

# **Ferndown Local Nature Reserve Management Plan 2023 - 2028**

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## Executive Summary

Ferndown LNR in Clayton is 6.7ha of meadows, scrub and woodland. Since the site's declaration in March 2008 there has been a large programme of biodiversity improvements, largely funded by external grants. Although funding has provided the means for considerably enhancing the site, regular annual management is now required to maintain these achievements. Annual financial costs will be approximately £2000.

Details of the works are found in the main body of the text and include:

- Meadow management
- Additional Planting
- Scrub control

By managing the Borough's natural assets the Council is following national and local policy set out in:

NERC Act 2006 - Section 40 and 41  
SBC Corporate Plan  
SBC Climate Change and Green Recovery Strategy

## Introduction

In declaring Ferndown Drive a Local Nature Reserve, Stafford Borough Council recognised the site as a valuable resource for both local wildlife and local people. The declaration contributes towards the main aim of the Stafford Borough Biodiversity Strategy, namely "to conserve and enhance the characteristic biodiversity of Stafford Borough for present and future generations."

<b>Name</b>	Ferndown LNR
<b>Area</b>	6.7 ha
<b>Grid reference</b>	SJ 852 422
<b>OS Map</b>	Explorer 244(6) 1:25,000
<b>Ownership</b>	Stafford Borough Council
<b>Local Planning Authority</b>	Stafford Borough Council
<b>District</b>	Stafford Borough
<b>Conservation Status</b>	Local Nature Reserve

**Access:** The site has free and open access from Ferndown Drive South. There is also access from the end of Melville Court. Additionally, there are unofficial entrances from Clayton Road. The Clayton Road borders the reserve but is fenced off and screened by woodland. There are various informal pathways that cross the site.

## 1 Background

1.1 The reserve falls within a wider 19<sup>th</sup> century planned landscape, with large areas of planned enclosure and 19<sup>th</sup> century plantation. The remnants of this enclosure survive within Ferndown Local Nature Reserve in the form of the field boundaries. Parts of Zones 1, 2 and 4 were lost to the A500, though their lower field boundaries can still be seen south of this road.

The site remained agricultural until the late 1960s when the housing estate was built. The privately owned square of land in Zone 4 formerly contained a cottage owned by a local farm. It fell into disrepair around the same time and was demolished.

Ferndown LNR is located in Clayton, Newcastle, on the northern edge of Stafford Borough near junction 15 of the M6. The site borders the edge of Newcastle Borough whose boundary runs along a tree line between Melville Court and Clayton Road.

Originally the site was comprised of six agricultural fields. Most of these are still open field areas with hedgerow boundaries. Some small areas of wood and scrub add to habitats found here. For clarity, the site has been divided into six zones, using the surviving field pattern, starting in the eastern end of the site and moving west. (See map on page 14) A full species list for the site is provided in the **APPENDIX**.

## 2 Environmental Information - Site Description

2.1 **Zone 1** - On the eastern side of the site is a field area with hedgerow boundaries. Prior to the LNR declaration, this was regularly mown by Streetscene to provide an informal amenity area. The mowing had the effect of controlling coarse grass species. Yellow rattle seed was sown across the site in the autumn of 2007 in order to encourage meadow diversity. Due to the factors mentioned above, Green hay from Motte Meadows SSSI was strewn in the summer of 2009 and 2012 with the help of local volunteers.

**Zone 2** - The next small section is the children's play area. This has a formal playground and is regularly mown. It is largely enclosed by a series A small colony of marsh woundwort, now in the hedgerow, indicates the former presence of a pool.

**Zone 3** - This zone is divided in half, length-ways with an area closest to Ferndown Drive South being regularly mown to provide an informal kick-about area. This area could become quite waterlogged but has benefited from a drainage system and is now much drier. The un-mown side, to the south, was rough neutral grassland. This area has been developed into a wildflower meadow and has included two phases of soil inversion work to create a nutrient poor soil.

The meadow itself has developed well with a variety of wild flowers. There is a good mixture of trees on the boundary, many of which were planted by the BTCV to screen the site from the busy A500 and include oak, ash, field maple and rowan. This compartment is bordered on the west by a remnant old hedgerow and willow copse.

