OUSEBURN FARM

BUTTERFLY & DRAGONFLY

SURVEY, 2013

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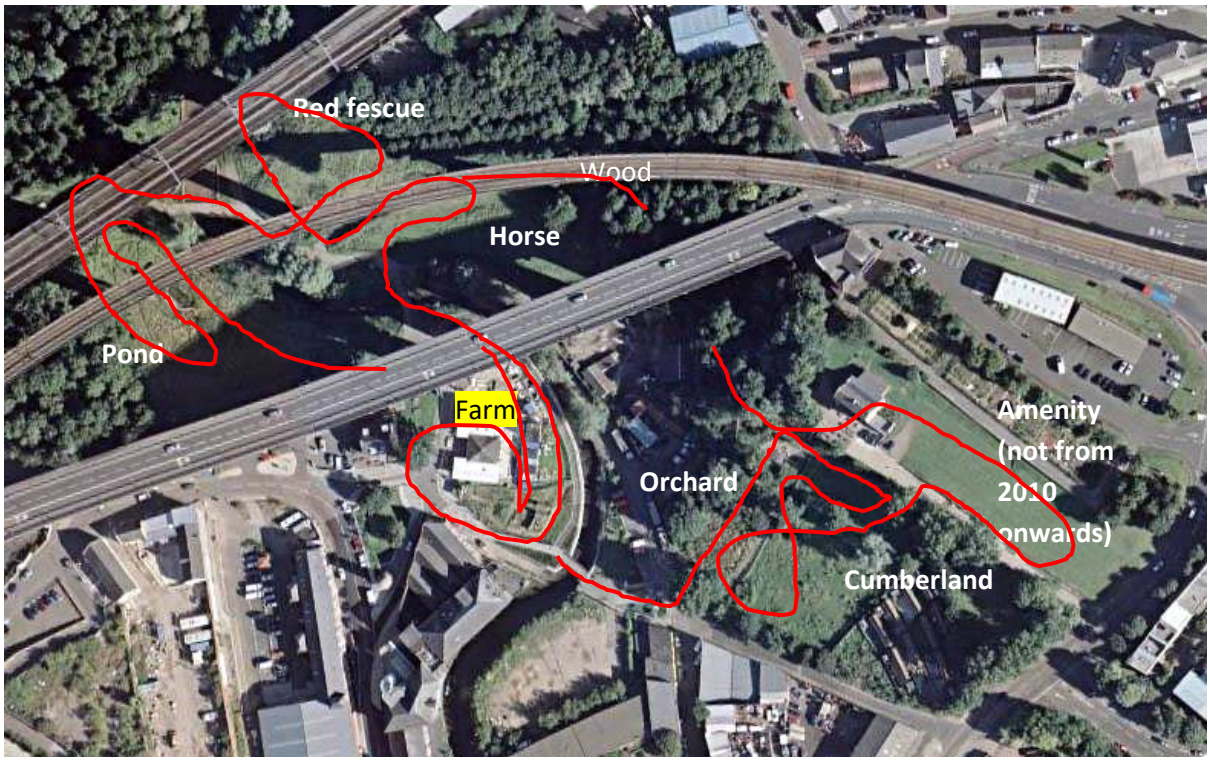
2013

Ouseburn Farm Butterfly, dragonfly and damselfly summary report 2013.

Butterflies, dragonflies and damselflies in and around the Ouseburn Farm were surveyed regularly in 2013 from late spring through to early autumn.

Similar surveys have been carried out in 2006 to 2012 (Jeffries, 2006, 2007, 2008, 2009, 2010, 2011, 2012). In 2013 twenty survey walks were carried out, the first on the 1st April, the last on the 10th 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. Surveys were carried out where possible on warm, sunny days. The areas north of the Pond and Red Fescue meadows which had been fenced off during bridge repairs were included in 2013. These areas started the year as largely bare soil but soon gained a cover of weed species such as Oraches and domestic varieties of mustard (see photos at end of report) which were attractive to white butterflies. These open areas are worth maintaining. The wooded slopes to the north are poor quality urban habitat and could be better as south facing grassland creating a superb view over the valley.

