OUSEBURN FARM

BUTTERFLY & DRAGONFLY

SURVEY, 2025

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2025

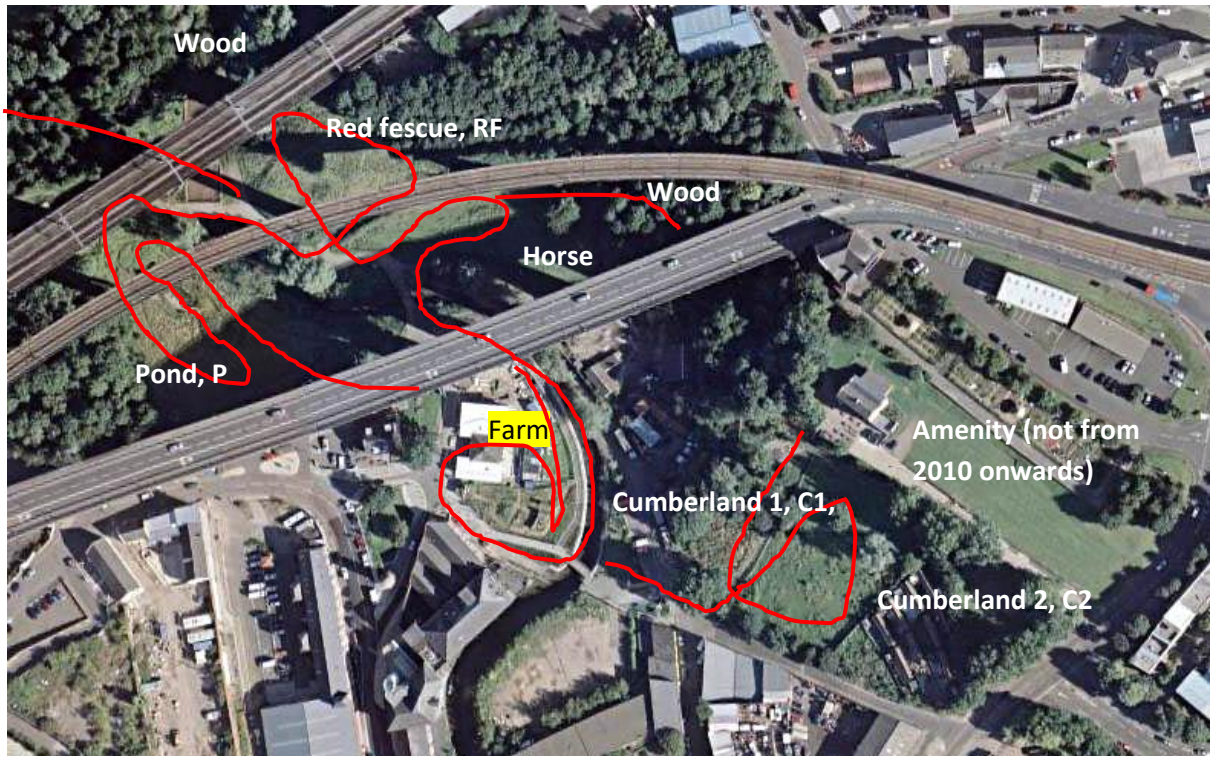
Ouseburn Farm butterfly, dragonfly and damselfly summary report 2025.

Butterflies, dragonflies and damselflies in and around the Ouseburn Farm were surveyed regularly in 2025, from late spring through to early autumn.

These surveys started in the summer of 2006, just after the Farm re-opened following the stripping of contaminated soil from the Farm yard site. In 2006 and 2007 the surveys took place only over the summer months, but since 2008 have extended from early spring into autumn, making the 2025 survey the twentieth since the Farm re-opened.

In 2025 twenty-nine walks were carried out, the first on the 6th March, the last on the 25th September. The surveys covered the pond meadow, red fescue meadow, farm grounds, horse meadow, woodland path from the horse meadow through to the Cumberland Arms, the old orchard (C1), and the meadow below the Cumberland Arms (C2) (see map, Figure 1). Surveys were carried out on warm, sunny days, by the same surveyor. This replication allows direct comparison of results between the years.

Figure 1. The Farm environs, meadows and butterfly recording walk. The red line shows the approximate route used in 2025. The names used for each field are shown.



