Moor Copse extension Site Flora

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Introduction

The BBOWT (Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust, hereafter the Trust) extended their nature reserve of Moor Copse in December 2006 with the acquisition of 29 ha of land (hereafter the survey site) adjacent to the existing reserve. The first author contacted the Trust in winter 2007 in order to carry out voluntary botanical recording, with the intention of practicing and developing botanical identification skills. This newly bought piece of land was thus suggested.

The aim of this survey was to record all vascular plants present within the different areas of the survey site over the duration of one growing season. The expected outcomes of the survey were:

- An estimation of the botanical diversity for wildlife conservation
- The possibility to reproduce the work some years later in order to compare the floristic changes linked with the new management initiated by the Trust

With hindsight, these aims and outcomes match well the Site Flora scheme of the Botanical Society of the British Isles (BSBI). Keeping in mind the reproducibility of the survey, it will benefit from being archived under such a scheme.

Survey Site

The survey site is divided into eleven areas or compartments as shown in Figure 1. Its location within the Site of Special Scientific Interest (SSSI) of *Sulham and Tidmarsh Woods and Meadows* was notified for its mosaic of damp woods and wet meadows within a wide valley encompassing a large panel of soils ranging from peat to alluvial terraces (Anonymous, 2008). The River Field, Cottage Field and Corner Field areas are three meadows recorded by Natural England in their version 2.01 of Lowland Grassland BAP Priority Habitat for England. This inventory has mapped all lowland grassland in order to make data available for conservationists, however, it has been suggested that the entities recorded are of variable biological quality (Hewins *et al*., 2005).

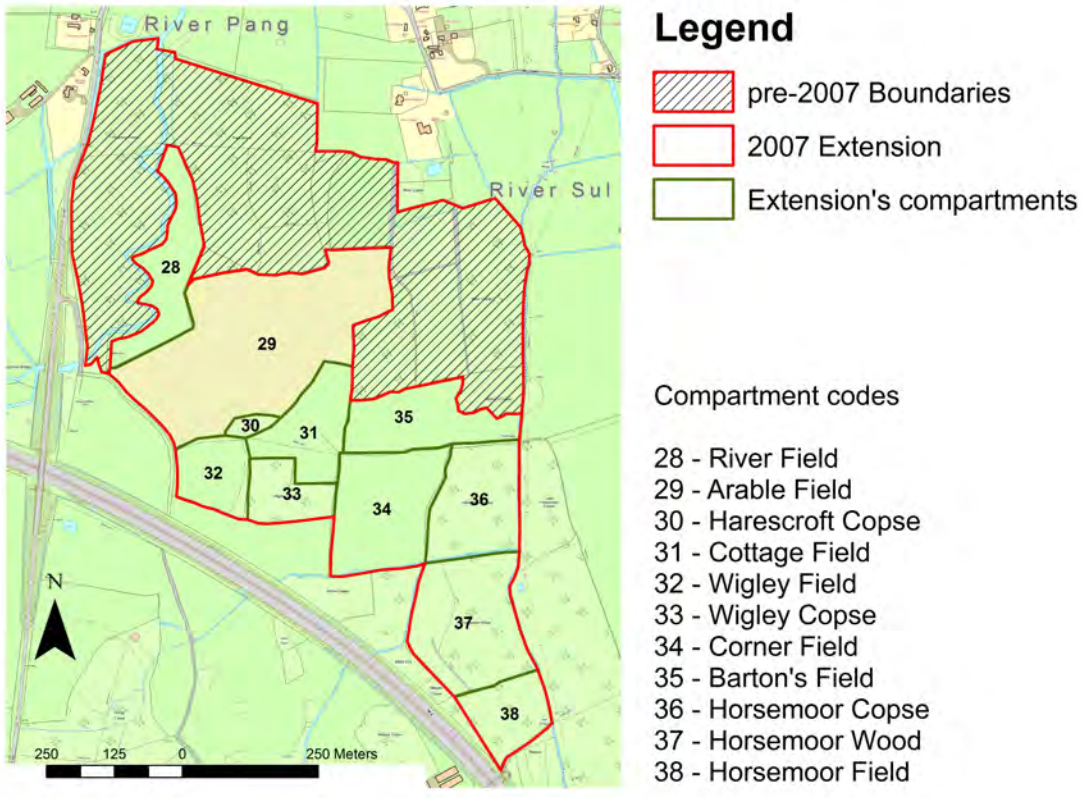

Figure 1: Map of the reserve and key to the 11 areas surveyed (compartment 28 to 38). The background colours are: green for grassland, light green with pattern for woodland, and beige for arable land.

