Ecological Survey of Horsham Common Complex Meadow, The Knepp Estate, Shipley, West Sussex

Site of Nature Conservation Importance H30

14/05/12 and 21/08/12

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West Sussex County Council

west sussex county council

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1. Introduction

Horsham Common Meadow is a relatively small 0.8 hectare area of grassland, forming part of Horsham Common Complex Site of Nature Conservation Importance, SNCI (see Appendix 1).

Lowland meadow is a rare habitat that has suffered drastic decline in history through changes and cessation of land management. 97% of lowland meadows have been agriculturally improved or lost since 1940 in the UK. Locally there are very few areas of lowland meadow habitat.

2. Aim

The aim of this ecological survey is to survey, compare and evaluate the species composition and nature conservation value of this meadow. Informed conservation management advice will then be provided to help conserve, enhance and hopefully enlarge this important habitat.

3. Objective

This will be achieved by:

- The undertaking of ecological surveys
- Review of historic survey data
- Desk based analysis and interpretation of results

4. Methodology

The ecological survey was undertaken on two separate days during the spring and summer to record woodland and grassland species present at different times of year. A survey was undertaken in late May to record early meadow and woodland flora, a second survey was then undertaken in August to record later flowering grassland species. Non-plant species including birds and invertebrates were also recorded.

Plants were recorded using the DAFOR scale of abundance. This technique is used for assessing abundances of plants over large areas. It is a quick and simple technique however more detailed surveys can be undertaken (for example, quadrat surveys).

Abbreviation	**Abundance**	**% Cover**
D	Dominant	>75
A	Abundant	75-51
F	Frequent	50-26
O	Occasional	25-11
R	Rare	10-1
L	Local (e.g. LD, LA and LF, where L = locally)	n/a

Non-plant species, including birds and invertebrates, were recorded numerically.

5. Results

It is important to note that these results are based on two ½ day ecological surveys of the meadow on 14/05/12 and 21/08/12. This is by no means comprehensive.

Plants

Horsham Common Complex Meadow (pictured – front cover) has a rich diversity of plant species. A full species list is included below in appendix 8c. Typical lowland meadow plants that were recorded include Devil's-bit Scabious, Agrimony, Common Bird's-foot-trefoil, Betony and Common Knapweed. These species were recorded in localised areas of the meadow and were relatively scarce in comparison to other lowland meadow's species concentrations in the local area (see Pic. 1 & 3, appendix 7c). Of note, when comparing the species present in this survey to that in 1989, two characteristic Weald lowland meadow species were absent in 2013: Dyer's Greenweed (*Genista tinctoria*) and Sneezewort (*Achillea ptarmica*). Other plant species comparisons are listed in Fig. 1 below (species concentrations were not available for comparison with the 1989 survey).

A number of negative indicator plant species were recorded during the survey. Bracken (*Pteridium aquilinum*), a dominant species was frequent and locally abundant across the meadow, especially during August when the plant had matured. Several discrete areas Stinging Nettle (*Urtica dioica)* were present in several areas of enrichment. Creeping Thistle (*Cirsium arvense)* was recorded as rare in the grassland areas. Common Ragwort (*Senecio jacobaea*) was also recorded as rare in the grassland.

Disturbed areas, which were created when removing scrub succession in meadow restoration, contained much Foxglove (*Digitalis purpurea*) and Willowherb species (*Epilobium sp.).*

Due to the recent restoration management work in the meadow, scrub levels (blackthorn, bramble, tree saplings) was recorded infrequently, however several areas of bramble were noted as re-growing following this work.

Fig. 1. Comparison on Indicator Lowland Meadow Plant Species, 1989 and 2012.

