

## Annual Review of Miserden Park Butterfly Transect 2010

### Summary

Last summer (2009) we had the cattle grazing – some would say overgrazing - for the whole of the summer – and although at the time we thought this might be harmful, it didn't reduce the butterfly count. In 2009, the transect recorded 1380 (the average for the ten years before 2007 is about 1000). The grazing has favoured growth of short sward species of plant throughout the transect. Some of these plants are used by butterflies as 'foodplants' for their caterpillars. The weather this year favoured butterflies, with warm dry weather especially through the middle part of the summer, and the Total count for this year was **1506**, one of the best years ever. Cattle were on site during September and October and watched over by the 'lookers'. With experience we hope our control of the cattle as a grazing instrument will improve. The Cotswold Wardens cut the bracken in May and are returning for other tasks during the coming winter. Butterfly Conservation management will transfer to Ian Grange.

### Species Counts

Small Skipper	More than twice as many as any year since 1998.
Essex Skipper	None recorded. We usually see one – most seen was 7, in 2007.
Large Skipper	Best year ever – 33% above average.
Dingy Skipper	Best year since 1998. 8 seen, against just one last year.
Brimstone	16, about average, seen.
Large White	51 seen, average is about 30. Where do they breed?
Small White	31, ditto
Green-veined White	156. See 'Comment'.
Orange Tip	26, which says it was a 'good' year.
Small Copper	14, twice the number seen in any year.
Brown Argus	13! A very good year!
Common Blue	160, twice as many as any year since 1997.
Red Admiral	Average, 8. Not the usual immigrant numbers this year.
Painted Lady	Just 1 – a return to normality!
Small Tortoiseshell	6, down from 16 last year. This species is being predated by a fly. (Equilibrium between the predator and the host has not yet been established?)
Peacock	95, one of its better years.
Comma	18, an average year, but half of last years, and well above the two of 2008.
Silver-washed Fritillary	13. Variable numbers seen since the explosion in 2006, but relatively a good year.
Speckled Wood	58, an average number since 1993 when the scrub got going.
Marbled White	31. Our records indicate a 7-year cycle of 'bust and boom' where we are nearing 'bust'.
Gatekeeper	135. Average year.
Meadow Brown	175. About average, but the 2004 to 2008 were better.
Ringlet	339. Best since 1997
Small Heath	None seen since 2006.

The transect walks were made by Ken Cservenka and John Skelton .

## Comment

### Hesperiidae - The Skippers.

This year produced the highest counts of **Large and Small Skippers** for many years, especially in Compartment 3, so the question is – “Where did the adults lay their eggs?” or “was it just the good weather in their flight period?” They lay their eggs in grass stems, about 15 inches above the ground, in late May, and June respectively. Last year this was when the cattle were in Compartment 3 until June 20<sup>th</sup>, and there was very little grass higher than 5cm all summer, so where was the grass 15 inches high for that generation to use? – or, Did this years butterflies fly in from elsewhere?

**Dingy Skippers** fly in late May and June, the only one seen last year (in transect section 10) was on about June 1<sup>st</sup>. By that time the early grazing had exposed its food plant, in warm conditions in transect section 1, and this year 6 of the 8 recorded were seen in this section. Not since 1998 have there been 6 seen in any one section, and that was in section 5. These records indicate that the Dingy Skipper seems to be able to move several hundred yards, across woodland, and find a site which has its food plant.

### Pieridae – the Whites

The large increase in **Green-veined Whites** recorded last year was repeated this year and the most likely explanation is that we are now correctly identifying them. The habitat should give a preference to this species, being damp, and it is significant that most are seen in the riverside sections. To compensate the **Small White** numbers have fallen by nearly the same amount. **Brimstone, Large White** and **Orange Tip** numbers show little change. The only two food plants for the Brimstone are found around the meadow, and we are planning to increase these when a new hedge is planted. Although Large White is a pest to gardeners not many are found in the countryside, unless it is a good ‘immigrant’ year, and that didn’t happen this year. All the species breed on crucifers and there are plentiful small versions found in the wild.

