Land at Norbury Hill – An Ecological Evaluation 2021

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Part 1: Central Compartment

Including land owned by Middle Marches Community Land Trust

This report was commissioned by Middle Marches Community Land Trust with funding from the Stepping Stones Project, National Trust.







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1 Overview

1.1 Introduction

This ecological report is the first part of a wider survey covering an un-named tract of land to the east of Norbury Hill, in South Shropshire. Situated above Norbury village it is located within the Shropshire Hills Area of Outstanding Natural Beauty, between Long Mynd Site of Special Scientific Interest and the Stiperstones National Nature Reserve. It falls within the 'Stepping Stones' Project area whilst its northern and central compartments are designated as a Local Wildlife Site.

Covering some 91ha the land rises from an altitude of 255m in the south to 400m in the north. Topographically, the eastern half of the land comprises a gently rising plateau whilst the western section forms a slope (in parts steep) down to the boundary stream. The stream eventually drains into the River East Onny. A public footpath runs along the eastern boundary but is not heavily used. In recent years all parts of the site have been grazed, to varying extents, by both cattle and sheep.

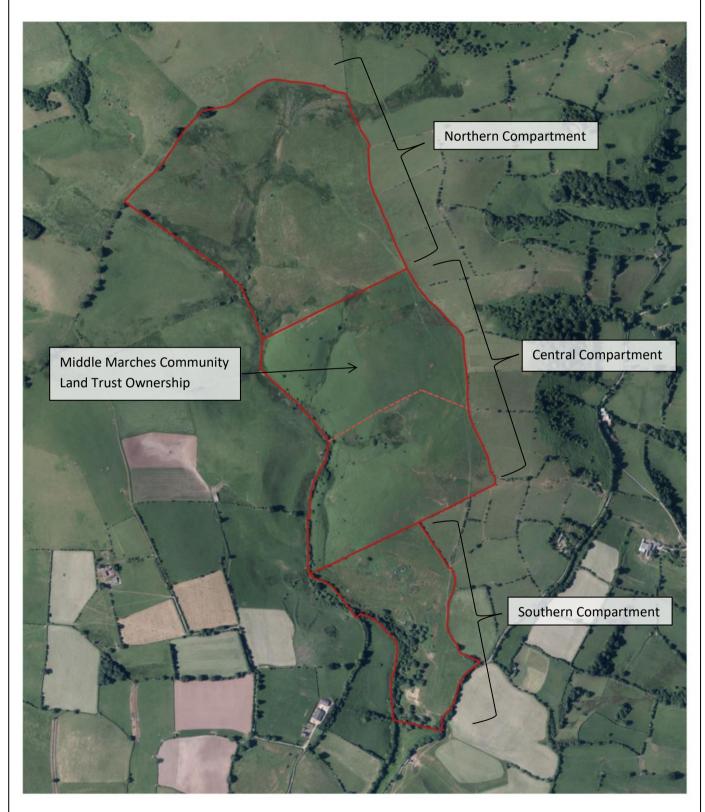
The land surveyed is divided into three compartments: Northern, Central and Southern. <u>This report covers the Central Compartment with a focus on the land owned by the Middle Marches Community Land Trust.</u> The Northern and Southern Compartments are presented separately.

Habitats were surveyed on regular visits between April and September 2021. Annotated maps were produced in line with 'Phase 1' criteria to show the key ecological features. A description of the habitats and key species is included in the report. A full list of the plant and animal species recorded on the site is given in the appendix.

A series of 'fixed-point' photographs were taken at vantage points across the site to allow visual changes to be tracked in future years.

Aerial photograph (Bing Imagery) showing the compartments surveyed in 2021. This online report covers the Central Compartment with a focus on the area owned by the Middle Marches Community Land Trust.





1.2 Ecological summary

The main areas of **ecological interest**, including U.K. Priority Habitats and Species¹, as well as birds listed on the UK Red List² are summarised below. **This summary covers all three compartments**.

- Much of the grassland has either been agriculturally improved or encroached by bracken.
 However, significant areas of acid grassland remain across the site and there is the potential to
 increase it. 'Lowland Dry Acid Grassland' is a Priority Habitat in the U.K. The grasslands support
 breeding skylark and common lizard, whilst wall butterflies can be found on rocky outcrops. All
 are U.K. Priority Species and skylark is on the U.K. Red List.
- The **wetlands** on the site are very diverse (particularly in the Northern Compartment) and could be considered under two different U.K. Priority Habitats ('Purple Moor-grass and Rush Pastures' and 'Upland Flushes, Fens, and Swamps'). Wetland species such as Devil's-bit scabious, bog asphodel, marsh cinquefoil, marsh lousewort, marsh valerian, lesser skullcap and marsh violet are present. The flushes in the central area are botanically less rich, with herb species at lower density. However, their proximity to the Northern Compartment, coupled with projected changes in management, suggests that there is the potential to increase the diversity here.
- Gorse and hawthorn scrub areas around the flushes and along the stream (particularly extensive
 in the Central Compartment) are important as they support a wide range of breeding birds,
 including particularly good numbers of linnet, as well as reed bunting, yellowhammer, and song
 thrush. All these birds are U.K. Priority Species and/or on the U.K. Red List. This habitat has the
 potential to extend further.
- Several small patches of wet woodland are present along the valley stream, particularly in the Southern Compartment where willow and alder are frequent. They have a diverse flora with species such as marsh valerian, meadow sweet, yellow pimpernel, water mint and marsh marigold. Wet woodland is a Priority Habitat in the U.K., and it has the potential to expand on the site.
- The **Small Pearl-bordered Fritillary butterfly** is a U.K. Priority Species. It has been recorded on several of the flushes in the recent past, but currently only appears to be breeding (in small numbers) in the Northern Compartment (where its food plant, marsh violet, is most abundant). With appropriate management the food plant, and in turn the colony, could increase and spread back into former areas.
- Curlews breed close to Norbury Hill and are regularly seen feeding in the wetter areas of the
 Central and Northern Compartments during the breeding season. Other uncommon or
 threatened birds also use the site to feed/rest-up on passage to their breeding grounds,
 including ring ouzel and whinchat. Cuckoo was regularly heard and was seen on site. All these
 birds are U.K. Priority species and/or on the U.K. Red List.