Positive indicator lowland meadow plant species

Scientific Name	Common Name	Present 1989	Present 2012
Achillea ptarmica	Sneezewort	√	
Agrimonia eupatoria	Agrimony	√	√
Anemone nemorosa	Wood Anemone		√
Centaurea nigra	Common Knapweed	√	√
Genista tinctoria	Dyer's Greenweed	√	
Lotus corniculatus	Common Bird's-foot-trefoil	√	√
Primula veris	Cowslip	√	√
Stachys officinalis	Betony	√	√
Succisa pratensis	Devil's-bit Scabious	√	√
Daucus carota	Wild Carrot	√	

subsp. carota			

Negative indicator lowland meadow plant species

Pteridium aquilinum	Bracken	√	√
Rumex obtusifolius	Broadleaved Dock		√
Cirsium arvense	Creeping Thistle		√
Plantago major	Greater Plantain		√
Urtica dioica	Stinging Nettle		√
Senecio jacobaea	Common Ragwort	√	√

Birds

During the survey visits Bullfinch (an amber-listed Bird of Conservation Concern), Buzzard, Greater Spotted Woodpecker and Nuthatch were recorded in the meadow, hedge and woodland edge habitats.

Invertebrates

As the survey was undertaken in May and August, many species of invertebrate were likely missed by the survey; peak invertebrate activity is often during June-July. Despite this, a good diversity of invertebrates was recorded in the meadow. These were largely associated with flowering plants, grasses and the prey they provide. Bracken, although too dominant in the sward, provided good invertebrate microclimates.

- Butterflies & Moths (Lepidoptera): Meadow Brown butterflies were common throughout the meadow, a Brown Argus was also recorded (pictured – front cover, bottom left). Several Sliver Y day-flying moths were also observed.
- Grasshoppers & Crickets (Orthoptera): Three common species were identified, Meadow Grasshopper (pictured – front cover, bottom right), Dark Bush Cricket and Roesel's Bush Cricket. These are associated with meadow, hedge and rank grassland respectively.
- Hoverflies: Adult species recorded were strongly linked with flowers, including Devil's-bit Scabious. This late flowering species is a very valuable nectar source in later summer. Two common species of Eristalis were recorded frequently, *E. intricarius* and *E. pertinax*. Two species of Volucella (bee mimics) were also recorded *V. pellucens* and notably *V. inanis*. This latter species (pictured – front cover, bottom middle) is rare in Sussex and is listed on the Sussex Rare Species Inventory.
- The Common Carder Bee was recorded on several occasions.

6. Conclusion

This survey concludes that Horsham Common Complex Meadow is still species-rich grassland and a lowland meadow priority habitat. However, the survey also indicates that the meadow has declined in lowland meadow positive indicator species; Dyer's Greenweed and Sneezewort were not present, although they may exist in the seed bank and may re-appear if management is appropriate. Positive indicator species may also have declined in density. The survey indicates that negative indicator species have increased in extent, including Bracken and Stinging Nettle. These species were considered to be in too higher concentrations at present. Examples of species-rich lowland meadows in the local areas can be found in appendix 8e.

Recommended Management:

- Continue and encourage cattle grazing of the meadow. This will trample bracken and promoting germination and distribution of meadow plant species. It may promote the recovery of lost species from seed bank, including Dyer's Greenweed and Sneezewort. Low level grazing will allow plants to flower and set seed. Cattle produce a varied grazing structure in the vegetation sward, creating more habitats for invertebrates.
- Continue to cut the meadow in late summer, each year rotating the cutting between the late summer months (August, September and October) to maximise flowering and species diversity. Cuttings should be removed and composted off-site or used as hay.
- Undertake bracken control. Fernicide would likely have a detrimental effect on other ferns in the meadow, stream bank and woodland edges. Management could include a combination or alternation of bracken bruising and bracken cutting:
  Bracken Cutting. The aim is to cut twice each season. First cut in about mid-June (mid-July if ground-nesting birds may be present) when the bracken is 50-75 cm high and again six weeks later. This twice yearly cutting is likely to be required for at least 3 years. An alternative is a single cut in late July, repeated for at least 5 years.
  Crushing. This is less effective than cutting. It is usually best carried out repeatedly on young fronds that are brittle and easily snapped. Repeat the treatment for at least 3 years if two crushings per season, and 5 years if only crushed annually.
- Consider re-introducing lost lowland meadow species from local providence seed. Yellow Rattle, Sneezewort and Dyer's Greenweed seeds could be harvested from local meadows or roadside verges. Alternatively, Kew's Native Seed Hub or the Weald Meadows Initiative may be able to assist in supplying local seed or plug plants. See: http://www.kew.org/science-research-data/directory/projects/UK-Native-Seed-Hub.htm or http://www.highweald.org/look-after/our-projects/weald-meadows-initiative.html
- Scrub and bramble re-growth will need controlling. If the meadow is cut annually and grazed, this should prevent woody plants from re-growing.
- Ruderal weeds may need controlling in areas with recent soil disturbance, where scrub has been removed. They may require topping before they set seed to promote the growth of meadow herbs and grasses.

