scottish Rural Development Programme) (for more information see section 4.1). Many of these are also sites for Narrow-bordered Bee Hawk-moth which will benefit from the recommended management; principally light grazing.

### **Netted Carpet *Eustroma reticulata***

In September 2009, the regular larval survey co-ordinated by Dr. Paul Hatcher (Reading University) was carried out in the Lake District. The success of habitat management means that a good number of volunteers are now essential to undertake the annual larval monitoring at the Coniston Water sites. Larvae were again found during the survey of the Derwentwater re-introduction site, encouraging a further translocation from the very strong Coniston population to bolster the numbers and hopefully encourage this incipient colony to become firmly established. Larvae were also introduced onto another site in east Derwentwater.

A new discovery of Netted Carpet larvae made by local recorders at a site in north Lancashire in 2009 was very unexpected and potentially highly significant. The site has been surveyed in the past, but no larvae were recorded. This is the first time Netted Carpet has been recorded in Lancashire. The closest known colony of the moth is approximately 20 miles away.

In conjunction with local Natural England staff, the potential for using agri-environment schemes to encourage new, and expand existing, touch-me-not balsam *Impatiens noli-tangere* colonies is being investigated.

An *Introduction to the Moths of the Lake District* training event was held in August 2009 which highlighted the Netted Carpet. This was organised by Butterfly Conservation's Moths Count project and was attended by ten people.

In 2010, the survey will aim to cover all known Netted Carpet sites and sites with touch-me-not balsam in the Lake District and north Lancashire. Further volunteers are needed to help with the survey work, if you are interested please get in touch with Bernadette Noake (details below).

This project is led by John Hooson (National Trust) and Dr. Paul Hatcher (Reading University), with support from, amongst others, Natural England and Butterfly Conservation. For more information about Netted Carpet and to help with survey work, please contact Bernadette Noake ([бноake@butterfly-conservation.org](mailto:бноake@butterfly-conservation.org) 01929 406004).

### **New Forest Burnet *Zygaena viciae argyllensis*** (Schedule 5 Wildlife & Countryside Act Species)

Conservation of this species is overseen by the Burnet Study Group (BSG). Annual monitoring of the colony continued in 2009. Adult numbers on the main site were significantly higher than during 2008, with an estimated total of 1275-1530. Vegetation heights were also higher than in the two previous years, with some spread of scrub on the upper areas of the main site, suggesting that grazing levels need to be slightly increased.

An exciting development is that the moth has spread to the slopes above the main colony, now that this area is no longer grazed, so the size of the colony area has increased a little.

Both foodplants remain well distributed but interestingly the main foodplant, meadow vetchling *Lathyrus pratensis*, is very localised and scarce on the upper slopes, suggesting that bird's-foot trefoil *Lotus corniculatus* may be the main foodplant here. To test this, larvae will be reared next year on both foodplants to determine any preference.

The BSG also hopes that further surveys can be undertaken in the coming years to look for other New Forest Burnet colonies.

### **Olive Crescent *Trisateles emortualis***

The moth was again found in Kent and Sussex in 2009, with records of probable immigrants in Hampshire and on the Isle of Wight. There was also a record of the moth on the late date of 22 September at a site in Sussex. The moth was also looked for on at least four other sites but was not found. Management advice for this species has been provided at six sites during 2009, including to the Forestry Commission and private owners. Fourteen people attended a public event at a site in Kent which included this species.

### **Reddish Buff *Acosmetia caliginosa*** (Schedule 5 Wildlife & Countryside Act species)

The Hampshire and Isle of Wight Wildlife Trust undertook a large amount of scrub clearance (co-ordinated through Chris Archibold and Richard Grogan of the Wildlife Trust) on the sole UK site for this moth in an attempt to reverse an apparent decline in numbers (2006 – 15 adults, 2007 – 12, 2008 – 9). It was, therefore, very pleasing that 26 adults were recorded during 2009. In the autumn of 2009, 50% of the open area was grazed with Hebridean sheep as an experiment to investigate long-term, sustainable management of the site for this species. The moth's response to this will be monitored in spring 2010.

### **Rest Harrow *Aplasta ononaria***

### **New UK BAP species**

We have collated records for this species from 2000 onwards, and identified four 10km squares (all in Kent) that are thought to support colonies, including those at Folkestone Warren, along Sandwich Bay and a possible colony in north Kent. There are records for an additional 11 10km squares in the same period which are thought to represent wandering or immigrant examples.

**Scarce Aspen Midget *Phyllonorycter sagitella* & Scarce Aspen Knot-horn *Sciota hostillis*  
both New UK BAP species**

In March 2009 Butterfly Conservation staff and others, including David Brown (the County Recorder for macro-moths) and David Grundy (a local expert), met up with the Forestry Commission (England) to discuss a possible project in a Warwickshire woodland, to cover both these and other species of Lepidoptera. This resulted in a SITA Trust application being submitted by the Forestry Commission, supported by Butterfly Conservation, in November. If successful, this project will cover management, including ride widening, thinning some dense tree growth and the removal of cedars. It will also map aspen *Populus tremula* locations, noting their size and health, and undertake survey work, particularly targeting *P. sagitella* and *S. hostillis*. Both species also feature in the factsheet on aspen which is available as a download at [www.butterfly-conservation.org/mothspeciesfactsheets](http://www.butterfly-conservation.org/mothspeciesfactsheets).

**Scarce Pug *Eupithecia extensaria***

Recent editions of field guides imply that this species is found in north Norfolk, Lincolnshire, south-east Yorkshire and a single site in Essex. We have collated records for this species from 2000 onwards, and sourced records for just two 10km squares, with a record of a singleton from one additional 10km square, these all in Norfolk. This total comprises just five sites. Whether this is a reflection of a lack of recording or a genuine decline is not known, however, we strongly encourage survey for this now, seemingly, extremely localised species. If you find this moth please forward details to Mark Parsons at Butterfly Conservation ([mparsons@butterfly-conservation.org](mailto:mparsons@butterfly-conservation.org)). We would also be interested to know if the saltmarsh where the species is found is grazed or not (and if so by what), and in what part of the marsh the species was located.

**Shoulder-striped Clover *Heliothis maritima***

**New UK BAP species**

On 9 July 2009 a single adult Shoulder-striped Clover was found by Butterfly Conservation staff on a National Trust heathland site in Dorset, this the first Dorset record since 2000. Subsequently, Butterfly Conservation staff and Peter Davey (the County Recorder for macro-moths) searched the area after dark one evening in mid August finding two larvae. A site meeting with National Trust staff in November confirmed this was in an area that had been burnt a few years previously. Interestingly when the meeting was held the area was very wet with much standing water, indicating that the presence of tussocks may be an important factor in providing suitable refuges for overwintering pupae. The discovery of the site is very timely as management changes are proposed: including the introduction of grazing (which may not be an issue as the Shoulder-striped Clover sites in the New Forest are grazed) and, more concerning, potential re-wetting of the area of heath from which larvae were found through the blocking of drains running across the site. Further effort is therefore planned in 2010 to follow up these issues at the site.

A second Dorset site, a former area for the moth, was surveyed for larvae by Butterfly Conservation staff, but none were found.

**Silky Wave *Idaea dilutaria***

A new management plan for the Avon Gorge area was approved at the end of 2009 following extensive public consultation, and a small number of goats will now be introduced to graze one of the areas supporting the Silky Wave. At the right levels this should suppress scrub at the site and maintain a suitably open habitat for the species. Butterfly Conservation will continue to work in partnership to monitor the impact of this new management when it is implemented this summer. Bristol Zoo Gardens have been keen to take an active role in the conservation of this species, for which the only English site occurs right on their doorstep, with their Curator of Invertebrates (Warren Spencer) undertaking site monitoring in consultation with the species team at Butterfly Conservation. The weather, however, was not obliging during the survey period (the wettest July in Bristol since the 1880s) and so survey was not as extensive as had been planned. Despite this, individuals were seen in the four priority survey areas visited (the moth was recorded from seven of 12 potential sections in 2008) with the highest total count of 56 individuals recorded on the 23 July. Butterfly Conservation

would welcome additional images of the Silky Wave if anyone has pictures they are willing to be used in publicity, please contact Amber Rosenthal ([arosenthal@butterfly-conservation.org](mailto:arosenthal@butterfly-conservation.org)).

### **Slender Scotch Burnet *Zygaena loti scotica***

Butterfly Conservation Scotland's work on Slender Scotch Burnet continued in 2009 for the second year under the Species Action Framework (SAF) project (see section 4.1).

The focus of the SAF project is on site management to bring sites into favourable condition, rather than on monitoring. Nevertheless local volunteers recruited under previous projects were encouraged, as in previous years, to monitor the satellite sites, whilst the National Trust for Scotland (NTS) monitored the core colonies at the Burg on the Isle of Mull.

Relatively high numbers were found at all six sites surveyed at the Burg. Bracken remains the main concern particularly at some of the more western colonies. The NTS are considering fencing the most eastern colonies to increase the grazing to improve the habitat for the moth and prevent the re-establishment of bracken. Small numbers of adults were found at a number of the satellite sites to the east of the Burg, all of which suffer from bracken encroachment. However, plans to spray this bracken during the summer were thwarted by the weather.

Also on Mull, cotoneaster control with follow-up stump-treatment continued at Kilninian. A single adult was also found at the site giving hope that the colony there may be saved. Good numbers (92) were counted at Langamull, where a stock fence is now in place; however, a suitable grazer is still to be sought. Some small-scale bracken control has also been carried out. It seems likely that other sites may still await discovery elsewhere on the Isle of Mull, including near Calgary Bay.

A Slender Scotch Burnet survey weekend was held on Ulva and the neighbouring island of Gometra in the third week of June. The owner kindly dropped off volunteer surveyors to various points along the southern coast by boat. Despite poor weather moths were found at several sites, including the first confirmed site on Gometra. However, most sites suffer from bracken encroachment which may increase as there is no longer stock over much of the island.

### **Sloe Carpet *Aleucis distinctata***

### **New UK BAP species**

We have collated data for this species from 2000 onwards, and alarmingly only sourced records for just 14 10km squares, with records of singletons from an additional 12 10km squares. Records cover Hampshire, Kent, Surrey, Suffolk and Essex, with available records indicating a clear stronghold for the moth in Essex, although even here many of the records are of single examples (presumably individuals coming to garden light traps). We would strongly encourage further survey specifically for this species which may require active searching of hedgerows, scrub etc. as it can be found at rest on outer, leafless twigs after dark. Please forward any records to Mark Parsons at Butterfly Conservation ([mparsons@butterfly-conservation.org](mailto:mparsons@butterfly-conservation.org)), along with a brief description of the type of bush it was found on, i.e. tall, short, isolated scrub, hedgerow etc., as we are keen to try to identify habitat preferences for this species.

### **Straw Belle *Aspitates gilvaria***

The moth is currently known to have populations in eight 10km squares in Kent and just two sites in Surrey, all on the North Downs. Sean Clancy (on behalf of Butterfly Conservation) surveyed sites for this species along the North Downs between the Maidstone/Gillingham area to the east and Otford/Shoreham area to the west, complementing the survey of the southern section of the North Downs in 2008. Ten sites were visited, covering known populations and sites that had the potential to support the species (based on habitat characteristics), with the moth being located at three sites. The single example at one of these sites is thought to be the first record for that site since 1986, and the first from the Trottiscliffe area, Kent, for five years. The record, although not proof of a population, is also potentially significant as the site has been reverted back to herb-rich grassland having been used as arable land as recently as ten years ago.

Sixteen Straw Belle were seen at a Moths Count event held at a Kent Wildlife Trust site targeting this species.

Habitat management advice was provided at both Surrey sites leading to removal of dense thatch from part of one site in order to create more open conditions, with some scrub removal undertaken earlier in the year. Grazing levels at another site were assessed and considered to be at a level currently producing good quality habitat for the moth.

### **Striped Lychnis *Shargacucullia lychnitis***

Several additional areas were surveyed in 2009 to give near complete coverage, along with last year's survey, of areas with records of Striped Lychnis between 1980 and 2007 (excluding Buckinghamshire which has been thoroughly surveyed by volunteer moth officer Peter Hall in 2005). Although an additional 12 10km squares were covered during this survey period in comparison to a 2003 survey, larvae were recorded from fewer squares (17 compared with 22 in 2003). The majority of records relate to road verge sightings where the larval foodplant, dark mullein *Verbascum nigrum*, grows in areas of calcareous soils, particularly those subject to occasional disturbance. Although we now know the moths distribution is greater than initially thought, it also seems likely that it is disappearing from sites within its range. This seems to be due to the general 'tidying up' of road verges in and around villages in much of its central distribution, and from more intensive road verge management along major roads, which remove much of the foodplant.

However, other factors must also come into play as the moth was not refound in several former areas despite the continued presence of foodplant. Survey in the Horndean area of Hampshire, for example, proved to be disappointing this year with only one positive site from a days searching of the road network. It is possible that the moth survives in small patches of plant on private land that are not readily accessible to the public (farm tracks for example) and any records of the species on footpaths and away from roads would be particularly welcome. Unfortunately the moth was also not refound in Wiltshire this year despite re-visiting the road where larvae were found in 2008 (foodplant still present in 2009), and a visit to Old Sarum which had been hotly tipped as a probable site for the moth.

Contact has been made with the West Sussex County Council Ecologist and, following a joint visit to a number of Sussex road verge sites, we hope to instigate trial management plots which could be used as a case study when approaching other management agencies.