On the border of Zone 3 and 5 there is a lower lying marsh area created in 2011. A drainage system was installed below the football kick-about area to solve its problem of water-logging. The water now drains into the marsh area and then through an overflow into a ditch system that runs down the site to a balancing pond in Zone 4.

**Zone 4** - To the south is an area of predominately scrub. It contains a small square of woodland that is privately owned. Scrub can be of high value to nesting birds with bullfinch, blackcap and willow-tit all recorded in this area. The area is notable for its population of the orchid, broad-leaved helleborine. Bird and bat boxes have been installed in Zone 4. Common pipistrelle, a County BAP species, has been observed feeding in this general area. The scrub area nearest the A500 will retain unmanaged areas to act as a buffer and to provide undisturbed habitat. An area was cleared in 2012 in order to provide space for a small orchard of heritage apple and pear species. The balancing pond was constructed in 2011 as part of drainage improvements.

**Zone 5** - This compartment consists of meadow and scrub. Common whitethroat has bred in the scrub for the last few years. Garden warbler has also been observed in this zone. At the north-western edge of this area is a small triangle of land beyond the Borough Council boundary. This is divided from the rest of the site by a tree line (of Alder and Willow) and drainage ditch and is in private ownership.

**Zone 6** - Surveyed by Staffordshire Wildlife Trust in 1985 and 1999 this section was historically declared a grade 1 Site of Biological Importance (SBI) but is now downgraded to a Biodiversity Alert Site (BAS). It is an old pasture (originally an upper and lower) field that leads down to the A500. It has been reseeded on the top half and is managed as a meadow. Large birds-foot trefoil is frequently found in this zone. Clearance work on field margins in 2009 has enlarged the field area. This field contains a small wet flush, indicated by Soft Rush. Soil inversion work has also been undertaken here in smaller areas and again was seeded in 2009. Grass snake was reported here in 2007 and in 2012 a sloughed skin was found. It will be important to maintain some suitable habitat features for the snakes. This could include maintaining rougher grassland on field edges and providing an area of compost in a south facing location.

A hedgerow has been planted at the lower end of Zone 6 by the Friends of Ferndown to screen the site from the busy A500/M6 roundabout. Additionally, two rows of fruit trees were added in 2012 to provide further biodiversity benefits.

### **3 Management Objectives**

3.1 Local Nature Reserves are a very important part of our heritage and it is important that we treat them as such. We want to encourage and enhance biodiversity within our Borough and encourage as many of our residents to visit and to enjoy our LNR's.

Over the next five years we aim:

- To maintain the meadow areas and to encourage the associated flora to SBI standard.
- To maintain and enhance the habitats for the fauna found on site.
- To maintain and enhance the hedgerows.
- To maintain and enhance the scrub, and woodland areas.
- To maintain and enhance the orchard.
- To contribute to towards achieving the aims, objectives and targets that are identified in the Stafford Borough Biodiversity Strategy.

### **4 Main Management Operations**

4.1 This section details the main management operations that are required to protect and enhance the biodiversity of this site and also maintain their community amenity value. This current plan should be monitored throughout its 5-year lifetime and should be revised if necessary, to provide greater protection to the important habitats and species that are found on this site. As stated, the broad aim of the management plan is to enhance the reserve's fields to SBI standard meadows.

## 5 Summary Table of Main Management Tasks

<b>Works</b>	<b>Date</b>
Litter Pick	April
Topping of meadows	April/May and Sept/Oct
Surveying	May - August
Weed Control	May - August
Hay Cut	August
Tree / Hedge works	November - February

### **Grassland Management/Wildflower Areas**

5.1 In suitable locations (essentially the areas of semi-improved neutral grassland) efforts to enhance the floral diversity of the meadows have been undertaken with the aim of getting the whole site declared a Grade 1 Site of Biological Importance. This is in zones 1, 3, 5 and 6. Different methods are being trialled on the sections. In order to prepare the ground, summer hay cuts began in 2007.