¹ U.K. Priority habitats and species have been selected because they are internationally important, rapidly declining, or nationally rare. They are defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and Species of Principal Importance in England.

² Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.

2 Geology, Soils, and Archaeology.

Much of the bedrock of the Central Compartment is composed of sandstones and conglomerates of the Bayston-Oakswood Formation. This is part of the Wentnor Group which forms a fluvial system, deposited some 550 Ma ago during the Ediacaran Period of the Proterozoic Eon (PreCambrian).

Outcrops of the Bayston-Oakswood Formation are limited to small exposures on the steeper slopes. At one locality the Bayston-Oakswood Formation is intruded by an Ordovician dolerite dyke.

Away from the waterlogged flushes and valley bottom marsh the soils are best described a free-draining acidic loams. They generally have low natural fertility.

It is beyond the scope of this report to cover the history and archaeology, but boundary ditches and enclosures are clear across the Central Compartment on satellite imagery. One feature which stands out are the pillow mounds at SO36629469. This is a man-made system of 'E-shaped' historic rabbit warrens, which, when the bracken has died back, can be seen on the ground as a series of raised mounds.



3 Ecological Assessment

The Central Compartment was purchased in 2021 and is split between two owners, the Middle Marches Community Land Trust and a private individual. There is currently no physical boundary between the ownerships and the compartment was surveyed as one unit.

Prior to purchase, the upper slopes and to a lesser extent the lower slopes were regularly grazed by cattle and sheep. All livestock were removed between April 2021 and July 2021. Since then, cattle (followed later in the year by sheep) have been allowed on to graze the grass-dominated areas for short periods of time.

This compartment covers 38 ha and is divided by a central fence running north—south along the break of slope. Above the fence grassland dominates. Below the fence dense bracken dominates the dry ground, split by two flushed valleys running down to the boundary stream.



3.1 Grasslands and bracken

Most of the grassland sits on the higher ground above the central fence, only extending significantly below the fence at the southernmost end. The main grassland areas were assessed to determine their type and condition using a well-established structured approach, as described in the appendix (off-line version only). This can easily be repeated to allow future changes in grassland quality to be measured. The frequency of all the plant species recorded on the structured walk, including grasses, is given in the appendix, along with other attributes of the grassland such as the structure and frequency of positive and negative indicator-species.

3.1.1 Poor semi-improved grassland

Most of the open grassland is best described as species-poor semi-improved grassland. In the past this was likely to have been grass-heath but it is understood to have been reseeded in the 1960's.

The sward was dense and of uniform height, at the time of survey. It is dominated by grasses, including smooth meadow-grass, common bent, perennial rye-grass, Yorkshire fog, crested dog'stail, red fescue and cock's-foot. The smooth meadow grass, *Poa pratensis*, which is one of the dominant grasses recorded, is believed to be *P. pratensis subsp. irrigata* (spreading meadow grass).

White clover is the most abundant herb along with frequent dandelion and common mouse-ear. Other, less common herbs, include cuckooflower and field wood-rush. More rarely, bulbous buttercup (pictured below), germander speedwell, meadow buttercup, yarrow, lesser stitchwort, and lesser celandine were also present.





In the central area, around SO36949455, and to a lesser extent at SO36879489, creeping thistle was abundant and nettle present. Both species are indicative of nutrient inputs, possibly from historical supplementary feeding.

Breeding skylarks, a U.K. Priority species, were present across all significant areas of grassland, with 7 territorials males noted in a single day on this part of the hill. Bilberry bumblebee was amongst several species of bumblebee feeding on the white clover. It is a localised and declining species, associated with stands of bilberry, but also requiring supporting flowery habitats during the summer.

3.1.2 Semi-improved and unimproved acid grassland

Around the edges of the main grassland area, and where soils are shallower, on both man-made and natural banks, species more typical of acid grassland are found. This habitat, with frequent heath bedstraw, harebell, and sheep's sorrel, is well developed in the south-east of the land parcel and includes an area where gorse has recently been cleared. The flowers of the sheep's sorrel give the grassland a reddish tinge in the summer, as can be seen in the picture below.



On the drier banks, bird's-foot-trefoil and mouse-ear-hawkweed are also found. Finer-leaved grasses, particularly red and sheep's fescue, are a typical component of the more acidic grassland. Over much of this habitat, however, broad-leaved grasses and herbs, typical of more neutral

grasslands, are still frequent, indicating that agricultural improvement has taken place in the past. This grassland is best described as semi-improved acid grassland.

The largest areas of unimproved acid grassland are found along the upper edge of the bracken. In places it is dominated by fine-leaved grasses, in particular wavy hair grass (*Deschampsia flexuosus*). There are also extensive patches of heath bedstraw, together with tormentil and



heath speedwell. Sheep's sorrel and bird's-foot-trefoil are also present. Such grassland has a widespread (but local) distribution in Britain, being most common on the upland fringes. It is included within the U.K. Priority Habitat 'Lowland Dry Acid Grassland'.

On the hill-slopes bracken starts to encroach. It is scattered near the top (with an acid grassland understory) but becomes increasingly dominant down-slope (with the understory becoming increasingly poor and often characterised by creeping soft grass). It is in these areas of scattered bracken where any bracken management should be targeted (to retain as much acid grassland as possible). Localised bracken-bashing (centred around SO36799449), took place in the summer of 2021.