### **Sussex Emerald *Thalera fimbrialis***

**New UK BAP species**  
(Schedule 5 Wildlife & Countryside Act species)

With funding from EDF (formerly British Energy) and Magnox, Sean Clancy (on behalf of Butterfly Conservation) again undertook survey and monitoring for this species at its sole site; Dungeness, Kent. During the five days of survey, 94 larvae were recorded from 37 survey sites, with an additional larva being found at a site which had been seeded with wild carrot *Daucus carota* in October 2007. These numbers are down on the previous season (most sites being monitored through timed counts). A probable explanation for this may be the apparent increase in rabbit-grazing resulting in lower vegetation heights and less of the main foodplant at many of the survey sites, combined with a later than usual season for the plant. Where sward heights were higher and widespread rabbit-grazing was not evident, there were some higher larval counts.

One hundred and thirteen adults were recorded from light-traps in the Dungeness area in 2009, compared to 166 in 2008, 109 in 2007 and 339 in 2006. The lower counts in recent years, when compared to the 2006 count, are likely to be the result of relatively unfavourable weather conditions during the trapping season. Away from Dungeness, two adults were seen at Kingsdown (also in Kent) following on from records nearby at St Margaret's Bay in 2006 and 2007.

In addition to the survey and monitoring above, some experimental plots have been created in an attempt to determine if habitat conditions for the species can be created away from the main

breeding areas. Plots were created in autumn 2008 and are fenced to protect the main larval foodplant, wild carrot, from rabbit grazing. Abundance of wild carrot is greatest in the plot that was disturbed and seeded.

Unsympathetic verge cutting in July impacted on several of the sub-sites for the species, including the site with the highest larval count. The relevant authority has been approached and a repeat of this incident should be avoided.

Late in 2009 came the welcome news that Dungeness was not going to be progressed as a potential site for a new nuclear power station. Amongst the reasons reported was the significance of the site for its biodiversity. Butterfly Conservation contributed evidence on this during the consultation period. The challenge now is to try to ensure appropriate management for areas of Dungeness that formerly supported the Sussex Emerald (see also section 6.7).

### **White-mantled Wainscot *Archanara neurica***

### **New UK BAP species**

We have collated data for this species from 2000 onwards, and sourced records for just five 10km squares, with a record of a singleton from an additional 10km square, these all in Suffolk.

### **White-spotted Pinion *Cosmia diffinis***

At least ten sites were trapped for the species in the East Midlands during 2009, with the species being recorded at six of these. The extent of elm *Ulmus* spp. (the larval foodplants) was mapped at each of these and the condition of the resource assessed. Elm was also mapped at an additional six sites. This information will be used as a starting point for work under a new SITA funded project *Managing Elms for the White-spotted Pinion in the Cambridgeshire Fens* which will begin in May 2010.

The species has now been recorded for the third year running at a single site in Worcestershire giving rise to the hope that it may still be overlooked in other areas.

A Moths Count training event was held in Bedfordshire, led by Dr. Paul Waring, with 15 people attending. Despite atrocious weather three White-spotted Pinion were recorded.

### **White-spotted Sable *Anania funebris***

### **New UK BAP species**

In 2008 this moth was a target species for National Moth Night with it being looked for at a minimum of ten sites and recorded from seven of these, 39 individuals being seen. Encouragingly a good count of 18 were seen at Gait Barrows NNR by Rob Petley-Jones (Natural England). It was also recorded in Glamorgan and Carmarthenshire during the event. During 2009 the moth was reported from known sites in East Sussex, Kent, north Lancashire (three sites including Gait Barrows), and Argyll, and recorded on the very early date of 26 April from a site in East Sussex.

It is hoped that this species will benefit from site management, such as scrub clearance, undertaken through Butterfly Conservation's *Conserving the High Brown Fritillary on Morecambe Bay Limestones* project (see section 4.3).

Also this year, Butterfly Conservation produced a factsheet on species associated with goldenrod *Solidago virgaurea*, highlighting this moth. This is available as a download at [www.butterfly-conservation.org/mothspeciesfactsheets](http://www.butterfly-conservation.org/mothspeciesfactsheets).

### 3.2 UK BAP moth newsletter

An email newsletter covering UK Biodiversity Action Plan Priority moths is sent out during the field season providing information about when species are being seen across the country so that recorders can also target those species in their area. To submit sightings of UK BAP moths for the newsletter, or if you would like to be added to the mailing list, please contact Tony Davis [tdavis@butterfly-conservation.org](mailto:tdavis@butterfly-conservation.org). (All records should also be submitted to the relevant County Recorder as usual.)

### 3.3 Update on UK BAP butterflies a summary for the year 2009

Highlights of work carried out on selected UK BAP butterflies is provided below. Further work on UK BAP butterflies is also reported in sections 4 (regional updates) and 6 (news and notes). Factsheets for each of the following species can be downloaded from [www.butterfly-conservation.org/butterfliesspeciesfactsheets](http://www.butterfly-conservation.org/butterfliesspeciesfactsheets).

Summaries by Bernadette Noake *Conservation Officer – threatened species*, Amber Rosenthal *Conservation Officer – threatened species*, Russel Hobson *Head of Conservation, Wales* and Dr. Jenny Joy West *Midlands Senior Regional Officer*, with contributions from Nigel Bourn *Director of Conservation*, Dr. Dan Hoare *South East England Senior Regional Officer*, Jenny Plackett *Two Moors Threatened Butterfly Project Officer*, Dr. Tom Prescott *Species Conservation Officer, Scotland* and Dr. David Wainwright *Northern England Regional Officer*.

#### **Brown Hairstreak *Satyrrium pruni***

In Wales the South Wales Branch completed its *Awards for All* pilot project. This targeted two hotspots for the species in Carmarthenshire and aimed to encourage more local involvement in surveys and conservation work, and to raise awareness of the butterfly. A lot of interest was generated with new surveyors helping out and new sites accessed. An updated leaflet and 'Butterfly-friendly' hedge discs (to identify hedges being managed with Brown Hairstreaks in mind) were produced to discourage over-zealous hedge contractors. At another key site fencing was erected to protect areas of encroaching blackthorn *Prunus spinosa* scrub from livestock and blackthorn whips planted.

#### **Duke of Burgundy *Hamearis lucina***

#### **New UK BAP species**

Dedicated work for the Duke of Burgundy at the national level commenced in 2008 following the addition of this species to the UK BAP list. A site dossier for this species is being compiled and is now being used in the development of targeted landscape scale projects in the South East, covering the South Downs in Hampshire and Sussex, and Gloucestershire in the South West. At the same time work has continued this year across our regional network as part of the existing *Fit for a Duke*, *Morecambe Bay Limestones* and *South East Woodlands* projects (see section 4) and the work of our regional officers.

Examples of the work achieved include: public events held in both the North York Moors and as part of the *South East Woodlands* project in the Denge Woods (Kent), training for stewardship advisors in the North York Moors, volunteer work parties on sites in the Tytherley (Hampshire/Wiltshire) and Denge Woods project areas, habitat managed on a further two sites in the North York Moors, entry into Higher Level Stewardship secured for two sites in the Denge.

Across the South East 17 sites covering Kent, Hampshire, Buckinghamshire and West Sussex have been visited by staff to give management advice. Further survey work has also been undertaken to establish the extent of the species current distribution and status: for example some 22 volunteers were involved in a thorough survey of Porton Down sites (Wiltshire) with the results being used to inform habitat management and planned woodland restoration.

The Duke is a species which can be hard to detect when at low levels, with many colonies on private land; therefore it has been sometimes overlooked, or sites not regularly monitored which has made collation of information for the site dossier challenging. It is clear from this work that the declines shown by national monitoring (UK Butterfly Monitoring Scheme and Butterflies for the New Millennium) are even more alarming when assessing total losses of sites, with the loss of some 83% of sites in Gloucestershire for example.

Despite the alarming outlook for this species, it is clear that careful targeting of appropriate management can turn around the fortunes even of very small colonies. Ongoing management at all known Sussex sites has seen colony numbers stabilise or increase even in recent years of poor weather. At two sites clearance of coppice, scrub or conifer woodland in winter 2008/09 alongside existing colonies was occupied immediately, with egg-laying females present in 2009. Conservation strategies for the Duke of Burgundy should target grassland, scrub and woodland habitats as part of the same resource network. In recent years detailed studies of colonies in the Chilterns and Sussex have shown that breeding areas within a site can shift from year to year even when the habitat appears similar, probably in reaction to local weather conditions including wind and drought. As a result, long-term colony stability may depend upon providing suitable foodplants in a variety of conditions, including aspect and exposure, that can be utilised under varying climatic conditions.

### **Heath Fritillary *Melitaea athalia***

*(Schedule 5 Wildlife & Countryside Act species)*

2010 was a mixed year for Heath Fritillary. There were high counts at several key sites across the species range: including an exceptional number at the Blean NNR site in Kent, where one small part of the site (0.5ha) produced a maximum count of 1338, and the highest recorded transect count for the Butterfly Conservation reserve at Lydford, Devon. Elsewhere numbers were low at sites where a combination of reduced management effort and unfavourable weather during the flight season has taken its toll. A second brood was recorded at the Blean NNR and at one site in Essex with sightings from 26 August to 29 September. Eleven sites on Exmoor and five each in the Lydford/ Tamar valleys, Kent and Essex supported Heath Fritillary populations this year.

Numbers were disappointingly low in the Tamar Valley on the Devon/ Cornwall border following another dire year weather-wise for the species in this area, and a gradual decrease in habitat suitability at the sites despite ongoing management. No sightings were made at Deer Park, where it seems unlikely the species can have survived unrecorded in the small habitat patch here. At the Greenscombe site numbers were low (maximum count of 13). A new Higher Level Stewardship agreement covering both of these sites should now formalise and provide support for more effective management over the next ten years. A small number of individuals were again seen in Blanchdown Wood following the trial reintroduction in 2007, indicating that the butterfly could persist here. However new ways of supporting the creation of an ongoing supply of habitat patches must now be found for this site following changes to the England Woodland Grant scheme. The requirement to convert a proportion of conifers to broadleaves that had previously enabled the forest manager to undertake suitable management is no longer a part of the scheme. In contrast, the population further up into Devon in the Lydford Valley has responded well to ongoing management at the Butterfly Conservation reserve and the opening up of habitat on adjacent Forestry Commission land and at a nearby private site.

Last year's Bulletin reported on concerns over lowest recorded levels of occupied area in the Blean Woodlands. The situation this year was much more promising with the BAP targets for number of interconnected colonies, area of occupied habitat and annual management all achieved (30 colonies recorded over 29ha) thanks to a combination of favourable weather and the availability of suitable habitat across the complex. Numbers of butterflies were up across the sites with Heath Fritillaries spreading out from last year's occupied areas into nearby coppiced patches. Nearly all management adjacent to existing habitat patches were colonies. Our ongoing monitoring also shows that the majority of patches are occupied in the first or second year following management and are only occupied for one or two years, that colonies have been retained in all areas of continued management, and that ride systems are being extensively used where these are regularly managed.

Counts were also high from several of the Essex sites, for example a maximum count of 445 from the

recently colonised Starvelarks Wood (initial sightings of 6 in 2007), 250+ from Pound Wood, 175 from Dodds Grove in Great Wood. However, there are concerns for the situation in Thrift Wood where numbers have been decreasing and the butterfly is restricted to a small area. Management undertaken by the local Butterfly Conservation branch in response to this and the outcomes will be monitored in 2010.

### **High Brown Fritillary *Argynnis adippe***

*(Schedule 5 Wildlife & Countryside Act species)*

The High Brown Fritillary is a major focus for Butterfly Conservation with large projects in each core area for this species; Dartmoor, Exmoor, the Malvern Hills and Morecambe Bay.

Further information about High Brown Fritillary is reported under the *Conserving the High Brown Fritillary on the Morecambe Bay Limestones* project (section 4.5), and in Wales, under the *High Brown Brackenlands* project (section 4.2).

All known High Brown Fritillary sites on Dartmoor were surveyed in 2009, and definite sightings were made at 18 sites, with possibilities at a further three sites: up on the 17 definite sites and two possibles in 2008. On the sites recorded by transects, High Brown numbers recorded in 2009 were almost double those in 2008.

Work on Dartmoor has again focussed on the priority sites on Roborough Common and Spitchwick Common, ensuring that agreed works outlined in the management plans are carried out, and grazing levels are appropriate. A significant amount of scrub has been cleared from Roborough Down and West Down, whilst the Spitchwick Commoners and Devon Wildlife Trust have jointly carried out scrub and bracken control in the Dart Valley. Proposed swaling has not taken place this year due to unsuitable weather conditions. A successful workshop was held in order to train volunteers to help with survey work for High Brown Fritillary in July 2009.

On Exmoor, the *Two Moors Threatened Butterfly Project* has been working with landowners to restore habitat for the High Brown Fritillary at key sites in the Exe Valley. The butterfly has not been recorded here in recent years, so efforts are under way to put appropriate management in place to encourage re-colonisation of the valley. The project has helped to secure agri-environment funding for two of the holdings, and is providing advice to two others in the process of applying. Management works have included fencing to enable grazing by Exmoor ponies, extensive gorse control and bracken management.

Support to National Trust staff and volunteers is on-going in the management of High Brown sites in the Heddon Valley. Two other privately-owned sites in the valley are also being managed for the butterfly, with extensive scrub clearance, fencing and bracken management underway. High Brown numbers in the Heddon Valley have remained stable.

Despite extensive survey work for High Brown Fritillary on the Malvern Hills in 2009, only Dark Green Fritillaries *Argynnis aglaja* were positively identified.

### **Large Blue *Maculinea arion***

*(Schedule 5 Wildlife & Countryside Act species)*

2009 marked 25 years since the Large Blue was re-established in England. To celebrate the occasion, a very successful celebration event was held in Somerset to thank all those who have been involved. Monitoring of the number and the distribution of adults was continued on all core sites in 2009. In Somerset it has been estimated that the butterfly is breeding on 20 sites within the Polden Hills. Many of these are natural colonisations to newly suitable sites managed under the project. The Poldens Large Blue Action Group, a partnership of many organisations (led by Butterfly Conservation at present), has continued to co-ordinate and develop volunteer effort. Practical conservation management tasks were carried out by the group at two sites in January and February 2009 to clear mixed scrub in order to restore calcareous grassland.