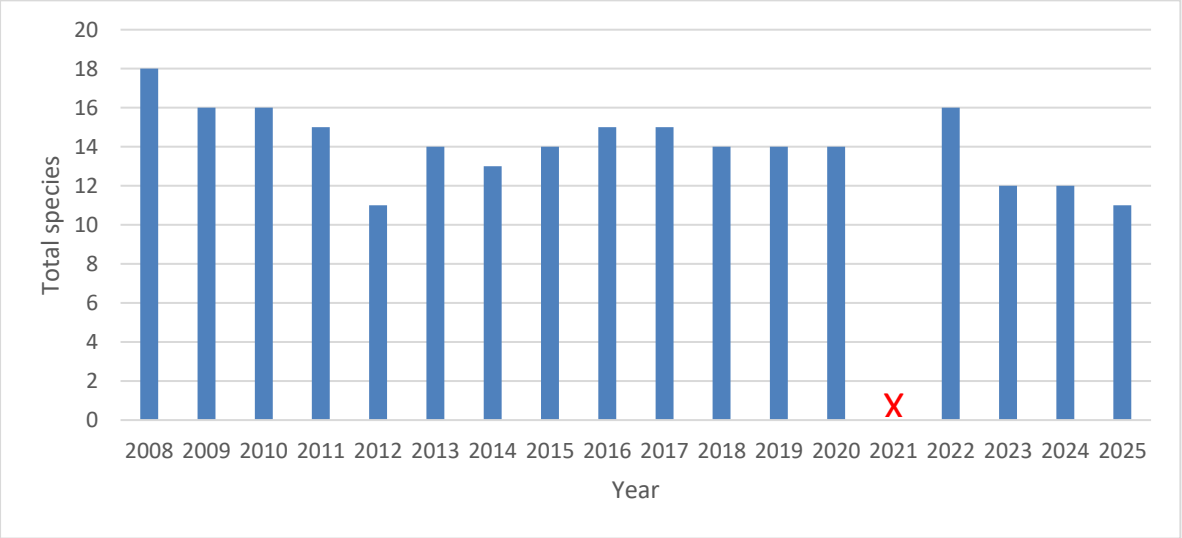
Butterflies were recorded by walking slowly and noting species seen to either side in front, although this was not so rigorously enforced as the formal national butterfly recording transect scheme walks and quite often butterflies would be followed to check identity. Nonetheless the technique has been consistent on the farm since 2006. Within the Farm the cabbage plants were searched for eggs and caterpillars of white butterflies. Numbers of Burnet moths and dragonflies and damselflies were also counted. The vegetation around the pond was searched for dragonfly exuviae too. Exuviae are the cast skins left behind when the adult emerges from the final larval stage.

Results.

Butterfly species richness.

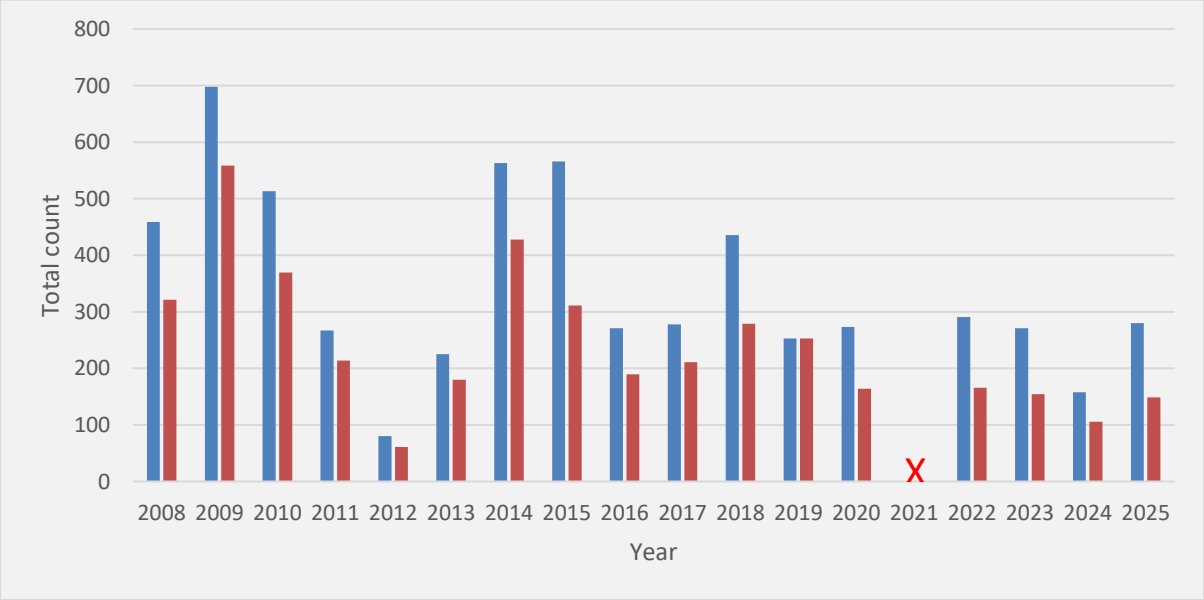
In 2025 only eleven species of butterfly were recorded. This is one less 2024, which was a bad year for butterflies nationally largely due to the poor weather. Figure 2 shows the numbers of butterfly species recorded over the course of the surveys, (excluding the shorter 2006 and 2007 recording period). Although numbers vary there is a general decrease over the twenty years.

