OUSEBURN FARM

BUTTERFLY & DRAGONFLY

SURVEY, 2018

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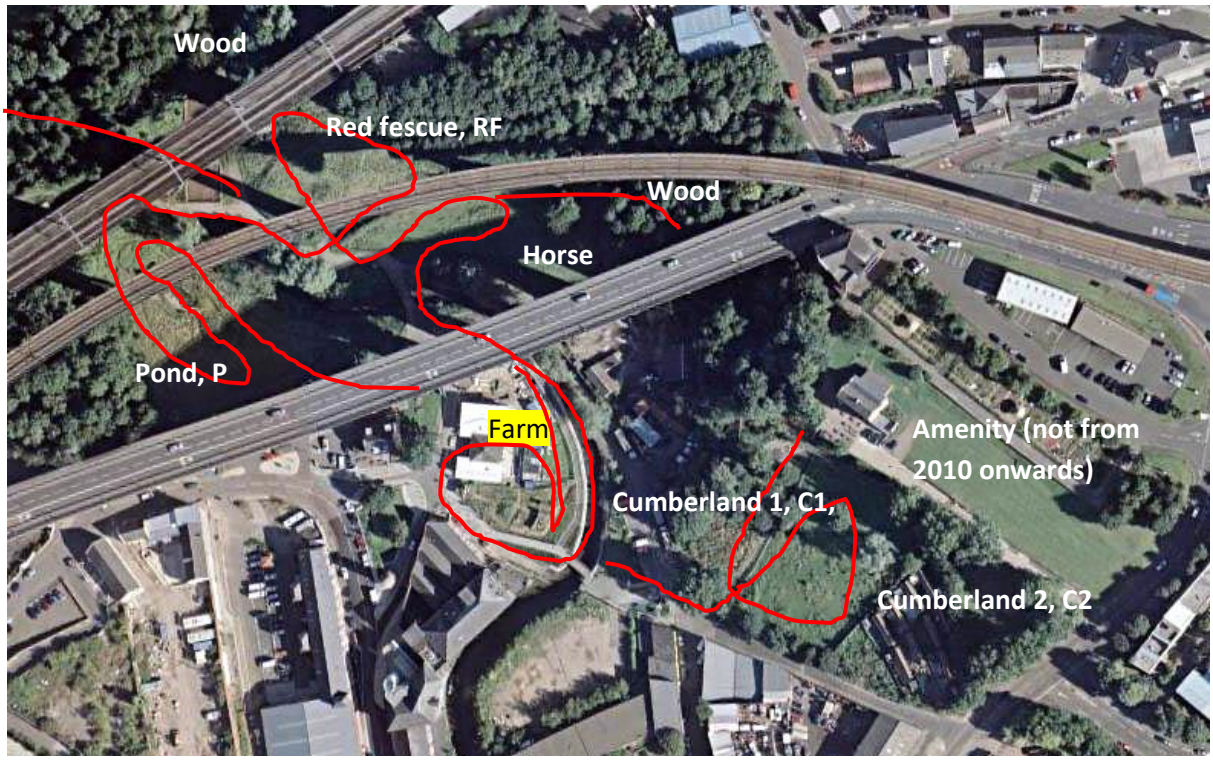
2018

Ouseburn Farm Butterfly, dragonfly and damselfly summary report 2018.

Butterflies, dragonflies and damselflies in and around the Ouseburn Farm were surveyed regularly in 2018 from late spring through to early autumn.

Similar surveys have been carried out in 2006 to 2017 (Jeffries, 2006 - 2017), making the 2018 survey the 13th survey since the farm re-opened. In 2018 twenty two walks were carried out, the first on the 10th March, the last on the 9th October. 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, and the meadow below the Cumberland Arms. Surveys were carried out where possible on warm, sunny days. Where lambs or cattle were in the fields the meadows were not walked, although time was spent watching the sites for active butterflies

Figure 1. The Farm environs, meadows and butterfly recording walk. The red line shows the approximate route used in 2018. 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 cabbage plants were searched for eggs and caterpillars of white butterflies too. Numbers of Burnet moths and dragonflies and damselflies were also counted. In addition the vegetation around the pond was searched for dragonfly exuviae. Exuviae are the cast skins left behind when the adult emerges from the final larval stage. By counting up the cumulative numbers of new exuviae you get a minimum estimate of the numbers of adults that have hatched form a site.

Results.