**Marsh Fritillary *Euphydryas aurinia*** (Schedule 5 Wildlife & Countryside Act species)

Work in England has been undertaken this year for Marsh Fritillary under the *Two Moors Threatened Butterfly Project*, the *South East Woodlands Project (Tytherley)*, the *Neroche Scheme* and by Butterfly Conservations Species Team (see also section 4).

The numbers of larval webs recorded on sites monitored in Dorset were much improved on the previous two years and broadly comparable to those for 2005. 2006 remains the most successful of the last six years for Marsh Fritillary for both wet grassland and chalk sites monitored in Dorset. The season was relatively early on the Dorset chalk sites, with one record of an advanced larval web from Giant Hill (Cerne Abbas) from the 3 July, and with larvae being difficult to detect by the end of August. Within the Blackmoor Vale metapopulation, fencing is now being installed at Lydlinch Common and cattle should be introduced to the site in early May. This is a long worked for result and will increase, and maintain at higher levels, the area of suitable habitat across the site. Along with representatives from our Dorset members' branch we will continue to work with Natural England and the site owners to monitor the response of the population and ensure the right levels of grazing for the Marsh Fritillary. Further work has been carried out at the nearby Alners Gorse Butterfly Conservation reserve with felling of a section of conifers to open up the main area of wet grassland here to the adjacent Rooksmoor site. Larval webs have not been recorded at Alners Gorse for some time but at least one adult was seen in 2009.

Numbers on Dartmoor sites monitored under the *Two Moors Threatened Butterfly Project* were also up, with the combination of favourable weather and the availability of improved habitat in the project area allowing the butterfly to expand its range. An increase in the number of occupied sites was recorded this year (25 occupied sites of 33 surveyed in 2009 versus 10 occupied sites of 21 surveyed in 2008) and large 'core' populations in each of the valley systems expanded into outlying sites where the habitat had been managed sympathetically for the butterfly. A training event was held on Dartmoor in September to encourage volunteers and professionals from other conservation organisations to undertake more survey and monitoring work. Further work for the species under this project is described in section 4.8.

Butterfly Conservation volunteers have continued to monitor the reintroduced populations in Cumbria, in conjunction with Natural England, with good numbers across all but one site. Sward condition at this site was favourable as result of winter and light summer grazing and the reasons for the drop in numbers are not clear. The intensity of pheasant rearing adjacent to the site has increased and this might be a contributory factor. Further reintroductions are planned at an additional two sites within the network in 2010.

In Scotland work on Marsh Fritillary has primarily focused on delivery of site advice under the Species Action Framework project (see 4.1). In addition, the increased profile, especially among farmers and local people, has resulted in the discovery of several new colonies, particularly at the edge of the species range. In the north Marsh Fritillary was found at two new sites in Highland, one on the Ardnamurchan peninsula and the other near Duror. In the south, several new sites have been found in Kintyre as well as new colonies on Scarba, Mull and mainland Argyll.

Work on the Welsh populations is described in the main Butterfly Conservation in Wales and the *Mynydd Mawr Project* sections (4.2).

## **Pearl-bordered Fritillary *Boloria euphrosyne***

In the Wyre Forest, management works carried out by the *Back to Orange Project* (funded by SITA Trust) over the past three years have created a large amount of potential Pearl-bordered Fritillary habitat, which will be surveyed in 2010. In 2009, there were good counts of Pearl-bordered Fritillary on some sites.

The *Midlands Fritillaries Project* worked on a number of Pearl-bordered Fritillary sites in 2009. In one area of the Oswestry Hills there were good counts of Pearl-bordered Fritillary in 2009. On Ewyas Harold Common, management work carried out by the *Herefordshire Community Commons Project* and Butterfly Conservation's West Midlands Branch has created very good Pearl-bordered Fritillary habitat over the last few years. In 2008 Butterfly Conservation acquired a new reserve, Ewyas Harold Meadows, adjacent to Ewyas Harold Common. There has been a lot of management work taking place on the reserve, which is managed to provide nectaring habitat for Pearl-bordered Fritillary, to develop potential breeding habitat (there is a very small amount at present) and the reserve also provides back up grazing land for the Exmoor ponies grazing the common (grazing was initiated in December 2009). The ultimate aim is to get each of these sites (Ewyas Harold Common, Ewyas Harold Meadows and one site in the Oswestry Hills) into Higher Level Stewardship agreements.

In 2009, Butterfly Conservation staff and local recorders have been working with Forestry Commission England near Exeter in Devon on a number of Pearl-bordered Fritillary sites, to monitor these sites and provide management advice.

In Wales the numbers were up on last year's figures at most sites. Further management work was undertaken at the Ceredigion and Montgomeryshire sites and Butterfly Conservation's Eyarth Rocks reserve in Denbighshire. Adults were released at a site on the English/Welsh border as part of a phased re-introduction programme.

Work on Pearl-bordered Fritillary in Scotland in 2009 concentrated on delivering site advice under the Species Action Framework Project as described in section 4.1. Further information about conservation work to benefit Pearl-bordered Fritillary in Northern England, the South East in the West Midlands can be found in section 4 (regional updates).

## **Wood White *Leptidea sinapis***

## **New UK BAP species**

The National *Wood White Project* has continued to gain momentum with visits to many of the key sites undertaken in 2009 and an action programme agreed. A national recovery plan for the Wood White is currently in preparation with the objectives being to update the species' autecology and habitat requirements in order to provide an evidence-based conservation strategy. An updated Wood White sites dossier is due for completion in March 2010. This dossier is the result of contributions from many Butterfly Conservation Branches as well as other organisations across the country. Two papers and two posters were prepared for Butterfly Conservation's International Symposium as a result of the 2009 work.

Site visits were also focused to help deliver a) the joint *Lepidoptera on Forestry Commission Land in England Conservation Strategy 2007-2017*, b) the *Midlands Fritillaries Project* and c) the *South East Woodlands Project*.

As part of the delivery of the the joint *Lepidoptera on Forestry Commission Land in England Conservation Strategy 2007-2017* a visit was made to Salcey Forest and Yardley Chase (in Northamptonshire) following on from the local Forest District review meeting where management recommendations were made. In the Midlands, the SITA Trust funded *Herefordshire Wood White Project* being implemented by the Forestry Commission continued, with management work taking place on all eight project sites, and survey being undertaken which already showed Wood White numbers are increasing. This project is also researching the use of habitat by Wood White with a mark-recapture study and analysis of egg-laying habitat already producing interesting results. A second Wood White project in the Midlands has also now been funded by SITA Trust (as part of the

match funding for the Midlands Fritillaries Project) and will start in Shropshire in April 2010.

In the South East, two sites in Chiddingfold Forest were surveyed and management recommendations provided to the landowners. One initial advice visit was also made to a site in Buckinghamshire to highlight Wood White presence on a disused railway line due for reopening.

### 3.4 Additional Species Factsheets

Priority species factsheets have been produced to raise awareness and give advice for land managers, giving details of ecology, habitat management requirements and survey methodologies for selected UK BAP, and other priority, moths and butterflies. In 2009 three new species factsheets were produced for Dark Green Fritillary *Argynnis aglaja*, Silver-washed Fritillary *A.paphia*, White Admiral *Leptidea sinapis* and Mistletoe Marble *Celypha woodiana* meaning that these are now available for 34 moths and 20 butterflies. Two further factsheets have been written this year for species associated with aspen and goldenrod.

The factsheets can be downloaded from [www.butterfly-conservation.org/mothspeciesfactsheets](http://www.butterfly-conservation.org/mothspeciesfactsheets) or [www.butterfly-conservation.org/butterfliesspeciesfactsheets](http://www.butterfly-conservation.org/butterfliesspeciesfactsheets). Paper copies can be obtained by contacting Butterfly Conservation (01929 400209, [info@butterfly-conservation.org](mailto:info@butterfly-conservation.org)). Depending on the quantity required we may need to charge for postage.

## 4 Butterfly Conservation Country and Regional Updates

### 4.1 Butterfly Conservation in Scotland

#### Species Action Framework for Scottish Lepidoptera

Butterfly Conservation Scotland (BCS), Scottish Natural Heritage (SNH) and Forestry Commission Scotland (FCS) have teamed up to help four of Scotland's rarest butterflies and moths. Three of the species (**Marsh Fritillary** *Euphydryas aurinia*, **Pearl-bordered Fritillary** *Boloria euphrosyne* and **Slender Scotch Burnet** *Zygaena loti scotica*) are included on SNH's Species Action Framework launched in 2007 to provide targeted action for 32 priority species in Scotland. Whilst the two woodland butterflies, (**Chequered Skipper** *Carterocephalus palaemon* and Pearl-bordered Fritillary), are priorities in FCS's Scottish Forestry Strategy that aims to help protect and enhance biodiversity.

All four species are reliant upon light grazing, preferably by cattle, to maintain colonies in suitable condition. The project aims to promote sympathetic management for these key species by encouraging landowners to enter Scotland's new SRDP (Scottish Rural Development Programme), which offers financial support for such activities.

The project has been particularly successful for Marsh Fritillary. By teaming up with consultants from Scottish Agricultural College and Agrimony (an Argyll based agricultural advisory business), effective conservation advice has been delivered to over 100 sites in the first two years of the project with over 90% of the resulting applications being accepted. Over 2000ha is now being managed specifically for Marsh Fritillary. Ten of the sites have been on designated land including many of Scotland's most important colonies. Site-specific grazing plans accompanied each application. Many farmers now regard the presence of Marsh Fritillary on their land as an asset with several now actively seeking management advice.

Liaison with the five owners of the UK's Slender Scotch Burnet colonies has resulted in management being undertaken at all sites, mainly scrub, bracken and cotoneaster control but also fencing to allow grazing. In addition SRDP applications have been submitted for two adjacent sites.

Work on the two woodland butterflies has resulted in advice being delivered at five Chequered Skipper sites and twenty Pearl-bordered Fritillary sites.

This work has only been possible through funding from Butterfly Conservation, SNH and FCS to allow BCS to employ a project officer to undertake this vital work. BCS would also like to thank Scottish Agricultural College and Agrimony for their crucial contributions, and to the individual farmers/owners for their co-operation and enthusiasm.

Contributed by Dr. Tom Prescott *Species Conservation Officer, Scotland*  
([tprescot@butterflyconservation.org](mailto:tprescot@butterflyconservation.org))

## 4.2 Butterfly Conservation in Northern Ireland

March 2010 saw the end of the second year of our current three-year project in Northern Ireland (NI). Maurice Hughes, who had been Senior Regional Officer for the province for eight years, retired in February 2010 and has now been replaced by Catherine Bertrand. Catherine had previously been very active with the NI Branch: including helping to co-ordinate UK Butterfly Monitoring Scheme (UKBMS) transects and the Wider Countryside Butterfly Scheme. During 2010 we will continue to build on the achievements to date in order to meet the objectives of the current grant, as set out below. Work will also proceed in an endeavour to renew our grant with the Northern Ireland Environment Agency (NIEA, formerly the Environment & Heritage Service).

*Providing habitat management advice on UK BAP priority species to land managers on key sites:* 2010 will see a focus on **Marsh Fritillary** *Euphydryas aurinia* in Fermanagh/ border area and **Argent & Sable** *Rheumaptera hastata* sites.

*Run workshops on ecology & habitat management for Marsh Fritillary for farm advisers & land managers:* Two workshops have been held, and there are plans for at least two more, for farm advisers in Antrim, Down and Armagh.

*Influence agri-environment schemes (AES) to provide greater benefits for priority Lepidoptera across landscapes:* The NI AES handbook now mentions the requirements of the Marsh Fritillary. In 2010 we will work more closely with the agriculture department on Marsh Fritillary sites in Fermanagh/border area. We will produce a new advisory leaflet on Marsh Fritillary in conjunction with NIEA and the agriculture department.

*Work with Local Biodiversity Action Plan (LBAP) Officers to identify Lepidoptera priorities:* The Fermanagh LBAP will be the priority in 2010.

*Co-ordinate action for the Marsh Fritillary:* Butterfly Conservation continues to co-ordinate action for Marsh Fritillary, organising the annual Action Group and the monitoring of existing Areas of Special Scientific Interest (ASSIs)<sup>1</sup>. Unfortunately 100% coverage of ASSI sites was not achieved in 2009, and numbers on monitored sites were generally down. However, the continued discovery of new colonies in Fermanagh and Tyrone is very exciting, and our focus will switch to these sites in 2010, while NIEA will continue their input into ASSIs.

*Co-ordinate surveys and monitoring of under-recorded priority butterflies & moths:* To date surveys have been organised for the Marsh Fritillary, Argent & Sable, **Dingy Skipper** *Erynnis tages* and **Wall** *Lasiommata megera*. The focus in 2010 will be for surveys on Marsh Fritillary, Wall, and the **Scarce Crimson & Gold** *Pyrausta sanguinalis*, and establishing monitoring for Dingy Skipper.

*Support and help expand the UKBMS transect network in NI:* Three workshops have been held, a volunteer transect co-ordinator recruited (Catherine Bertrand) and an email group established. Another workshop is planned for the autumn, to include timed counts to expand monitoring network of under-recorded species.

*Support and expand moth recording and the National Moth Recording Scheme:* Several moth meetings were held in 2008 and 2009: a meeting for moth recorders, two macro-moth training workshops, two public moth events, one moth conference, one micro-moth recording workshop and one pug workshop. A moth conference is planned for summer 2010.

