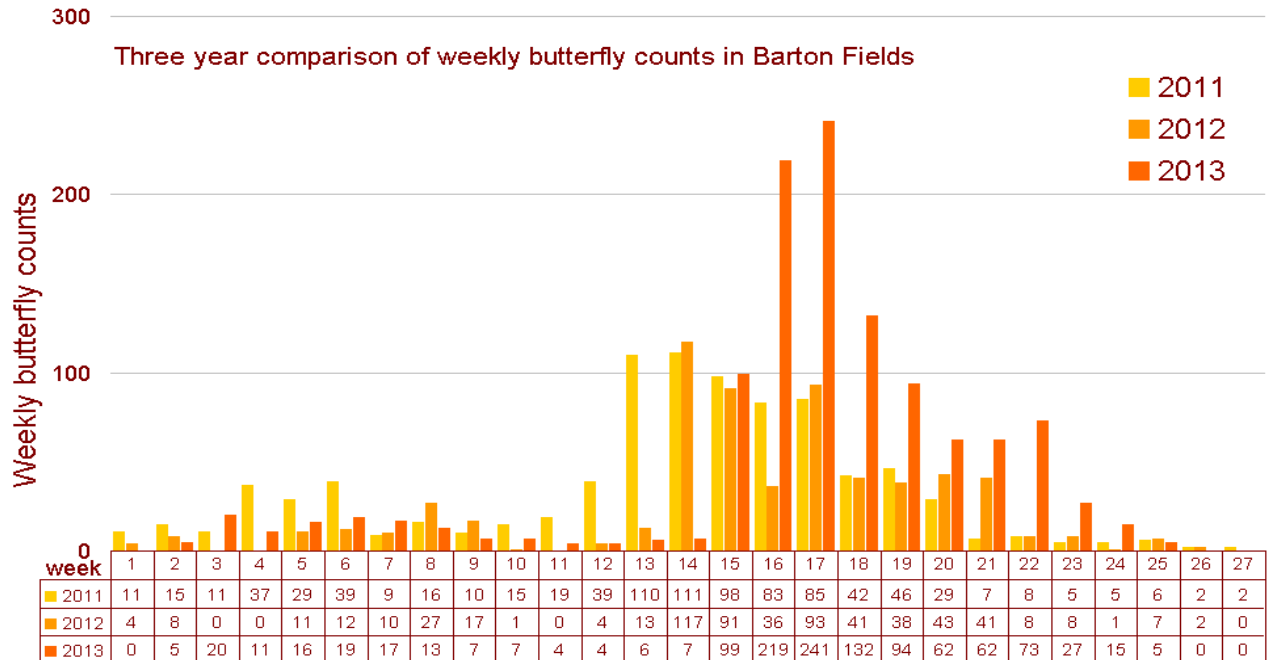


# BUTTERFLIES IN BARTON FIELDS – UPDATE 2013

For the last four years a group of Green Team members have surveyed butterflies in Barton Fields as part of the UK Butterfly Monitoring Scheme. The survey involves 27 weekly transects, in the period April to September, and is undertaken by five volunteers, on a rota.