### Lycaenidae - The Blues

2010 seems to have been a good year for the Blue family in Gloucestershire, and this was true at Miserden – at least now it is able to respond when the conditions are good. One example is the **Small Copper** where twice as many as we have ever seen were counted. 9 of the 14 seen were in Section 1, and 8 of those in the first flight period of May. It’s food plant is sorrel.

The **Brown Argus** is not recorded every year, and then only in small numbers. 13 were seen, mostly in Section 1, and its food plant is usually Rockrose.

It seems a long time since 2001 when we only counted one Common Blue on the whole of the transect, and the immediate benefit of the Welsh Blacks that winter have been commented on before. This year we saw twice as many as ever before, 161, mostly in Sections 1,5 and 6, where we had noticed a marked increase in its food plant as a result of the grazing.

### Nymphalidae

This group were not expected to be affected by last years grazing – unless eggs or caterpillars got eaten – and by and large they showed little change. The immigrants, **Painted Lady** and **Red Admiral** failed to show up in any number and so their counts decreased, but **Peacock** was just a little better (weather?) The **Comma** has shown a cyclical behaviour of boom and bust and we could be on our way to the third bust, next year. The small colony of **Silver-washed Fritillary**, a woodland species, had an above average year with most being seen in Section 5 whose habitat of violets in glades suits them best.

The Brown’s – **Speckled Wood to Small Heath** – all seem to have had an average year, which indicates that our fears about caterpillars being eaten when we put the cattle into Compartment 1 at the time they were feeding have been proved groundless. (We are on a learning curve!) The

exceptions – **Marble White**, which is of concern nationally, seems to show boom and bust behaviour at Miserden, and is on its way down at the moment as it approaches the end of a second cycle, whereas the **Ringlet** goes from strength to strength. It is favoured by wet summers, and shows a dip in 2007 after the summer of 2006, so presumably we must expect a check on its growth curve next year. We are still hoping that the **Small Heath** will return.

## The Grazing

This was the second year cattle grazed, and unlike last year when they were present all summer this year they were present from the last few days of July until (early November?) in the shape of one cow and three young steers. At a meeting in May to sort out a grazing rota for several local sites we chose September and October. The thinking was that caterpillars will be mostly absent, the ground is dry and therefore not prone to heavy poaching, and if there is little growth after October then in the following Spring the site won't be too different from one which has been winter grazed, which is what most site managers prefer.

Although we gave priority to Compartment 1 – the meadow – and necessarily, for water supply, Compartment 2, the eating power of our four animals wasn't enough to cope with the grass supply, which needed at least another couple of weeks when they had to be moved into Compartment 3. Here they were also unable to get the sward height down in the time they had. We need to discuss cattle density, age, and/or timing with the grazier, and we are in discussion about having some cattle in March/April in 2011.

## General Review

Looking at the graphs several of the species that flew in mid-summer have doubled or trebled in number. This was probably as a result of the warm dry conditions in those months. Again, looking at the graphs, and comparing year 2010 with 2006, which was an outstanding summer, shows that the habitat was not then in a fit state to allow the butterflies to react in the way they have been able to this year. This is seen as an indication that for these species the habitat at Miserden is improving.

Over the last ten years since more positive management of the site has been in place, a general increase in numbers of butterflies has occurred from a low point of less than 700 to the present 1500, and the number of species is now up to 22, (one down on last year –Essex Skipper), but the trend is up - an improvement from the low point of 19 in 2000 and 2002. The slow removal of scrub will continue and the Cotswold Wardens will send working parties this winter. Liaison with the grazier should also lead to improved habitat. The 'lookers' and the cattle are a critical part of management and their continued use will be an important factor in improving habitat. On site we still have much to learn, and accurate records and observation will be essential.

On account of anno domini David Perkins is retiring (but will be available to advise) and Ian Grange [ian.grange@rac.ac.uk](mailto:ian.grange@rac.ac.uk) will take over the overall co-ordination for Butterfly Conservation.

David Perkins  
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