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<sup>1</sup> ASSIs are the equivalent in Northern Ireland of Sites of Special Scientific Interest (SSSI) elsewhere in Britain.

*Promote expansion of the Rothamsted trap network:*

Four traps have been installed in Ireland as a whole (one in NI).

Contributed by Paul Kirkland *Director of Scotland* [pkirkland@butterfly-conservation.org](mailto:pkirkland@butterfly-conservation.org))

Catherine Bertrand is now in place as *Senior Regional Officer – Northern Ireland* [cbertrand@butterfly-conservation.org](mailto:cbertrand@butterfly-conservation.org))

### 4.3 Butterfly Conservation in Wales

The targets for the new Wales Biodiversity Action Plan (BAP) were published and first tranche of Lepidoptera actions put out for consultation via the Wales Biodiversity Partnership website. The targets are for all the species on the new Section 42 list of Species of Principle Importance in Wales. The first tranche of actions cover the previous species retained on the new list and the 'research only' butterflies and moths. The actions for the remaining species will be released in the coming year.

The distribution of the **Welsh Clearwing** *Synanthedon scoliaeformis* has been increased. This Wales BAP species was mainly known from Merionethshire and Montgomeryshire despite extensive searches in the locality of old records elsewhere. However, populations have now been found in Radnorshire and Breconshire and more surveys are planned in the year ahead.

Following the huge success in expanding the UK Butterfly Monitoring Scheme (UKBMS) in Wales, work has begun on improving the surveillance programme for the **Marsh Fritillary** *Euphydryas aurinia*. Key sites and networks with active volunteers have been identified and methodologies checked with the aim of producing a robust index for the species.

Trial management of the Marsh Fritillary enclosure on Morfa Harlech was undertaken. After consultation with Countryside Council for Wales (CCW) staff and the Snowdonia National Park warden, the fences were temporarily removed to allow cattle access. The grazing pressure was monitored by local volunteers and the fence re-instated once the sward height had dropped to an agreed level. The impact on this precarious population will be assessed before further grazing is attempted.

Work began on monitoring the impact of the Tir Gofal agri-environment scheme with the recruitment of Dr. George Tordoff as our Monitoring Ecologist. There was also a rapid development of a new Wales agri-environment scheme, Glastir. This is due to begin in 2012. Butterfly Conservation worked closely behind the scenes with other environmental groups and CCW to develop prescriptions to benefit farmland butterflies and moths. Fifteen Lepidoptera were identified as potentially benefiting from the entry level element, of which five were put forward as flagship species for a series of regional packages. A further four species were highlighted as requiring special help under a higher level element.

Various planning objections were submitted for proposed developments of **Silurian** *Eriopygodes imbecilla*, Marsh Fritillary and **Narrow-bordered Bee Hawk-moth** *Hemaris tityus* sites. More positively, compensation plans have been prepared for two developments near Marsh Fritillary populations that may provide opportunities to improve habitat management for the species.

Butterfly Conservation's work in Wales is dependant on the on-going support of CCW. Butterfly Conservation is pleased that a new Strategic Partnership agreement was signed. This will enable the excellent working relationship with CCW to be put on a firmer footing, with funding confirmed for a further three years.

### Mynydd Mawr Project

The *Mynydd Mawr Marsh Fritillary Project* has been working with landowners in Carmarthenshire since 2004. Although the owners' good work will carry on, the project will finish on 31st March 2010, as no new funding is available.

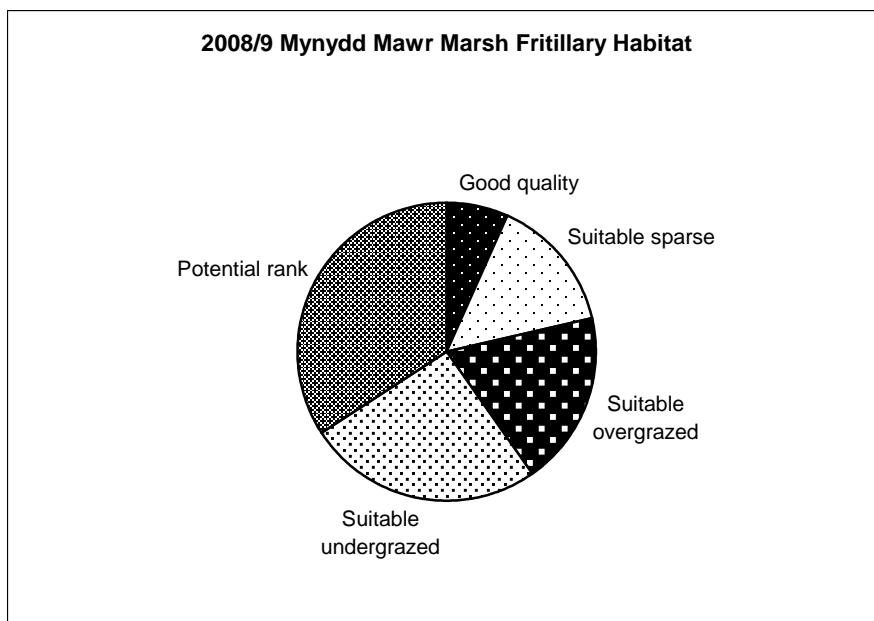
One hundred and thirty six hectares of rhos pasture (22 owners) are now in a formal agreement to manage their land for the **Marsh Fritillary** *Euphydryas aurinia*: 60ha are managed under a five-year Mynydd Mawr agreement. Another 8ha are in informal agreements with the project, and advice was given on an additional 29ha.

The project influenced grazing on 84ha. Graziers introduced cattle and ponies to several previously ungrazed sites. The project carefully monitored grazing levels, to create a tussocky sward and prevent over- or under-grazing – 62 grazing checks were made between 2007 and 2009.

The project organised capital works and usually paid 100% of the costs on agreement sites. Over 2km of fencing and nearly 600m of water pipes with troughs were installed between 2007 and 2010. Five and a half hectares of scrub were cleared, nearly 9ha of rank grass were cut and ragwort was pulled on 10ha.

Despite all our efforts, 70ha in 24 ownerships remain unmanaged. Tellingly, 59% (40ha) of this land is zoned for development. Clearly, the project’s progress was hindered by owners’ aspirations for developing their land for housing and industry.

Extensive Marsh Fritillary larval web and habitat condition surveys were undertaken at the beginning and end of the project. However, since the agreements were in place for only 3 years or less, it is too soon to assess the project’s impact. Of the 253ha surveyed in 2008/9, 107ha of suitable or potential habitat were found. Recent poor summers have impacted badly on Marsh Fritillaries, although they did make a small recovery in 2009.



### High Brown Brackenlands

The volunteer monitoring and management team continued with work in the Alun Valley. The number of adults on the two transects were close to the all-time high recorded in 2007. Further management work involved coppicing of secondary hazel scrub and cutting dense bracken and bramble stands with an Allen Scythe. A grant was received to erect a corral to enable stock to be introduced in to the largest 13 ha compartment and it is hoped ponies and cattle can be introduced in the coming year.

The Llantrisant Town Trust undertook further work at the former site at Y Graig and put out more livestock. Anecdotal evidence suggests the abundance of violets *Viola* spp. is increasing as the density of bracken litter is reduced. It is also clear livestock are making some impact with more paths through the extensive banks of litter. The commoners of another site, Mynydd Ruthin, 7km from the Alun Valley, have also agreed to works. Scattered hawthorn and patches of bracken have been cut by contractors and volunteers, to create sheltered clearings.

The work on former sites was funded by a Species Challenge Fund grant from CCW. The work in the Alun Valley was funded by Vale of Glamorgan County/ Borough Council, PONT (Pori Natur a Threftadaeth the Welsh arm of the Grazing Animals Project) and CCW with on the ground support from the Glamorgan Heritage Coast staff.

### **Wales Forestry Monitoring**

Under a new contract with Forestry Commission Wales (FCW), priority Lepidoptera present on FCW holdings were reassessed, in light of the UKBAP revisions. A number of species were prioritised for survey, management and monitoring, in order to contribute to the Wales targets. These species are those that are most heavily dependant on woodland for their survival or where FCW sites are likely to hold significant populations. Work plans were put together for four species of butterfly (**Dingy Skipper** *Erynnis tages*, **Grizzled Skipper** *Pyrgus malvae*, **Small Blue** *Cupido minimus* and **Wood White** *Leptidea sinapis*) and two species of moth (**Drab Looper** *Minoa murinata* and **Argent & Sable** *Rheumaptera hastata*) on four sites, based on the targets and actions detailed in the Wales BAP. Whilst surveys failed to find the Wood White and the Argent & Sable, those targeted at the remaining species were more successful and, in the case of the Drab Looper, highlighted the need for urgent management action. Thanks to a grant from the Wales Biodiversity Fund, match-funded by FCW, this management is now being undertaken to help maintain the population in its current stronghold, until the suitability of adjacent rides can be increased and a system of coppice coupes created.

2009 marked the ninth year of a **Small Pearl-bordered Fritillary** *Boloria selene* monitoring study in Clocaenog Forest in Denbighshire. This study was originally part of Forest Research's Landscape Ecology Project which ended in 2008. Forestry Commission Wales and Butterfly Conservation Wales are, however, continuing this long and important data run. Although site occupancy remains high, the long-term trend for the forest indicates a moderate decline due to deteriorating habitat quality. With commitment of funds from FCW and funding, once again, from the Wales Biodiversity fund, scrub clearance is now being undertaken on a number of sites that are core to the population. This project has helped to improve understanding of functioning metapopulations and how the Small Pearl-bordered Fritillary responds to forest management on a landscape scale. This is being translated into practical management guidance and most importantly implemented on the ground, at a suitable forest scale, whilst the butterfly is still widespread in the forest.

Contributed by Russel Hobson *Head of Conservation, Wales* ([rhobson@butterfly-conservation.org](mailto:rhobson@butterfly-conservation.org)), Deborah Sazer *Mynydd Mawr Project Officer* and Clare Williams *Conservation Officer, Wales*.

### **4.4 Butterfly Conservation in the West Midlands**

Butterfly Conservation currently employs three staff in the region headed by Dr. Jenny Joy, Senior Regional Officer. Both Nick Williams and Mike Slater are part-time Midlands Fritillaries Project Officers. Mike Slater is also the part-time Warwickshire Small Blue Project Officer. Mike replaces Jane Ellis who was a part-time Regional Officer and very involved in developing and implementing the Small Blue project. Although the Senior Regional Officer continues to represent BC across the region, in 2009 work became increasingly focussed on the *Midlands Fritillaries Project* which targets eight key West Midlands landscapes plus the Forest of Dean in South West England (see below).

Thanks to Forestry Commission England (FCE) funding Dr. Joy has also been active developing collaborative landscape projects to help deliver the joint *Lepidoptera on Forestry Commission Land in England Conservation Strategy 2007-2017*. A project to conserve the Wood White in six FCE woodlands in South Shropshire was developed and a successful application was submitted to SITA Trust to fund the work which will commence April 2010. An application to fund management work at Oversley Wood was submitted, and development work at Cannock Chase is still ongoing. Twelve other FCE sites were also assessed to either determine the success of other ongoing project work, to monitor key species or to decide how best to implement the conservation strategy.

Ongoing brownfield work has been concentrated in the Telford & Wrekin area of Shropshire where the co-ordination of an active group of local volunteers has resulted in monitoring of key local sites with these results informing both management work and mitigation plans for developments.

## Midlands Fritillaries Project

This project got fully underway in April 2009. Initially work concentrated on surveys, monitoring visits and training events for volunteers, focussing on the Forest of Dean, Wyre Forest, Princethorpe Woodlands and Shropshire Rush Pastures landscapes. The survey and monitoring data is being used to inform management plans and in some cases, the data has already led to action on the ground (particularly in the Forest of Dean and Wyre Forest areas). Volunteer work parties are much more of a feature of this project than originally anticipated with active groups of people already engaged in active management work in a number of landscape areas. Working in partnership with local organisations is also a key aspect of this project so more recent work has focussed on increasing awareness of this project and setting up or attending relevant partnership meetings with support from the local branches.

## Princethorpe Woods Habitat Restoration Project

This project is progressing very well and the main restoration phase is on schedule to be completed by March 2010. Thanks to the development of a very active volunteer base over 800 volunteers hours have already been given to the project. This has resulted in additional coppice being cut at Wappenbury Wood (2ha), Coombe Abbey (0.5ha), Brandon Wood (0.5ha) and Ryton Wood (0.5ha) as well as creating three additional butterfly banks and 10 ride side scallops Ryton Wood. Volunteers have come from several sources but the most unusual were when Miss Galaxy and Miss Earth turned up with two other models to a tree planting event! Plans for sustaining the project outcomes beyond the funded period have been significantly improved by applications for Woodland Improvement Grants on four sites with several others in the pipeline. In addition the long-term aim to reduce the fragmentation between the woodland blocks is being helped the planning of two tree planting scheme.

## Bringing Back the Small Blue Project

Work on this project only really commenced in March 2009 but can already claim several notable successes. The **Chalk Carpet** *Scotopteryx bipunctaria* moth recolonised Nelsons Quarry following scrub clearance and at the same site the **Grizzled Skipper** *Pyrgus malvae* recorded its highest ever total. At Stockton Cutting the **Grizzled Skipper** recorded its highest ever total in recent years was confirmed breeding in a recently cleared area. At Southam Quarry similar success was achieved when both the **Grizzled** and **Dingy Skipper** *Erynnis tages* were confirmed breeding in recent cleared areas following egg searches. The project has been very successfully promoted. This has resulted in additional landowners coming forward and undertaking conservation management. Near the Bishops Bowl colony 500 Kidney Vetch plants were planted in a private meadow and 0.5ha of scrub was cleared from Bishops Itchington Parish Council land adjacent to another **Small Blue** *Cupido minimus* colony. Further work has been planned at Fenny Compton by British Waterways to clear 1ha of scrub. The project has been promoted through farming groups and several have expressed an interest in creating butterfly banks. To encourage further landowners a local conservation management award is being developed.