Figure 2. Total numbers of butterfly species recorded each year between 2008 and 2025. Note that data are incomplete for 2021 so are omitted.



The overall number of individuals across all species also show a decline over recent years (Figure 3).

Figure 3. Total number of individual butterflies counted. 2008 to 2025. The blue columns are the raw data, the red columns adjusted to allow for numbers of visits, scaled to the year with lowest number of visits, 16 in 2019. Sampling was incomplete in 2021 so no data are used from that year.



A more detailed analysis of the pattern (Jeffries, 2024) showed that the decline in numbers of individuals is statistically significant for the adjusted data. The anecdotal impression of fewer butterflies is born out.

The decline in numbers of individuals has been primarily due to losses of the classic meadow species of small skipper, meadow brown and ringlet. The majority of individuals in 2025 were various whites (small white, large white, orange tip, green veined white and unidentified whites), making up 193 out of 280, which is 69%. For comparison the whites made up 143 out of 459 of the total in 2008, 31%. The pond meadow (= orchard) was once the core site for meadow species such as ringlet and meadow brown, during the 2010s, but they are now very few in number. In 2025 only one small skipper was recorded, briefly settling near the pond before flying away. Single meadow browns were spotted on three occasions scattered across the site. Table 1 shows the maximum counts of main meadow species from the pond meadow, Cumberland Arms C2 meadow and red fescue meadow from 2014 to 2025, which suggest the pond meadow is becoming much less attractive for these species. The main causes appear to be grazing, loss of grassland to increased tree cover and the inherent vulnerability of small sites to occasional pressures such as years with poor weather.

Table 1. Maximum counts of classic meadow grassland butterflies in the three main meadows; pond, red fescue and Cumberland C2 from 2014-2025. No counts were made in June through to August 2021 so this year is omitted.

	2014	2015	2016	2017	2018	2019	2020	2022	2023	2024	2025
Small skipper											
Pond	10	1	1	5	3	1	1				1
Red fescue	1					1	1				
Cumberland	5	1					1	4			
Ringlet											
Pond	18	11	5	8	9	9	1	1	1		
Red fescue	2	1		1		1		1			
Cumberland	3	6						3		3	
Meadow brown											
Pond	16	9	5	3	3	5	7		1	1	
Red fescue	8	5	1		2	1	3	3	2	1	1
Cumberland	9	5			1			7		1	1

Full data for the counts of butterflies and dragonflies throughout 2025 are given in two tables. Table 5 is simply the total of each species seen on each survey date. Table 6 presents data broken down for each meadow or main Farm site, allowing comparisons between meadows

The absence of ringlet for two years running is worrying, not least because they were not reported by the casual records from the valley either

The value of casual records.

In addition to the regular survey walks there are also records of casual sightings.

These are a useful addition, complementary to the standard surveys. The casual records are from two main sources.

(1) From throughout the valley from the *Wild Ouseburn* Whatsapp sightings.
(2) Quick walk throughs of the Farm site on days when meadow species, such as the skippers and meadow brown, were flying at a wildflower meadow in Jesmond Vale less than 1km away. This was done because the main losses of species and overall individuals are these grassland butterflies, some of which have not been spotted in the standard surveys for a year or two.

These observations are important because five of the species found in previous surveys (large skipper, white letter hairstreak, small copper, holly blue and painted lady) were not recorded in the standard surveys in 2025. It is good to know they are still in the area, which gives some hope they can re-establish more robust populations.

Table 2. List of casual records of butterflies in the valley. "Wild Ouseburn" refers to records posted on the *Wild Ouseburn* Whatsapp.