Broad habitats represented here include arable land, grasslands and woodlands, each area being largely dominated by one of the three. In addition, there are hedges marking the boundaries between the areas of grassland and river vegetation along the river Pang and the river Sul. Further details regarding this site can be found in Haseler (2008)

Method

The site was visited 12 times between April and October 2007 (on the 18.04.2007, 30.04.2007, 09.05.2007, 07.06.2007, 17.06,2007, 07.07.2007, 02.08.2007, 06.08.2007, 11.08.2007, 17.08.2007, 09.09.2007, 06.10.2007), providing a one-year snapshot of botanical diversity. Two additional visits the following year gathered a few extra species however those are kept separately from the survey proper.

DAFOR Scale	Description
D	Great quantities covering all the surface of the area. (For instance like Phragmites dominates a typical S4 Phragmites Swamp (Rodwell, 1995))
A	Great quantities but not covering all the surface. Either dominant in one widespread habitat within the area or abundant in all habitats present.
F	Non-dominant but presence widespread throughout the area.
O	Only a few patches of plants present. From this frequency and lower, the species may have been missed would the survey had been less comprehensive either with regard to spatial coverage or to the seasonality of the coverage
R	Less than 10 individuals or individuals restricted to a very small patch (few meter square)

Table 1: Description of how the DAFOR scale was applied during the survey

All vascular plant species observed were recorded separately for the 11 areas. Each area was covered by foot and as comprehensively surveyed for floristic diversity as time allowed. Special topographic features (ditches, rivers, depressions, temporary ponds etc.) had been pinpointed during the initial visit and were systematically re-visited during each visit. By contrast, the larger uniform areas (grassland of Barton's Field, some parts of the wooded areas, and the Arable Field) were surveyed with less spatial detail, assuming that transects

would capture most species present. In addition to presence information, dominance-abundance using the DAFOR scale was recorded for each species within each area of the survey site. Because of the nature of the different areas, the use of this scale does not provide an accurate measurement of abundance-dominance. Indeed, because more than one broad habitat is present in every area, the Dominant value could barely be attributed at any time during the survey. For this reason, as well as keeping in mind the objective of reproducibility of this survey, a description of how the DAFOR scale was used is provided in Table 1. This attempt of quantification should rather be seen as an estimation, however it is considered to be suitable for analysis with rank-based statistical methods. In cases where one species was recorded during more than one visit in one area, the highest dominance estimate was selected. Identification follows Stace's New Flora of the British Isles (1997) and nomenclature, the BSBI 2007 list. Specimens of plants deemed difficult to identify in the field were collected in agreement with the Code of Conduct of the BSBI (Palmer and Hearn, 1999). These specimens are now kept in the personal herbarium of the authors, and can be consulted on request.

Results

The Total number of species recorded amounts to 291 and the break down per area is presented in Table 2.

	TOTAL	D	A	F	O	R
Survey Site (Total)	291					
28 - River Field	138	0	5	36	64	31
29 - Arable Field	128	0	2	14	60	49
31 - Cottage Field	116	0	4	26	50	33
33 - Wigley Copse	51	1	7	15	15	13
30 - Harescroft Copse	24	1	4	4	8	7
32 - Wigeley Field	87	1	4	13	45	23
34 - Corner Field	113	0	6	18	60	28
35 - Barton's Field	106	2	0	19	53	30
36 - Horsemoor Copse	66	1	5	12	29	19
37 - Horsemoor Wood	74	1	4	11	35	23
38 - Horsemoor Field	70	2	1	17	32	17

Table 2: Number of plant species (or subspecies) recorded in each area and their abundances

The list of species encountered during the 2007 survey and their estimated abundance per area is presented in Table 3. The additional species observed in 2008 are presented in Table 4.

