OUSEBURN FARM

BUTTERFLY & DRAGONFLY

SURVEY, 2012

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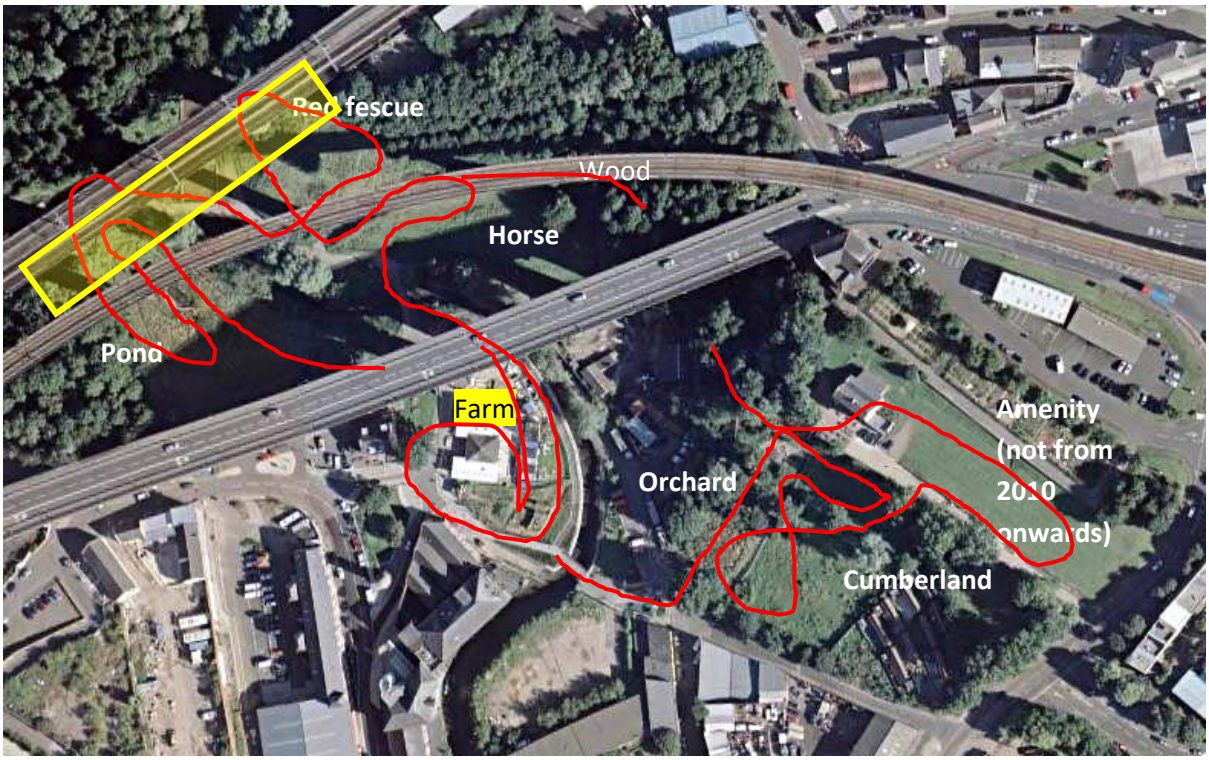
2012

Ouseburn Farm Butterfly, dragonfly and damselfly summary report 2012.

Butterflies, dragonflies and damselflies in and around the Ouseburn Farm were surveyed regularly in 2012 from late spring through to early autumn.

Similar surveys have been carried out in 2006 to 2011 (Jeffries, 2006, 2007, 2008, 2009, 2010, 2011). In 2012 twenty two survey walks were carried out, the first on the 24th March, the last on the 9th October. As from 2008 onwards 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. The amenity grassland to the south east of the Cumberland Arms was not included in 2012. Surveys were carried out where possible on warm, sunny days. Surveys within the Farm grounds were more limited in extent from 2010 following construction of the animals' sheds and enclosures and resulting loss of rough grass. In addition both the Pond and Red Fescue meadows still have extensive sections along the north west edge fenced off and excavated as part of major bridge repair works since 2011, so are markedly smaller than previous years and woodland edge habitats under the rail bridge were also inaccessible

Figure 1. The farm environs, meadows and butterfly recording walk. The red line shows the approximate route used in 2012. The names used for each field are shown. The yellow rectangle (top left) shows the area accessible in previous surveys but fenced of and excavated since 2011.



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.

Results.

Species richness. Only eleven species of butterfly were recorded in 2012, the lowest total since counts began in 2006. 2012 has been a poor year for many butterfly species nationally and locally, including common, hardy species such as the cabbage whites, Tortoiseshells and Peacocks familiar in gardens. Numbers of Small, Large and Green Veined Whites on the farm were very low and no eggs or caterpillars recorded at all.