Species, site	**Source**
Large Skipper	
6th June, City Stadium, wildflower path strip	Jon, Wild Ouseburn
14th June, Wild Roots garden	Mike
16th June, Wild Roots garden	Cain, Wild Ouseburn
18th June, City Stadium	Cain, Wild Ouseburn
Small skipper	
22nd June, Malmo Quay	Cain, Wild Ouseburn
White letter hairstreak	
18th June, Pond meadow	James, Wild Ouseburn
Holly Blue	
2nd August, Bottleworks, egg laying	Mike
Small copper	
29th August, Pond meadow	Mike
30th August, in valley	Cain, Wild Ouseburn
22nd Sept, in valley	Sheila, Wild Ouseburn
Painted lady	
22nd Sept, top of steps up to City Stadium	Mike

Dragonflies and damselflies.

Damselflies and dragonflies were also recorded.

Following the restoration of the pond in 2021 there is evidence of a return by species that had been lost, notably azure and large red damselflies. The azures and large reds re-established in 2023.

The larger dragonflies such as broad bodied chasers and southern hawkers were still scarcer than previously, in particular no southern hawker adults or exuviae having been found, although a larva was found in a pond dip. Southern and migrant hawker have been spotted at the new Wild Roots community garden pond just up Stepney Bank in 2024 and 2025.

The most striking result is the small number of common darters seen at the pond in the orchard meadow, just one individual at any time. In recent years there have usually been 5-10 present, often basking on the wooden fence running between the pond and footpath. Common darters were present, and egg laying, up at the new pond in the Wild Roots community garden. Whilst a definite cause cannot be pinned down one possibility is the spread of lesser duckweed across the open water of the Farm's pond in the later summer. The duckweed was an almost continuous surface so that any sign of open water was covered. Darter larvae were found in the pond during pond dips and they are likely to have hatched. However, adult readily disperse and may have left the pond as duckweed obscured the open water.

Figure 3. recent, rapid changes to duckweed cover on the orchard pond

Duckweed cover on the pond by late August

For comparison the pond on 6th May with a few small rafts of duckweed visible along the edges of the stand of sedges

Table 3 shows the maximum counts of dragonflies and damselflies, on any single survey date, from 2007 to 2025.