Species	**Authority**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**Specimen**
Acer campestre	L.		R	R	R	R	O				R		
Acer pseudoplatanus	L.	R	R					R					
Achillea millefolium	L.	F			O	F		O					
Aethusa cynapium	L.		R										
Agrimonia procera	Wallr.	O			X	R		R					
Agrostis capillaris	L.	F	O		F	A		F	D			O	1
Agrostis gigantea	Roth		X		F		O	O	F				1
Agrostis stolonifera	L.		R										
Ajuga reptans	L.	O			O			O	F	F	O	R	
Alliaria petiolata	(M. Bieb.) Cavara & Grande	O	O	O	O		F	O	O	O			
Alnus glutinosa	(L.) Gaertn.	O	R	O	O	R	A	O	O	F	F	F	
Alopecurus geniculatus	L.				R								1
Alopecurus myosuroides	Huds.		F										
Alopecurus pratensis	L.	A	R		F	A		O	F			O	
Anagallis arvensis subsp. *arvensis*			O										
Anemone nemorosa	L.						F						
Angelica sylvestris	L.	O							R			F	
Anisantha sterilis	(L.) Nevski		F		F	A		F	F			F	
Anthoxanthum odoratum	L.	F			F			F	F		R		
Anthriscus sylvestris	(L.) Hoffm.					O	R						
Aphanes arvensis	L.		O										
Apium nodiflorum	(L.) Lag.								O	F	F	F	
Arabidopsis thaliana	(L.) Heynh.		O										
Arctium minus	(Hill) Bernh.		O	R		O							
Arctium minus agg.									R				
Arenaria serpyllifolia subsp. serpyllifolia			R										
Armoracia rusticana	P. Gaertn., B. Mey. & Scherb.		R										
Arrhenatherum elatius	(L.) P. Beauv. ex J. Presl & C. Presl	F	O		A	F		F	D		R	D	
Artemisia vulgaris	L.	O	O		O	F							
Arum maculatum	L.				R					R	O	R	
Athyrium filix-femina	(L.) Roth						R			R			
Atriplex patula	L.		O			R							
Avena fatua	L.	R	F		R	O							
Ballota nigra subsp. *meridionalis*	(Bég.) Bég.					R							
Berula erecta	(Huds.) Coville									O	O		1
Betula pendula	Roth						O		R	R	O		
Betula pubescens	Ehrh.						R						

Brachypodium sylvaticum	(Huds.) P. Beauv.	O	O	F			F		R	A	O	O	
Briza media	L.							O					
Bromopsis ramosa	(Huds.) Holub	R		O			R						
Bromus hordeaceus	L.		O		O	R		O	O				
Bryonia dioica	Jacq.		R			R							
Callitriche sp. Cf *C. stagnalis*	Scop.				R								
Caltha palustris	L.							O					
Calystegia sepium	(L.) R. Br.	O	O						R			F	
Campanula trachelium	L.									R			
Capsella bursa-pastoris	(L.) Medik.		O										
Cardamine pratensis	L.	O			R			F	R	O			
Carduus crispus	L.	R	X		X	O							
Carex acutiformis	Ehrh.	A				O			O		O		
Carex disticha	Huds.	O						F	O				3
Carex hirta	L.	F			F			F	O				1
Carex nigra	(L.) Reichard							O					1
Carex otrubae	Podp.								R				1
Carex panicea	L.							O					1
Carex paniculata	L.	R											1
Carex remota	L.						F		O	A	A	O	1
Carex riparia	Curtis	X					R				O		
Carex spicata	Huds.	R	R										1
Carex sylvatica	Huds.						O			F	A	R	1
Centaurea nigra	L.	F			F	F		F					
Centaurium erythraea	Rafn		R										
Cerastium fontanum subsp. *vulgare*	(Hartm.) Greuter & Burdet	O	O		O	O		O	O				
Chaerophyllum temulum	L.					R							
Chenopodium album	L.		O										
Circaea lutetiana	L.	R					O		R	F	O		
Cirsium arvense	(L.) Scop.	F	O			F	R	O	F			F	
Cirsium palustre	(L.) Scop.	F			R			R		O	R		
Cirsium vulgare	(Savi) Ten.	R	O		R	O							
Clematis vitalba	L.										R		
Convolvulus arvensis	L.	F				F							
Conyza canadensis	(L.) Cronquist		R			R							
Cornus sanguinea	L.	R	R								R	O	
Coronopus squamatus	(Forssk.) Asch.		R										
Corylus avellana	L.	O	O	D	O	O	A	O	O	A	F	O	
Crataegus monogyna	Jacq.	O	O	F	O	O	O	O	O	O	O	O	
Crepis capillaris	(L.) Wallr.	O	O		R			R					1
Cruciata laevipes	Opiz	O	O		R	R		O					
Cynosurus cristatus	L.							R					
Dactylis glomerata	L.	O	R		F	F	R	O	F		R	O	
Dactylorhiza fuchsii	(Druce) Soó							R					
Deschampsia cespitosa s.s.	(L.) P. Beauv.	O	R		A			A	O		F		