The soil in Zone 3 has been inverted, the top 400mm of topsoil being buried beneath the subsoil to reduce nutrients. Seeding took place in the spring of 2009 on a section of the zone. Due to the success in establishing wildflowers, soil inversion works for the whole lower area of Zone 3 were added in September 2009, along with sections of Zone 6.

Zone 5 had some tree clearance from its central area and is now managed as a meadow.

Zones 1 and 6 were also enhanced with native plug plants of species such as Great Burnet, Common Knapweed, Meadowsweet, Devil's Bit Scabious, and Ragged Robin. This choice of species was informed by visits to Motte Meadows SSSI. Green hay from Motte Meadows was spread on Zone 1 in 2009.

A typical hay management regime should be established with a cut required on all the above zones in early to late August. The hay must be bailed and removed from site. It is worth considering a rotation of cuts to allow later flowering plants to seed, such as musk mallow and devil's-bit scabious. This is a change in management that had originally seen later September hay cuts. The reasons for the earlier cut being that it was observed that the meadows were looking "tired" leaving them so late. Additionally, the ground



can become wet and machinery causes ruts in the meadows (as observed 2010). Species diversity is also thought to suffer from later cuts and the hay crop itself is of little value.

Traditionally, meadows would have been cut for hay and then grazed by animals. As we cannot replicate this at Ferndown, ideally a second cut in October could benefit the meadows.

## **6 Orchard**

### **Grassland Management/Wildflower Areas**

- 6.1 The newly planted orchard will require management to maintain the trees in good condition. This may include winter pruning to encourage good growth and shape. The open space will need strimming / mowing to control weeds, allow access and to maintain the current size and shape of the site. Without this it will quickly revert to coarse vegetation and scrub. The sward could be enhanced with some suitable wildflowers.

## **7 Weed Management**

- 7.1 Ragwort is found across the site and will need pulling from the meadows prior to the hay cut. Gloves should always be worn when doing this, as the plant is poisonous. The plant should be dug out otherwise the rosette will survive for another year. There is nothing wrong in leaving one or two plants found in other areas - the plant is a native wildflower and does support many species of insects, for example Cinnabar Moth, that is known to be on site.

Bramble growth along the edges of the meadows in Zones 1, 5 and 6 should be periodically cut back to prevent encroachment and maximise the meadow areas. Hogweed could also be controlled through regular cutting. These rougher areas are usually managed by topping, by our agricultural contractor.

## 8 Scrub and Hedgerow Management

- 8.1 Scrub and hedgerows provide valuable diversity and should be managed sensitively to benefit the associated flora and the fauna that utilise these habitats. Scrub in particular provides ideal nesting opportunities for a variety of bird species. This habitat will have to be managed to prevent full succession to woodland with a good age structure maintained. This may require a rotational coppicing regime. If new planting is planned then only appropriate native tree/shrub species should be used.

The main area for scrub woodland is Zone 4. The southern edge of this section is predominately scrub and ruderal herb and has no access. It acts as a buffer zone for the A500, and it is intended to leave this area to grow wild.

A hedgerow has been planted at the lower end of Zone 6 to screen the site from the busy A500/M6 roundabout. A variety of species were planted including mainly hawthorn and blackthorn with some elder and guelder rose. Wych elm and field maple were added to encourage White Letter Hairstreak. (See 2.1- Zone 2) Some maintenance work is required during the winter to clear vegetation from the hedge whilst it develops. Fruit trees were also planted to enhance the screening effect.

## 9 Other Site Management Tasks

- 9.1 There are numerous general site management tasks that need to be undertaken. Some of these are suitable to be undertaken by volunteer work-parties, whilst others will require the use of specialist contractors.

### Litter

- Although litter is not a serious issue at Ferndown an annual community litter-pick should be arranged during the spring. Stafford Borough Council will provide necessary equipment and remove the litter that is collected.
- Dog fouling problems should be monitored closely. All site users should be required to clean up after their pets.
- Fly-tipping: some hedge cuttings are being disposed of on site. This is illegal and should be reported if it continues to occur.