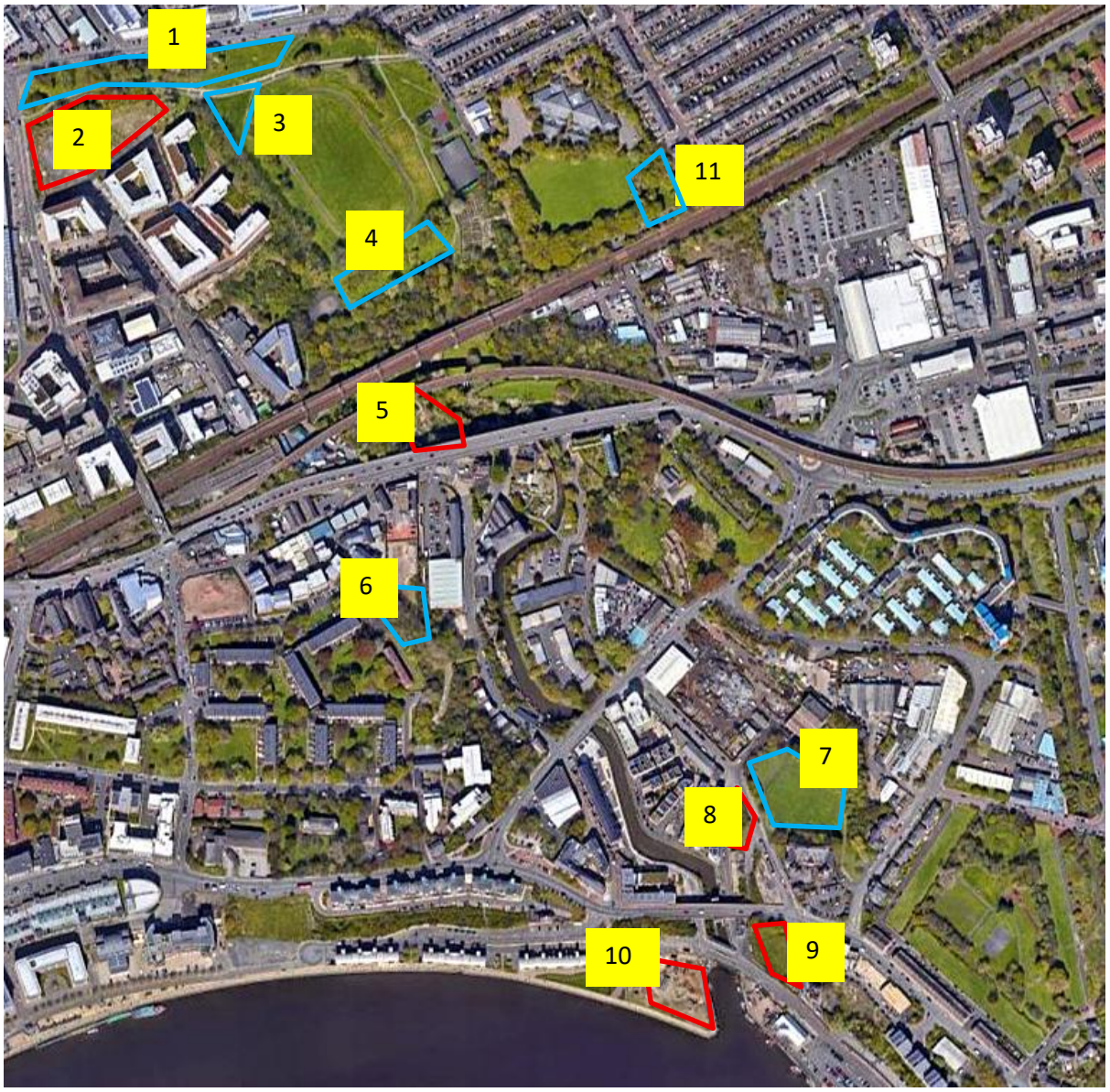
Table 3. Maximum counts of adult damselflies and dragonflies between 2007 and 2025. For the southern hawker counts were also made of exuviae (cast skins left behind once adults emerge) and are shown in brackets.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Damselflies																			
Large red														1			3	7	9
Blue tailed				1	2	33	7	14	5									5	1
Azure					5	28	7	87	54	29	2	20					3	23	15
Banded demoiselle																1			
Common emerald								1	2										
Dragonflies																			
Southern hawker (exuviae)			1			(2)	1	1	2 (18)	1	1	1 (2)		(16)		2	1	1	
Migrant hawker								1			1		1				1	1	
Board bodied chaser				2	2	3	2	4	5	4	5	3	2	1		1	6	1	2
Red darter dragonfly		7	2	1	1	2	3	34	8	3	4	1	1			11	7	12	1
Emperor dragonfly																1			

Overview of habitats patches in the Ouseburn Valley.

Recent years have seen some habitats improved, and others under threat. Here is a brief overview.

Figure 4. Recent changes to wildlife patches in the valley, blue outlines around gains, red around losses or threats. See Table 4 for explanation.



It is helpful to remember the Lawton principles when it comes to sites for nature: "More, bigger, better, joined up" (Lawton et al, 2010). Essentially, we need more sites, larger sites, better managed and maintained sites, and joined sites up so that wildlife can move and colonise easily. "Joined up" need not mean actually in contact, but close enough to suit the dispersal abilities of wildlife.

The valley has recently gained some new sites, at least in terms of better management, but other patches of habitat have been lost, deteriorated or are under imminent threat.

Table 4. Summary of recent site gains and threats. The numbers refer to the patch numbers in Figure 4.

	Site	**Benefit or threat**
1	City Stadium	Extensive patches of grass an.d ground flora under trees now not mown in spring
2	Lidl site	Construction started in spring after several years of no activity. Loss of site with known breeding birds and roe deer.
3	City Stadium	Wild Intrigue's new wild-flower meadow, created spring 2025. By summer extensive wild-flower cover heavily used by pollinators.
4	City Stadium	Grass no longer mown in 2025. Due to be scythe cut by Ouseburn Trust to help develop a wild-flower meadow.
5	Orchard (=pond) meadow	Once the stronghold for meadow butterflies in the valley the meadow has now become an orchard with almost complete canopy cover and very few meadow butterflies.
6	Wild Roots Community Garden	Now two years into a project turning an old industrial space into a garden with flower and vegetable beds, woodland and a pond. Butterflies have already moved in and the pond is officially "Brilliant" according to the Big Pond Dip.
7	Ballast Hills	The current mown, municipal grass offers an opportunity to create better meadow and pollinator habitat.
8	Candleflame	Rough grass and scrub with breeding birds and grassland butterflies now due for development as housing.
9	Grass below Free Trade	Proposed as biodiversity net gain improvement site in compensation for nearby development. However the proposed BNG included tree planting, a zig-zag path and way-stations to allow activities. Flower rich grassland would be better for wildlife.
10	Malmo Quay	The vegetation has developed into a good mix of brownfield, rough ground species; the site is subject to planning application.
11	Hotspur School nature garden	Just outside the main valley but a nice spot with a good little pond.