The U.K. Priority Species, common lizard, is regularly seen throughout the site, often basking on sunny patches of bracken litter. Yellow meadow ant mounds (a species typical of old grasslands) are found occasionally amongst the scattered bracken. Small heath butterflies, a U.K. Priority Species, are abundant in these grasslands, along with lower numbers of other grass-feeding butterflies including meadow browns, ringlets, skippers, and gatekeepers. Small coppers, a declining species which feed on sorrels, were seen frequently in May and August, suggesting at least 2 broods. Skylarks nest here and in the late summer, swifts and swallows were also present in good numbers (feeding over the grassland to the accompaniment of the chirruping of green grasshoppers).

3.1.3 Dense Bracken

Much of the steeper slopes below the central fence are dominated by bracken. Amongst the bracken, especially where the soil is thin or there are old tracks or banks, there are patches with some grass/herb understory. Much of the area, however, is species-poor as the deep layer of bracken litter beneath prevents most other plants from growing. Occasionally, woodland species



persist (the bracken acting as a replacement woodland canopy), indicating that the area was once woodland. These include bluebell, honeysuckle, wood sorrel, climbing corydalis and wood anemone, whilst around the edges of the bracken greater stitchwort is frequent. Woody regeneration (see also Section 3.3.2), especially of rowan and hawthorn, is noticeable in places suggesting that rabbit grazing pressure (natural warrens are relatively common) is not excessive.



3.1.4 Rock outcrops and boundary banks

There are several small rocky outcrops, or areas of very shallow soil. Similar habitat is seen all along the eastern boundary bank, which is stoned in places, and on the banked edges of some of the tracks. Here, spring ephemeral species, such as common whitlow grass, early hair grass and, more rarely, upright chickweed can be seen alongside other species typical of dry acid grasslands, such as sheep sorrel, harebell, parsley piert, mouse-ear-hawkweed and bushy lichens.

Wheatears, a largely upland species of bird, were often seen along the eastern boundary fence and it is likely that they use the rabbit burrows in the banks to breed. Young wheatears were seen here in late June. The Wall butterfly, a U.K. Priority Species which favours dry banks and rock outcrops, was seen using the site. Burrows of solitary ground-nesting bees were also noted in the banks. *Andrena bicolor*, has a second brood known to be strongly associated with harebell. Other ground nesting bees present include the tawny mining bee and ashy mining bee. These drier areas are also home field grasshoppers.







3.1.5 Marshy grassland

The wet flushes and marshy grassland exist in a complex mosaic, but for the purpose of the report, the term 'marshy grassland' is used to describe areas of rushy grassland that is not obviously linked to a water course. This habitat is common in patches throughout the semi-improved grassland on the top of the hill and it is likely that attempts have been made to drain it in the past. It is relatively species-poor with frequent soft rush, tufted hair-grass, marsh thistle and cuckooflower. Marsh



foxtail is present around the edges, whilst in the wetter areas bog stitchwort, creeping forget-menot, greater bird's-foot-trefoil, and lesser spearwort can be seen. It provides a feeding, and a potential breeding area, for curlew, a U.K. Priority species, which is seen feeding and flying regularly across the site during the breeding season. Such grassland also provides shelter and feeding areas for other, over-wintering waders, such as snipe and Jack snipe, both of which were noted together in the flush at SO367948 in March 2021.

3.2 Wetlands

The wetlands on the site are the most significant habitat from an ecological perspective. The vegetation is generally tall and rush-dominated. As with many habitats on the upland fringes they do not fit comfortably into the defined mire habitats and often form a mosaic or transition between different types. The wetlands are best described as 'Purple Moor Grass and Rush Pasture', but parts could also be classed under 'Upland Flushes, Fens and Swamps'. Both habitats are U.K. Priority Habitats, reflecting their importance from a nature conservation perspective. Within this report the term 'flush' is used loosely to describe them. The flushes to the north of this compartment are home to breeding small pearl-bordered fritillary butterfly, a U.K. Priority Species. Although none were recorded in the Central Compartment there are patches of suitable breeding habitat and the potential to enhance them. The population is discussed in more detail in the second part of this report (Southern and Northern Compartments) and in a separate report.

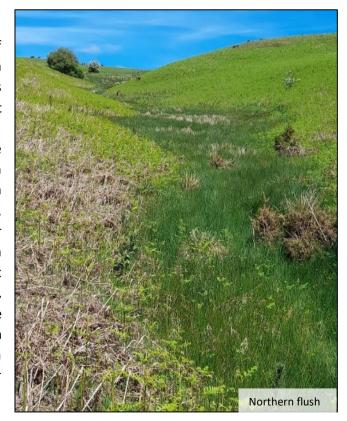
3.2.1 Northern flush (\$0366946)

This large flush starts from wide marshy area to the north of the central fence with a spring head identifiable around SO36779485. Here, amongst the taller rush patches, are a variety of short sedges including common yellow sedge and common sedge. Patches of bulbous rush, bristle clubrush and marsh foxtail are also present. Cuckooflower, the host plant of the orange-tip butterfly, is frequent, providing a good display in spring.

The flush is joined by a tributary, where a drain outlet (SO36789474; scribed 1970) has been engineered to provide a small drinking area for livestock. Here, there is a small area of open water with ivy-leaved crowfoot, common water-starwort, marsh foxtail, blinks, and floating sweet-grass.

Breeding damselflies and frogs are present.

To the south of the fence, the main body of the flush envelopes a small stream which flows throughout the year. The habitat is dominated by sharp-flowered rush, with soft rush and jointed rush also frequent. Throughout the flush herb species are frequent including fen bedstraw, marsh bedstraw, bog stitchwort, tormentil, marsh willowherb, creeping forget-me-not, cuckooflower, lesser spearwort, greater bird's-foot-trefoil, marsh thistle and heath wood-rush. Grasses include frequent creeping bent, velvet bent, tufted hair-grass, red fescue, sweet vernal-grass, Yorkshire fog, occasional purple moor-grass and rough Carnation and common meadow-grass. sedge are locally frequent in the wetter areas.