## **Signage**

Local Nature Reserve entrance ladder-boards were installed at two locations on the reserve, by the main entrance path to the Play Area and at the Melville Court entrance. A Breathing Spaces funded sign has been installed at the main entrance. This should be kept clean and has an A4 window for news items.

## **Wildlife Surveys**

- To get a better overall understanding of the wildlife that uses this site a number of surveys should be undertaken. General survey data relating to birds, butterflies and moths are underway. Reptiles and amphibians would be a good next study.
- Wherever possible it is important that members of the Friends of group and other local residents and site users are involved in the recording and reporting of information about wildlife on the site. Appropriate training events can be organised for volunteers who would like to get involved in this work.
- In order to evaluate the success of the arable strip on Zone 3, surveys will be required between June and August
- The meadows should also be monitored at this time to evaluate the success of the various enhancement methods.
- All wildlife records that are collected, whether historical or current, should be reported to the Staffordshire Ecological Record (SER)

## **Bird and Bat Boxes**

There is great potential at Ferndown LNR for the inclusion of nest-boxes. These should be placed at least three metres above ground where possible and located on the more mature trees or within the hedges. Twelve boxes are already installed plus a tawny owl box and two kestrel boxes. Sites should be discrete and not visually obvious to the public. (Birds will find them just as easily when foraging.) Boxes should be facing north-east to protect them from direct sun and prevailing winds. The mature hedges on site offer great opportunities for nest boxes as does the wooded areas around Zones 4, 5 and 6. Birds require a certain amount of territory so similar boxes should not be placed near to one another.

Pipistrelle bats have been observed foraging on site and eight bat boxes have been installed.

## **Drainage**

Drainage was an issue on the site, as the heavy soils became water logged at times. Much of the site slopes to the west, where the A500 is located. The principal area of concern was the kick-about football area in Zone 3. Some paths got very muddy, particularly on approaching Zone 6 from Zone 4. Therefore in 2011 a Groundwork funded works programme arranged by the Friends of Ferndown was undertaken. A drainage system was installed that directed water to a lower lying area on the edge of Zone 3, where sedges and rushes already grow. This was then enhanced to create a marsh by planting wetland species to increase biodiversity. A tiered system of drainage ditches was installed with a balancing pond added to cope with the potential for flooding in very wet weather. A smaller wetland area was also added on the edge of Zone 1. Further planting could enhance the balancing pond and marsh areas. It will be necessary to trim the marsh area in late summer and remove the arisings. The ditches were seeded with an appropriate seed-mix.

## **Paths**

There have always been many paths across the site. Due to the work undertaken and the many various events held, use of the site has increased. It is very important to keep all the paths maintained in order to best manage visitor pressure and ensure that new desire lines are not created through the meadows. Streetscene are now managing the paths with a regular cut.

## **The Play Area and Kick-about Area**

The site differs from other LNRs as parts of it, the play area and kick-about area, are already managed by Streetscene. Both these areas are mown regularly throughout the year. The main paths are also now being mown at the same time.