- Coppicing or hedge-laying the southern boundary hedge will allow more sunlight into the meadow during spring and autumn, aiding meadow plant growth and providing heat for invertebrate species.

7. Appendix
a. SNCI Citation

WEST SUSSEX SITES OF NATURE CONSERVATION IMPORTANCE

Site: **Horsham Common, Alder Copse, Coate's Furzefield and Constable's Furze, Southwater**

Grid Ref:	TQ 158 238	***Site Ref:***	H 30
Owner: Private		***District:***	Horsham
Area:	26.5 hectares	***Parish:***	Shipley

Habitat: Semi-natural woodland, broadleaved plantation, coniferous plantation, neutral meadow, pond and stream

Date: Identified May 1992 ***Author:*** Graham Roberts

Summary
This diverse woodland complex includes semi-natural woodland, semi-mature Oak plantation, young broadleaved plantation, conifer plantation, streams and a small herb-rich meadow. The flora, butterflies, birds and mammals are all of great interest. The woodland is managed in the interests of both commercial forestry and nature conservation.

Site description
The most interesting areas botanically are the woodland edges. It seems likely that some of these are strips or shaws or ancient semi-natural woodland. Pedunculate Oak standards occur with Ash, Field Maple and Hazel coppice. Notable plants include Wild Daffodil (*Narcissus pseudonarcissus*), Early-purple Orchid (*Orchis mascula*), Yellow Archangel (*Lamiastrum galeobdolon*), Wood Spurge (*Euphorbia amygdaloides*), Wych Elm, Crab-apple and Wild Cherry. Also of interest are stands of Hornbeam coppice and elsewhere Alder.

Small stream flowing through the woodland are important features. Plants associated with them include Hart's-tongue (*Phyllitis scolopendrium*), Ramsons (*Allium ursinum*), Cuckooflower (*Cardamine pratensis*), Meadowsweet (*Filipendula ulmaria*), Pendulous Sedge (*Carex pendula*) and Wild Angelica (*Angelica sylvestris*).

