

## FAIRFIELD BUTTERFLY SURVEY 2022

### The broader picture.

In the UK 8% of resident species have become extinct and overall numbers have declined by around 50% since 1976 (Butterfly Conservation 2021). Across Europe there has been a 39% decline in grassland species since 1990. The causes of decline are very similar anywhere in Europe. Habitat loss and degradation (including grassland abandonment and lack of woodland management) and chemical pollution in the form of herbicides and pesticides are major contributing factors. Climate change is allowing many species to spread northwards while bringing new threats to vulnerable species.

### Purpose of the Surveys

It is well understood that invertebrate populations, their density and variation are a key element in developing biodiversity and reflect the overall biological health of an area. Butterflies are a key indicator species and are relatively easy to survey throughout a large area of land, and the aim of this survey and report is to help with decision making in the future vegetation and land management in Fairfield Nature Reserve.

### Method

The survey was amended based on findings of 2021, and taking into account availability of surveyors and the need to train volunteers in a simple methodology. It was decided to do one continuous route taking in all the main habitat areas, and splitting the route into 8 lengths. All the route was along the hedge boundaries and field margins of the areas. (Map 1). Due to the training need the surveys were not started until July and three were carried out in total.

Length 1 East side of Big Meadow.

Length 2 Hay Meadow

Length 3 Upper Sowerholme, Lower Sowerholme.

Length 4 North and east side Flora Field from Oak tree to gate.

Length 5 Flora Field along pond boundary to top corner.

Length 6 Flora Field Pony Wood boundary to gate by Little Wood

Length 7 Long Pads path to orchard

Length 8 Orchard

The survey, following UKBMS methodology, was carried out on 6/7/22, 3/8/22 and 31/8/22

The training survey was carried out by Hilary Smith and Peter Tilley. Trainees were Mollie Foxall, Susan Condor, Lucy Richardson, Helena, Wendy Jones Nakanishi.

### Results

#### 1 Factors affecting the results:

- **Weather conditions:** As butterflies emerge and fly at different times, different species will have been affected by heavy rain, heatwave, cool cloudy or windy conditions.
- **Surveyor availability:** On the days when volunteers were available, the weather was not always ideal.
- **Management:** some margins were cut during survey period, and other management such as hedge trimming or grazing would have an impact on butterfly activity and species.
- **Length of transect:** varied so it would be expected that Area 4 would have a higher count than other areas.
- **Presence of nectar or caterpillar foodplants.**

## 2 Species recorded:

In blue are species seen last year but not this.

Species	Caterpillar foodplant	Species	Caterpillar Foodplant
Small Skipper	Grasses	Red Admiral	Nettle
Large Skipper	Tussocky grasses	Small Tortoiseshell	Nettle
Brimstone	Alder Buckthorn	Peacock	Nettle
Large White	Brassica family	Painted Lady	Migrant, thistle, dock
Small White	Brassica family	Comma	Varied, wood edges
Green-veined White	Crucifers	Speckled Wood	Tussocky grasses
Orange Tip	Crucifers -Cuckoo Flower/Hedge Garlic	Gatekeeper	Shady, fine grasses
Small Copper	Common Sorrel	Meadow Brown	Tussocky grasses
Common Blue	Bird's Foot Trefoil	Ringlet	Tussocky grasses
Holly Blue	Holly and Ivy		

Of the 12 species recorded:

Although all butterflies were at very low numbers, the most populous were the Green-veined White and Meadow Brown.

Area	Number of species
1	3
2	3
3	2
4	2
5	4
6	5
7	2
8	2

## 3 Analysis of the Results

The number and timing of the surveys cannot be representative of the complete status of butterflies at Fairfield. However, the weekly casual recording surveys carried out by Christine Bennett between March and August can fill out a picture of butterfly presence around Fairfield. These surveys do not follow exactly the Butterfly Conservation UKBMS methodology and are done following paths rather than across fields which reflects the number of butterflies using hedge boundaries as would be expected.

Species recorded extra to those listed above are Orange Tip, Peacock, Comma and Small Tortoiseshell.

### **Conclusion**

The butterfly surveys this year have been mostly as a means of training volunteer surveyors, rather than an accurate picture of butterfly populations and species present at Fairfield. The recommendations given last year still stand and could be actioned.

Now more volunteers have been trained in the technique, so it is proposed to carry out more surveys next year. However, the route may be changed and shortened to concentrate on the interior of fields, such as the beetle banks, Lucy Brook banks, more of Lower Sowerholme and in Pony Wood, as long as Christine continues her surveys. More surveyors will be trained.