Deschampsia cespitosa subsp. *parviflora*	(Thuill.) Dumort.						A			A	A		
Digitalis purpurea	L.		O	R							O		
Dryopteris affinis	(Lowe) Fraser-Jenk.									R			
Eleocharis palustris	(L.) Roem. & Schult.				F				O				
Elymus caninus	(L.) L.							R					
Elytrigia repens	(L.) Desv. ex Nevski	F	R			O			X				
Epilobium hirsutum	L.	F	R										
Epilobium parviflorum	Schreb.		R			R							
Equisetum arvense	L.		R		O			O	O			O	
Equisetum palustre	L.				O			O	O				1
Erysimum cheiranthoides	L.		R										
Euonymus europaeus	L.	R	R				R				R	R	
Eupatorium cannabinum	L.	F									O	O	
Euphorbia amygdaloides subsp. *amygdaloides*		O	R				F			F	O		
Euphorbia helioscopia	L.		O										
Fallopia convolvulus	(L.) Á. Löve		R										
Festuca arundinacea	Schreb.	F						O					
Festuca gigantea	(L.) Vill.						R	R	R	R	R	R	
Festuca ovina agg.						O			R				
Festuca pratensis	Huds.	F			F			O	F				
Festuca rubra	L.	F			F	A		F	O				
Filipendula ulmaria	(L.) Maxim.	A			F	R		A				R	
Fraxinus excelsior	L.	O	O	A	O	O	A	O	O	D	D	O	
Galeopsis bifida	Boenn.				R				R				
Galeopsis tetrahit s.l.												O	
Galium aparine	L.	F	O	F	O	O	A			A	F	A	
Galium palustre	L.				R				R	O	O		
Galium palustre subsp. *elongatum*	(C. Presl) Arcang.							O					
Galium uliginosum	L.							O					
Galium verum	L.	O	O					F	F				
Geranium dissectum	L.		O										
Geranium molle	L.		O										
Geranium pusillum	L.		R										
Geranium robertianum	L.	R							O	O			
Geum rivale	L.	F						O					
Geum urbanum	L.	O				R	O			O	O	O	
Glechoma hederacea	L.	O	O		O	O	F	O	O	F	F	F	
Glyceria fluitans	(L.) R. Br.				O			R	O				
Glyceria notata	Chevall.							O	O				
Gnaphalium uliginosum	L.		R		R			R					
Hedera helix	L.	R	R					R	R	O			
Helictotrichon pubescens	(Huds.) Pilg.							F					
Heracleum sphondylium	L.	O			F	F				R		F	
Holcus lanatus	L.	F	O		F		F	F	F		R	F	
Holcus mollis	L.		R		O	O		O	F				
Hordeum distichon	L.		R										