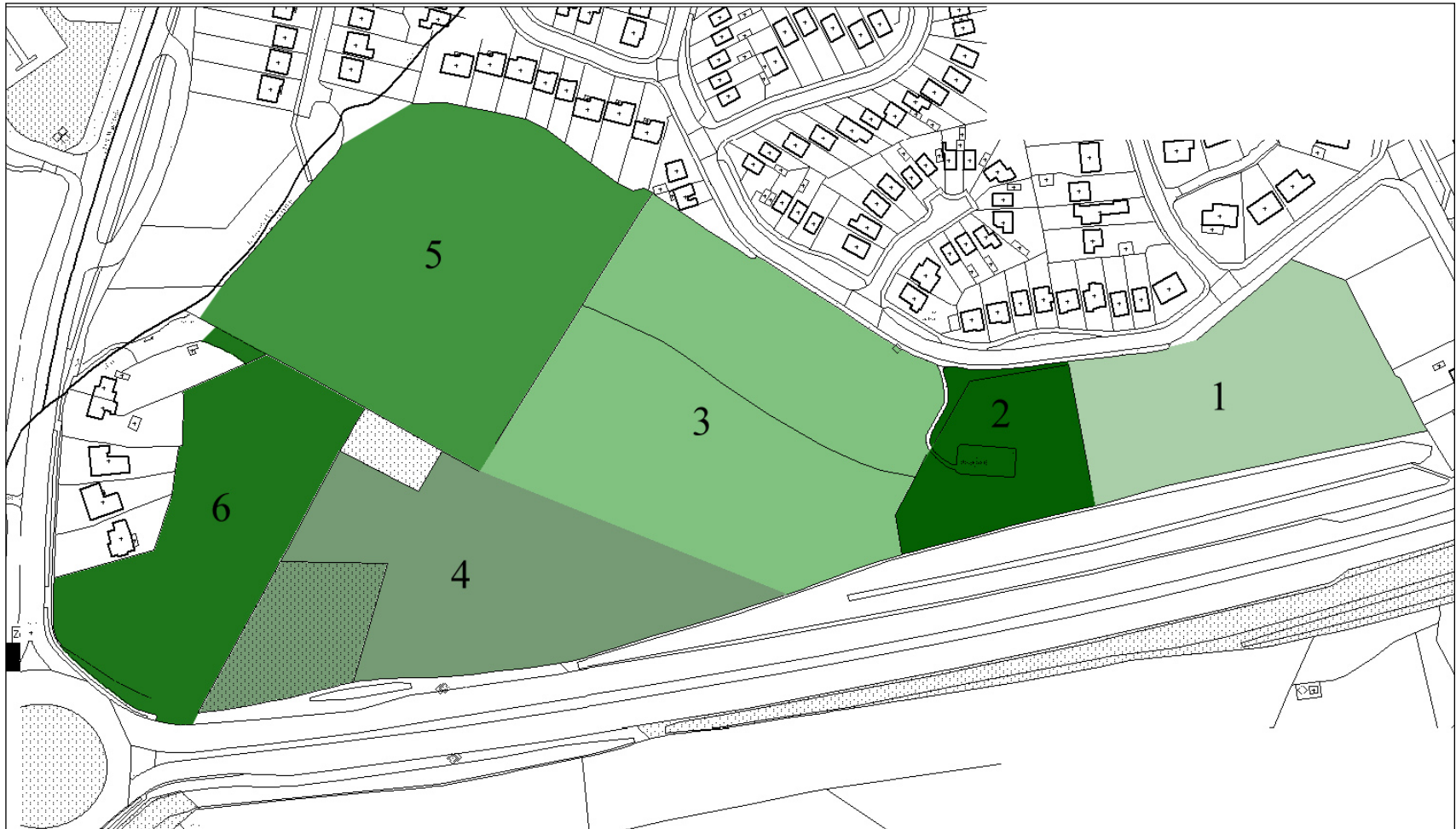
## **Future potential projects?**

The following is a purely speculative discussion - there does exist the possibility for further work in as-yet unused areas.

The border between Zone 5 and the privately owned area in Newcastle Borough is low-lying with seasonal ponds present. There may be potential to create more wetland habitat or ponds here.

## APPENDIX

### Map of Ferndown Drive LNR - showing compartments



## Plant List - Ferndown LNR 2007/8/9/11/12

Species	Common name	Zone
<i>Ranunculus repens</i>	Creeping buttercup	1
<i>R. acris</i>	Meadow buttercup	1,6
<i>R. ficaria</i>	Lesser celandine	1
<i>Papaver rhoeas</i>	Common Poppy	3
<i>Barbarea vulgaris</i>	Wintercress	6
<i>Cardamine pratensis</i>	Cuckoo flower	1,6
<i>C. flexuosa</i>	Wavy bittercress	3
<i>Alliaria petiolata</i>	Hedge garlic	1
<i>Hypericum androsaemum</i>	Tutsan	1,3
<i>Viola arvensis</i>	Field Pansy	3
<i>Agrostemma githago</i>	Corn cockle	3, 6
<i>Silene latifolia</i>	White Campion	6
<i>S. dioica</i>	Red Campion	4, 6
<i>Stellaria holostea</i>	Greater Stitchwort	1
<i>Cerastium fontanum</i>	Common Mouse-ear	1
<i>Spergula arvensis</i>	Corn Spurrey	3
<i>Chenopodium album</i>	Fat Hen	3
<i>Atriplex patula</i>	Common Orache	3
<i>Malva moschata</i>	Musk Mallow	3
<i>Geranium robertianum</i>	Herb robert	
<i>G. dissectum</i>	Cut-leaved Crane's-bill	6
<i>G. molle</i>	Dovesfoot Crane's-bill	6
<i>Erodium cicutarium</i>	Common Stork's-bill	3
<i>Trifolium repens</i>	White clover	1,3,6
<i>T. pratense</i>	Red clover	1,3,6
<i>T. campestre</i>	Hop Trefoil	3,6
<i>Vicia cracca</i>	Tufted Vetch	3
<i>V. sepium</i>	Bush Vetch	3,4,6