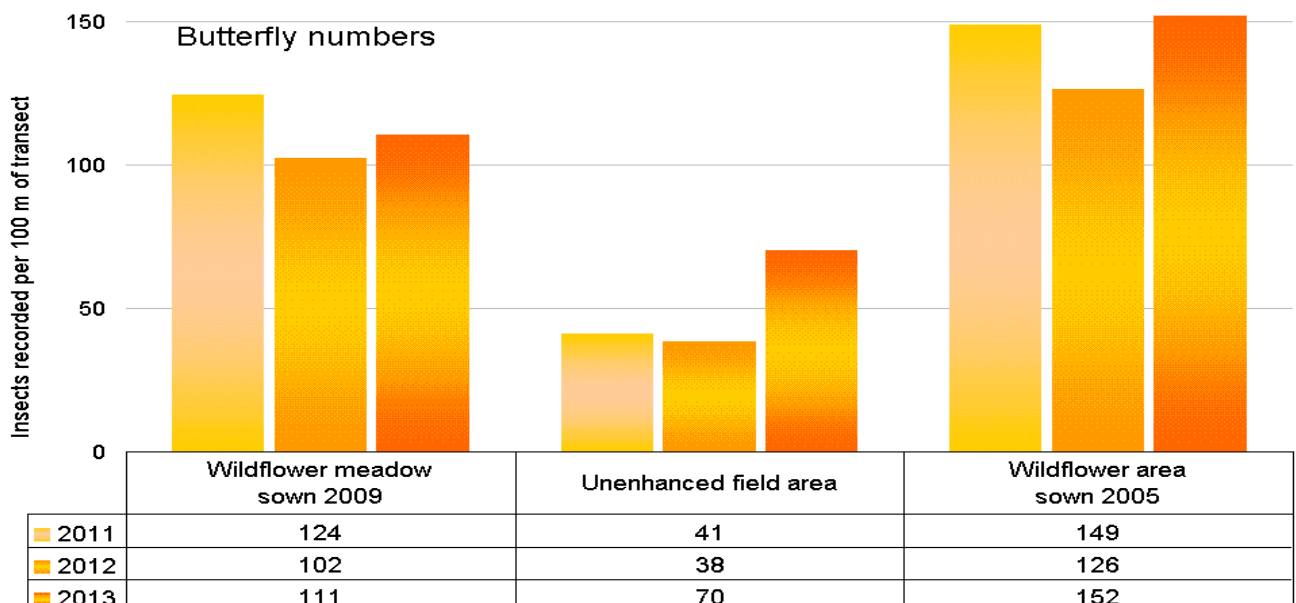
The weekly fluctuations in abundance over the three years can be seen in the chart below. Numbers are always low during the first three months after which they pick up, due to the emergence of the summer species such as Skippers, Blues and Browns.



For the purpose of the survey, the Field was divided into eleven sections. Records from just three grassland sections are presented below, with the aim of investigating the effects of grassland management. The three sections comprise:

- A 0.5 ha wildflower meadow, sown and planted in 2009 and mowed twice yearly
- An un-enhanced mid-field area, part of which is mown twice yearly
- An area at the west end, seeded in 2005, but not mowed

The chart below, shows the abundance of butterflies in these three sections, clear evidence that the flower-rich areas are beneficial.