References.

Jeffries, M.J. (2006) – (2023). Ouseburn Farm butterfly & dragonfly surveys. Department of Geography, Northumbria University, Newcastle upon Tyne. Copies of all the annual reports by Mike Jeffries can be obtained from michael.jeffries@northumbria.ac.uk.

Jeffries, M.J. (2024) Butterflies of the Ouseburn Farm Species diversity & changes, 2006-2024. Department of Geography, Northumbria University, Newcastle upon Tyne. Copies can be obtained from michael.jeffries@northumbria.ac.uk.

Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne, G.R. (2010) Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Defra.

Table 5. Total numbers of butterflies, burnet moths, dragonflies and damselflies counted during 2025. Counts were made on sunny days except where indicated by “cloudy” or “windy”. Counts of eggs, caterpillars (“cats”) and pupae (“pup”) are approximate. “ovi” shows egg laying. “Exuviae” refers to the cast skins left behind when a dragonfly emerges; only new examples were recorded on each date and give a minimum estimate of the numbers hatching on site. “Unid white” refers to adults flying at a distance when precise identification could not be made.

	6th Mar	8th Mar	20th Mar	26th Mar	2nd Apr	7th Apr	11th Apr	22nd Apr	27th Apr	30th Apr	6th May	10th May	17th May	25th Mat	31st May
Small skipper															
Large skipper (none in 2025)															
Green veined white										1	2		1	1	2
Small white							2				2	1		1	
Large white									1		2		1		
Orange tip						1	3	4	5	7	5	3			
Unid. white					3	4	2	5	3	5	10	8	9		1
Small copper (none in 2025)															
Holly blue (none in 2025)															
Common blue (none in 2025)															
White letter hairstreak (none in 2025)															
Tortoiseshell	1				1										
Comma		2		1	1	2		1	1				1		
Peacock		1			2		2								
Painted Lady (none in 2025)															
Red Admiral															

	6th Mar	8th Mar	20th Mar	26th Mar	2nd Apr	7th Apr	11th Apr	22nd Apr	27th Apr	30th Apr	6th May	10th May	17th May	25th Mat	31st May
Small heath (none in 2025)															
Wall (none in 2025)															
Meadow brown															
Ringlet (none in 2025)															
Speckled wood						1		2	1	8	7	3		1	
6 spot burnet moth (none in 2025)															
Red darter dragonfly															
Migrant hawker dragonfly (none in 2025)															
Southern hawker dragonfly (none in 2025)															
Broad bodied Chaser dragonfly												2	1	1 ovi	2 ovi
Large red damselfly											4	9 ovi	7 ovi	7 ovi	3
Blue tailed damselfly															
Azure damselfly											3	7	3 ovi	15 ovi	
Common Emerald damselfly (none in 2025)															

Table 5 continued

	10th June	13th june	20th June	30th June	11th July	20th July	2nd Aug	10th Aug	16th Aug	25th Aug	30th Aiug	1st Sept	16th Sept	25th Sept
Small skipper						1								
Large skipper (none in 2025)														
Green veined white				1	5	6	3	1	2	1				1
Small white			2	2	3	2	4	1		1		4	3	4
Large white					1	1	2	1	4	1				
Orange tip														
Unid. white	1	3	3	17	18	16	9	9	7	8		1	4	3
Small copper (none in 2025)														
Holly blue (none in 2025)														
Common blue (none in 2025)														
White letter hairstreak (none in 2025)														
Tortoiseshell														
Comma					2	3	1	2						
Peacock														
Painted Lady (none in 2025)														
Red Admiral		1	2	3		1	1	3	4				1	