The flush system has large patches of common and marsh valerian throughout, with the common valerian being more apparent in the lower reaches and along the stream whilst marsh valerian seems to prefer the upper flush. Clumps of lady fern are also scattered throughout.



Nearing the stream, at the base of the slope, the flush becomes more diverse with wild angelica, ragged robin, bugle, water mint and sphagnum moss. Sneezewort and marsh violet were present here, although both were restricted to just a small patch.







On the bank, at SO36599452, there is an area of purple moor-grass tussock which grades into bracken. Here, Devil's-bit scabious was found along with lesser skullcap, narrow buckler fern and a single spike of common spotted orchid.

A water filled hole is present at SO36629450, approximately 1.5m deep, and holding water all year. It is surrounded (and at times obscured) by vegetation, with banks of opposite-leaved golden saxifrage, lady fern, angelica, rushes and European gorse. Although several sheep have clearly drowned here (only their skulls remain), it is home to breeding frogs.



3.2.2 Stream

The stream marks the western boundary of the site and is shady in the south (lined with willows and other broad-leaved trees), whilst becoming more open with scattered gorse scrub in the north. On the banks lady fern often dominates, but lemon-scented fern (with its characteristic spore pattern), and broad buckler-fern are also present in the shadier reaches. Herbs include frequent opposite-leaved golden saxifrage, angelica, marsh marigold and common valerian, whilst where the flushed edges were more extensive, a wide range of rushes and wetland herbs, typical of those seen elsewhere, were present. Golden-ringed dragonflies and beautiful demoiselles were seen here, both species that are typical of upland streams.



3.3 Hedgerows, scrub and trees

All boundaries were assessed. Their condition and composition are recorded in detail in the appendix. They are also shown on the 'Land $App^{TM'}$.

3.3.1 Hedgerows

Two of these hedges run down the hillside and provide boundaries with adjacent fields to the south. The lower hedge-line, which borders the Southern Compartment, is described in part 2 of the report (Southern and Northern Compartments). The upper section, out-with the property boundary, comprises mature, leggy, hawthorns (on a raised bank) that, at some point in the distant past, had been laid.

At the base of slope, a short section of old hedge extends along the western bank of the stream. It is tall and unmanaged, but diverse with much outgrowth. Grey willow and hazel dominate, with the willow often layering across the stream. The other species present are ash, blackthorn, crab apple, hawthorn, rowan, sessile oak, downy birch and an eared willow hybrid. Willow flowers provide a really important early spring nectar/pollen source for invertebrates, in particular for queen bees and solitary bees when they first emerge from hibernation. This important food source is followed in turn by blackthorn, crab apple and hawthorn blossom, all of which are an essential spring food source for a wide range of invertebrates (many of which were observed feeding during the survey and are listed in the appendix).

3.3.2 Trees and Scrub

The upper part of the site is open with just a few scattered old hawthorn trees and a small patch of European gorse along the top boundary. A larger area of gorse (around SO369942) has been cleared in recent years, although there are some signs of regeneration.



On the slopes hawthorns and rowan trees make up the bulk of the open grown trees, along with the occasional holly. Mature trees are scattered at low density amongst the bracken, but young and semi-mature trees (of both rowan and hawthorn) are also developing in reasonable numbers. Several large grey willow trees can be found in the upper reaches of the two main flushes, along with patches of gorse and bramble scrub on the drier edges.

Towards the base of the slope the areas of scrub become more developed with extensive patches of gorse (mostly European, but some western), together with willow and hawthorn, providing excellent habitat for breeding birds. Here, the birdlife seems to explode in spring, with breeding linnets in abundance alongside stonechats, willow warblers and the occasional whitethroat and yellow hammer. Reed buntings were occasionally sighted, and whinchat, presumably *en passage*, were seen in late April. The striking green hairstreak butterfly was also seen here, gorse being the food plant of its caterpillar.





Along the stream, there are small patches of wet woodland (pictured) with grey willow, eared willow hybrid, holly, hawthorn, and downy birch. As well as the wetland species described in section 3.2.4 bluebell and wood sorrel can also be found. Standing and fallen deadwood is poorly represented in general, although a single standing dead rowan is present. Surprisingly, the ship-timber beetle (*Hylecoetus dermestoides*) was recorded by one of the large grey willows. This uncommon species breeds in decaying wood, particularly favouring large birch trees.

4 Appendices

Details of the grassland and hedgerow condition assessments, including all of the field data collected and fixed point images are provided to MMCLT in full, but are not available in the online version of this report.

4.1 Annotated Phase 1 Maps

The maps in this report were created using the 'landapp' (https://www.thelandapp.com/).

The land app Central Compartment (North) Spring head and flush with short sedges and frequent cuckoo flower. Snipe and Jack Snipe present in spring. Raised mounds visible of Flush with dominant sharp-flowered rush and a wide historic 'Pillow Mounds'. range of herb species including fen and marsh bedstraw, Spring head with a small area of open bog stitchwort, creeping forget-me-not, cuckoo flower, water with ivy-leaved water crowfoot, lesser spearwort, greater bird's-foot trefoil, marsh common water starwort, marsh foxtail, thistle, heath woodrush, carnation & common sedge, and blinks, floating sweet grass. Breeding large patches of common & marsh valerian. Stands of damselflies and frogs. lady fern scattered throughout. Marshy grassland -Small patch of relatively species-poor and marsh violet. dominated by soft rush. Dense bracken with litter understory and Boundary bank, stoned in places, occasional woodland plants including wood with spring ephemerals and other anemone, wood sorrel, climbing corydalis, species of dry acid grassland honeysuckle, and bluebell. Scattered including sheep's sorrel, sheep's rowan and hawthorn regeneration. fescue, harebell, mouse-ear hawkweed, sticky mouse-ear, whitlow grass, and early hair grass. Unimproved acid grassland Diverse bank of purple moor-grass with Semi-improved acid Devil's-bit scabious, common spotted grassland Poor semi-improved orchid, lesser skullcap, and narrow buckler grassland Marshy grassland Poor semi-improved grassland with white clover Acid flush common throughout. Occasional yarrow, field Extensive patches of gorse scrub woodrush, cuckoo flower, common sorrel, germander Dense scrub with a range of breeding birds Deep water-filled hole with breeding speedwell and meadow buttercup. Grading into acid Semi-natural broadincluding linnet and stonechat. frogs surrounded by opposite-leaved grassland towards the western fence. leaved woodland golden saxifrage, lady fern, angelica, Scattered bracken and gorse scrub. Dense bracken