Butterfly species richness.

Fourteen species of butterfly were recorded, compared to sixteen in 2017, fifteen in 2016, fourteen in 2015, thirteen in 2014, and fourteen in 2013.

Again numbers were low compared to five years ago. High summer species such as large and small skippers or meadow browns and ringlets seem to be in decline, even in the pond meadow which his their stronghold. The most meadow browns recorded during a single visit were just 3. The warm summer should have helped butterflies in general so the low figures are a worry. All the fields showed the impact of the heat wave, with very short, dry turf often with bare ground showing (see the photos at the end). The pond meadow was less affected, partly because it is damper and shadier but also it is not grazed. The pond meadow is the source of most butterfly sightings, except for the small and large whites which frequent the actual main farm site.

Table 1. Maximum single counts for common butterflies from 2014 to 2018

	2014	2015	2016	2017	2018
Small skipper	15	1	1	2	3
Orange tip	10	8	12	5	9
Ringlet	20	16	5	8	14
Meadow brown	33	18	5	7	3
Speckled wood	14	10	8	6	12
Comma	5	4	3	3	5

Red Admirals and Painted ladies were scarce this year, their numbers fluctuating greatly year to year depending on migration from the continent. Their showy cousins the peacocks and tortoiseshells were also scarce

Dragonflies and damselflies.

Damselflies and dragonflies were also recorded, three dragonflies and only one species of damselflies.

Numbers of all species have not recovered to the levels of a few years ago (see Table 2), despite some pond clearing in 2017. At least the numbers of blue tailed damselflies have increased a little and southern hawker exuviae were found again. The pond dried out in mid-summer to leave all the mud exposed but this is not a major problem for most pond creatures. Some species did well on the exposed mud, notably Dolicopodidae flies such as *Poeciliobothrus nobilitatus* (see photographs at the end), which dance about on the mud to attract a mate

Table 2 shows the maximum counts of dragonflies and damselflies, on any single survey date, from 2006 to 2018.

Table 2. Maximum counts of adult damselflies and dragonflies between 2006 and 2018. For the southern hawker counts were also made of exuviae (cast skins left behind once adults emerge) and are shown in brackets.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Blue tailed damselfly					1	2	33	7	14	5			
Azure damselfly						5	28	7	87	54	29	2	20
Common emerald damselfly									1	2			
Southern hawker dragonfly				1			(2)	1	1	2 (18)	1	1	1 (2)
Migrant hawker dragonfly									1			1	
Board bodied chaser dragonfly					2	2	3	2	4	5	4	5	3
Red darter dragonfly			7	2	1	1	2	3	34	8	3	4	1

Counts of butterflies and dragonflies are given in two tables. Table 3 is simply the total of each species seen on each survey date. Table 4 presents data broken down for each section of the farm allowing comparisons between meadows.

References.

Jeffries, M.J. (2006) – (2017). 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.

Table 3. Total numbers of butterflies, burnet moths, dragonflies and damselflies counted during 2018. 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. "Unid white" refers to adults flying at a distance when precise identification could not be made.

	10th March	26th March	9th April	15th April	19th April	30th April	4th May	7th May	18th May	27th May	7th June	10th June	21st June
Small skipper													
Large skipper (& unidentified skippers)												2	1
Green veined white						1		2					
Small white		1				1			1				
Large white				1				1	1	1	1		
Orange tip						2	6	9	2	2	1	1	
Unid. white					1	1	2	6	5	4	1	2	
Small copper none in 2018)													
Holly blue							1	1					
Common blue (none in 2018)													
Tortoiseshell													
Comma				5	2		2					1	2
Peacock			1		1		1	1					
Painted Lady (none in 2018)													
Red Admiral												1	

	10th March	26th March	9th April	15th April	19th April	30th April	4th May	7th May	18th May	27th May	7th June	10th June	21st June
Small heath (none in 2018)													
Wall (none in 2018)													
Meadow brown													
Ringlet													
Speckled wood					1		10	12	6	6	5	1	4
6 spot burnet moth (NB earlier records are 5 spot in photos. In 2017 6 spot)													
Red darter dragonfly													
Migrant hawker dragonfly (none in 2018)													
Southern hawker dragonfly													
Broad bodied Chaser dragonfly									1	2	3	1	1
Blue tailed damselfly (none in 2018)													
Azure damselfly										8	7	20	1
Common Emerald damselfly (none in 2018)													