	10th June	13th June	20th June	30th June	11th July	20th July	2nd Aug	10th Aug	16th Aug	25th Aug	30th Aiug	1st Sept	16th Sept	25th Sept
Small heath (none in 2025)														
Wall (none in 2025)														
Meadow brown				1			1		1					
Ringlet (none in 2025)														
Speckled wood	1	1	5		1	3	3		3	1		1		
6 spot burnet moth (none in 2025)														
Red darter dragonfly						1	1	1	1					
Migrant hawker dragonfly (none in 2025)														
Southern hawker dragonfly (none in 2025)														
Broad bodied Chaser dragonfly		1												
Large red damselfly	3	2	2		1									
Blue tailed damselfly		1	1	1										
Azure damselfly	7 ovi	7 ovi	11 ovi	6										
Common Emerald damselfly (none in 2025)														

Table 6. Numbers of butterflies, dragonflies, damselflies and burnet moths counted within individual sections of the farm, 2025. The sections are coded as P = pond meadow, RF = red fescue meadow, H = horse meadow, W = woodland on northern slopes, F = farm grounds including adjacent river path, C1 = orchard below Cumberland Arms, C2 = meadow below Cumberland Arms. Counts were made on sunny days except where indicated by "cloudy" or "windy". Counts of eggs, caterpillars ("cats") and pupae ("pup") are approximate. "Exuviae" refers to the cast skins left behind when a dragonfly emerges; only new examples were recorded on each date and give a minimum estimate of the numbers hatching on site.

	6th Mar	8th Mar	20th Mar	26th Mar	2nd Apr	7th Apr	11th Apr	22nd Apr	27th Apr	30th Apr	6th May	10th May	17th May	25th Mat	31st May
Small skipper															
Large skipper (none in 2025)															
Green veined white										F 1	W 2		P 1	P 1	P 2
Small white							P 1, C1 1				H 1, RF 1	P 1		P 1	
Large white									W 1		W 1, H 1		F 1		
Orange tip						RF 1,	P 1, RF 1, F 1	P 2, H 1, W 1	P 1, RF 2, W 2	P 1, RF 2, H 1, F 1, W 2	P 1, RF 1, H 1, C2 1, W 1	P 1, RF 1, C2 1			
Unid. white					RF 1, H 1, F 1	P 1, RF 1, H 1, C2 1	RF 1, H 1	P 1, RF 2, H 1, W 1	H 1, C2 1, W 1	P 2, RF 1, H 1, W 1	P 2, RF 1, H 2, C1 1, C2 1, F 2, W 1	P 2, RF 2, H 2, C2 1, W 1	P 2, H 3, C2 1, F 1, W 2		RF 1
Small copper (none in 2025)															
Holly blue (none in 2025)															
Common blue (none in 2025)															
White letter hairstreak (none in 2025)															
Tortoiseshell	RF 1				RF 1, W 1										
Comma		RF 2		RF 1	P 1	H 1, w 1		P 1	P 1						
Peacock		RF 1		RF 2		P 1, RF 1									
Painted Lady (none in 2025)															
Red Admiral															

	6th Mar	8th Mar	20th Mar	26th Mar	2nd Apr	7th Apr	11th Apr	22nd Apr	27th Apr	30th Apr	6th May	10th May	17th May	25th Mat	31st May
Small heath (none in 2025)															
Wall (none in 2025)															
Meadow brown															
Ringlet (none in 2025)															
Speckled wood						P 1		P 2	W 1	P 3, RF 1, C2 1, W 3	P 2, C" 3, W 2	P 1, C2 1, W 1		P 1	
6 spot burnet moth (none in 2025)															
Red darter dragonfly															
Migrant hawker dragonfly (none in 2025)															
Southern hawker dragonfly (none in 2025)															
Broad bodied Chaser dragonfly										P 2	P 1	P 1	P 2		
Large red damselfly											P 4	P 9	P 7	P 7	P 3
Blue tailed damselfly															
Azure damselfly											P 3	P 7	P 3	P 15	
Common Emerald damselfly (none in 2025)															