Produced on Oct 5, 2021.

50 m Scale 1:3000 (at A3)

4.2 Species List

A full species list of plants and animals recorded during the survey (all compartments) is given below. Historic records that were not re-recorded in 2021 are noted in blue. Historic records that cannot be pin-pointed to the site (*e.g.* those with 4 figure grid references) are not included.

	PLANT	S AND FUNGI	
Scientific Name	Common Name	Scientific Name	Common Name
Ferns and Horsetails		Carex remota	remote sedge
Athyrium filix-femina	lady-fern	Carex rostrata	bottle sedge
Blechnum spicant	hard-fern	Carex vesicaria	bladder-sedge
Dryopteris carthusiana	narrow buckler-fern	Cerastium fontanum	common mouse-ear
Dryopteris dilatata	broad buckler-fern	Cerastium glomeratum	sticky mouse-ear
Dryopteris filix-mas agg.	male fern	Ceratocapnos claviculata	climbing corydalis
Equisetum fluviatile	water horsetail	Chamaenerion angustifolium	rosebay willowherb
Oreopteris limbosperma	lemon-scented fern	Chrysosplenium oppositifolium	opposite-leavd golden-saxifrage
Polypodium vulgare	common polypody	Cirsium arvense	creeping thistle
Pteridium aquilinum	bracken	Cirsium palustre	marsh thistle
		Cirsium vulgare	spear thistle
Flowering plants		Conopodium majus	pignut
Acer pseudoplatanus	sycamore	Corylus avellana	hazel
Achillea millefolium	yarrow	Crataegus monogyna	hawthorn
Achillea ptarmica	sneezewort	Crepis capillaris	smooth hawksbeard
Agrostis canina	velvet bent	Cynosurus cristatus	crested dog's-tail
Agrostis capillaris	common bent	Cytisus scoparius	broom
Agrostis stolonifera	creeping bent	Dactylis glomerata	cock's-foot
Aira praecox	early hairgrass	Dactylorhiza fuchsii	common spotted-orchid
Ajuga reptans	bugle	Danthonia decumbens	heath-grass
Alnus glutinosa	alder	Deschampsia cespitosa	tufted hair-grass
Alopecurus geniculatus	marsh foxtail	Deschampsia flexuosa	wavy hair-grass
Anagallis tenella	bog pimpernell	Digitalis purpurea	foxglove
Anemone nemorosa	wood anemone	Drosera rotundifolia	round-leaved sundew
Angelica sylvestris	wild angelica	Epilobium hirsutum	great willowherb
Anthoxanthum odoratum	sweet vernal-grass	Epilobium obscurum	short-fruited willowherb
Aphanes arvensis	parsley piert	Epilobium palustre	marsh willowherb
Arrhenatherum elatius	false oat grass	Eriophorum angustifolium	common cottongrass
Bellis perennis	daisy	Eriophorum vaginatum	hare's-tail cottongrass
Betula pubescens	downy birch	Erophila verna	common whitlowgrass
Briza media	quaking-grass	Fagus sylvatica	beech
Bromus hordeaceus	lesser soft-brome	Festuca ovina agg.	sheep's fescue
Callitriche stagnalis	common water-starwort	Festuca rubra agg.	red fescue
Calluna vulgaris	heather	Filipendula ulmaria	meadowsweet
Caltha palustris	marsh-marigold	Fraxinus excelsior	ash
Campanula rotundifolia	harebell	Galium aparine	cleavers
Cardamine flexuosa	wavy bittercress	Galium palustre	marsh-bedstraw
Cardamine hirsuta	hairy bittercress	Galium saxatile	heath bedstraw
Cardamine pratensis	cuckooflower	Galium uliginosum	fen bedstraw
Carex caryophyllea	spring-sedge	Galium verum	ladies bedstraw
Carex demissa	common yellow-sedge	Geranium molle	dove's-foot cranesbill
Carex echinata	star sedge	Geranium robertianum	herb-robert
Carex flacca	glaucous sedge	Glechoma hederacea	ground ivy
Carex hostiana	tawny sedge	Glyceria declinata	small sweet-grass
Carex laevigata	smooth stalked sedge	Glyceria fluitans	floating sweet-grass
Carex leporina	oval sedge	Holcus lanatus	Yorkshire-fog
Carex nigra	common sedge	Holcus mollis	creeping soft-grass
Carex panicea	carnation sedge	Hyacinthoides non-scripta	bluebell
Carex pilulifera	pill sedge	Hydrocotyle vulgaris	marsh pennywort
Carex pulicaris	flea sedge	Hypericum tetrapterum	square-stalked St John's-wort