Table 3 continued

	22nd June	28th June	5th July	13th July	15th July	25th July	31st July	27th Aug	28th Aug	14th Sept	23rd Sept	26th Sept	9th Oct
Small skipper		3	2		3								
Large skipper (& unidentified skippers)	1	1	1	I unid									
Green veined white			2	3		4	6						
Small white		6	8	8	28 + a few eggs	13 + eggs, cats	10 + eggs		9	9		2	
Large white	1	1		1	1	4	5 + eggs		2				
Orange tip													
Unid. white	2	1	6	8	16	29	19	3	8				
Small copper (none in 2018)													
Holly blue													
Common blue (none in 2018)													
Tortoiseshell					1								
Comma			2	2	1	2							
Peacock		1											
Painted Lady (none in 2018)													
Red Admiral													

	22nd June	28th June	5th July	13th July	15th July	25th July	31st July	27th Aug	28th Aug	14th Sept	23rd Sept	26th Sept	9th Oct
Small heath (none in 2018)													
Wall													
Meadow brown	1	3	1	3	1	2							
Ringlet	2	14	8	6	3								
Speckled wood	6	5	1			9	7	3	7	1		3	1
6 spot burnet moth (NB earlier records are 5 spot in photos. In 2017 6 spot)		1											
Red darter dragonfly												1	
Migrant hawker dragonfly (none in 2018)													
Southern hawker dragonfly	2 exuviae	1 exuviae			1 exuviae		1 + 1 exuviae	1					
Broad bodied Chaser dragonfly	1												
Blue tailed damselfly (none in 2018)													
Azure damselfly	7												
Common Emerald damselfly (none in 2018)													

Table 4. Numbers of butterflies, dragonflies, damselflies and burnet moths counted within individual sections of the farm, 2018. 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.

	10th Mar	26th Mar	9th April	15th April	19th April	30th April	4th May	7th May	18th May	27th May	7th June	10th June	21st June
Small skipper													
Large skipper (& unidentified skippers)												P 2	P 1
Green veined white						P 1		P 1 RF 1					
Small white		F 1				P 1			P 1				
Large white								RF 1	W 1	RF 1	RF 1		
Orange tip						P 1, W 1	P 3, W 1, H 2	P 2, W 2, C2 2, F 1, H 1, RF 1	RF 1, C2 1	P 2	W 1	P 1	
Unid. white					P 1	F 1	H 1, F 1	C2 1, W 2, P 6, F 1	P 1, W 2, RF 1,H 1	P 1, W 1, RF 1, C2 1	P 1	P 1, C2 1	
Small copper (none in 2018)													
Holly blue							P 1	C2 1					
Common blue (none in 2018)													
Tortoiseshell													
Comma				P 4, W 1	P 2		P 2					P 1	P 2
Peacock			P 1		P 1		P 1	P 1					
Painted Lady (none in 2018)													

	10th March	26th March	9th April	15th April	19th April	30th April	4th May	7th May	18th May	27th May	7th June	10th June	21st June
Red Admiral												RF 1	
Small heath (none in 2016)													
Wall (none in 2016)													
Meadow brown													
Ringlet													
Speckled wood					W 1		P 6, W 4	P 6, W 2, C2 3, F 1	W 5, C2 1	P 3, W V2, C2 1	P 1, W 4	W 1	P 4
6 spot burnet moth (NB earlier records are 5 spot in photos. In 2017 6 spot)													
Red darter dragonfly													
Migrant hawker dragonfly (none in 2018)													
Southern hawker dragonfly													
Broad bodied Chaser dragonfly									P 1	P 2	P 3	P 1	P 1
Blue tailed damselfly (none in 2018)													
Azure damselfly										P 8	P 7	P 20	P 1
Common Emerald damselfly (none in 2018)													