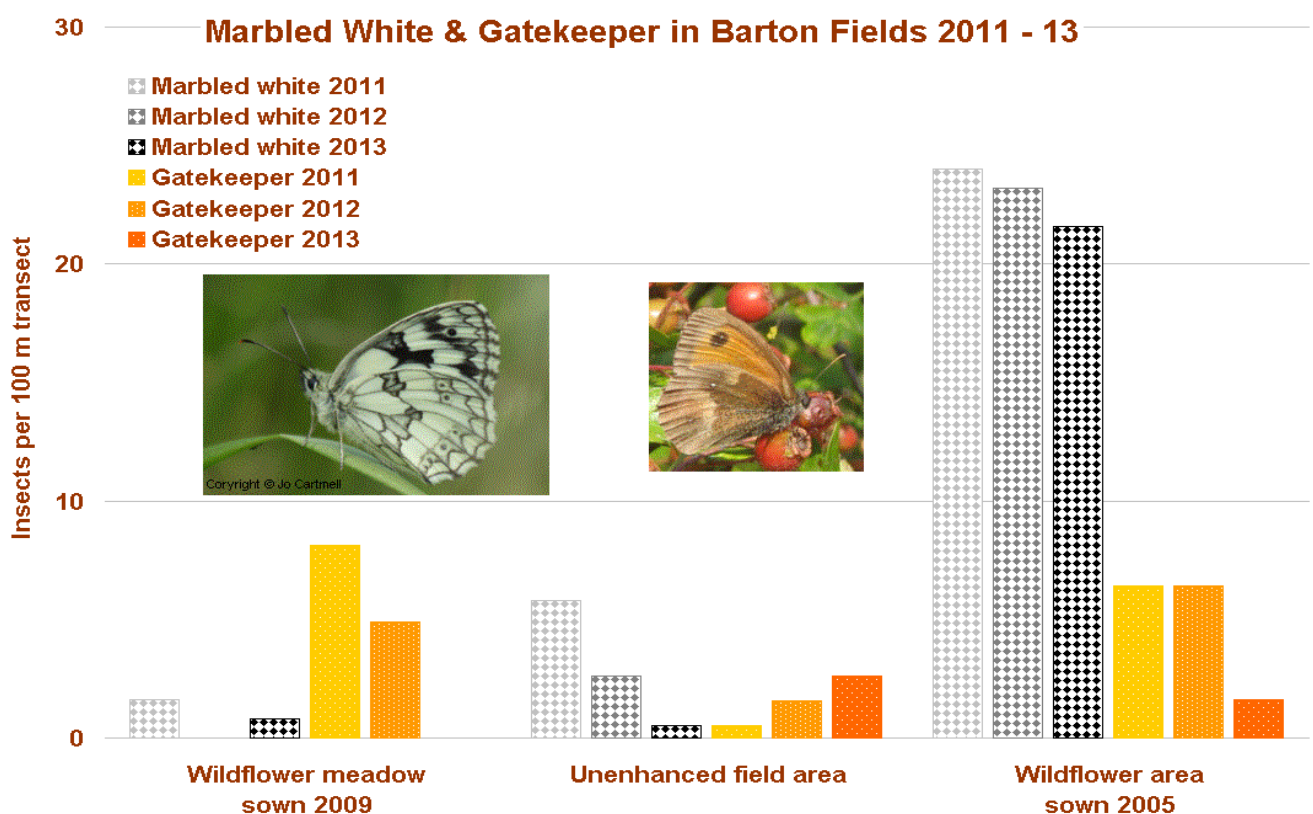