Figure 1. The farm environs, meadows and butterfly recording walk. The red line shows the approximate route used in 2013. 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.

Results.

Species richness. Fourteen species of butterfly were recorded, compared to only eleven species of in 2012. 2012 was a grim year for many butterfly species nationally and locally, including common, hardy species such as the cabbage whites, tortoiseshells and peacocks familiar in gardens and this national pattern was echoed locally (Norman and le Fleming, 2012). In addition to the revived richness of butterflies on the Farm the conspicuous black and red grassland moth, the Narrow Bordered 5 Spot Burnet, was found again in 2013, the first time since 2010 when grazing pressures seem to have reduced their numbers to critically low levels. Numbers of the common Small, Large and Green Veined Whites on the farm were much restored in 2013. The poly tunnel on the Farm site created an unusually beneficial habitat for pupation, resulting in large numbers of small whites emerging late in the season in the warm, sheltered micro-climate (see photos at end of report).

Several meadow species re-appeared after an absence in 2012: Large Skippers, Small Skippers, Small Coppers, Comma and Wall Browns. The skippers and copper are all associated with the Pond meadow which was not grazed in 2013, following the conversion to an orchard. The absence of grazing was conspicuous in the much taller grass sward and more abundant nectar sources e.g. buttercups (see photos), which had been largely absent in recent years. The lack of grazing in the pond meadow is an asset which should be maintained. Swards in other meadows remained closely cropped and butterfly numbers low.

No Holly Blues were seen and this species remains scarce around Tyneside following its population expansion of ~10 years ago. Holly Blues 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.

The absence of Red Admirals and Painted Ladies reflects low number of immigrants this year. Farm staff reported seeing a Red Admiral in late summer

Dragonflies and damselflies. Damselflies and dragonflies were also recorded

Azure and Blue Tailed damselflies were much scarcer at the pond than in 2012. There was no obvious reason for the marked reduction, although as the pond has matured other predators e.g. Greater Waterboatmen (*Notonecta* sp.) have been more abundant and a wasps nest was active in the supports of the dipping platform. Wasps are highly effective at picking off vulnerable juvenile damselflies as they climb out of the pond to emerge from their larval skin.

A few adult Broad Bodied Chasers and Southern Hawkers and Red Darters were also present, scattered throughout the summer. All three breed in the pond

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.

Jeffries, M.J. (2007) Ouseburn Farm butterfly survey, 2007. Division of Environmental Management, Northumbria University, Newcastle upon Tyne.

Jeffries, M.J. (2008) Ouseburn Farm butterfly survey, 2008. Division of Environmental Management, Northumbria University, Newcastle upon Tyne.

Jeffries, M.J. (2009) Ouseburn Farm butterfly survey, 2009. Division of Environmental Management, Northumbria University, Newcastle upon Tyne.

Jeffries, M.J. (2010) Ouseburn Farm butterfly survey, 2010. Division of Environmental Management, Northumbria University, Newcastle upon Tyne

Jeffries, M.J. (2011) Ouseburn Farm butterfly survey, 2011. Department of Geography and Environmental Management, Northumbria University, Newcastle upon Tyne.

Jeffries, M.J. (2012) Ouseburn Farm butterfly survey, 2012. Department of Geography and Environmental Management, Northumbria University, Newcastle upon Tyne

Norman R. and le Fleming, S. (2012) North East Branch Butterfly Conservation. Butterfly summary 2012. 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 2013. Counts were made on sunny days except where indicated by “cloudy” or “windy”. Counts of eggs, caterpillars (“cats”) and pupae (“pup”) are approximate.