Humulus lupulus	L.	O	O			R		R	O			O	
Hyacinthoides non-scripta	(L.) Chouard ex Rothm.	R		A	O	O	D	R	R	O	O	O	
Hypericum perforatum	L.	O	R										
Hypericum tetrapterum	Fr.	R	R										
Hypochaeris radicata	L.	O			R			O					
Ilex aquifolium	L.	R		R			R		R	O	R	R	
Impatiens capensis	Meerb.	R											
Iris pseudacorus	L.	O							F	O	O	O	
Juncus acutiflorus	Ehrh. ex Hoffm.				F			A	O				1
Juncus bufonius	L.		F										1
Juncus bufonius agg.					O			O	O				
Juncus conglomeratus	L.							O		O	F		
Juncus effusus	L.	O	R		F	R	F	O	O	O	F	O	
Juncus inflexus	L.	O			R			O	R	R	R		
Kickxia elatine	(L.) Dumort.		F										
Kickxia spuria	(L.) Dumort.		X										
Lactuca serriola	L.		O										
Lamiastrum galeobdolon subsp. *montanum*	(Pers.) Ehrend. & Polatschek		R				F		O	O	O		
Lamium album	L.		O	O	F	O						O	
Lamium amplexicaule	L.		O										
Lamium hybridum	Vill.		R										
Lamium purpureum	L.	R	F		O	O						R	
Lapsana communis subsp. communis		R		O		O			R		R		
Lathyrus pratensis	L.	F			F				O			O	
Lemna minor	L.										R		
Lemna minuta	Kunth									O	O		
Leontodon autumnalis	L.	F						R					
Leontodon hispidus	L.							O					1
Leucanthemum vulgare	Lam.	O			O			O					
Lolium multiflorum	Lam.	R	A										
Lolium perenne	L.	O			R	O		F	O				
Lonicera periclymenum	L.	R									O		
Lotus corniculatus	L.	O			F			F	O				
Lotus pedunculatus	Cav.	O			O				O				
Luzula campestris	(L.) DC.	O				O		O	O				
Lychnis flos-cuculi	L.	O											
Lycopus europaeus	L.	O							O				
Lysimachia nemorum	L.									F	O		
Lysimachia vulgaris	L.	R											
Lythrum salicaria	L.	O			R				R		R	X	
Malus sylvestris agg.											O		
Matricaria discoidea	DC.					O							
Matricaria recutita	L.		O		O	O							
Melica uniflora	Retz.										R		
Mentha aquatica	L.	O						O		O	O		
Mentha arvensis	L.	O			O				O				1
Mercurialis perennis	L.						O			O	A		
Misopates orontium[A]	(L.) Raf.		?[A]										1[A]
Moehringia trinervia	(L.) Clairv.									R	O	R	

Molinia caerulea	(L.) Moench							O					
Myosotis arvensis	(L.) Hill		O		O						R	F	
Myosotis scorpioides	L.	O			R			O	O	R	R	R	
Odontites vernus subsp. *serotinus*	(Syme) Corb.							R					
Oenanthe crocata	L.	F									R	R	
Orchis mascula	(L.) L.									R			
Ornithogalum angustifolium	Boreau				R								
Papaver rhoeas	L.		F										
Persicaria hydropiper	(L.) Delarbre				F			O	O				
Persicaria lapathifolia	(L.) Delarbre				O			R	R				1
Persicaria maculosa	Gray	R			O	O			O				
Phalaris arundinacea	L.	F							O		O	O	
Phleum bertolonii	DC.	F			O			R					
Phleum pratense	L.	O			O	O		R	F				
Picris echioides	L.		O			R			R				
Pimpinella saxifraga	L.	O											
Plantago lanceolata	L.	F	R		F	F		F					
Plantago major subsp. *major*			O		O	O							
Poa annua	L.		F						R				
Poa pratensis agg.			O										
Poa trivialis	L.	A	O	O	F	F	A	A	F	F	F	F	
Polygonum aviculare s.l.	L.		O		O	O							
Populus alba x *tremula* = *P.* x *canescens*	(Aiton) Sm.				O	O	O	O	O				
Potentilla anglica[B]	Laichard.	O[B]											1[B]
Potentilla anserina	L.	F			F	O		A	F				
Potentilla erecta	(L.) Raeusch.							F					
Potentilla sterilis	(L.) Garcke	R						O	R				
Primula veris	L.							O					
Primula vulgaris	Huds.						F			O	O		
Prunella vulgaris	L.		R		R								
Prunus domestica	L.				O								
Prunus domestica subsp. *italica*	(Borkh.) Gams ex Hegi				R								
Prunus spinosa	L.	O	O		O	O		O	O	R		F	
Prunus spinosa x *domestica* = *P.* x *fruticans*	Weihe	R											
Pteridium aquilinum subsp. *aquilinum*			R		O	O							
Pulicaria dysenterica	(L.) Bernh.	F			R								
Quercus cerris	L.		R										
Quercus robur	L.	O	O	A	O	R	F	O	O	O		O	
Ranunculus acris	L.	F	O		F	F	O	F	R				
Ranunculus auricomus	L.						O			O			
Ranunculus bulbosus	L.	O			R	O		R					
Ranunculus ficaria	L.	O		O	O	O	F		O	O	O	O	
Ranunculus repens	L.	O	O		F	F	O	O	F	O	O	R	