Meadow species were also reduced, with only four meadow browns recorded all year. No Large Skippers, Small Skippers, Small Coppers or Common Blues were seen. The two skippers are classic rough grass meadow species and have decreased significantly since grazing was introduced into the meadows (see 2011 report for more detailed analysis of grazing impacts, Jeffries, 2011). The combination of low numbers plus poor weather may represent a double-whammy stress typical of the pressure that can cause local extinctions of isolated populations. Speckled Wood were a more frequent sight, which is remarkable for a butterfly not seen at the farm (indeed in Newcastle) prior to 2008. No Wall Browns were seen.

One Holly Blue was seen and the species seems to have undergone a resurgence in the Tyne and Wear area in 2012 judging by local reports. Holly Blues were previously found between 2006 and 2008 but not recorded since then. Holly blues were very scarce in the north-east of England from 2009 onwards, with only seven individuals recorded compared to 159 in 2008 (O'Brien et al, 2008, 2009); This species undergoes regular boom-bust cycles of 4-5 years driven by parasitoid attack (Revels, 2006) so the sighting matches the rhythm as populations rise again following the lean years.

No Narrow Bordered 5 Spot Burnet moths were found in 2012. None were seen in 2011 either, following reduced numbers in 2010, especially in their core site, the south facing Red Fescue Meadow. The decline may be due to grazing impacts.

Dragonflies and damselflies. Damselflies and dragonflies were also recorded and had a good year. Azure and Blue Tailed damselflies were recorded at the pond from late May June to late August, both males and females present as well as egg laying tandem couples.

A few adult Broad Bodied Chasers were present, scattered throughout the summer and larvae were found during a pond survey in November. The survey was carried out on the 20th November s using the Big Pond Dip protocol; the pond got a score of 34, based on invertebrates found which is "Brilliant" in Big Dip ranking, although lower than the 47 of 2011. Several individual groups did not find the Broad bodied Chaser larvae, which were abundant in 2010 and 2011. This pioneer species may be on the wane.

Two exuvae (the cast skin of the final larva stage from which the adult emerges) of Southern Hawkers were found on the rushes and grasses around the edge of the pond, evidence of a new breeding species, although no adults were seen.

Counts of butterflies and dragonflies are given in two tables. Table 1 is simply the total of each species seen on each survey date. Table 2 presents data broken down for each section of the farm. Dragonflies and burnet moths are also given in Table 1.

References.

Jeffries, M.J. (2006) Ouseburn farm; meadow vegetation and butterfly survey, 2006. Division of Environmental Management, Northumbria University, Newcastle upon Tyne.

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O'Brien D., Norman R. and le Fleming, S. (2008) North East Branch Butterfly Conservation. Butterfly summary 2006. Butterfly Conservation, Wareham.

O'Brien D., Norman R. and le Fleming, S. (2009) North East Branch Butterfly Conservation. Butterfly summary 2006. Butterfly Conservation, Wareham.

Revels, R. (2006) More on the rise and fall of the Holly Blue. British Wildlife, 17, 419-424.

Table 1. Total numbers of butterflies, burnet moths and dragonflies counted during 2011. Counts were made on sunny days except where indicated by "cloudy" or "windy", although days of sustained warm sunshine were scarce in 2012 and many counts were made in mixed sun/cloud. Counts of eggs, caterpillars ("cats") and pupae ("pup") are approximate.

	24th March	30th March	13th April	1st May Cloudy, cool	5th May	6th May	12th May	27th May	5th June	9th June	18th June
Small skipper (none in 2012)											
Large skipper (none in 2012)											
Green veined white							1	1			1
Small white		1	2				1	4		1	
Large white											
Orange tip			2				2	6 (egg laying)	3	2	
Unid. white	4		1				1	5			
Small copper (none in 2012)											
Holly blue											1
Common blue (none in 2012)											
Tortoiseshell		2	2								
Comma (none in 2012)											
Peacock							1				
Painted Lady											

Red Admiral											
Wall (None in 2012)											
Meadow brown											
Ringlet											
Speckled wood		3	1					1			
Narrow bordered 5 spot burnet moth (None in 2012)											
Red darter dragonfly											
Southern hawker dragonfly											
Broad bodied Chaser dragonfly								1			
Teneral damselfly (lack adult colours)							1	16			
Blue tailed damselfly											1
Azure damselfly								3	15	14	24

Table 1 continued

	7th July	12th July	15th July	23rd July	28th July	3rd August	21st August	28th August	2nd Sept	19th Sept	9th Oct
Small skipper(none in 2012)											
Large skipper (none in 2012)											
Green veined white											
Small white				1		1	4	3	2	1	1
Large white						1	1				
Orange tip											
Unid. white						2	3	5	3		
Small copper (none in 2012)											
Holly blue											
Common blue (none in 2012)											
Tortoiseshell											
Comma (none in 2012)											
Peacock											
Painted Lady (none in 2012)											
Red Admiral		1								1	1