Contributed by Dr. Jenny Joy *Senior Regional Officer* ([jjoy@butterfly-conservation.org](mailto:jjoy@butterfly-conservation.org)), Mike Slater *Midlands Fritillaries/Warwickshire Small Blue Project Officer* and Dr. Sam Ellis *Head of Regions*.

## 4.5 Butterfly Conservation in Northern England

Butterfly Conservation currently employs two staff in the region headed by Dr. Dave Wainwright, Regional Officer. Martin Wain is part-time Morecambe Bay Limestones Project Officer. Although the Regional Officer continues to represent BC across the region, in 2009 work became increasingly focussed on the *Morecambe Bay Limestones* and the North York Moor's *Fit for a Duke* projects.

Dr. Wainwright currently co-ordinates the High Brown Fritillary Action Group encompassing sites in south Cumbria and north Lancashire, the North York Moors Butterfly and Moth Action Group and the Durham Small Pearl-bordered Fritillary Action Group as well as attending meetings of the Cumbria

Marsh Fritillary Action Group.

In the North York Moors efforts focus on the **Duke of Burgundy** *Hamearis lucina* and the **Pearl-bordered Fritillary** *Boloria euphrosyne* through co-ordination of monitoring and site management, much of which is currently undertaken by volunteers. The Duke of Burgundy was recorded from nine of its 11 remaining occupied sites, but unfortunately not from the one apparently recolonised in 2008 following scrub management. However, the butterfly was recorded for the second year in succession from a new site, a probable colonisation. The Pearl-bordered Fritillary is still extant on two sites but the populations remain small, and a third site has not yet been recolonised despite extensive scrub and bracken management.

In County Durham work to conserve the **Small Pearl-bordered Fritillary** *Boloria selene* in the Durham Coalfield Pennine Fringe is also now largely undertaken by staff from other organisations and volunteers. Two of the remaining seven colonies are monitored by transect and numbers were double that recorded in 2007 and 2008. On another site several previously unoccupied habitat patches were also colonised in 2009. Extensive management commencing in 2002 continued in 2009, with the establishment of several large grazing enclosures at one site and the introduction of light pony grazing at others. Evidence suggests that control of grazing pressure on streamside damp grassland/wet flush habitats is the key to the conservation of this species in County Durham. Attempts to create habitat through planting violet *Viola* spp. plug plants also appear to be successful with 41 adults recorded from a small restored field were none were seen in 2003. In summary the habitat resource for this species in County Durham has been tripled by management since 2002 and by five-fold when previously unrecorded habitat is included.

In Cumbria the **Marsh Fritillary** *Euphydryas aurinia* re-introduction continues to be successful on three sites but the population on a fourth remains small and the reasons for this remain unclear. Work to improve habitat condition on these and other sites continues as does the captive breeding programme, with a view to further re-introductions to develop sustainable population networks.

Dr. Wainwright also advises on the **Netted Carpet** *Eustroma reticulata* in Cumbria and the **Dark Bordered Beauty** *Epione vespertaria* in North Yorkshire, as well as co-ordinating the collation of butterfly transect data from the Morecambe Bay area. The regional office also deals annually with a number of planning issues especially on the Cumbrian coast (**Small Blue** *Cupido minimus*, **Dingy Skipper** *Erynnis tages*, **Grayling** *Hipparchia semele*) and in County Durham and Tees Valley (Dingy Skipper, Grayling).

### **Conserving the High Brown Fritillary on the Morecambe Bay Limestones Project**

Management has been undertaken on 16 sites on the Morecambe Bay Limestones natural area, a large proportion by contractors, but volunteer contributions have also been significant. To date almost 100 volunteers have spent over 150 days engaged in practical site management as well undertaking ongoing site surveys and butterfly monitoring. Tasks have included coppicing, scrub clearance and burning of cut material. Training workshops have been held; subjects covered include management of grasslands for butterflies, butterfly identification and use of computer software for monitoring, as well as on-site practical training. A very successful partnership with the Forestry Commission (FC) has been developed, who are now targeting key sites with funding through their Woodland Improvement Grants programme (WIGs). In conjunction with FC, we have developed management plans for a number of sites in the original project list and as a result the extent of management has been far greater than initially envisaged. More importantly, this FC support will enable conservation management to continue beyond the end of the project, meaning that advances in conservation work are not lost once funding has expired. Work at some sites, which was initially scheduled to be funded through the project, is now being funded through FC grants, which has provided an opportunity for additional sites to be included in the project.

### **Fit for a Duke Project (North York Moors)**

Over 60 volunteers contributed in excess of 100 days of man power: assessing potential sites, monitoring existing **Duke of Burgundy** *Hamearis lucina* populations, undertaking site management through work parties (5 in total) and growing cowslips *Primula veris* to transplant to sites where the larval foodplant had become scarce. School children were also involved in growing primroses *P. vulgaris* and a research student identified a preference for ovipositing on cowslip, although primroses were used in areas of cleared scrub. Training workshops were provided for new volunteers, ten talks were given to various groups and the project was publicised through the media.

Targeted management to benefit the Duke of Burgundy was identified and mapped on 33 sites, including work to extend habitat on 15 current or former sites, as well as 18 potential sites. Altogether 5.5ha coppicing, 5.5ha ride management, 14.5ha scrub control, 2.25ha bracken bruising, 1ha bramble management, 0.25ha ground disturbance was identified plus opportunities to plant 8000 primulas. These data were used to develop a new project, *Conserving North York Moors Limestone Grassland for Dukes and Pearls* which, subject to securing funding, will commence in the latter half of 2010.

Contributed by Dr. Dave Wainwright *Regional Officer* ([dwainwright@butterfly-conservation.org](mailto:dwainwright@butterfly-conservation.org)), Martin Wain *Morecambe Bay Limestones Project Officer* and Dr. Sam Ellis *Head of Regions*.

## **4.6 Butterfly Conservation in South East England**

Butterfly Conservation currently employs four staff in the region headed by Dr. Dan Hoare, Senior Regional Officer. Dr. Kate Dent, Steve Wheatley and Fran Thompson are South East Woodlands Project Officers for respectively, Tytherley Woods, Rother Woods and Denge Woods. In addition to managing the *South East Woodlands Project*, the Senior Regional Officer continues to represent BC across the region.

The *South East Woodlands Project* currently underpins much of our regional work including targeted work on **Pearl-bordered Fritillary** *Boloria euphrosyne*, **Small Pearl-bordered Fritillary** *B. selene*, **Wood White** *Leptidea sinapis* and **Duke of Burgundy** *Hamearis lucina* across the whole region. In 2009 we organised surveys of nearly all known sites for these species in the region and provided feedback and management advice where appropriate. A survey of 34 potential, but seldom visited, sites for Duke of Burgundy was carried out in Hampshire in 2009 under contract, with adult butterflies recorded from 11 of these. The information is now being used in project development to address the declines of this species. A survey of Wood White colonies on Forestry Commission land in Chiddingfold Forest was carried out, identifying core areas to avoid during forestry operations. We have also been monitoring the success of two Pearl-bordered Fritillary re-introductions which offer a way to reverse some of the recent losses of this species and repopulate isolated areas.

South East regional staff and volunteers have also been involved in directing work on Forestry Commission sites as part of the joint *Lepidoptera on Forestry Commission Land in England Conservation Strategy 2007-2017*. Additional work away from woodland sites has included monitoring and management advice for **Straw Belle** *Aspitates gilvaria* moth in Surrey and Kent, as well as heathland and chalk grassland work across the region targeting **Grayling** *Hipparchia semele*, **Silver-studded Blue** *Plebeius argus*, **Small Blue** *Cupido minimus*, **Chalkhill Blue** *Polyommatus coridon*, **Silver-spotted Skipper** *Hesperia comma*, and **Chalk Carpet** *Scotopteryx bipunctaria*.

### **South East Woodlands Project**

The *South East Woodlands Project* is now entering its final year, and making great progress both in the targeted demonstration landscapes and across the region. The project is on schedule and exceeding all targets for site advisory work, habitat management initiated and public involvement. Preliminary data shows that 79% of sites receiving funding from the Forestry Commission's English Woodland Grants Scheme as a result of our work are already showing improved habitat conditions for key butterflies and moths. To complement grant-aided work and economic forestry, we have been successful with two Landfill Communities Fund grants: in the Rother Woods, Sussex, £48,749 has

been raised from SITA Trust to target habitat management for **Grizzled Skipper** *Pyrgus malvae*; in the Denge Woods, Kent, the first year of habitat work for **Duke of Burgundy** *Hamearis lucina* has been completed, part of a Biffaward funded project totalling £44,886.

A real strength of the project has been the level of commitment from volunteers, getting involved in a huge range of activities including butterfly monitoring, data entry, web design, captive breeding of fritillaries for a re-introduction project and direct habitat management tasks. A total of 500 days of volunteer time were contributed in 2009, equivalent to more than £30,000 in matched funding as part of the project, and enabling us to achieve even more than we had planned. The project runs until March 2011 and the final year will focus on making available information and resources to support better woodland management for wildlife across the UK.

Contributed by Dr. Dan Hoare *Senior Regional Officer* ([dhoare@butterfly-conservation.org](mailto:dhoare@butterfly-conservation.org)) and Dr. Sam Ellis *Head of Regions*.

#### 4.7 Butterfly Conservation in Eastern England

Butterfly Conservation currently employs Sharon Hearle as East of England Regional Officer. Although the Regional Officer continues to represent BC across the region, in 2009 work became increasingly focussed on the *Conserving the Grey Carpet in the Brecks* project. Two new projects were developed, the *Norfolk Brecks Heathland Restoration for Threatened Butterflies and Moths* and *Managing Elms for the White-spotted Pinion in the Cambridgeshire Fens*, with the former commencing January 2010 and the latter April 2010 subject to securing funding.

A survey of the Norfolk section of the Cut-off Channel was completed in May 2009 thanks to Norfolk Biodiversity Partnership and Environment Agency funding, confirming the strong presence of **Grizzled Skipper** *Pyrgus malvae* and **Dingy Skipper** *Erynnis tages* between Wretton and Feltwell. Recommendations for land management were provided to Norfolk Wildlife Trust who are co-ordinating other surveys and Higher Level Stewardship applications. The Cut-off Channel as a whole, an artificial drainage channel with high banks created in the 1960s, is still the largest site for Grizzled and Dingy Skipper in the East of England, but there remain considerable challenges for the management of the site which is rapidly scrubbing over.

Huntingdonshire District Council funding enabled survey work for **White-spotted Pinion** *Cosmia diffinis* to be undertaken in St. Neots and Huntingdon. Three new sites were found in Huntingdonshire using actinic traps left overnight, and confirmed that the moth can survive at low numbers in thin elm hedgerows with a few old trees between arable fields. Further work was undertaken to secure Higher Level Stewardship funding for Grizzled Skipper sites in Essex and to encourage volunteers to continue the **Four-spotted** *Tyta luctuosa* moth survey.

Site dossiers for both the Four-spotted and **Chalk Carpet** *Scotopteryx bipunctaria* moths in East of England were produced and distributed to partner organisations. Site dossiers for Dingy and Grizzled Skipper in the region are currently in preparation and should be published in 2010.

#### Conserving the Grey Carpet in the Brecks Project

This project was successfully completed in December 2009. The project was able to demonstrate a range of bare ground techniques and compare costs and benefits of each treatment at 15 different sites. The cost of creating bare ground plots was less than originally anticipated, even with the need for two unexpected archaeology watching briefs, and additional plots were created in autumn 2009.

Over 60 plots were established, mostly in late winter/spring 2009, but some in autumn 2009. Most late winter/early autumn bare ground plots were colonised by abundant nectar plants over the spring and summer, attracting key breckland species including **Grey Carpet** *Lithostege griseata*, **Marbled Clover** *Heliopsis viriplaca*, **Forester** *Adscita statice* and **Dingy Skipper** *Erynnis tages*. Flixweed *Descuriania sophia*, the foodplant for Grey Carpet, was confirmed on 12 plots and the adult moth seen on four plots. The **Forester** moth was recorded on 12 plots. Monitoring work will continue through a new three year project *Norfolk Brecks Heathland Restoration for Threatened Butterflies*

and *Moths*, funded by Wren, starting in January 2010.

The project included survey work along several field margins and Grey Carpet was confirmed in high numbers at these sites. Working in partnership with landowners and other organisations will help ensure that more cultivated field margins are included as part of annual management at sites and included in Higher Level or Entry Level Stewardship schemes, thus helping sustain the project outcomes.

Contributed by Sharon Hearle *Regional Officer* ([shearle@butterfly-conservation.org](mailto:shearle@butterfly-conservation.org)) and Dr. Sam Ellis *Head of Regions*.

## 4.8 Butterfly Conservation in the South West of England

### The Two Moors Threatened Butterfly Project

The Two Moors Threatened Butterfly Project is a landscape scale project operating across Dartmoor and Exmoor, to reverse the declines in Britain's three most rapidly declining fritillary butterflies: the **Marsh Fritillary** *Euphydryas aurinia*, **High Brown Fritillary** *Argynnis adippe* and **Heath Fritillary** *Melitaea athalia*.

Project resources are targeted to areas within the moors where greatest potential exists to restore and re-connect suitable habitat to support populations of the target species and other wildlife. The project works with farmers and landowners within these areas, providing habitat management advice and help in securing funding to pay for management works, including scrub control and fencing to facilitate grazing.