Raphanus raphanistrum subsp. *raphanistrum*			F										
Ribes nigrum	L.											R	
Ribes rubrum	L.									R			
Ribes uva-crispa	L.									O			
Rorippa nasturtium-aquaticum	(L.) Hayek								R	O	F		
Rosa canina agg.		R				O	R	O		R	R	O	
Rubus caesius	L.	O											
Rubus fruticosus agg.				R	O	O		O	F	O	O	F	
Rubus idaeus	L.		R	?								O	
Rumex acetosa subsp. *acetosa*		O			O	O		O	O				
Rumex crispus	L.	O	R		O	R			O				
Rumex obtusifolius	L.	R		A	R	O		R			O	O	
Salix alba	L.				R			R	R			R	
Salix caprea	L.	O										O	
Salix caprea x *cinerea* = *S.* x *reichardtii*	A. Kern.	O			R			R					
Salix cinerea subsp. *oleifolia*	Macreight	O			R			O	O			F	
Salix fragilis	L.	R						R	O		R		
Salix viminalis	L.	R											
Sambucus nigra	L.	R	R	R	R	O	O	R	R	R	O	O	
Sanguisorba officinalis	L.	O			R			O					
Scrophularia auriculata	L.	O							R				
Scrophularia nodosa	L.		O								R		
Senecio jacobaea	L.	O	O		O	R		R			?	O	
Senecio vulgaris	L.		O										
Sherardia arvensis	L.		O										
Silaum silaus	(L.) Schinz & Thell.	O			R			O					1
Silene latifolia	Poir.		R		R	R							
Sinapis arvensis	L.	O	F										
Sisymbrium officinale	(L.) Scop.		R										
Solanum dulcamara	L.	O										R	
Solanum nigrum	L.		O										
Sonchus arvensis	L.	O	R										
Sonchus asper	(L.) Hill		F			R							
Sparganium erectum Cf *S. e.* subsp. *neglectum*	(Beeby) K. Richt.							R					
Stachys officinalis	(L.) Trevis.				R			R					
Stachys palustris	L.		O										1
Stachys sylvatica	L.				R		R		O	O	O		
Stellaria graminea	L.	A			A	D		A	F		O	F	
Stellaria holostea	L.	O	O	F	O	O	A		O	O		F	
Stellaria media	(L.) Vill.		A	R	O			O	R			R	
Succisa pratensis	Moench							O					
Symphytum officinale	L.	F	R		O	R			O				
Tamus communis	L.		R										
Taraxacum officinale agg.		F	O		O			O	O	R	R	R	
Thlaspi arvense	L.		F										
Torilis japonica	(Houtt.) DC.	F	O									O	