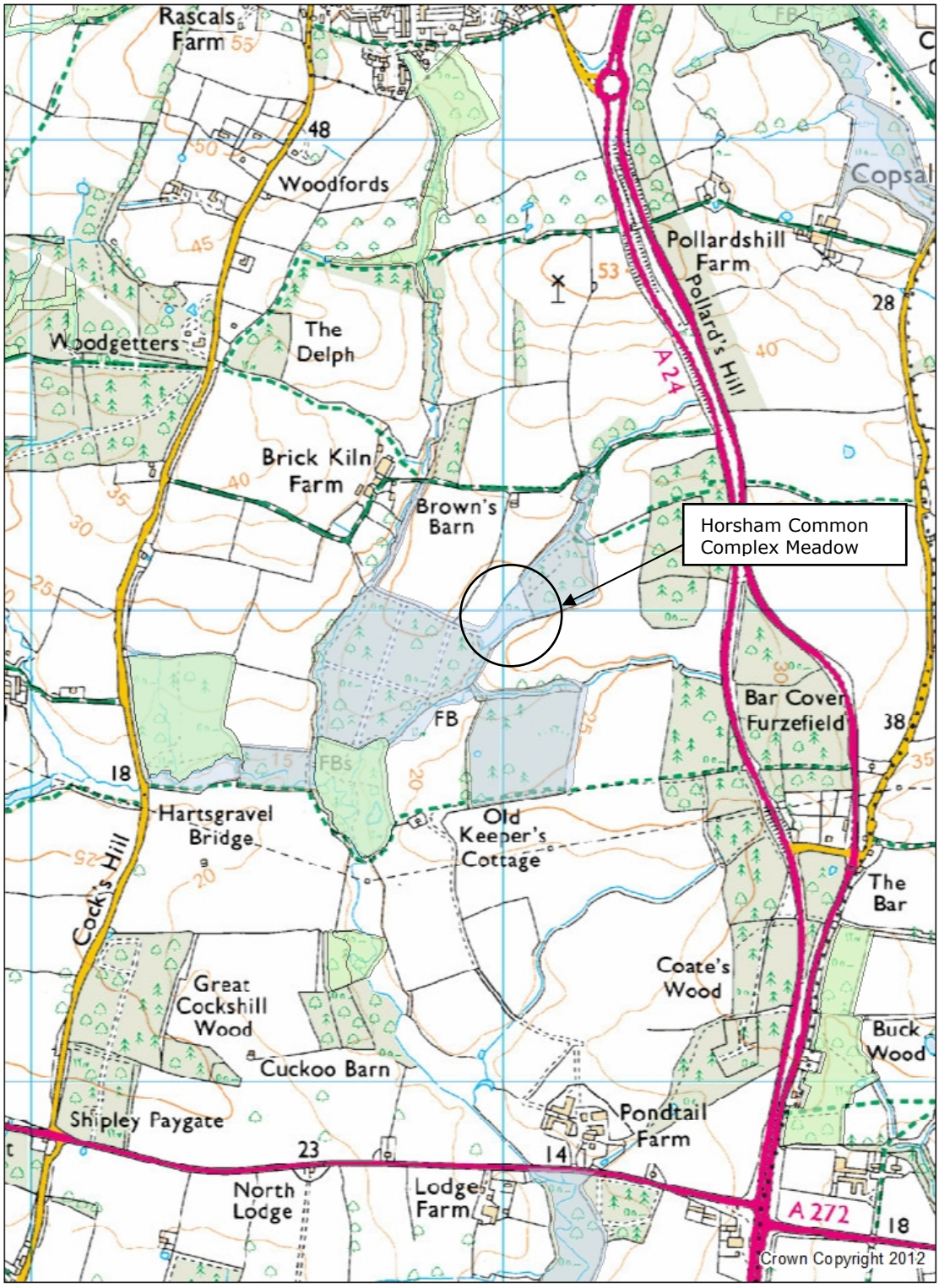
A small meadow or woodland glade situated between Constable's Furze and Horsham Common is of great interest. Its herb-rich sward includes notable species such as Dyer's Greenweed (*Genista tinctoria*), Devil's-bit Scabious (*Succisa pratensis*), Sneezewort (*Achillea ptarmica*), Betony (*Stachys officinalis*) and Cowslip (*Primula veris*). Black Knapweed (*Centaurea nigra*) is abundant. Wild Strawberry (*Fragaria vesca*), Agrimony (*Agrimonia eupatoria*), Wild Carrot (*Daucus carota*), Bitter-vetch (*Lathyrus montanus*), Tormentil (*Potentilla erecta*), Bluebell (*Hyacinthoides non-scripta*) and Bugle (*Ajuga reptans*) also occur in the glade.

The woodland supports a rich avifauna including Treecreeper, Marsh Tit, Chiffchaff, Nuthatch, Great Spotted Woodpecker and Green Woodpecker, Dormice are known to occur. Notable butterflies recorded include Purple Hairstreak, Silver-washed Fritillary and White Admiral.

Management recommendations
The present sympathetic management appears to encourage a rich wildlife. Maintaining wide rides and glades are an important part of this.

7. Appendix
b. Nature Conservation Designations Map

Not Definitive



west sussex county council

N W E S

Ancient Woodland

SNCI

7. Appendix
c. Lowland Meadows in the Local Area

Lowland Meadows are a rare habitat within the UK but also more locally within West Sussex and this area of the Low Weald.

Local Lowland Meadow Habitats **Not Definitive**

Contact with landowners for the sites listed should be sought through the SNCI Initiative (unless landowners are already known).

Pic. 1. Sawwort, Hooklands Farm Meadow

2. Hooklands Farm Meadow SNCI, Ashington
The meadow (pictured, left) has abundant Sawwort (*Serratula tinctoria*) and Common Knapweed (*Centaurea nigra*) and Agrimony (*Agrimonia eupatoria*). It also has significant amounts of Dyer's Greenweed (*Genista tinctoria*), Pepper-saxifrage (*Silaum silaus*) and Sneezewort (*Achillea ptarmica*). The owner may be amenable to green hay collection for restoration of Horsham Common Complex Meadow.