	PLANTS AN		
Scientific Name	Common Name	Scientific Name	Common Name
Hypochaeris radicata	cat's-ear	Rubus fruticosus	bramble
Isolepis setacea	bristle club-rush	Rumex acetosa	common sorrel
llex aquifolium	holly	Rumex acetosella	sheep's sorrel
Juncus acutiflorus	sharp-flowered rush	Rumex obtusifolius	broad-leaved dock
Juncus articulatus	jointed rush	Sagina procumbens	procumbent pearlwort
Juncus bufonius agg.	toad rush	Salix alba	white willow
Juncus bulbosus	bulbous rush	Stachys officinalis	betony
Juncus conglomeratus	compact rush	Stellaria alsine	bog stitchwort
Juncus effusus	soft-rush	Stellaria graminea	lesser stitchwort
Juncus squarrosus	heath rush	Stellaria holostea	greater stitchwort
Leontodon autumnalis	autumnal hawkbit	Stellaria media	common chickweed
Lolium perenne	perennial rye-grass	Succisa pratensis	devil's-bit scabious
Lonicera periclymenum	honeysuckle	Taraxacum officinale agg.	dandelion
Lotus corniculatus	common bird's-foot-trefoil	Thymus polytrichus	wild thyme
Lotus pedunculatus	greater bird's-foot-trefoil	Tilia x europaea	common lime
Luzula campestris	field wood-rush	Trifolium dubium	lesser trefoil
Luzula multiflora	heath wood-rush	Trifolium pratense	red clover
L. multiflora ssp congesta	heath wood-rush	Trifolium repens	white clover
Malus sylvestris	crab apple	Typha latifolia	reed mace
Mentha aquatica	water mint	Ulex europaeus	European gorse
Moenchia erecta	upright chickweed	Ulex gallii	western gorse
Molinia caerulea	purple moor-grass	Urtica dioica	common nettle
Montia fontana	blinks	Vaccinium myrtillus	bilberry
Myosotis discolor	changing forget-me-not	Valeriana dioica	marsh valerian
Myosotis secunda	creeping forget-me-not	Valeriana officinalis	common valerian
Nardus stricta	mat-grass	Veronica agrestis	green field-speedwell
Narthecium ossifragum	bog asphodel	Veronica arvensis	wall speedwell
Ornithopus perpusillus	bird's-foot	Veronica beccabunga	brooklime
Oxalis acetosella	wood sorrel	Veronica chamaedrys	germander speedwell
	marsh lousewort	· ·	heath speedwell
Pedicularis palustris		Veronica officinalis	·
Pedicularis sylvatica	lousewort	Veronica persica	common field speedwe
Phleum pratense	timothy	Veronica scutellata	marsh speedwell
Pilosella officinarum	mouse-ear-hawkweed	Veronica serpyllifolia	thyme-leaved speedwe
Plantago lanceolata	ribwort plantain	Vicea sepium	bush vetch
Poa angustifolia	narrow-leaved meadow-grass	Viola lutea	mountain pansy
Poa annua	annual meadow-grass	Viola palustris	marsh violet
Poa pratense subsp. irrigata	spreading meadow-grass	Viola riviniana	common dog violet
Poa trivialis	rough meadow-grass	Vulpia bromoides	squirrel-tail fescue
Polygala serpyllifolia	heath milkwort		
Potamogeton polygonifolious	pond weed	Mosses and Liverworts	
Potentilla anglica	trailing tormentil	Calliergonella cuspidata	pointed spear-moss
Potentilla erecta	tormentil	Polytrichum commune	common haircap
Potentilla palustris	marsh cinquefoil	Rhytidiadelphus squarrosus	springy turf-moss
Potentilla sterilis	barren strawberry	Riccia sorocarpa	common crystalwort
Prunella vulgaris	selfheal	Schistostega pennata	goblin gold
Prunus spinosa	blackthorn	Scleropodium purum	neat feather-moss
Quercus petraea	sessile oak	Sphagnum fallax	flat-topped bog-moss
Quercus robur	pedunculate oak	Sphagnum palustre	blunt-leaved bog-moss
Ranunculus acris	meadow buttercup	Sphagnum papillosum	papillose bog-moss
Ranunculus bulbosus	bulbous buttercup	Sphagnum subnitens	lustrous bog-moss
Ranunculus ficaria	lesser celandine	-, -, 5222	
Ranunculus flammula	lesser spearwort	Eungi	
·	· · · · · · · · · · · · · · · · · · ·	Fungi	horse muches
Ranunculus hederaceus	ivy-leaved crowfoot	Agaricus arvensis	horse mushroom
Ranunculus omiophyllus	round-leaved crowfoot	Agaricus campestris	field mushroom
Ranunculus repens	creeping buttercup	Armillaria mellea	honey fungus

PLANTS AND FUNGI continued				
Scientific Name	Common Name		Scientific Name	Common Name
Clavulinopsis fusiformis	golden spindles		hygrocybe psittacina	parrot waxcap
Clitocybe nuda	wood blewit		hygrocybe punicea	crimson waxcap
Cordyceps militaris	scarlet caterpillar fungus		Hygrocybe virginia	snowy waxcap
Hygrocybe ceracea	butter waxcap		Macrolepiota procera	parasol
hygrocybe chlorophana	golden waxcap		Protostropharia semiglobata	dung roundhead
Hygrocybe conica	blackening waxcap		Psilocybe semilanceata	magic mushroom
Hygrocybe pratensis	meadow waxcap			