Tragopogon pratensis subsp. *minor*	(Mill.) Wahlenb.				O	O		O	R			
Trifolium dubium	Sibth.	O	R									
Trifolium medium	L.	F				O		O				
Trifolium pratense	L.	F			O			O	R			
Trifolium repens	L.	F	O		F	O						
Tripleurospermum inodorum	(L.) Sch. Bip.		O		O							
Ulmus glabra	Huds.		R									
Ulmus procera	Salisb.						R					
Urtica dioica	L.	F		O	O		F	F	O	F	F	D
Valeriana officinalis	L.	O								R		
Verbascum thapsus	L.		R									
Veronica anagallis-aquatica	L.	R										
Veronica arvensis	L.		F		R	O						
Veronica beccabunga	L.								O			
Veronica chamaedrys	L.	F	O		A	F	O	F	F	O		O
Veronica hederifolia subsp. *hederifolia*						R						
Veronica hederifolia subsp. *lucorum*	(Klett & Richt.) Hartl					O						O
Veronica montana	L.						F		O	F	O	
Veronica persica	Poir.	R	O			O		O	O			
Veronica serpyllifolia subsp. *serpyllifolia*			O					R				
Viburnum opulus	L.									R		
Vicia cracca	L.	F			O	O		O	O			O
Vicia hirsuta	(L.) Gray	F			O							F
Vicia sepium	L.		O				F				O	
Viola arvensis	Murray		F									
Viola reichenbachiana	Jord. ex Boreau									R		
Viola riviniana	Rchb.						O			F	O	

Table 3: List of species recorded and their DAFOR abundance in each area of the survey site (see text and Table 1). X= present but abundance not recorded; ?= dubious record; Area code number as in Figure 1. [A]: Field identification and the specimen collected is not conclusive; [B]: Identification based only on one vegetative specimen.

Discussion

The raw data was collected throughout the season as comprehensively as possible, in accordance to the main objective of the survey. In order to be able to compare subsequent surveys, two elements of the methodology are developed further below. Finally, a brief summary attempts to put the survey results within a broader context.

The limitations of the DAFOR scale for this survey are already mentioned in the methods section. In addition, the abundance estimates were probably biased by two other factors.

Firstly, the abundance of species that hardly flowered in 2007 and were mainly identified vegetatively, are likely to be underestimated. By contrast, trees and shrubs that comprised hedgerows delimiting two areas were recorded in many instances for both areas, probably resulting in their overestimation.

	Authority	28	29	30	31	32	33	34	35	36	37	38	Specimen
Cardamine flexuosa *	With.							R					
Carex nigra	(L.) Reichard								O				
Eleocharis palustris	(L.) Roem. & Schult.							O					
Stellaria alsine *	Grimm							R					
Poa annua	L.							O					
Listera ovata *	(L.) R. Br.									R			
Chenopodium polyspermum *	L.		R										

Table 4: List of the additional records made after 2007. * Indicate species not recorded in the survey site in 2007. See Table 3 for legend.

The second methodological point relates to plant identification. The author's skills limited either the recording or the quality of recording for the following taxonomic groups: for the genus *Agrostis*, the list of species is accurate for the whole survey site however the exact presence and abundance within each area is approximate. Little attention was paid to the genus *Rumex*, and as a consequence the recording is possibly not comprehensive. Too little time was spent in beds of *Carex riparia* and/or *C. acutiformis* to ensure the presence and absence of both species was accurately recorded for every area. Finally, confusion between *Trifolium medium* and *T. pratense* may have occurred in the field and no specimens were collected so it was not possible to subsequently verify the data.

Two main sources of literature provide information about the botanical diversity in Moor Copse Nature Reserve. Crawley (2005a) highlights a few species but they are likely to be mainly relevant to the older part of the reserve. Notably, Crawley (2005a) mentions *Geum* x *intermedium*, however this taxa was not searched for during the field campaign. In retrospect, it is feasibly present at the study site since there are suitable habitats directly adjacent to the older part of the reserve. There is also a list of 2007 observations published in The Reading Naturalist which explicitly concern the study site (Keith-Lucas, 2008). Among them, *Centaurea x moncktonii, Knautia arvensis, Senecio erucifolius, Sonchus oleraceus* and *Dactylorhiza praetermissa* were not observed during the survey. *Dactylorhiza praetermissa*

is also mentioned in the same issue of The Reading Naturalist as a “single specimen” (Haseler, 2008) and has possibly been missed. In the next issue of the Reading Naturalist, Keith-Lucas (2009) additionally reports *Linum catharticum* and *Geranium pratense*, observed in 2008 from the Arable Field and the Cottage Field respectively.