3. Sedgwick Park SNCI
The site has large areas of Yellow Rattle (*Rhinanthus minor*) and other characteristic lowland meadow plant species. The High Weald Meadows Initiative and Agrifactor harvest seed from this site, which could be used for restoration and re-introduction of plant species at Horsham Common Complex Meadow.

4. Maplehurst Road Notable Road Verge
Abundant Dyer's Greenweed (pictured, right). It is owned by West Sussex County Council. Seed collection could likely be undertaken with permission.

Pic. 2. Dyer's Greenweed

5. Smithers Hill Notable Road Verge
This road verge has Zigzag Clover (*Trifolium media*) and Pepper-saxifrage, but requires hay-cutting to restore these locally scarce species.

Pic. 3. Betony, Walden Close SNCI

6. Walden Close Meadow SNCI
The south-eastern grassland (pictured left) has abundant Devil's-bit scabious (*Succisa pratensis*), Betony (Stachys officinalis) and Pepper Saxifrage. The owner may be amenable to green hay cutting to restore Horsham Common Complex SNCI. This would also benefit the meadow as it has not been cut and collected recently.

7. Appendix
d. 2012 Survey Data and Species Lists

Site Name & location: SNCI H30, Horsham Common Complex Meadow
Grid Reference: TQ1601,2399
Surveyor(s): Ben Rainbow, Ecologist West Sussex County Council
Date: 14/05/2012

Species_Name	Common Name	Species Type	Abundance	Sex_Stage	Comment
Anthoxanthum odoratum	Vernal-grass, Sweet	G	DAFOR O	Present	
Brachypodium sylvaticum	False-brome	G	DAFOR R	Present	
Carex sp.	Sedge sp.	G	DAFOR R	Present	
Festuca sp.	Fescue sp.	G	DAFOR LO	Present	Red or sheep's fescue
Luzula campestris	Wood-rush, Field	G	DAFOR R	Present	
Luzula sp.	Wood-rush sp.	G	DAFOR O, LF	Present	
Poa annua	Meadow-grass, Annual	G	DAFOR R, LO	Present	
Agrimonia eupatoria	Agrimony, Common	H	DAFOR R, LO	Present	
Ajuga reptans	Bugle	H	DAFOR R	Present	
Anemone nemorosa	Anemone, Wood	H	DAFOR R	Present	
Aphanes arvensis agg.	Parsley-piert	H	DAFOR R	Present	
Arum maculatum	Lord's-and-ladies	H	DAFOR R	Present	
Cardamine hirsuta	Bittercress, Hairy	H	DAFOR R	Present	
Cardamine pratensis	Lady's Smock (Cuckoo Pint)	H	DAFOR R	Present	
Centaurea nigra	Knapweed, Black	H	DAFOR R	Present	
Cerastium fontanum	Mouse-ear, Common	H	DAFOR R	Present	
Cerastium glomeratum	Mouse-ear, Sticky	H	DAFOR O	Present	
Cirsium arvense	Thistle, Creeping	H	DAFOR R	Present	
Conopodium majus	Pignut	H	DAFOR R	Present	
Cruciata laevipes	Crosswort	H	DAFOR R, LO	Present	
Fragaria vesca	Strawberry, Wild	H	DAFOR R	Present	
Galium aparine	Cleavers	H	DAFOR R	Present	
Glechoma hederacea	Ground-ivy	H	DAFOR R	Present	