	ANIM	IALS (\	/ertebrates)	
Scientific Name	Common Name		Scientific Name	Common Name
Amphibians			Birds continued	
Rana temporaria	frog		Numenius arquata	curlew
			Oenanthe oenanthe	wheatear
Birds			Phasianus colchicus	pheasant
Aegithalos caudatus	long-tailed tit		Phoenicurus phoenicurus	redstart
Alauda arvensis	skylark		Phylloscopus collybita	chiff chaff
Anas platyrhynchos	mallard		Phylloscopus trochilus	willow warbler
Anthus pratensis	meadow pipit		Pica pica	magpie
Apus apus	swift		Picus viridis	green woodpecker
Buteo buteo	buzzard		Prunella modularis	dunnock
Carduelis carduelis	gold finch		Saxicola rubicola	stonechat
Columba palumbus	woodpigeon		Sturnus vulgaris	starling
Corvus corax	raven		Troglodytes troglodytes	wren
Corvus corone	carrion crow		Turdus iliacus	redwing
Cuculus canorus	cuckoo		Turdus merula	blackbird
Curruca communis	whitethroat		Turdus philomelos	song thrush
Emberiza citrinella	yellowhammer		Turdus torquatus	ring ouzel
Emberiza schoeniclus	reed bunting			
Erithacus rubecula	robin		Mammal	
Falco tinnunculus	kestrel		Lepus europaeus	brown hare
Fringilla coelebs	chaffinch		Meles meles	badger (latrines)
Gallinago gallinago	snipe		Microtus agrestis	field vole
Garrulus glandarius	Jay		Oryctolagus cuniculus	rabbit
Hirundo rustica	swallow		Talpa europaea	mole (hill)
Linaria cannabina	linnet		Vulpes vulpes	red fox (scats)
Lymnocryptes minimus	Jack snipe			
Milvus milvus	red kite		Reptile	
Muscicapa striata	spotted flycatcher		Zootoca vivipara	common lizard

	ANIMALS (Invertebrates)			
Scientific Name	Common Name		Scientific Name	Common Name
Arachnids - harvestman (O	piliones)		Arachnids - spider (Arane	ae)
Dicranopalpus ramosus agg.	a harvestman		Centromerita bicolor	a money spider
Leiobunum rotundum	a harvestman		Centromerita concinna	a money spider
Paroligolophus agrestis	a harvestman		Ceratinella brevipes	a money spider
Phalangium opilio	a harvestman		Erigonella hiemalis	a money spider
			Erigonella ignobilis	a money spider [NS]
Arachnids - mites (Acari)			Hypomma bituberculatum	a money spider
Eriophyes laevis	alder leaf gall		Kaestneria pullata	a money spider
Araneus quadratus	four-spotted Orbweb spider		Larinioides cornutus	an orb web spider
Bathyphantes gracilis	a money spider		Lophomma punctatum	a money spider
Bolyphantes luteolus	a money spider		Metellina segmentata s. str.	a long-jawed orbweb spider

Scientific Name	Common Nama	Scientific Name	Common Name
	Common Name		Common Name
Arachnids - spider (Aranea Neriene clathrata	a money spider	Insect - beetle (Coleoptera) of Crepidodera fulvicornis	a flea beetle
	<u> </u>		a click beetle
Neriene peltata	a money spider	Ctenicera cuprea	a click beetle
Oedothorax gibbosus	a money spider	Dalopius marginatus Denticollis linearis	a click beetle
Oedothorax retusus	a money spider		
Pachygnatha clercki	a long-jawed orbweb spider	Elodes marginata	a marsh beetle
Pachygnatha degeeri	a long-jawed orbweb spider	Exapion ulicis	gorse weevil
Palliduphantes pallidus	a money spider	Exochomus quadripustulatus	pine ladybird
Pelecopsis parallela Pisaura mirabilis	a money spider	Grammoptera ruficornis	a longhorn beetle
	nursery web spider	Hylecoetus dermestoides	ship timber beetle
Tenuiphantes tenuis	a money spider	Ischnopterapion modestum	a weevil
6		Ischnopterapion virens	a weevil
Gastropod - slug (Stylomn		Longitarsus flavicornis	
Arion flagellus	Durham slug	Melanotus castanipes	a click beetle
	<u> </u>	Nedyus quadrimaculatus	small nettle weevil
Insect - ants, bees & wasp		Neocoenorrhinus aequatus	a weevil
Andrena bicolor	a mining bee	Otiorhynchus singularis	a weevil
Andrena cineraria	ashy mining bee	Phyllopertha horticola	garden chafer
Andrena fulva	tawny mining bee	Propylea quattuordecimpunctata	14-spot ladybird
Andricus kollari	marble gall	Prosternon tessellatum	a click beetle
Bombus hypnorum	tree bumblebee	Protapion fulvipes	white clover seed weevil
Bombus lapidarius	red-tailed bumblebee	Protopirapion atratulum	a weevil
Bombus monticola	bilberry bumblebee	Pterostichus madidus	a ground beetle
Bombus pascuorum	common carder bee	Rhagium bifasciatum	two-banded longhorn bee
Bombus terrestris	buff-tailed bumblebee	Rhagonycha fulva	common red soldier beetle
Formica fusca	dusky ant	Rhagonycha lignosa	a soldier beetle
Lasius flavus	yellow meadow ant	Rhagonycha testacea	a soldier beetle
Myrmica ruginodis	an ant	Sphaeroderma testaceum	a flea beetle
Myrmica scabrinodis	an ant	Stenus bimaculatus	a rove beetle
Vespula germanica	german wasp	Stenus clavicornis	a rove beetle
		Stenus flavipes	a rove beetle
Insect - barkfly (Psocopter	a)	Stenus fulvicornis	a rove beetle
Ectopsocus briggsi	a barkfly	Stenus subaeneus	a rove beetle
		Tetrops praeustus	plum beetle
Insect - beetle (Coleoptera	n)	Trichosirocalus troglodytes	a weevil
Abax parallelepipedus	a ground beetle		
Agriotes pallidulus	a click beetle	Insect - butterflies & moths (Lepidoptera)
Agriotes sputator	a click beetle	Adela reaumurella	green longhorn moth
Amara tibialis	a ground beetle	Aglais io	peacock
Anaspis maculata	a false flower beetles	Aglais urticae	small tortoishell
Andrion regensteinense	a weevil	Anthophila fabriciana	nettle-tap
Anoplotrupes stercorosus	woodland dor beetle	Aphantopus hyperantus	ringlet
Anthonomus pedicularius	a weevil	Arctia caja	garden tiger moth
Aphodius ater	a dung beetle	Artogeia napi	green-veined white
Aphodius contaminatus	a dung beetle	Autographa gamma	silver-y
Athous haemorrhoidalis	a click beetle	Boloria selene	small pearl-bordered fritill
Byturus tomentosus	raspberry beetle	Callophrys rubi	green hairstreak
Calodromius spilotus	a ground beetle	Coenonympha pamphilus	small heath
Cantharis flavilabris	a soldier beetle	Colostygia pectinataria	green carpet
Cantharis pellucida	a soldier beetle	Deilephila elpenor	elephant hawk moth
Cantharis rustica	a soldier beetle	Epinotia nisella	grey poplar bell
Ceratapion onopordi	A weevil	Euthrix potatoria	the drinker moth
Coccinella septempunctata	7-spot ladybird	Lasiommata megera	wall brown
Crepidodera aurata	a flea beetle	Lycaena phlaeas	small copper
	200 200.0	Lyonettia clerkella	apple Leaf Miner