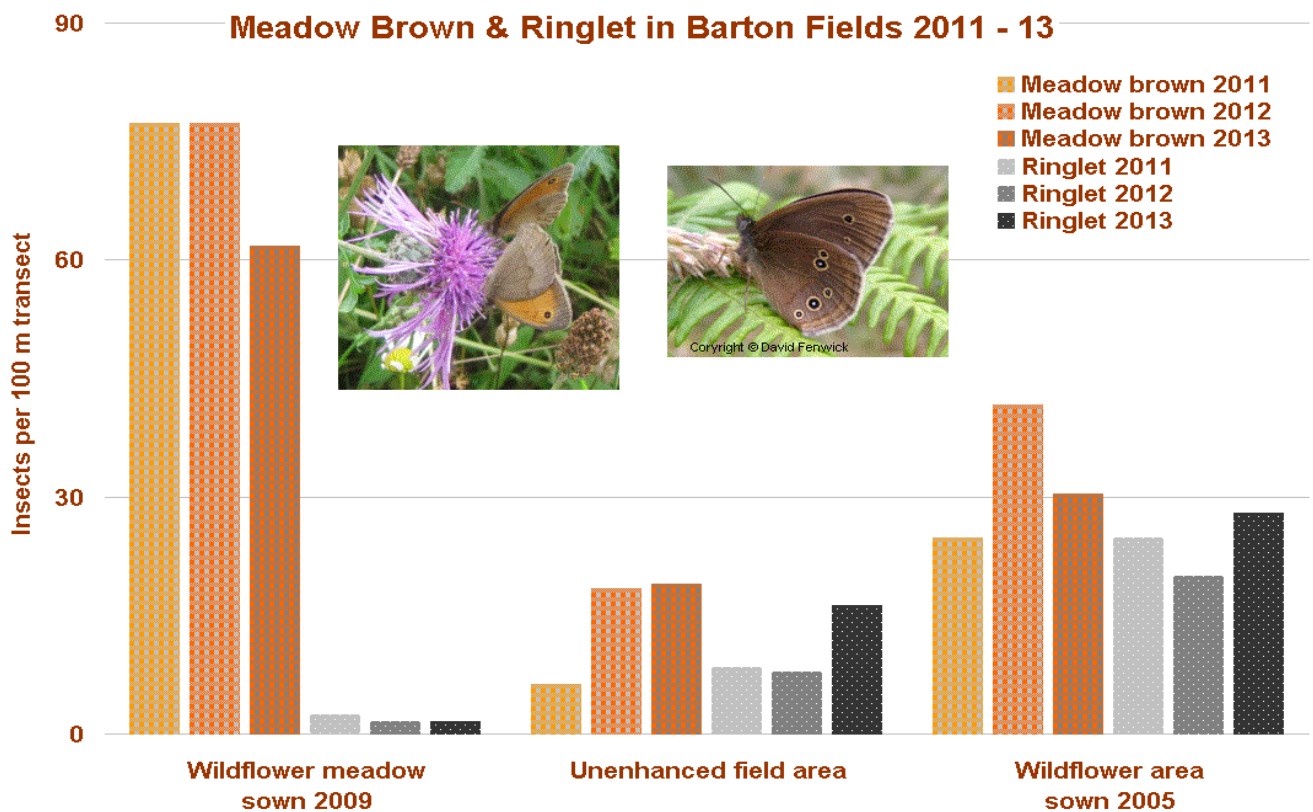