Table 6 continued

	10th June	13th June	20th June	30th June	11th July	20th July	2nd Aug	10th Aug	16th Aug	25th Aug	30th Aiug	1st Sept	16th Sept	25th Sept
Small skipper					P 1									
Large skipper (none in 2025)														
Green veined white				P 1	P 3, C1 1, W 1	P 2, H 1, W 3	P 2, C2 1	P 1	RF 2	P 1				F 1
Small white			H 1, C2 1	P 1, RF 1	P 1, F 1, W 1	P 1, w 1	F 2, W 2	RF 1		P 1		P 3, F 1	F 2, W 1	RF 1, F 2, W 1
Large white					W 1	W 1	W 2	W 1	H 1, W 3	H 1, W 1				
Orange tip														
Unid. white	P 1	P 1, F 2	P 2, F 1	P 4, RF 3, H 2, C1 1, C2 2, F 1, W 4	P 2, RF 3, H 2, C1 1, C2 2, F 3, W 5	P 2, RF 1, H 1, C1 1, C2 5, F 2, W 4	P 2, RF 1, C1 1, C2 2, F 1, W 2	P 2, RF 3, H 1, C2 1, W 2	P 1, RF 2, H 1, C2 1, F 1, W 1	P 1, H 2, F 3, W 2		P 1	F 2, W 2	C2 2, F 1
Small copper (none in 2025)														
Holly blue (none in 2025)														
Common blue (none in 2025)														
White letter hairstreak (none in 2025)														
Tortoiseshell														
Comma					C1 1, F 1	P 1, F 1, W 1	F 1	F 1, W 1						
Peacock														
Painted Lady (none in 2025)														
Red Admiral		F 1	H 1, W 1	P 1, RF 1, C2 1		F 1	W 1	P 1, RF 1, W 1	F 1, W 3				F 1	

	10th June	13th June	20th June	30th June	11th July	20th July	2nd Aug	10th Aug	16th Aug	25th Aug	30th Aug	1st Sept	16th Sept	25th Sept
Small heath (none in 2025)														
Wall (none in 2025)														
Meadow brown				RF 1			C2 1		W 1					
Ringlet (none in 2025)														
Speckled wood	P 1	P 1	P 4, W 1		F 1	P 1, C2 1, W 1	P 2, W 1		C1 1, W 2	W 1		W 1		
6 spot burnet moth (none in 2025)														
Red darter dragonfly						P 1	P 1	P1	P 1					
Migrant hawker dragonfly (none in 2025)														
Southern hawker dragonfly (none in 2025)														
Broad bodied Chaser dragonfly		P 1												
Large red damselfly	P 3	P 2	P 2		F 1									
Blue tailed damselfly		P 1	P 1	P 1										
Azure damselfly	P 7	P 7	P 11	P 6										
Common Emerald damselfly (none in 2025)														

2025 photos

Early spring comma basking

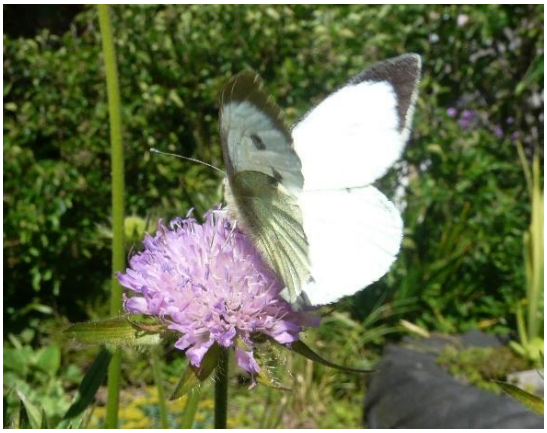
Springtime small tortoiseshell warming up on a stone

Male orange tip

Female orange tip laying eggs on hedge garlic along the hedges and paths

Green veined white

Large white



The only small skipper seen during the surveys in 2025.

One of only three meadow browns recorded this year.

Speckled wood.

There have been a lot of red admirals around this year, including down in the valley.

Broad bodied chaser, either an immature male or a female.

Large red damselfly, common around the main pond.

Azure damselfly by the main pond.

Large red and azure damselflies. They appear to tolerate each other.

Ducks stirring up the pond mud in springtime. Not much fun for the dancing newts.

Duckweed began to be obvious in July. This is the 6th May with patches under the sedge patch.

The duckweed rapidly spread: 12th July.

Duckweed covering the open water by 2nd August.

Small white butterfly nectaring on ragwort on the Candleflame patch

Rough grass habitat on Malmo Quay.

The grass slope below the Free Trade due to be used for biodiversity net gain, but a potentially valuable south facing meadow already.

The new wild-flower meadow on the City Stadium in June.

The rafts along the bankside by the Farm have now largely been lost downstream.

An unexpected polluting input into the river; run off from the Farm duckpond (to left behind fence) during regular cleaning. This water is likely to be very nutrient rich from duck poo.

Pond (=orchard) meadow in June.

Red Fescue (=hill) meadow in June.

Horse meadow in June.

C1 meadow below Cumberland in June.

C2 meadow below Cumberland In June.

Farm garden in July.