For example, the Tor Valley in Dartmoor is a priority area for the Marsh Fritillary butterfly, and consists of around 50ha of rhos pasture, covering seven separate holdings. Three of these holdings are now supported by funding through agri-environment schemes secured through the project. Habitat in the network is being managed through extensive grazing and scrub control. The Marsh Fritillary appears to be responding well, with surveys for 2009 showing a sharp rise in abundance on previous years.

In Exmoor, the project has been working with landowners to restore habitat for the High Brown Fritillary at key sites in the Exe Valley. The butterfly has not been recorded here in recent years, so efforts are under way to put appropriate management in place to encourage re-colonisation of the valley. The project has helped to secure agri-environment funding for two of the holdings, and is providing advice to two others in the process of applying. Management works have included fencing to enable grazing by Exmoor ponies, extensive gorse control and bracken management.

During the last year, the project has visited 66 sites, resulting in management works being agreed on 22 sites, two sites entering into the Higher Level Stewardship scheme, and Conservation Plans being produced for eight sites.

The project works closely with conservation and voluntary organisations in the restoration of extensive networks of suitable habitat. Public events, training workshops and work parties undertaken in the last year involved a total of 68 people, and many more are planned for the coming year.

Contributed by Jenny Plackett *Two Moors Project Officer* ([jplackett@butterfly-conservation.org](mailto:jplackett@butterfly-conservation.org))

### The Neroche Scheme (south Somerset)

The 2009 summer was the fourth for this large Forestry Commission led landscape project spanning the border of Somerset and Devon; and with the weather only slightly better than the previous two years – the expected outcomes for key species were undoubtedly compromised.

The great deal of work done in this part of the Blackdown Hills Area of Outstanding Natural Beauty

has been successful in re-creating open habitats within the extensive forest landscape.

Since 2006, areas of open habitat covering over 283ha have been created, with six of them (224ha) now being managed as fenced forest grazing units using the scheme's 100-strong herd of English Long-horn cattle. These areas extend and enhance existing grassland and other open habitat refuges. Butterfly Conservation has advised on habitat management and assisted with its implementation on five of the main sites.

Within this landscape, up to 40 sites have been surveyed with varying regularity through each summer for butterflies and moths by BC Branch volunteers, contractors and staff. On six sites, long running butterfly transects have continued to provide monitoring data.

Detection levels during surveys, and monitoring, were also adversely affected, but it seems very likely that the expansion in the range and size of the **Wood White** *Leptidea sinapis* population observed in 2007 and 2008 has not been consolidated. The colonisation of the first clear-felled grazing unit by **Dingy Skipper** *Erynnis tages* has, however, been maintained, and further colonisations seem likely.

Numbers of **Small Pearl-bordered Fritillary** *Boloria selene* have shown a marked reduction during the 2007-09 period, as in other regions. It does not yet appear to have been able to capitalise on the changing habitat conditions, in part perhaps as these are still developing.

The sole population of **Marsh Fritillary** *Eurodryas aurinia* in the project area, at Buckland SSSI (aka Quants), continued the decline observed since 2004 and appears to have become extinct in 2008. On this same site **Duke of Burgundy** *Hamearis lucina* numbers in 2009 were slightly below recent averages but showed some dispersal in response to the more open habitat. On Keepers Field, another site in the forest, 2009 numbers of this species also stayed lower than recent peaks, but in both cases this is perhaps a reasonable outcome given the acute declines seen in other regions. On both these sites the new grazing regimes have been having increasing effects on the sward – reducing dominant grasses and woody plants to the benefit of flowering plants, but not without also affecting the usual flowering abundance. Though only small numbers are recorded, the monitoring results for these Duke of Burgundy colonies do appear comparable to a local stronghold site on which the management by hand cutting has remained reasonably constant and low key.

Assessments of the May to November 2009 grazing regime, which ranged between 0.5 and 0.8 livestock units/ha on the three forest units, show that the cattle are becoming very effective in reducing sward bulk to levels that improve floral diversity, and control problem species including the bulky pendulous sedge and the ever persistent bramble.

Contributed by John Davis *Head of Reserves* ([jdavis@butterfly-conservation.org](mailto:jdavis@butterfly-conservation.org))

## 5 Lepidoptera Recording Updates

### 5.1 Moths Count and the National Moth Recording Scheme

The *Moths Count* project is now entering its final stages. Over the past 3 years some 4000 people have experienced moths via 95 public moth events and our *Garden Moths Count* online survey. In addition, we've run 110 free training events which have been attended by almost 1500 moth recorders. Further training events are planned for 2010 and details can be found on the new and much improved Moths Count website ([www.mothscount.org](http://www.mothscount.org)).

The National Moth Recording Scheme (NMRS) database now contains 8.2 million moth records both current and historical from 109 vice-counties. As a result the first provisional distribution maps for over 20 years are now available on the Moths Count website. Moth records from the NMRS are also available on the National Biodiversity Network gateway. These are visible down to 2km resolution to the public but they will be accessible at finer resolution to conservation agencies for conservation planning. Many thanks to all County Moth Recorders and individual lepidopterists involved. To see your moth records on the maps send them to your County Moth Recorder (listed on the Moths Count website). Butterfly Conservation is committed to the continuation of the NMRS beyond the life of the

Moths Count project and funds are being sought to secure the future running and maintenance of this important resource.

Moths Count has been helping to conserve UK BAP priority moths by training recorders in identification, survey techniques and appropriate habitat management. Last year a third of the training workshops were focussed on UK BAP moths including the **Sloe Carpet** *Aleucis distinctata*, **Heart Moth** *Dicycla oo*, **Slender Scotch Burnet**, **Scarce Pug** *Euphithecia extensaria occidua*, **Welsh Clearwing** *Synanthedon scoliaeformis*, **Straw Belle** *Aspitates gilvaria*, **White-spotted Pinion** *Cosmia diffinis* and **Marsh Moth** *Athetis pallustris*.

Highlights for the year ahead include the production of a provisional atlas and further moth recorders' conferences. To be kept informed of all progress and events join the Moths Count mailing list by contacting 01929 406009 or [nmrs@butterfly-conservation.org](mailto:nmrs@butterfly-conservation.org).

Moths Count is a partnership of many organisations, individuals and businesses, led by Butterfly Conservation. Principal funders include the Heritage Lottery Fund, Butterfly Conservation, Environment Agency, British Entomological and Natural History Society, City Bridge Trust, Countryside Council for Wales, Natural England, Northern Ireland Environment Agency, Royal Entomological Society, RSPB and Scottish Natural Heritage.

Contributed by Dr. Zoë Randle *Moth Recording Co-ordinator* ([zrandle@butterfly-conservation.org](mailto:zrandle@butterfly-conservation.org))

## 5.2 Butterflies for the New Millennium

The past year has been a particularly busy one for Butterflies for the New Millennium (BNM), the butterfly recording scheme for the UK, Isle of Man, Channel Islands and Republic of Ireland. 2009 was the final year in the five-year recording cycle, and all records from 2005-2009 will be used for the next assessment of the state of our butterflies.

Recording continues to go from strength to strength. 2009 proved to be one of the best years for recording since the BNM project began in 1995. So far, over 508,000 butterfly distribution records have been collated in the national database for 2009 alone (this includes summary transect data), one of the highest annual totals ever. Over 2.3 million records have been gathered for the five-year period. This brings the total number of records in the BNM database to 7.68 million (covering the period 1690-2009).

The 2005-09 data will undergo final verification checks and then be analysed. Later in the year, we plan to produce a new *State of Britain's Butterflies* report based on the BNM results and also on trends from the UK Butterfly Monitoring Scheme. This will be made available to politicians, policy makers and conservation practitioners to ensure that all of the hard work put in by recorders and Local Co-ordinators is used to maximum effect to benefit butterflies and their habitats.

Up-dated distribution maps will also be made available on the National Biodiversity Network Gateway.

2010 sees the start of a new five year recording period, and the maps are effectively blank again. It is vital to keep recording, as the information gathered by the BNM scheme underpins almost all efforts to conserve our butterflies. At the local level, records enable informed decisions to be made about the protection and management of sites, while nationally, the BNM data have been instrumental in defining conservation priorities via the UK BAP and the brand new Red List of British Butterflies (available on the JNCC website).

We are very grateful to the John Ellerman Foundation and Natural England for funding during the year.

Contributed by Richard Fox *Surveys Manager* ([fox@butterfly-conservation.org](mailto:fox@butterfly-conservation.org))

### 5.3 Butterfly monitoring – progress in 2009

2009 marked the twelfth year of national collation of butterfly transect data by Butterfly Conservation, and the second year of the UK Butterfly Monitoring Scheme (UKBMS) phase II project, jointly run by BC and the Centre for Ecology and Hydrology (CEH) and funded by a consortium of governmental agencies led by Defra.

The UKBMS II project has three main linked objectives:

- (1) To maintain ongoing monitoring and surveillance activities, for three years.
- (2) Annual reporting, assessment and interpretation of population trends for butterflies, for three years.
- (3) The production of a costed development plan for the future of butterfly surveillance and monitoring, within one year.

Highlights in 2009 included:

#### Data collation

Improvements in efficiency and increases in the volume of data collated continue to be made. 654 transect datasets (75% of the total) were received by the end of November deadline, compared with 603 in 2008. By the end of January 2010, data from 894 transects had been collated, with 96% received electronically in Transect Walker format. We additionally received data from 116 timed/larval web count sites, meaning that the total number of monitored sites exceeded 1000 for the first time in 2009.

#### Reporting

A National Recorders meeting was held in March 2009 and attended by approximately 100 people. The production of the UKBMS annual feedback report to recorders for 2008 was compiled in the autumn. The 57-page report contains the latest trends and results from the UKBMS and can be downloaded from [www.ukbms.org](http://www.ukbms.org).

The report highlighted that 2008 was a poor year for butterflies - the second worst since the start of the scheme in 1976, and the worst since 1981. Twelve species had their worst year, including **Small Tortoiseshell** *Aglais urticae*, **Small Skipper** *Thymelicus sylvestris*, **Large Skipper** *Ochlodes sylvanus*, **Lulworth Skipper** *T. acteon*, **Dingy Skipper** *Erynnis tages*, **Wood White** *Leptidea sinapis*, **Orange-tip** *Anthocharis cardamines*, **Green Hairstreak** *Callophrys rubi*, **White-letter Hairstreak** *Satyrrium w-album*, **Pearl-bordered Fritillary** *Boloria euphrosyne*, **High Brown Fritillary** *Argynnis addipe* and **Small Heath** *Coenonympha pamphilus*. There was a noticeable absence of migrants after several good years. On the positive side it was a good year for some of the Browns including **Ringlet** *Aphantopus hyperantus* and **Speckled Wood** *Parage aegeria*.

Butterfly biodiversity indicators were updated (covering 1976-2007) for England, Scotland and the UK, whilst draft indicators were compiled for Wales and south-west England. UKBMS data also contributed to a candidate European Climate Change Butterfly Indicator. Most of the butterfly indicators showed further decreases in 2007. The composite measure for habitat specialists dropped in abundance by a third across England, Wales and the UK as a whole, but increased by 8% in Scotland. The biggest annual decrease for specialists (37%) was at farmland sites in England. Wider countryside species decreased by 25-33%, except in Wales where there was a more modest drop of 12%. The Scottish butterfly indicator was assessed by smoothing for the first time, with the revised trend indicating that habitat specialists are doing worse in Scotland than previously suspected, with a significant decline in abundance of almost 50% since 1979. The draft Welsh indicator showed that habitat specialist butterflies decreased by 83% between 1976 and 2007.

#### Wider Countryside Butterfly Survey (WCBS)

Following four years of pilot studies, the WCBS was launched in 2009. The WCBS is run as a partnership BC, CEH and the British Trust for Ornithology (BTO), with participants including BTO's BBS recorders and BC volunteers. There was an excellent response to the survey. In total 1642 visits were made to 763 randomly selected 1km squares by 611 recorders, who collectively walked 3300km of survey line, counting 119,000 butterflies of 47 species.

More than three-quarters of the UK's regularly occurring butterfly species were recorded. Good coverage (present in more than 30 squares) was achieved for all of the target wider countryside species, with the exception of **Scotch Argus** *Erebia aethiops* (found in 17 squares). Optional spring visits boosted coverage for several species including **Brown Argus** *Plebeius agestis* and **Wall Brown** *Lasiommata megera*, with the main bonus being good coverage for the Orange-tip (present in 65 squares).

The most widely recorded species recorded over the core July and August period was the **Large White** *Pieris brassicae*, occurring in nearly 90% of squares, whilst the most abundant species was the **Meadow Brown** *Maniola jurtina* with over 15,000 individuals counted. Two browns (Meadow Brown, **Gatekeeper** *Pyronia tithonus*) and three whites (**Large White**, **Small White** *P. rapae*, **Green-veined White** *P. napi*) accounted for two thirds of all butterflies counted. On average, recorders counted 80 individual butterflies of 8 species per survey made over the July and August period, confirming that an 'average WCBS' visit is likely to yield a reasonable butterfly return. Over the same period, on average 130 individual butterflies of 9-10 species were seen on UKBMS butterfly transects (of mean length 2km).

WCBS surveyors were encouraged to count dragonflies and day-flying moths, with records generated in 383 squares (50% of the total). 439 moths of 52 species were counted in 233 squares, whilst 2370 dragonflies of 28 species were counted in 285 squares.

The scheme will run again in 2010, although on an extremely small budget, and we hope that volunteer recorders will once again take part en-masse, to ensure the continued success of this exciting new scheme.