	1st April	20th April	29th April	30th April	13th May	16th May	26th May	2nd June	4th June	17th June
Small skipper										
Large skipper										
Green veined white								1		2
Small white						2	3	1		2
Large white										1
Orange tip						4	5	3	3	1
Unid. white						1	2		5	3
Small copper										
Holly blue (none in 2013)										
Common blue (none in 2013)										
Tortoiseshell										
Comma				3						
Peacock							1			
Painted Lady (none in 2013)										
Red Admiral (none in 2013)										
Wall										

	1st April	20th April	29th April	30th April	13th May	16th May	26th May	2nd June	4th June	17th June
Meadow brown										
Ringlet										
Speckled wood									1	
Narrow bordered 5 spot burnet moth										
Red darter dragonfly										
Southern hawker dragonfly										
Broad bodied Chaser dragonfly										2
Teneral damselfly (lack adult colours)										1
Blue tailed damselfly										4
Azure damselfly										7

Table 1 continued

	30th June	9th July	13th July	25th july	31st july	19th August	27th August	21st Sept	3rd Oct	10th Oct
Small skipper		1		1						
Large skipper				1						
Green veined white				8	12	7	7	1		
Small white			3	5	8	7	9, +pupae, + cat	9, + pupae	1	
Large white		1			7	3	3, 20 eggs			
Orange tip										
Unid. White			2	11	5	6	5	1		
Small copper					5					
Holly blue (none in 2013)										
Common blue (none in 2013)										
Tortoiseshell				1	1	1				
Comma										
Peacock							2			
Painted Lady (none in 2013)										
Red Admiral (none in 2013)										

	30th June	9th July	13th July	25th July	31st jJuly	19th August	27th August	21st Sept	3rd Oct	10th Oct
Wall						1				
Meadow brown			1	14	9	1				
Ringlet		1	2	1						
Speckled wood	1	1	1	1	1	1	8	4		
Narrow bordered 5 spot burnet moth		1	1							
Red darter dragonfly				1	1	2	3		1	
Southern hawker dragonfly					1	1	1			
Broad bodied Chaser dragonfly	1	1								
Teneral damselfly (lack adult colours)										
Blue tailed damselfly	1	4	7	2			6			
Azure damselfly	5	1								

Table 2. Numbers of butterflies and burnet moths counted within individual sections of the farm, 2013. 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.

	1st April	20th April	29th April	30th April	13th May	16th May	26th May	2nd June	4th June	17th June
Small skipper										
Large skipper										
Green veined white								P 1		P 2
Small white						H I, F 1	P 1, F 2	P 1		P 1, F 1
Large white										F 1
Orange tip						P 2, RF 2	P 3, RF 2	P 3		RF 1
Unid. White						P 1	H 1, C2 1		P 2, H 2, C1 1	P 1, H 1, F 1
Small copper										
Holly blue (none in 2013)										
Common blue (none in 2013)										
Tortoiseshell										
Comma				P 2, RF 1						
Peacock							F 1			
Painted Lady (none in 2013)										
Red Admiral (none in 2013)										

Wall										
	1st April	20th April	29th April	30th April	13th May	16th May	26th May	2nd June	4th June	17th June
Meadow brown										
Ringlet										
Speckled wood									W 1	
Narrow bordered 5 spot burnet moth										

Table 2 continued

	30th June	9th July	13th July	25th July	31st July	19th August	27th August	21st Sept	3rd Oct	10th Oct
Small skipper		C2 1		P 1						
Large skipper				P 1						
Green veined white				P 5, RF 1, W 1, F 1	P 5, RF 4, C2 1, F 2	P 7	P 5, RF 1, W 1	F 1		
Small white			P 2, F 1	P 2, RF 1, F 2	P 3, RF 1, C2 1, F 3	P 1, F 6	P 1, F 7, C2 1	F 9 in poly tunnel	F 1 in poly tunnel	
Large white		P 1			P 2, F 3, W 2	P 1, F 2	RF 1, F 2			
Orange tip										
Unid. white			P 1, RF 1	P 1, RF 3, H 2, W 1, F 2, C2 2	P 1, RF 1, H 2, F 1	P 2, RF 3, H 1	P 1, RF 2, H 1, C2 1	H 1		
Small copper					P 2, RF 3					
Holly blue (none in 2013)										
Common blue (none in 2013)										
Tortoiseshell				F 1	F 1	P 1				
Comma										
Peacock							C2 1			
Painted Lady (none in 2013)										

Table 2 continued

	30th June	9th July	13th July	25th july	31st july	19th August	27th August	21st Sept	3rd Oct	10th Oct
Red Admiral (none in 2013)										
Wall						P 1				
Meadow brown			C2 1	P 11, RF 1, W 1, C2 1	P 4, RF 1, W 1, H 3	P 1				
Ringlet		C2 1	P 2	P 1						
Speckled wood	H 1	C2 1	C2 1	C2 1	P 1	P 1	P 2, RF 4, W 2, C1 1	P 3, W 1		
Narrow bordered 5 spot burnet moth		C2 1	C2 1							

Photographs from the 2013 season.