<b>Species</b>	<b>Common name</b>	<b>Zone</b>
<i>V. sativa</i>	Common Vetch	3, 6
<i>V. hirsuta</i>	Hairy Tare	4,6
<i>Lathyrus pratensis</i>	Meadow vetchling	3,4
<i>L. nissolia</i>	Grass vetchling	3
<i>Lotus pedunculatus</i>	Gtr Birds's-foot trefoil	3,4,5
<i>Lotus corniculatus</i>	Bird's-foot trefoil	3
<i>Ononis repens</i>	Common Rest-harrow	3
<i>Sorbus aucuparia</i>	Rowan	3, 5
<i>S. aria</i> (agg)	Whitebeam sp	1
<i>Prunus avium</i>	Wild cherry	1
<i>Malus sylvestris</i>	Crab apple	2
<i>Crataegus monogyna</i>	Hawthorn	1,3,4
<i>Rosa rubiginosa</i>	Sweet briar	4
<i>Rubus fruticosus</i>	Bramble	1,3,4,5,6
<i>Potentilla reptans</i>	Creeping cinquefoil	4
<i>Geum urbanum</i>	Wood avens	4
<i>Chamaenerion angustifolium</i>	Rosebay willowherb	4
<i>Epilobium hirsutum</i>	Great Willowherb	4
<i>Epilobium montanum</i>	Broad leaved willowherb	4
<i>Urtica dioica</i>	Nettle	
<i>Ilex aquifolium</i>	Holly	6
<i>Hedera helix</i>	Ivy	3,4,6
<i>Quercus robur</i>	Oak	1,3
<i>Corylus avellana</i>	Hazel	3, 5
<i>Alnus glutinosa</i>	Alder	5
<i>Acer campestre</i>	Field maple	4
<i>A. pseudoplatanus</i>	Sycamore	
<i>Aesculus hippocastanum</i>	Horse chestnut	
<i>Betula pendula</i>	Birch	4



<b>Species</b>	<b>Common name</b>	<b>Zone</b>
<i>Fraxinus excelsior</i>	Ash	1,2,3,4
<i>Ulex europaeus</i>	Gorse	6
<i>Salix alba</i>	White willow	1,3
<i>S. caprea</i>	Goat willow	1,3
<i>Ulmus glabra</i>	Wych Elm	1,4,6
<i>Angelica sylvestris</i>	Wild Angelica	4
<i>Anthriscus sylvestris</i>	Cow Parsley	1,3,4,6
<i>Torilis japonica</i>	Upright hedge Parsley	1, 4, 6
<i>Aegopodium podagraria</i>	Ground-elder	4, 6
<i>Heracleum sphondylium</i>	Hogweed	1,3,6
<i>Conopodium majum</i>	Pignut	1,6
<i>Daucus carota</i>	Wild Carrot	3, 6
<i>Rumex obtusifolius</i>	Broad leaved dock	3
<i>R. sanguineus</i>	Wood dock	4
<i>R. acetosella</i>	Sheep's sorrel	3
<i>R. acetosa</i>	Common sorrel	1,3,6
<i>Primula veris</i>	Cowslip	<b>1, 3</b>
<i>Anagallis arvensis</i>	Scarlet Pimpernel	3
<i>Galeobdolon luteum</i>	Yellow archangel	1
<i>Lamium album</i>	White Dead Nettle	
<i>Stachys sylvatica</i>	Hedge Woundwort	4,6
<i>S. palustris</i>	Marsh Woundwort	2
<i>Galeopsis tetrahit</i>	Common Hemp-nettle	4
<i>Prunella vulgaris</i>	Selfheal	1,3
<i>Glechoma hederacea</i>	Ground Ivy	6
<i>Digitalis purpurea</i>	Foxglove	6
<i>Veronica chamaedrys</i>	Germander speedwell	1
<i>V. serpyllifolia</i>	Thyme-leaved speedwell	1
<i>V. persica</i>	Common Field Spdwll	1
<i>Rhinanthus minor</i>	Yellow rattle	1,3,5