Table 4 continued

	22nd June	28th June	5th July	13th July	15th July	25th July	31st July	27th Aug	28th Aug	14th Sept	23rd Sept	26th Sept	9th Oct
Small skipper		P 3	P 2		P 3								
Large skipper (& unidentified skippers)	P 1	P 1	P 1	P 1 unid									
Green veined white			W 2	P 2, W 1		W 3, RF 1	P 1, W 5						
Small white		P 2, F 3	P2, W 1, F 5	P 1, F 7	P 5, W 1, F 21, H 1	P 2, W 2, H 1, F 7, RF 1	P 4, W 2, RF 1, H 1, F 2		F 9	F 9			
Large white	P 1	C2 1		F 1	W 1	W 1, RF 1, F 2	P 1, W 1, H 1, F 2		F 2			F 2	
Orange tip													
Unid. white	P 1, H 1	RF 1	P 2, W 2, H 1, F 1	P 2, W 3, RF 2, H 1	P 3, W 7, RF 2, H 1, C1 1, C2 2	P 6, W 5, H 4, RF 4, F 16, C1 2, C2 2	P 4, W 6, H 5, F 2, RF 1, C2 1	F 3	P 3, W 1, H 1, RF 2, C2 1				
Small copper (none in 2018)													
Holly blue													
Common blue none in 2018)													
Tortoiseshell					P 1								
Comma			P 2	P 2	P 1	P 1, H 1							
Peacock		P 1											
Painted Lady none in 2018)													

	22nd June	28th June	5th July	13th July	15th July	25th July	31st July	27th Aug	28th Aug	14th Sept	23rd Sept	26th Sept	9th Oct
Red Admiral													
Small heath (none in 2018)													
Wall (none in 2018)													
Meadow brown	P 1	P 3	P 1	P 1 RF 2	C2 1	P 2							
Ringlet	P 2	P 9, W 5	P 8	P 5, W 1	P 3								
Speckled wood	P 2, W 4	W 3, C2 2	P 1			P 2, W 7	P 5, W 2	P 3		W 1		P 3	W 1
6 spot burnet moth (NB earlier records are 5 spot in photos. In 2017 6 spot)		P 1											
Red darter dragonfly												P 1	
Migrant hawker dragonfly none in 2018)													
Southern hawker dragonfly	P 1	P 1					P 1	P 1					
Broad bodied Chaser dragonfly	P 1												
Blue tailed damselfly none in 2018)													
Azure damselfly	P 7												
Common Emerald damselfly none in 2018)													

Photographs from the 2018 season

Small whites, these two photographed in the poly tunnel

Small white laying eggs on cabbages in the window boxes

Small white caterpillars are bright green, solitary, unlike the more conspicuous and gregarious large white larvae

Large skipper keeping an eye of its territory from a handy perch

Holly Blue, an occasional sihghting over the years

Small white drinking from the exposed mud, a source of minerals

Orange tip laying eggs on Jack-by-the-hedge

Male orange tip

Ringlet

Speckled wood

Comma, the underside showing the pale dashed mark that give the buttefly its name

6 spot Burnet moth, now much less common than the mid 2000s narrow bordered 5 spot burnets

Southern hawker

Southern hawker exuviae on sedge stem where it was left as the adult emerged

Southern hawker exuviae on one of the cushions littering the pond

Nomad bee, conspicuous around the pond. They parasitise the nests of solitary bees

Poeciliobothrus nobilitatus, a Long-legged fly. This is a conspicuous fly of the pond margins, dancing about, trying to attract a mate by waving their wings

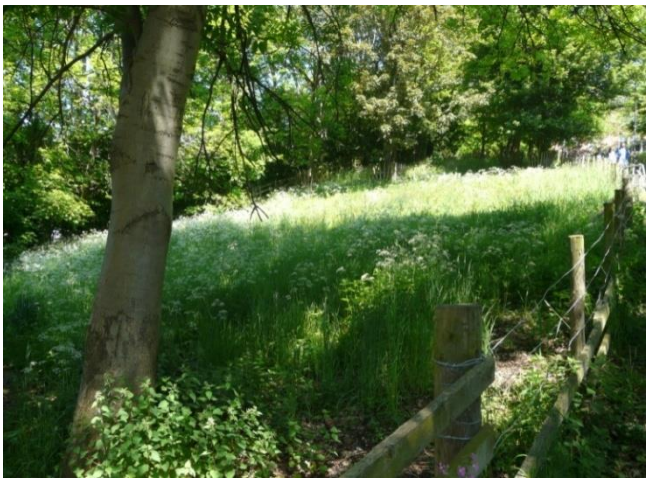
Poeciliobothrus nobilitatus dotted all over the duckweed

The pond meadow in high summer remained lush

The hill meadow was very dry during the heat-wave

The horse meadow was also very dried out

The meadow below the Cumberland is doing well now it has been cleared



The main meadow (C2) below the Cumberland was verdant in spring

The same meadow was much affacted by the drought and grazing by the height of summer