Hyacinthoides non-scripta	Bluebell	H	DAFOR O	Present	
Hypericum perforatum	St John's-wort, Perforate	H	DAFOR R	Present	
Lathyrus pratensis	Vetchling, Meadow	H	DAFOR R, LO	Present	
Lotus pedunculatus	Birs's-foot-trefoil, Greater	H	DAFOR R	Present	
Mercurialis perennis	Mercury, Dog's	H	DAFOR R	Present	
Moehringia trinervia	Sandwort, Three-nerved	H	DAFOR R	Present	
Myosotis sp.	Forget-me-not sp.	H	DAFOR R	Present	
Plantago lanceolata	Plantain, Lanceolate	H	DAFOR R	Present	
Plantago major	Plantain, Greater	H	DAFOR R	Present	
Potentilla reptans	Cinquefoil, Creeping	H	DAFOR O	Present	
Potentilla sterilis	Strawberry, Barren	H	DAFOR R, LO	Present	
Primula veris	Cowslip	H	DAFOR R	Present	
Primula vulgaris	Primrose	H	DAFOR R, LO	Present	
Prunella vulgaris	Selfheal	H	DAFOR O	Present	
Ranunculus acris	Buttercup, Meadow	H	DAFOR R	Present	
Ranunculus repens	Buttercup, Creeping	H	DAFOR O	Present	
Rumex acetosa	Sorrel, Common	H	DAFOR O, LF	Present	
Rumex obtusifolius	Dock, Broadleaved	H	DAFOR R	Present	
Senecio sp.	Ragwort sp.	H	DAFOR R	Present	
Stachys officinalis	Betony	H	DAFOR O	Present	
Stellaria graminea	Stitchwort, Lesser	H	DAFOR R, LO	Present	
Stellaria holostea	Stitchwort, Greater	H	DAFOR R, LF	Present	
Stellaria media	Chickweed, Common	H	DAFOR O	Present	
Succisa pratensis	Scabious, Devil's-bit	H	DAFOR R, LO	Present	
Taraxacum agg.	Dandylion	H	DAFOR R	Present	
Teucrium scorodonia	Sage, Wood	H	DAFOR R	Present	
Trifolium sp.	Clover sp.	H	DAFOR O	Present	
Urtica dioica	Nettle, Stinging	H	DAFOR R, LA	Present	
Veronica chamaedrys	Speedwell, Veronica	H	DAFOR O	Present	
Veronica serpyllifolia	Speedwell, Thyme-leaved	H	DAFOR R	Present	
Viola hirta	Violey, Hairy	H	DAFOR R	Present	

Viola riviniana	Dog-violet, Common	H	DAFOR O	Present	
Crataegus monogyna	Hawthorn	W	DAFOR R	Present	
Prunus spinosa	Blackthorn	W	DAFOR R, LO	Present	Young scrub/seedings in meadow
Rubus agg.	Bramble sp.	W	DAFOR R, LO	Present	
Pteridium aquilinum	Bracken	F	DAFOR O, LF	Present	
Psyllobora 22-punctata	22-Spot Ladybird	AI	1	Adult	

Date: 21/08/2012

Agrostis capillaris	Bent, Common	G	DAFOR F, LA	Present	
Alopecurus pratensis	Foxtail, Meadow	G	DAFOR R	Present	
Arrhenatherum elatius	Oat-grass, False	G	DAFOR R	Present	
Carex pendula	Sedge, Pendulous	G	DAFOR R	Present	
Holcus lanatus	Yorkshire-fog	G	DAFOR F	Present	
Juncus bufonius agg.	Rush, Toad	G	DAFOR R	Present	
Juncus effusus	Rush, Soft	G	DAFOR R	Present	
Lolium perenne	Rye-grass, perennial	G	DAFOR R	Present	
Phleum pratense	Timothy	G	DAFOR R	Present	
Phleum pratense ssp bertolonii	Timothy - Cat's-ear, Small	G	DAFOR O	Present	
Anagallis arvensis	Pimpenel, Scarlet	H	DAFOR R	Present	
Arctium minus	Burdock, Lesser	H	DAFOR R	Present	
Centaurea nigra	Knapweed, Black	H	DAFOR R	Present	
Cirsium arvense	Thistle, Creeping	H	DAFOR R	Present	
Cirsium vulgare	Thistle, Spear	H	DAFOR R	Present	
Crepis biennis	Hawk's-beard, Rough	H	DAFOR R	Present	
Dactylis glomerata	Cocksfoot	H	DAFOR F	Present	
Digitalis purpurea	Foxglove	H	DAFOR R, LO	Present	
Epilobium ciliatum	Willowherb, American	H	DAFOR R	Present	
Epilobium hirsutum	Willowherb, Great	H	DAFOR R	Present	In ditch
Epilobium tetragonum	Willowherb, Square-stalked	H	DAFOR R	Present	
Galium palustre	Bedstraw, Marsh	H	DAFOR R	Present	In ditch