Wall (none in 2012)											
Meadow brown			1	1	2						
Ringlet			1								
Speckled wood	2	1					1	2		3	
Narrow bordered 5 spot burnet moth (none in 2012)											
Red darter dragonfly	1	1	2	2	2		1				
Southern hawker dragonfly			Exuvae 1	Exuvae 1							
Broad bodied Chaser dragonfly	1			2	1						
Teneral damselfly (lack adult colours)			1								
Blue tailed damselfly	22	33	20	4	10	5	1				
Azure damselfly	6	4	12	28	10	6					

Table 2. Numbers of butterflies and burnet moths counted within individual sections of the farm, 2011. The sections are coded as P = pond meadow, RF = red fescue meadow, H = horse meadow, W = woodland, F = farm grounds including adjacent river path, O = orchard below Cumberland Arms, C = meadow below Cumberland Arms and A = amenity grassland to east of 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.

	24th March	30th March	13th April	1st May Cloudy, cool	5th May	6th May	12th May	27th May	5th June	9th June	18th June
Small skipper (none in 2012)											
Large skipper (none in 2012)											
Green veined white							P1	P 1			P 1
Small white		C1 1	RF 2				P1	RF 1, H 1, C2 2		F 1	
Large white											
Orange tip			P2				P2	P 1, H 1, RF 2, W 1	P 2, H 1	RF 1, H 1	
Unid. white	RF 2, H 2		H 1				H1	P1, H 1, F 2, C1 1			
Small copper (none in 2012)											
Holly blue											F 1
Common blue (none in 2012)											
Tortoiseshell		P 1, RF 1	F 1, C2 1								
Comma (none in 2012)											

Peacock							P1				
Painted Lady (none in 2012)											
Red Admiral											
Wall (none in 2012)											
Meadow brown											
Ringlet											
Speckled wood		P2, RF1	1					P 1			
Narrow bordered 5 spot burnet moth (none in 2012)											

Table 2 continued

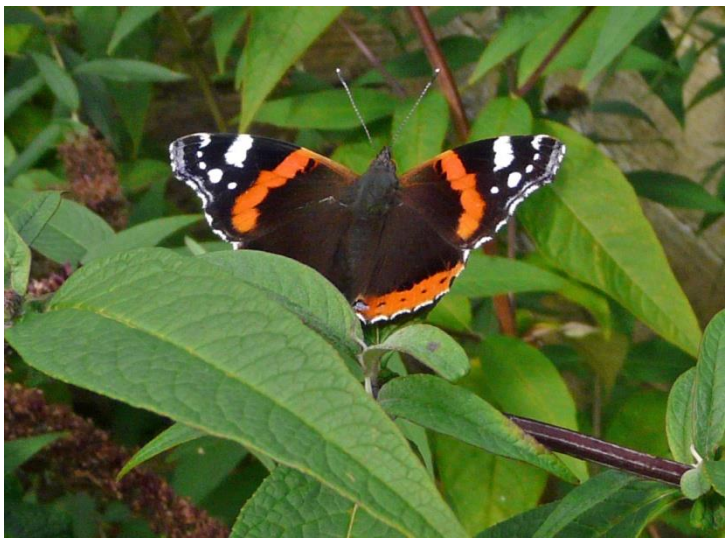
	7th July	12th July	15th July	23rd july	28th July	3rd August	21st August	28th August	2nd Sept	19th Sept	9th Oct
Small skipper (none in 2012)											
Large skipper (none in 2012)											
Green veined white											
Small white				F 1		F 1	H 1, F 2, C2 1	H 1., F 2	F 2	H 1	F 1
Large white						P 1	H 1				
Orange tip											
Unid. white						F 1, H 1	H 1, F 1, c2 1	P 2, H 1, RF 1, H 1	P 1, RF 1, H 1		
Small copper (none in 2012)											
Holly blue											
Common blue (none in 2012)											
Tortoiseshell											
Comma											
Peacock											
Painted Lady (none in 2012)											

Red Admiral		P 1								F 1	F 1
Wall											
Meadow brown			P 1	P 1	H 2						
Ringlet			P 1								
Speckled wood	P 1, RF 1	RF 1					RF 1	H 1, F 1		H 3	
Narrow bordered 5 spot burnet moth (none in 2012)											

Photographs from the 2012 season.

Female Orange Tip in spring.

Red Admiral, the last butterfly recorded in the surveys this year.



The sole Ringlet seen in 2012. They have only ever been recorded in ones and twos.

Red Darter Dragonfly on the boardwalk by the pond.

Newly emerged (teneral) Red Darter climbing up plants around side of pond.

Male Blue Tailed damselfly resting by pond.

Mating pair of Azure damselflies.

Red fescue hill meadow in early spring looking very grazed, with low sward.

Red fescue hill meadow in summer. Sward is longer and more herbs evident this year.

Red fescue hill sward in summer. Note more diverse flora, grazing stress less evident.

Pond in summer. Green algae now less evident, extensive water milfoil and stonewort swards.

Pond later in summer more cloudy and plants raked up. May be due to pond dipping.