<b>Species</b>	<b>Common name</b>	<b>Zone</b>
<i>Linaria purpurea</i>	Purple Toadflax	6
<i>Pentaglottis sempervirens</i>	Green alkanet	1
<i>Lithospermum arvense</i>	Field Gromwell	3
<i>Plantago lanceolata</i>	Ribwort plantain	1, 6
<i>P. major</i>	Greater plantain	3
<i>Lonicera periclymenum</i>	Honeysuckle	1, 5
<i>Sambucus nigra</i>	Elder	1
<i>Galium aparine</i>	Cleavers	3
<i>G. mollugo</i>	Hedge bedstraw	3
<i>Senecio jacobaea</i>	Ragwort	1,3,5,6
<i>Chrysanthemum segetum</i>	Corn marigold	3,
<i>Bellis perennis</i>	Daisy	1,3
<i>Leucanthemum vulgare</i>	Oxeye daisy	3, 6
<i>Achillea millefolium</i>	Yarrow	3, 6
<i>Centaurea nigra</i>	Common knapweed	1,3,6
<i>C. cyanus</i>	Cornflower	3
<i>Tussilago farfara</i>	Coltsfoot	4,6
<i>Taraxacum officinale</i>	Dandelion	3
<i>Sonchus asper</i>	Prickly sow-thistle	3
<i>Iris pseudocorus</i>	Yellow iris	½
<i>Narcissus bulbocodium</i>	Hoop petticoat daffodil	6
<i>Epipactis helleborine</i>	Broad-leaveHelleborine	3,4,6
<i>Dactylorhiza fuchsii</i>	Common Spotted Orchid	6, 3
<i>D. praetermissa</i>	Southern Marsh Orchid	1
<i>Juncus effusus</i>	Soft Rush	1, 6
<i>J. articulatus</i>	Jointed Rush	3
<i>J. bufonius</i>	Toad Rush	4
<i>Luzula campestris</i>	Field Wood-rush	1
<i>Carex ovalis</i>	Oval Sedge	1,3
<i>C. flacca</i>	Glaucous Sedge	1,3

<b>Species</b>	<b>Common name</b>	<b>Zone</b>
<i>Alopecurus pratensis</i>	Meadow foxtail	1,3,6
<i>A. geniculatus</i>	Marsh Foxtail	1,3
<i>Phleum pratense</i>	Timothy	1, 3,4
<i>P. bertolonii</i>	Smaller Cat's Tail	1
<i>Poa annua</i>	Annual Meadow-grass	1
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	1,3,6
<i>Arrhenatherum elatius</i>	False Oat Grass	3,6
<i>Cynosurus cristatus</i>	Crested Dogstail	1,3
<i>Dactylis glomerata</i>	Cocksfoot	1,3,6
<i>Holcus lanatus</i>	Yorkshire Fog	1,3,6
<i>Hordeum secalinum</i>	Meadow Barley	3, 6
<i>Lolium perenne</i>	Rye Grass	1,2,3
<i>Festuca rubra</i>	Red Fescue	5
<i>Agrostis stolonifera</i>	Creeping Bent	3
<i>Elymus repens</i>	Common Couch	6
<i>Phyllitis scolopendrium</i>	Hartstongue	4
<i>Dryopteris filix-mas</i>	Male fern	4
<i>D. dilatata</i>	Broad Buckler Fern	4