Gnaphalium uliginosum	Cudweed Marsh	H	DAFOR R	Present	On trackway
Holcus mollis	Soft-grass, Creeping	H	DAFOR R, LO	Present	
Hypericum humifusum	St John-s-wort, Trailing	H	DAFOR R	Present	
Hypericum maculatum	St John's-wort, Imperforate	H	DAFOR R	Present	
Hypericum perforatum	St John's-wort, Perforate	H	DAFOR R	Present	
Lapsana communis	Nipplewort	H	DAFOR R, LO	Present	
Lotus corniculatus	Bird's-foot-trefoil, Common	H	DAFOR R	Present	
Matricaria recutita	Mayweed, Scented	H	DAFOR R	Present	
Odontites vernus	Bartsia, Red	H	DAFOR R	Present	
Persicaria maculosa	Redshank	H	DAFOR R	Present	
Plantago lanceolata	Plantain, Lanceolate	H	DAFOR R	Present	
Plantago major	Plantain, Greater	H	DAFOR R, LO	Present	On trackway
Polystichum setiferum	Sheild-fern, Soft	H	DAFOR R, LO	Present	In ditch and banks
Potentilla sterilis	Strawberry, Barren	H	DAFOR R	Present	
Prunella vulgaris	Selfheal	H	DAFOR O, LF	Present	
Ranunculus acris	Buttercup, Meadow	H	DAFOR O	Present	
Ranunculus repens	Buttercup, Creeping	H	DAFOR F	Present	
Rumex acetosa	Sorrell, Common	H	DAFOR O	Present	
Rumex obtusifolius	Dock, Broad-leaved	H	DAFOR R	Present	
Sagina procumbens	Pearlwort, Procumbent	H	DAFOR R	Present	
Scrophularia auriculata	Figwort, Water	H	DAFOR R	Present	In ditch and on bank
Senecio jacobaea	Ragwort, Common	H	DAFOR R	Present	
Solanum nigrum	Nightshade, Black	H	DAFOR R	Present	
Sonchus asper	Sow-thistle, Prickly	H	DAFOR R	Present	
Stachys sylvatica	Woundwort, Hedge	H	DAFOR R	Present	
Stellaria graminea	Stitchwort, Lesser	H	DAFOR O	Present	
Succisa pratensis	Scabious, Devil's-bit	H	DAFOR O, LF	Present	
Trifolium medium	Clover, Zigzag	H	DAFOR R	Present	
Trifolium repens	Clover, White	H	DAFOR O	Present	
Urtica dioica	Nettle, Stinging	H	DAFOR R, LF	Present	
Veronica beccabunga	Brooklime	H	DAFOR R	Present	In ditch