### Future of butterfly monitoring

A costed development plan was submitted to the agencies in spring 2009, and is awaiting approval and refinement. The main recommendations were:

- To maintain the current network of sites monitored annually by transects and timed counts as a high priority
- To enhance the efficiency of the existing transect network through development of the volunteer network, combined with analytical and statistical developments, as a medium priority.
- To establish a wider countryside survey component within the UKBMS as a high priority.
- To instigate the co-ordination of a rolling programme of priority species surveys as a medium priority

Contributed by Tom Brereton *Head of Monitoring* ([tbrereton@butterfly-conservation.org](mailto:tbrereton@butterfly-conservation.org))

## 6 News and Notes

### 6.1 Butterfly Conservation Europe: Update for 2009

Butterfly Conservation Europe has continued to grow and develop several important projects despite lack of core funding. We held our second meeting of BC Europe partners at Laufen in January 2009, attended by over 50 lepidopterists from across Europe. The number of partners has now grown to 37 organisations from 34 countries, creating a unique body of expertise. Our biggest project this year has been to work with IUCN on a new Red List of European butterflies to be published on their website in early 2010. The research has been led by Chris van Swaay of Dutch BC and has involved the collation of updated status and trends on every species from every European country.

Another major project has been started to build capacity of volunteers in Turkey, in order to start documenting the butterflies of this exceptionally rich and diverse country. The project is funded under the BBI Matra programme of the Dutch Government and is run with our NGO partner in Turkey, Doga Koruma Merkezi. We have also been contracted via Dutch BC to update the European Grassland Butterfly Indicator in 2010. We expect this will show the continuing rapid decline of this group of species.

BC Europe has continued to make substantial contributions to policy-making within Europe thanks to the voluntary work of Sue Collins, European Policy Advisor. She has contributed to policy development and implementation at EU level, both directly to EU officials and in collaboration with European Networks such as the European Habitats Forum. During 2009 she has focussed on lobbying for a new target to halt the loss of biodiversity post 2010 and develop a long term vision for biodiversity to 2050.

A central challenge remains the core funding of Butterfly Conservation Europe as few potential funders have been identified to develop the network and provide the essential support for partners. We applied for an EU grant for core funding of NGOs and await the result during early 2010.

Further details can be found at [www.bc-europe.eu](http://www.bc-europe.eu)

Contributed by Dr. Martin Warren, *Chief Executive* ([mwarren@butterfly-conservation.org](mailto:mwarren@butterfly-conservation.org)).

## 6.2 Update on Butterfly Conservation Reserves

In 2009 Butterfly Conservation reviewed the implementation of its Reserves Acquisition Strategy to identify current priorities and needs. This involved an assessment of a means of ranking BAP species to ascertain those most likely to benefit from reserves as conservation measures. It also included a confirmation of the need to consolidate and expand the coverage and effect of most existing BC reserves. This process had already been underway in recent years, and during this year extension cases were progressed, one culminating in a major new acquisition early in 2010.

This concerned Rowland Wood in East Sussex, a 31ha extension to our Park Corner Heath Reserve, which has become the core of the last known **Small Pearl-bordered Fritillary** *Boloria selene* population in south-east England.

At least six BC reserves have the status of being a regionally significant site (e.g. the sole known, or strongest colony) for a threatened or rare Lepidoptera species. It is felt that further BC acquisitions could, and should, focus on similar sites subject to careful evaluation of the likelihood of conservation successes or the target species becoming extinct.

Recent results for key species on our reserves seem to reflect the vagaries of recent weather patterns, and surprise responses by the insect populations, more than being clear consequences of our management regimes.

On Lankham Bottom in Dorset the **Marsh Fritillary** *Euphydryas aurinia* population appears to be building again after a steep decline presumably linked to the reduction in foodplant cover and the appearance of its parasitoid *Cotesia bignelli*.

Prestbury Hill in Gloucestershire had missed two winter grazing seasons as a result of a lack of available cattle. The site is in an area with an increasing incidence of bovine TB. Thanks to the cut and collect tractor flail belonging to the adjoining Cleeve Common conservators, winter grass cutting provided a good substitute. It is not known to what extent this, along with the summer weather in 2007-09, were influences on the **Duke of Burgundy** *Hamearis lucina* population which in 2009, against widely observed losses in the Cotswolds generally, showed a tenfold increase in numbers from 2005 and was recorded more widely on the reserve, including the Mast Field part where it had not previously been seen despite 30 years of monitoring. **Small Blue** *Cupido minimus* numbers on this large limestone grassland reserve have generally always been strong, the varied topography and soil depths making it relatively easy to obtain a diverse sward structure though light winter cattle grazing.

Another surprise, given the weather related low numbers recorded in 2008, was the abundance of **Heath Fritillary** *Melitaea athalia* on the Lydford Old Railway reserve in Devon. The total recorded on a single transect count visit was the highest count yet for this reserve.

Another positive result, in step with regional and national trends, has been the growth in the **Silver-Washed Fritillary** *Argynnis paphia* population in Grafton Wood in Worcestershire, as the wood has continued to be opened up by coppicing and thinning. The number recorded on transect have grown from singletons five years ago to over 50 in 2009.

In the same county however, the **Wood White** *Leptidea sinapis* in Monkwood, a reserve jointly owned and managed with the Worcestershire Wildlife Trust, appears near to extinction despite sustained ride-side and coppice management since the mid 1990s when the site was a stronghold.

Contributed by John Davis, *Head of Reserves* ([jdavis@butterfly-conservation.org](mailto:jdavis@butterfly-conservation.org)).

### 6.3 National Moth Night 2009

National Moth Night (NMN) 2009, organised jointly by Atropos and Butterfly Conservation, took place on 18 and 19 September. This year, in a break with tradition, there were no species or habitat targets. Instead, immigrant lepidoptera were captured, marked and released from numerous sites with recaptures being recorded during the two targeted nights.

Over 22,000 records were received for both nights, comprising over 600 species from 114 vice-counties.

Immigrant Lepidoptera numbers continue to remain low; however, **Silver Y** *Autographa gamma* headed the table with more records and sites than all other immigrants put together.

At the time of writing data processing and verification is still taking place. The full results with details of any recaptures and significant records will appear in the spring 2010 issue of Atropos. The full report for NMN 2008 was published in the autumn 2009 issue of Atropos.

The date for NMN 2010 is 15 May and this year Atropos and Butterfly Conservation are delighted to be working with the Bat Conservation Trust ([www.bats.org.uk](http://www.bats.org.uk)) to encourage bat recording alongside moth recording. Full details will be made available at [www.nationalmothnight.info](http://www.nationalmothnight.info) in due course. If you are organising an event that you would like to include on the website please send details to [events@nationalmothnight.info](mailto:events@nationalmothnight.info).

Contributed by Les Hill, *Data Manager, National Moth Recording Scheme* ([lhill@butterfly-conservation.org](mailto:lhill@butterfly-conservation.org)).

### 6.4 Conserving Lepidoptera on Forestry Commission Land

In Scotland, Forestry Commission Scotland part-funded the Species Action Framework project (see section 4.1). As part of this project site advice was delivered for the two key woodland butterflies (**Pearl-bordered Fritillary** *Boloria euphrosyne* and **Chequered Skipper** *Caterocephalus palaemon*) on the National Forest Estate. In addition, training was provided for Woodland Case Officers who assess woodland applications under the Scottish Rural Development Programme and web-based technical notes written for both species to help direct potential SRDP applicants to the most relevant sections of SRDP.

In Wales Butterfly Conservation staff have reassessed the status of priority Lepidoptera on Forestry Commission Wales holdings in the light of the UKBAP revisions and taking forward actions for key species, including further survey and the putting together of work plans (see section 4.3).

In May 2007, the joint '*Lepidoptera on Forestry Commission land in England, Conservation Strategy 2007-2017*' was launched in partnership with Forestry Commission England. We are now implementing this strategy. The Strategy details 140 Forestry Commission England sites known to be important for butterfly and moth species. The sites identified cover up to 8,000ha of woodland and associated open habitats such as heathland and limestone pavement.

Two of the key objectives of the Strategy are to raise awareness of the woodlands identified and to ensure that these sites feature as priorities in both the forest design planning process and the daily management of the woodlands. To share and promote good management practices and to ensure the profile of the strategy is maintained, email newsletters are produced twice a year. In 2009, the newsletter has included articles about the *Herefordshire Wood White Project* and the *Neroche Scheme* in south Somerset (led by Forestry Commission England, with support from Butterfly Conservation), the Basil Thyme Case-bearer in the Norfolk and Suffolk Brecks and an update from Butterfly Conservation's *South East Woodlands Project*, with a case study from the Rother Woods area.

In 2009 Butterfly Conservation staff carried out surveys, provided management advice, organised events on Forestry Commission England sites and facilitated/contributed to management on some Forestry Commission England sites. In addition to this work, a district wide review meeting was held in Sherwood Forest District with relevant Forestry Commission England staff, including the District Ecology and Biodiversity Officer, District Forester, Land Management and Beat Foresters. In addition to Butterfly Conservation staff, volunteers involved in monitoring sites were also able to offer valuable insight and advice. During the meeting, progress with habitat management and constraints to progress were discussed and advice on appropriate management (including a site visit) was provided.

For more information about the Strategy, Butterfly Conservation's work on Forestry Commission England sites, or to receive a copy of the newsletter, please contact Bernadette Noake ([бноake@butterfly-conservation.org](mailto:бноake@butterfly-conservation.org) 01929 406004).

## 6.5 Butterfly Conservation Publicity Highlights

2009 was very successful for publicity and raising the profile of butterflies and moths in the press.

The first big press release of the year highlighted the decline of British butterflies in April '09. This received significant coverage in The Telegraph, The Times, The Independent, The Daily Mirror, The Daily Mail and many more. Dr. Martin Warren took part in an interview on ITN and Dr. Katie Cruickshanks (Wider Countryside Butterfly Monitoring Scheme Co-ordinator) was interviewed on BBC news 24, with Dr. Tom Brereton (Head of Monitoring) doing a number of radio interviews on the subject.

**The Painted Lady** *Vanessa cardui* influx of 2009 resulted in substantial coverage, from papers such as The Times, The Telegraph, The Sun, The Mirror, The Daily Mail and The Guardian. A follow-up press release was also sent out encouraging people to count Painted Ladies in their gardens over the weekend. Many radio interviews along with some BBC regional TV coverage occurred as a result. We received coverage in The Independent, The Times, The Telegraph and The Guardian for our press release on **The Queen of Spain** *Issoria lathonia* influx in Sussex. We have also received great coverage in a number of the larger regional papers.

A June press release covered the topic of moths migrating north and received strong coverage in The Telegraph, The Daily Mail and the The Times amongst many others. Publicity for *Garden Moths Count*, also in June (part of the *Moths Count Project*) was also strong in 2009 with a press release asking the public to look out for two species in particular: **The Scarlet Tiger** *Callimorpha dominula* and the **Peppered Moth** *Biston betularia*. This was picked up by The Daily Mail, The Guardian and many others, with interviews on many regional BBC radio stations as well as great coverage in a number of gardening magazines.

This year's *Save Our Butterflies Week* took the theme "crazy about butterflies" to link in with historical novelist Fiona Mountain's latest book *Lady of the Butterflies*. The week encouraged people to celebrate butterflies and their beauty. The Daily Telegraph, The Independent, The One Show (BBC1), Woman's Hour (BBC Radio 4), The Daily Telegraph, The Sun, The Daily Express, The Times, The Guardian and The Daily Mail all provided us with great coverage, as did numerous BBC Radio shows and news bulletins including Radio Four, who also used our theme for their *Thought for the Day*. Many online news channels also featured *Save Our Butterflies Week* on their websites.

During 2009 we worked closely with The Independent's Environment Correspondent Michael McCarthy as the paper conducted its *Great British Butterfly Hunt*. This long-running theme resulted in significant coverage of butterfly related stories over the season.

We were contacted by the Chris Evans show (BBC Radio 2) in August to follow up a moth related story, and put Dr. Zoe Randle (Moth Recording Co-ordinator) up for interview. Such was her passion for the subject of moths and her rapport with Chris, that she was invited back on the show for a further three consecutive evenings (which we believe to be a record). Zoe was able to get across key messages for both Butterfly Conservation and the *Moths Count Project*, and get in a few plugs for the then upcoming National Moth Night in September. Richard Fox (Moths Count Project Manager) was also interviewed on BBC Radio 5 Live's Drivetime Show on the subject of moths.

Coverage was also received on our press release on the Autumn butterfly invasion. The Independent, The Guardian, The Daily Express, Bird Guides magazine and many others highlighted the reasons why butterflies are still in decline despite the Painted Lady influx. Regional publicity was also very successful with regional staff being interviewed for number of radio broadcasts as well as local newspapers.

In December we issued a press release regarding the need to protect traditional apple orchards due to their significance for the **Mistletoe Marble** *Celypha woodiana*. This story received coverage in The Times, on BBC News and in Bird Guides magazine, as well as on The Daily Mail website.

Contributed by Louise Keeling, Senior Publicity Officer ([l.keeling@butterfly-conservation.org](mailto:l.keeling@butterfly-conservation.org))

## 6.6 Pine Tree Lappet *Dendrolimus pruni* in Scotland

**Pine-tree Lappet** was first recorded in Scotland in 2004 when an adult male was trapped on the outskirts of Inverness. In 2007 two further adults were caught near Kiltarlity, about 14km west of the Inverness site, with six further adults in the same location in 2008.

The Forestry Commission (FC) believe that Pine-tree Lappet is a recent arrival from Europe that could cause serious ecological and economic disruption to Scotland's pine forests by reducing habitat for many forest-dwelling species, increasing the risk of forest fires through the creation of excess dead wood and even threaten local employment in already economically fragile areas: it should, therefore, be eradicated. They have, therefore, launched a Pest Contingency Plan and set up an Outbreak Management Team.

However, contact with European lepidopterists and foresters by Butterfly Conservation (BC) suggests that Pine-tree Lappet is highly unlikely to become a pest species in Scotland. In Europe it is only considered a pest species in the drier parts of Poland and Germany where pines are growing in dry and poor soils. It has also been suggested that Pine-tree Lappet may be an overlooked resident species.