Although the wet summer of 2012 caused a decrease in numbers, the effect surprisingly, was not very pronounced in these grassy areas.

The abundance of grassland butterfly species, in these three areas, is examined in more detail in the following sections.

### **Browns – Meadow Brown, Ringlet, Gatekeeper & Marbled White**

For the Browns, the yearly changes can be seen in the two charts below. In general, despite extremes of weather (the wet summer of 2012 and the hot summer last year) there was surprisingly little variation in the numbers of the various Brown species.



There was a significant fall in numbers of Meadow Brown and Gatekeeper in 2013, possibly because the previous poor summer affecting their breeding. In contrast, the Ringlet butterfly seems to have increased slightly in 2013.

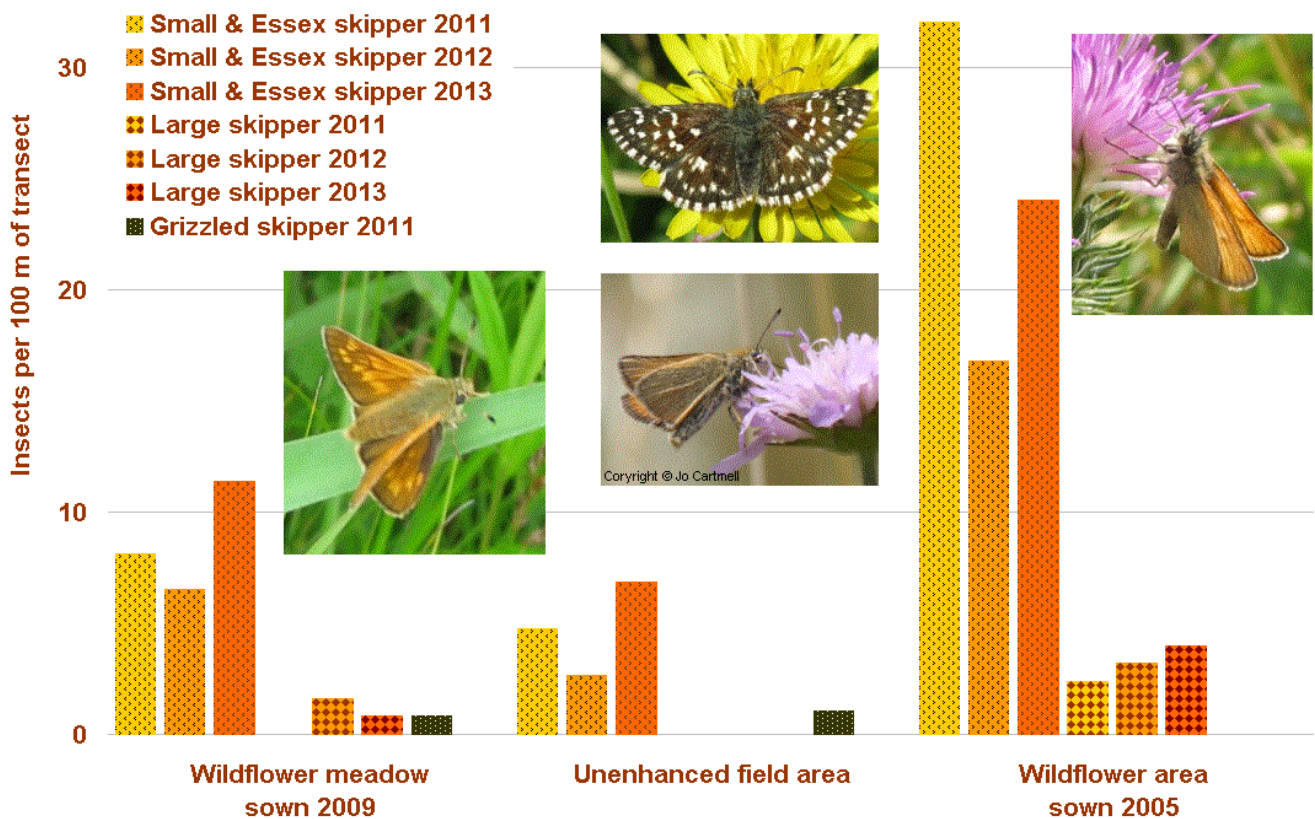
With regard to distribution within Barton Fields, the wildflower meadow sown in 2009, has a preponderance of Meadow Browns whereas the area seeded in 2005 holds the majority of Marbled Whites, and has a greater diversity of other Brown species. The Marbled Whites' preference for this area is probably because Red Fescue grass, the larval food plant, grows there.

### Skippers - Small Skipper, Essex Skipper, Large Skipper & Grizzled Skipper

The Small and Essex Skippers species have not been separated in the chart below, as they can be distinguished only by close inspection of their antennae, not always possible during surveys. However, based on positive identifications, both species are present in comparable numbers. These two species were most abundant in the 2005-seed area, less abundant in the 2009-seeded area and least abundant in the un-enhanced area. Overall, numbers in 2012 were down by about 50% compared to 2011, but recovered well in 2013.

The Large Skipper was seen in both of the seeded areas, more in the area sown in 2005. This species was not numerous enough to deduce a significant trend.

### Skippers in Barton Fields 2011 - 13



The Grizzled Skipper, was seen only in 2011, in very small numbers.

### Blues - Common Blue, Brown Argus and Small Copper

Both Common Blue and Brown Argus caterpillars produce substances attractive to ants, which attend them and help to protect them from predators. These ants also make special cells in their hills, into which Brown Argus pupa are carried. This may happen also with the Common Blue. Numerous anthills of Yellow Meadow Ant and Black Ant species are found in the 2005-seeded area. A few anthills are found in the un-enhanced area, and none in the 2009-seeded area, which is subject to flooding.