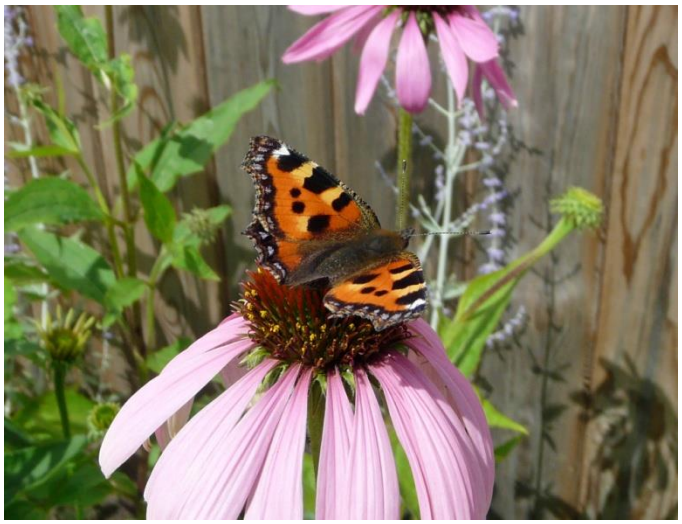
Green veined white in pond meadow

Female orange tip perched on cuckoo flower, one of the caterpillar's food plants, in the pond meadow

Small white in pond meadow

Small whites emerging from pupae in poly tunnel, 23rd September . These late emergers extended the usual season for small whites

Small tortoiseshell, 25th July



Narrowed bordered 5 spot burnet in the hill meadow. 9th July. A few were seen in 2013 after being absent for several years

Brown bodied form of female blue-tailed damselfly, *Ischnura elegans.*

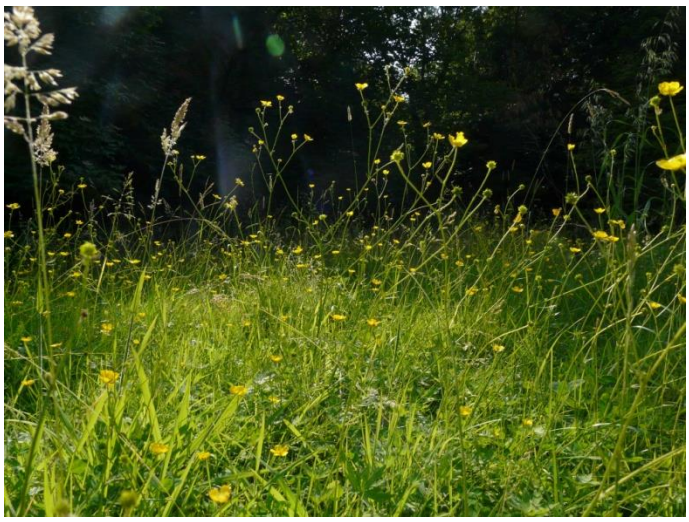
Southern hawker flying over the pond, 19th August

Gooseberry sawfly 13th July. Sawflies are primitve wasps There larave look like caterpillars and defoliated the goosebeery bushes in high summer

Red darter, typically perched on wood of bench

Pond meadow vegetation was lusher following lack of grazing. 4th June

Buttercups bloomed in abundance in the pond meadow, having been largely grazed off in 2012.



The hill meadow sward remained short due to grazing. 17th June

The horse meadow was also heavily grazed. 17th July

The ground under the bridges opened up following the bridge repairs create a sward of disturbed ground weeds including domestic cabbage varieties attractive to large and small whites

The pond in July. The pond is dominated by water milfoil, the previous stands of stonewort now much recued. Stonewort is an early colonist which tends to be lost probably through competition

Restored hillside 26th May

Restored hillside with extensive weeds of disturbed ground colonising. 20th June