In 2009 FC set up 282 pheromone traps at 47 sites to help establish the extent of the population, eight moths were caught at five sites. In addition targeted survey work co-ordinated by BC using MV light and pheromone traps found 90 adults (all males) giving a total of seven recorded sites, all within 6km of Kiltarlity.

To prove that there was a breeding population FC felled forty-two mature Scots pine trees, at the seven sites where adults had previously been recorded. One large larva was found, as well as a cocoon with pupal remains. Subsequently, 1900 sticky bands were placed on trees at the seven sites to monitor caterpillars as they descended to the woodland floor to hibernate. Thirty-three caterpillars were found in four of the seven sites showing that a low density breeding population is present in the area.

In order to help try to determine the origins of the Scottish population, Forest Research (FR) undertook DNA analysis on 18 Scottish specimens and compared them with six samples from Germany. The German samples showed higher diversity, with the Scottish samples showing a narrow genetic base. This may indicate recent colonisation by one or very few individuals.

Alternatively, it could indicate a 'bottle-neck' has occurred in a long established or resident population (i.e. the population has dropped to very low levels in the past). It was agreed that there remains the **possibility** that it is an over-looked native. Further DNA work, including comparison with samples from elsewhere in Europe, is therefore planned to see if this will provide further evidence on which to base judgments.

FC, FR, BC and Scottish Natural Heritage (SNH) met in late September to discuss these findings and future action. Although it was agreed that the moth has the **potential** to become a pest, FC and FR currently believe it is more, rather than less, likely that it poses a major threat to forestry in Scotland. They are looking at a range of management options, including eradication, but have assured BC that no action will be taken without further consultation with BC and SNH.

In contrast, and based on the available evidence, BC believes that it is unlikely that the Pine-tree Lappet will become a pest in Scotland and that eradication is not warranted. Moreover, BC feels that eradication may already be impractical. Both parties, however, agree that the results from further survey, wider DNA analysis, climate matching and monitoring are required to help better inform future action and will continue to work closely together in an open and professional manner, despite our current differences of opinion.

Contributed by Dr Tom Prescott, *Species Conservation Officer, Scotland*

#### **Pine-tree Lappet Survey - Saturday 19th June Kiltarlity - Inverness Area.**

A series of records of Pine-tree Lappet and the recent discovery of caterpillars has shown there to be a small resident population around Kiltarlity near Inverness, the origins of which are uncertain. A Pine-tree Lappet survey night is planned for Saturday 19th June, meeting at 8.30pm at the Brockies Lodge Hotel, Kiltarlity (Grid Ref NH514418). The focus will be on looking for new sites rather than confirming its presence at currently known sites. Please get in touch with Tom Prescott or David Barbour if you are able to assist on the night, or to offer help during the remainder of the flight season (latter half of June into early July). Access permission and permits to trap may be required.

Tom Prescott: Tel: 01540 661469 Mobile: 07979 785665 Email: [tprescott@butterfly-conservation.org](mailto:tprescott@butterfly-conservation.org)

David Barbour: Tel: 01340 871850 Mobile: 07896 783245 Email: [dbfis@btinternet.com](mailto:dbfis@btinternet.com)

### **6.7 Dungeness— no new Power Station, but a new threat looming**

Early in 2009, Butterfly Conservation, along with Buglife, took part in the Nuclear Power Siting Consultation undertaken by the Department of Energy & Climate Change, highlighting the biodiversity importance of Dungeness, Kent. Dungeness is one of the most important sites in the country for invertebrate diversity, supporting a wide range of scarce and threatened species. This is reflected in the moth interest, the site supporting the only known British population of the **Sussex Emerald** *Thalera fimbrialis*, the largest population of the **White Spot** *Hadena albimacula* in the country and one of two known UK breeding sites for the case-bearing moth ***Coleophora galbulipennella***, amongst many others. It was therefore a great relief that the Energy and Climate Secretary Ed Miliband announced in autumn 2009 that Dungeness was not being progressed as a potential new build site, citing reasons such as biodiversity interest as well as coastal erosion and flood risk.

This relief was short-lived however, as early in 2010, against the recommendations of their planners, Shepway District Council approve Lydd Airport's re-submitted plan of handling up to 500,000 passengers per year. At the time of writing Natural England had asked the Secretary of State to call in the application.

Contributed by Mark Parsons, *Head of Moth Conservation* ([mparsons@butterflyconservation.org](mailto:mparsons@butterflyconservation.org))

## 6.8 Light pollution report

The potential impact of light pollution on moth populations was highlighted, late in the year, in the Royal Commission on Environmental Pollution's report entitled *Artificial Light in the Environment*, this is available for download at <http://www.rcep.org.uk/reports/sr-2009-light/sr-light.htm>.

Contributed by Mark Parsons, *Head of Moth Conservation* ([mparsons@butterflyconservation.org](mailto:mparsons@butterflyconservation.org))

## 7 Selected Bibliography

### Lepidoptera literature 2009 – Mark Parsons & Richard Fox

This section intends to be a highly selective bibliography of references primarily of conservation importance or relevance published during 2009, but also includes taxonomic works, such as those that may aid identification. This is not comprehensive and it is probable that we have overlooked some references, for example there are useful articles in the newsletters of local moth groups and Butterfly Conservation branch newsletters that have not been trawled for the purposes of this summary. If there are any significant oversights, please let us know and we will try to include them in next year's update. **Unfortunately, we are not able to offer a reference service.**

BC produces *Butterfly*, three times a year, which includes illustrated articles on a wide range of Lepidoptera and their conservation. The 2008 Annual Exhibition of the British Entomological and Natural History Society is summarised in the *British Journal of Entomology and Natural History*, **22**: 159-187. There are also many useful records in the field meetings reports in that journal. Dr Paul Waring produces a column on moths for each edition of *British Wildlife* magazine; this covers many aspects of moth recording and conservation. Nick Bowles and Richard Fox produce a similar column for butterflies in the same journal. The results of National Moth Night 2008 are covered by M. Tunmore and L. Hill in *Atropos*, No. 38: 36-55. The GMS (Garden Moth Scheme), co-ordinated by David Grundy, have produced seasonal newsletters over the year, highlighting trends for some species, whilst we received the Light-trap Newsletter 2008 from Rothamsted Research late in 2009, this summarising some of the results and changes in the network. The Microlepidoptera Review of 2007 by J.R. Langmaid & M.R. Young has been published in the *Entomologist's Record and Journal of Variation*, **121**: 13-32, with that for 2008 by the same authors published in the *Entomologist's Record and Journal of Variation*, **121**: 265-287.

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### **UK BAP Priority species – Butterflies**

(See also Butterfly Conservation reports section below)

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(See also Butterfly Conservation reports section below)

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## Butterflies

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## Appendix A

### Current UK BAP Priority butterfly species (2007 list)

<b>Common name</b>	<b>Scientific name</b>
Brown Hairstreak	<i>Thecla betulae</i>
Chequered Skipper	<i>Carterocephalus palaemon</i>
Dingy Skipper	<i>Erynnis tages</i>
Duke of Burgundy	<i>Hamearis lucina</i>
Glanville Fritillary	<i>Melitaea cinxia</i>
Grayling	<i>Hipparchia semele</i>
Grizzled Skipper	<i>Pyrgus malvae</i>
Heath Fritillary	<i>Mellicta athalia</i>
High Brown Fritillary	<i>Argynnis adippe</i>
Large Blue	<i>Maculinea arion</i>
Large Heath	<i>Coenonympha tullia</i>
Lulworth Skipper	<i>Thymelicus acteon</i>
Marsh Fritillary	<i>Eurodryas aurinia</i>
Mountain Ringlet	<i>Erebia epiphron</i>
Northern Brown Argus	<i>Aricia artaxerxes</i>
Pearl-bordered Fritillary	<i>Boloria euphrosyne</i>
Silver-studded Blue	<i>Plebejus argus</i>
Small Blue	<i>Cupido minimus</i>
Small Heath	<i>Coenonympha pamphilus</i>
Small Pearl-bordered Fritillary	<i>Boloria selene</i>
Wall	<i>Lasiommata megera</i>
White Admiral	<i>Limenitis camilla</i>
White Letter Hairstreak	<i>Satyrium w-album</i>
Wood White	<i>Leptidea sinapis</i>
<b>Total</b>	<b>24</b>

### Current UK BAP Priority moth species (2007 list)

<b>Common name</b>	<b>Scientific name</b>
Argent & Sable	<i>Rheumaptera hastata</i>
Ashworth's Rustic	<i>Xestia ashworthii</i>
Barberry Carpet	<i>Pareulype berberata</i>
Barred Tooth-striped	<i>Trichopteryx polycommata</i>
Basil-thyme Case-bearer	<i>Coleophora tricolor</i>
Beautiful Pearl	<i>Agrotera nemoralis</i>
Belted Beauty	<i>Lycia zonaria britannica</i>
Betony Case-bearer	<i>Coleophora wockeella</i>
Black-veined Moth	<i>Siona lineata</i>
Bordered Gothic	<i>Heliophobus reticulata</i>
Bright Wave	<i>Idaea ochrata cantiata</i>
Brighton Wainscot	<i>Oria muscosa</i>
Chalk Carpet	<i>Scotopteryx bipunctaria</i>
Chalk-hill Lance-wing	<i>Epermenia insecurella</i>
Clay Fan-Foot	<i>Paracolax tristalis</i>
Common Fan-foot	<i>Pechipogo strigilata</i>
Concolorous	<i>Chortodes extrema</i>
Cousin German	<i>Protolampra sobrina</i>
Currant-shoot Borer	<i>Lampronia capitella</i>
Dark Crimson Underwing	<i>Catocala sponsa</i>
Dark-bordered Beauty	<i>Epione vespertaria</i>
Dingy Mocha	<i>Cyclophora pendularia</i>
Dorset Tineid Moth	<i>Eudarcia richardsoni</i>
Drab Looper	<i>Minoa murinata</i>
False Mocha	<i>Cyclophora porata</i>

Fenn's Wainscot	<i>Chortodes brevilinea</i>
Fiery Clearwing	<i>Pyropteron chrysidiformis</i>
Forester	<i>Adscita statices</i>
Four-Spotted Moth	<i>Tyta luctuosa</i>
Fuscous Flat-body Moth	<i>Agonopterix capreolella</i>
Goat Moth	<i>Cossus cossus</i>
Greenweed Flat-body Moth	<i>Agonopterix atomella</i>
Grey Carpet	<i>Lithostege griseata</i>
Heart Moth	<i>Dicycla oo</i>
Horehound Long-horn Moth	<i>Nemophora fasciella</i>
Large Gold Case-bearer	<i>Coleophora vibicella</i>
Least Owlet	<i>Scythris siccella</i>
Light Crimson Underwing	<i>Catocala promissa</i>
Liquorice Piercer	<i>Grapholita pallifrontana</i>
Lunar Yellow Underwing	<i>Noctua orbona</i>
Marsh Mallow Moth	<i>Hydraecia osseola hucherardi</i>
Marsh Moth	<i>Athetis pallustris</i>
Mistletoe Marble	<i>Celypha woodiana</i>
Narrow-bordered Bee Hawk-moth	<i>Hemaris tityus</i>
Netted Carpet	<i>Eustroma reticulata</i>
Netted Mountain Moth	<i>Macaria carbonaria</i>
New Forest Burnet	<i>Zygaena viciae argyllensis</i>
Northern Dart	<i>Xestia alpicola alpina</i>
Olive Crescent	<i>Trisateles emortualis</i>
Orange Upperwing	<i>Jodia croceago</i>
Pale Shining Brown	<i>Polia bombycina</i>
Pied Tineid Moth	<i>Nemapogon picarella</i>
Reddish Buff	<i>Acosmetia caliginosa</i>
Rest Harrow	<i>Aplasta ononaria</i>
Sandhill Pigmy Moth	<i>Stigmella zelleriella</i>
Sandhill Rustic (Cornish ssp.)	<i>Luperina nickerlii leechi</i>
Scarce Aspen Knot-horn	<i>Sciota hostilis</i>
Scarce Aspen Midget Moth	<i>Phyllonorycter sagittella</i>
Scarce Brown Streak	<i>Aplota palpella</i>
Scarce Crimson & Gold	<i>Pyrausta sanguinalis</i>
Scarce Long-horn Moth	<i>Nematopogon magna</i>
Scarce Pug	<i>Eupithecia extensaria occidua</i>
Scarce Vapourer	<i>Orgyia recens</i>
Shoulder-striped Clover	<i>Heliopsis maritima</i>
Silky Wave	<i>Idaea dilutaria</i>
Slate Sober Moth	<i>Syncopacma albipalpella</i>
Slender Scotch Burnet	<i>Zygaena loti scotica</i>
Sloe Carpet	<i>Aleucis distinctata</i>
Small Dark Yellow Underwing	<i>Anarta cordigera</i>
Speckled Footman	<i>Coscinia cribraria bivittata</i>
Straw Belle	<i>Aspitates gilvaria gilvaria</i>
Striped Lychnis	<i>Shargacucullia lychnitis</i>
Surrey Midget Moth	<i>Phyllonorycter scabiosella</i>
Sussex Emerald	<i>Thalera fimbrialis</i>
Sword-Grass	<i>Xylena exsoleta</i>
Water-dock Case-bearer	<i>Coleophora hydrolapathella</i>
Western Sober Moth	<i>Syncopacma suecicella</i>
White-mantled Wainscot	<i>Archanara neurica</i>
White-spot	<i>Hadena albimacula</i>
White-spotted Pinion	<i>Cosmia diffinis</i>
White-spotted Sable Moth	<i>Anania funebris</i>

**Total 81**

(including 71 research only  
species, not shown here)

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