Veronica officinalis	Speedwell, Heath	H	DAFOR R, LO	Present	
Veronica polita	Field-speedwell, Grey	H	DAFOR R	Present	On track
Veronica serpyllifolia	Speedwell, Thyme-leaved	H	DAFOR R	Present	
Vicia sp.	Vetch sp.	H	DAFOR R	Present	
Viola sp.	Violet sp.	H	DAFOR O	Present	
Acer campestre	Maple, Field	W	DAFOR R	Present	Wooded margins of meadow
Corylus avellana	Hazel	W	DAFOR R	Present	Wooded margins of meadow
Crataegus monogyna	Hawthorn	W	DAFOR O	Present	Wooded margins of meadow
Fraxinus excelsior	Ash	W	DAFOR R	Present	Wooded margins of meadow
Hedera helix	Ivy	W	DAFOR R	Present	
Malus sp.	Apple, Crab	W	DAFOR R	Present	Wooded margins of meadow
Prunus spinosa	Blackthorn	W	DAFOR R, LF	Present	seedlings/suckers in meadow sward
Quercus robur	Oak, Pedinculate	W	DAFOR F	Present	Wooded margins of meadow
Rubus fruticosus agg.	Bramble sp.	W	DAFOR O	Present	
Sambucus nigra	Elder	W	DAFOR R, LO	Present	Wooded margins of meadow
Pteridium aquilinum	Bracken	F	DAFOR F, LA	Present	
Bufo bufo	Common Toad	AA	6	Juvenile	
Buteo buteo	Buzzard	AB	2	Adult	
Cyanistes caeruleus	Blue Tit	AB	3	Adult	
Dendrocopos major	Greater Spotted Woodpecker	AB	1	Adult	
Pyrrhula pyrrhula	Bullfinch	AB	1	Adult	
Sitta europaea	Nuthatch	AB	1	Adult	
Aeshna mixta	Migrant Hawker	AI	1	Adult	
Aricia agestis	Brown Argus	AI	1	Adult M	
Autographa gamma	Silver Y Moth	AI	3	Adult	
Bombus pascuorum	Common Carder-bee	AI	8	Adult	
Chorthippus parallelus	Meadow Grasshopper	AI	2	Adult	
Eristalis intricarius	A Hoverfly	AI	2	Adult F	
Eristalis pertinax	A Hoverfly	AI	15	Adult	
Ischnura elegans	Blue-Tailed Damselfly	AI	1	Cop Pair	

Maniola jurtina	Meadow Brown	AI	50	Adult	
Metrioptera roeselii	Roesel's Bush Cricket	AI	8	Adult	
Pholidoptera griseoaptera	Dark Bush Cricket	AI	1	Adult	
Volucella inanis	A Hoverfly	AI	1	Adult F	
Volucella pellucens	A Hoverfly	AI	2	Adult F	

Survey Abbreviation Key:
H = Herb
G = Grass, sedge or rush
W = Woody
F = Fern

AB = Bird
AI = Invertebrate
AA = Amphibian or reptile

7. Appendix
e. Historical Surveys

Extract from "SNCI H30. Ecological Survey Knepp Woodlands 1989":

iv) Meadow in Horsham Common Woodland

Grid Reference	TQ 160 240
Location	See map, Appendix 1
Area	0.2 hectares
Geology	Sandstone and Weald Clay
Habitat type	Species-rich neutral grassland

Nature Conservation Interest

This small, neutral grassland is floristically rich. It supports a number of notable species including Dyer's Greenweed (Genista tintoria), Devil's-bit Scabious (Succisa pratensis), Sneezewort (Achillea ptarrnica), Betony (Stachys officinalis) and Cowslip (Primula veris). Black Knapweed (Centaurea nigra) is abundant. The meadow is sheltered by the surrounding trees and shrubs. It is thus probably a good site for insects. The diversity of flowering plants provides a good range of nectar sources and larval foodplants.

Management Recommendations

The meadow is currently in a good condition. Thus management should probably continue as at present. (Presumably it is cut in the autumn. i.e. After the herbs have set seed). Scrub must be prevented from invasion. However, the scrub margins of Blackthorn (Prunus spinosa), Sallow (Salix spp.) and Bramble (Rubus fruticosus) must be kept. Occasional cutting back and coppicing may be necessary in order to maintain a good shrub edge.

Vascular Plant Species Recorded in the Meadow within Horsham Common Woodland
Date: 8.8.89 Recorder: G.C.M. Roberts

GENUS SPECIES	ENGLISH NAME
Achillea millefolium	Yarrow
Achillea ptarmica	Sneezewort
Agrimonia eupatoria	Agrimony
Agrostis capillaris	Common Bent
Carex hirta	Hairy Sedge
Centaurea nigra	Common Knapweed
Centaurium erythraea	Conunon Centaury
Dactylis glomerata	Cock's-foot
Daucus carota subsp. carota	Wild Carrot
Genista tinctoria	Dyer's Greenweed
Holcus lanatus	Yorkshire-fog
Lotus corniculatus	Common Bird's-foot-trefoil
Plantago lanceolata	Ribwort Plantain
Primula veris	Cowslip
pteridium aquilinum	Bracken
Quercus robur	Pedunculate Oak
Senecio jacobaea	Common Ragwort
Stachys officinalis	Betony
Succisa pratensis	Devil's-bit Scabious