		ertebrates) continued	
Scientific Name	Common Name	Scientific Name	Common Nar
Insect - butterflies & moths	(Lepidoptera)	Insect - true bug (Hemiptera)	continued
Maniola jurtina	meadow brown	Euscelis incisus	a planthopper
Ochlodes sylvanus	large skipper	Euscelis lineolatus	a planthopper
Omphaloscelis lunosa	lunar underwing	Fagocyba cruenta	a planthopper
Pararge aegeria	speckled wood	Florodelphax leptosoma	a planthopper
Petrophora chlorosata	brown siver-lines	Lygus rugulipennis	tarnished plant bu
Pieris brassicae	large white	Muellerianella fairmairei	a planthopper
Pieris rapae	small white	Nabis lineatus	reed damsel bug
Polyommatus icarus	common blue	Nabis rugosus	common damsel b
Pyronia tithonus	gatekeeper	Neottiglossa pusilla	small grass shieldb
Thymelicus lineola	Essex skipper	Palomena prasina	green shieldbug
Thymelicus sylvestris	small skipper	Pantilius tunicatus	a mirid bug
Tyria jacobaeae	cinnabar moth	common froghopper	Philaenus spumario
Vanessa atalanta	red admiral	Piezodorus lituratus	gorse shieldbug
Vanessa cardui	painted lady	Platycranus bicolor	a mirid bug
Xanthorhoe montanata	silver-ground carpet	Psammotettix confinis	a planthopper
Zygaena trifolii/lonicerae	5-spot Burnet agg	Psylla alni	a psyllid
-yguchu trijonijioniterue	5 Spot bulliet agg	Stenodema laevigata	a psylliu a mirid bug
Innert due no rélite e 0 d	olfling (Odonats)	Trioza urticae	a mind bug
Insect - dragonflies & dams		THOZU UTIICUE	a psylliu
Aeshna cyanea	southern hawker		
Aeshna grandis	brown hawker	Insect - true fly (Diptera)	
Aeshna juncea	common hawker	Bibio marci	St Mark's fly
Calopteryx virgo	beautiful demoiselle	Bombylius major	dark-edged bee-fly
Coenagrion puella	azure blue damselfly	Campsicnemus curvipes	a dolichopid fly
Cordulegaster boltonii	golden-ringed dragonfly	Dasineura urticae	nettle leaf pouch g
Enallagma cyathigerum	common blue damselfly	Episyrphus balteatus	marmalade fly
Pyrrhosoma nymphula	large red damselfy	Erioconopa trivialis	a cranefly
Sympetrum striolatum	common darter	Eristalis tenax	a hoverfly
		Eupeodes luniger	a hoverfly
Insect - earwigs (Dermaptera);	grasshoppers (Orthoptera)	Geomyza tripunctata	a fly
Chorthippus brunneus	field grasshopper	Haematobosca stimulans	a fly
Chorthippus parallelus	meadow grasshopper	Haematopa pluvialis	notch-horned cleg
Omocestus viridulus	common green grasshopper	Helophilus pendulus	a hoverfly
Tetrix undulata	common groundhopper	Hybos femoratus	a fly
	3	Hylemya vagans	a fly
Insect - lacewing (Neuronte	era); springtail (Collembola)	Hylemya variata	a fly
Chrysoperla carnea	lacewing	Limonia nubeculosa	a cranefly
Pogonognathellus longicornis	a springtail	Lonchoptera furcata	a fly
. ogonognatiiciias iongicoinis	~ 2b9ra	Lotophila atra	a lesser dung fly
		Molophilus obscurus	a cranefly
Innant Amin him / Hamilian	٥)	Phryxe nemea	a fly
Insect - true bug (Hemipter	common flower bug	<u> </u>	
Anthocoris nemorum	ŭ	Ptychoptera albimana	a cranefly
Aphrophora alni	alder spittlebug	Scaptomyza pallida	a fly
Arthaldeus pascuellus	a planthopper	Scathophaga stercoraria	yellow dung fly
Arytaina genistae	a psyllid	Sericomyia silentis	a hoverfly
Capsus ater	a mirid bug	Sericomyia superbiens	a hoverfly
Cercopis vulnerata	red-and-black froghopper	Sympycnus pulicarius	a fly
Cicadella viridis	green leafhopper	Tabanus sudeticus	dark giant horsefly
Conomelus anceps	a planthopper	Tachina fera	a fly
Conosanus obsoletus	a planthopper	Tipula luteipennis	a cranefly
Coreus marginatus	dock bug	Tipula maxima	giant dark cranefly
Delphacodes venosus	a planthopper	Tipula pagana	a cranefly
Dictyonota strichnocera	a lacebug	Tipula paludosa	a cranefly
Dolycoris baccarum	sloe bug	Trichina clavipes	a fly
Eupteryx urticae	a planthopper	Tricyphona immaculata	a cranefly