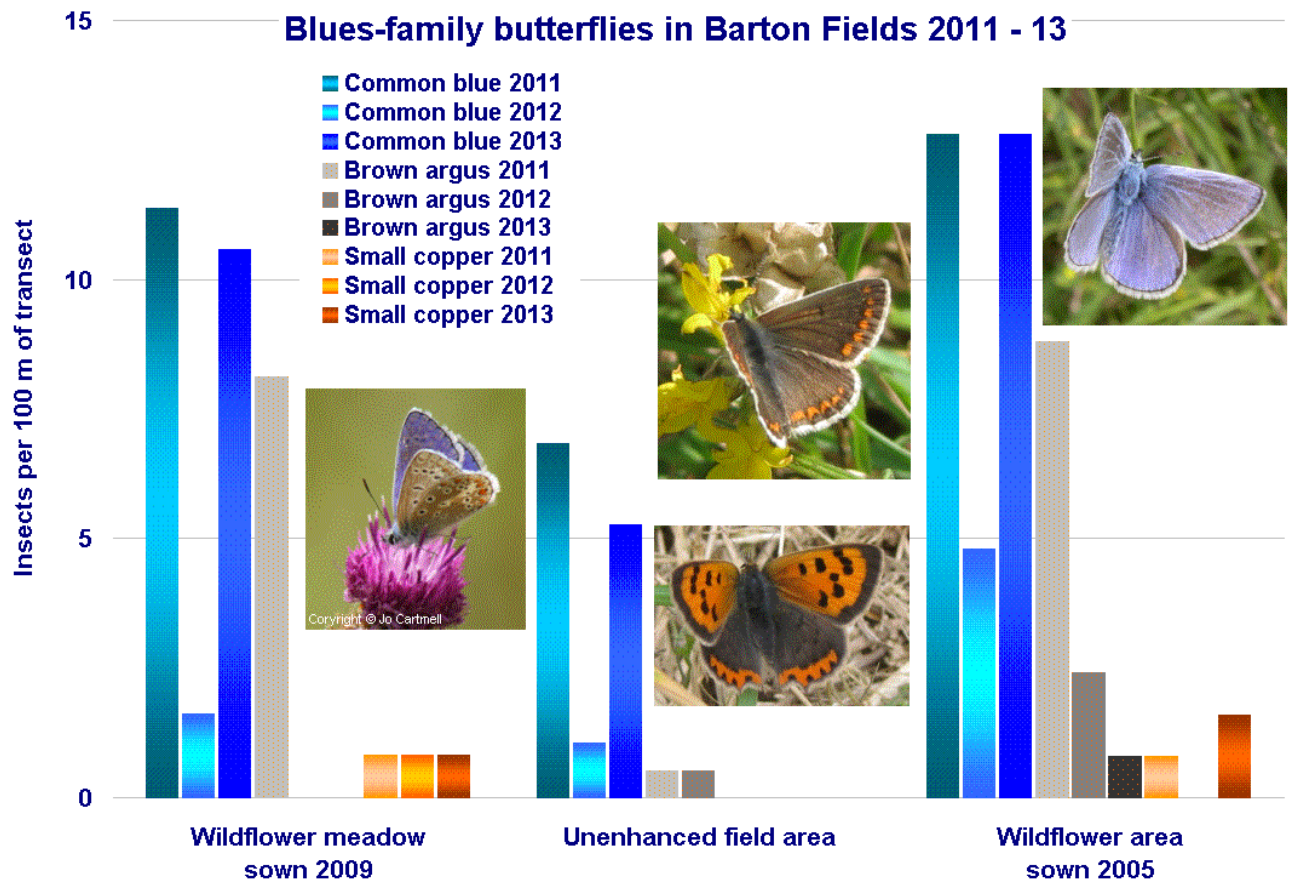
Generally more Common Blue and Brown Argus were found in the two seeded areas, though significant numbers were also seen in the unenhanced area.



Numbers of both species were drastically down in 2012, in both spring and summer broods, though the effect was less apparent in the 2005-seeded area. It is possible that the presence of ants and anthills in this area may have been helped in 2012.

It appears that the combination of cool wet weather in 2012 and the absence of ants may have been responsible for the drastic reduction in Blue numbers in the 2009-seeded area.

Small Copper butterflies have been present in low numbers each year. The Green Team planted their food plant, Sorrel, in 2013, with the aim of increasing the abundance of this attractive little butterfly.



Recorders who have participated over the four years of the survey: Adrian Allsop, Norma Blamires, Jo Cartmell, Eleanor Dangerfield, David Guyoncourt, Helen Stoner, Vivienne Summers.