Species	Authority	28	29	30	31	32	33	34	35	36	37	38
Bromopsis ramosa	(Huds.) Holub	R		O			R					
Carex sylvatica	Huds.						O			F	A	R
Elymus caninus	(L.) L.							R				
Euphorbia amygdaloides subsp. *amygdaloides*		O	R				F			F	O	
Festuca gigantea	(L.) Vill.						R	R	R	R	R	R
Lamiastrum galeobdolon subsp. *montanum*	(Pers.) Ehrend. & Polatschek		R				F		O	O	O	
Melica uniflora	Retz.										R	
Orchis mascula	(L.) L.									R		
Veronica montana	L.						F		O	F	O	

Table 5. List of the Ancient Woodland Indicators. See Table 3 for legend.

Despite the various anecdotal points mentioned above, on the whole the field campaign was carried out very thoroughly and only rarer taxa are likely to have been missed. Seven additional taxa have been reported by The Reading Naturalist for 2007 and 2008. A short analysis of the botanical diversity observed follows.

Nine species recorded during the survey are considered as ancient woodland indicators in Berkshire (Crawley, 2005a), however no single area within Moor Copse has all of them (see Table 5). None of the three woodland areas can be considered as ancient following this scheme, since they only show the presence of six indicators out of a maximum of 20. As a guide, in Berkshire the most ancient woodlands score around 15 (Crawley, 2005a). In this respect the study site taken as a whole has a good score of 9 indicator species. In addition, amongst other axiophytes, the presence of *Ranunculus auricomus* is here noteworthy, being the “mark of a superior woodland” (Crawley, 2005a). Similarly of interest, the magnificent carpets of *Hyacinthoides non-scripta* in the spring represent highly valuable biocultural diversity, as defined by the Global Biodiversity Assessment (Heywood & Baste, 1995).

Consulting Crawley’s Rare Plant Register (2005b), twelve species recorded during this survey can be highlighted (see Table 6). These are mostly found in the meadows and ditches of the study site, with the exception of *Orchis mascula* and the elms. In addition to this list, the presence of *Silaum silaus* is of importance because it is recognised as an umbrella species for the priority habitat “Lowland Meadows” in the UK BAP. There are three small populations of *Silaum silaus* growing in the River Field, Cottage Field and Corner Field areas respectively.

Because of habitat loss, this species has shown a distinct decline the last decades at the national level (Preston *et al*., 2002) and "is now something of a rarity" in Berkshire (Crawley, 2005a).

Species	Authority	28	29	30	31	32	33	34	35	36	37	38
Agrimonia procera	Wallr.	O			X	R		R				
Berula erecta	(Huds.) Coville									O	O	
Carex disticha	Huds.	O						F	O			
Dactylorhiza fuchsii	(Druce) Soó							R				
Geum rivale	L.	F						O				
Glyceria notata	Chevall.							O	O			
Mentha arvensis	L.	O			O				O			
Orchis mascula	(L.) L.									R		
Potentilla anglica	Laichard.	O										
Sanguisorba officinalis	L.	O			R			O				
Ulmus glabra	Huds.		R									
Ulmus procera	Salisb.						R					

Table 6: Species listed in the Berkshire rare plant register. See Table 3 for legend.

Conclusion

To conclude, this survey was successful in recording the vascular-plant diversity within all 11 areas of the study site. Overall, nearly 291 species were observed in 2007, 4 extra species were found the subsequent year, and a further 7 additional taxa were reported for 2007 and 2008 in the The Reading Naturalist. The most diverse areas within the reserve were the River Field and the Arable Field, however the latter area is undergoing restoration as a grassland which will probably induce dramatic changes to its floristic composition and ecology.
Putting results into a wider national context, the presence of the increasingly scarce *Silaum silaus* is an indicator for the UK BAP priority habitat of Lowland meadows, and indeed the River Field, Cottage Field and Corner Field areas comprise areas of unimproved neutral grasslands as defined in this scheme. At the level of Berkshire, the study site as a whole scores as a moderately ancient woodland, and hosts 12 plant species registered as rare plants in the county. In addition, the fine carpets of Bluebells in the spring have a high value as far as biocultural diversity is concerned.
This report also discusses in depth limitations of the methodology used for the field campaign. This element was deemed of utmost importance in order to facilitate subsequent botanical study of the site.

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