

Harestone Moss
Butterfly and Bumblebee Survey
August 2022



Peacock butterfly on creeping thistle, Harestone Moss. Aidan Maccormick/Northwoods

1. Introduction

Northwoods Rewilding Network carried out a butterfly and bumblebee survey at Harestone Moss, Aberdeenshire, on August 9th, 2022. The purpose of the visit was i) to map and record the diversity of bumblebees and butterflies present; and ii) explore potential for ecological surveys of wetland habitat in the future.

The results of the surveys below provide a snapshot of species diversity, abundance and distribution of butterflies and bumblebees across Harestone Moss in late summer/early autumn. These results can be used, along with other data, as an ecological baseline against which to measure future ecological change and rewilding progress.

The conditions for surveying both butterflies and bumblebees were perfect on the day of survey with light variable winds (Beaufort 1-2), moderate cloud cover (50%) and a max temperature of 24C in the afternoon.

2. Methods

Butterfly surveys were carried out following the Wider Countryside Butterfly Survey methods. Full details of the survey methods can be found here: <https://ukbms.org/wider-countryside-butterfly-survey>. Bumblebees were surveyed using methods broadly following the [BeeWalk](#) survey by the Bumblebee Conservation Trust. A single continuous transect of approximately 3.6km covering as many habitat types as possible was walked slowly (see transect route in Figures 1 and 2). All butterflies and bumblebees were recorded to species level, where possible, on a 1:25,000 Ordnance Survey map. Not all observations of white butterflies (*Pieridae*) could be identified to species level and were simply recorded as 'white sp.'. For bumblebees, species-level identification was possible for most individuals except for white-tailed and buff-tailed workers. In this situation each observation was simply recorded as white/buff-tailed. Flowering plants being visited by bumblebees and butterflies were also recorded.

3. Survey results

3.1. Butterflies

We recorded a total of 11 species of butterfly. Table 1 below lists number of each species and the plants they visited. Figure 1 shows locations they were observed.

Table 1. Harestone Moss butterfly survey results

Species	Number of individuals	Plant species
Small copper	2	Mayweed
Common blue	2	
Green-veined white	23	Sow thistle, marsh thistle
Large white	1	
Meadow brown	2	
Painted lady	1	
Peacock	2	Water mint, creeping thistle
Red admiral	7	
Ringlet	1	
Small tortoiseshell	4	Creeping thistle
Grayling	2	
White sp.	9	

3.2. Bumblebees

We recorded five bumblebee species. Table 2 below shows the number of each species recorded and notes on which plants they were visiting to collect nectar or pollen. The map in Figure 2 shows location of sightings.

Table 2. Harestone moss bumblebee survey results

Species	Number of individuals	Plant species
Buff-tailed bumblebee	1	Dog violet
Common carder bumblebee	12	Bird's-foot-trefoil, marsh woundwort, water mint
Garden bumblebee	2	Meadow vetchling, white-dead nettle
Red-tailed bumblebee	13	
White-tailed bumblebee	2	Water mint
White/buff-tailed bumblebee	5	

4. Discussion

The results show that Harestone Moss supports a range of butterflies and bumblebees due to a mixture of habitat types from marsh to dry grassland. These results represent only a brief snapshot of the diversity and abundance of these two groups recorded on a single day. Butterfly species differ in their emergence times and can have several 'peak' periods of abundance in a single season. Similarly, bumblebee abundances are often linked to weather conditions and availability of food plants. Therefore, a survey approach using several visits throughout the spring and summer would provide greater detail on year-to-year changes for these two groups.