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# Wild flower Specification Manual

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## Preface

The aim of this document is to provide the designer, ecologist and gardener with a detailed understanding of the most attractive of our native wild flowers so as to facilitate appropriate species selection and specification.

A standard format is applied to each of the 73 species covered in this publication.

A brief description is given of each species covering appearance, size and flowering to provide the reader with a thumb-nail sketch of the plant. The text then sets out our best understanding of the natural and semi-natural habitats where the individual species is found. This information is gleaned from various authoritative sources such as 'Comparative Plant Ecology' by J.P.Grime et al, 'The Wildflower Handbook' produced by the Department of Transport, Volumes 1,2 and 3 of 'British Plant Communities' by J.S. Rodwell, 'Wild Flowers of Britain' by Roger Phillips and 'Flora Britannica' by Richard Mabey allied with personal observations. This section aims to clarify the range of habitats in which the species are found and to present the best quantitative and qualitative data on their environmental requirements.

A diagrammatic table is used to set out the flowering season of each species and to provide the best information on soil pH, fertility and moisture status that the plant enjoys and its tolerance of shade.

The final section aims to provide suggestions for the species' potential role in habitat reconstruction projects, in designed landscapes and in the garden. This covers where the plants could be established, typical micro-habitats and how the plants can be incorporated into the various environments within a garden. Wherever possible recommendations are given for species management in terms of cutting and timing. Finally, the role of the plant in attracting insects and butterflies is set out. This lists whether the plant is an important nectar source, specifies which butterflies have a preference for the plant's nectar and notes which plants act as hosts for individual butterfly's larva.

We would recommend that when designing a project using wild flowers that soil samples are taken and analysed for pH, available Phosphate (using Olsen's extraction technique), Potassium and available and total Nitrogen. The results help build up a picture of the soils fertility and its acidity/alkalinity. A resource audit of the site's micro-habitats helps define the size and range of environments that can be utilised. A rapid local survey of the native flora normally provides valuable clues as to which species thrive locally. We find that the county Naturalist Trusts are invaluable as a source of information as to appropriate local species of plants and the natural National Vegetation Classifications of the area. It is by combining the site specific information with the data in this book that the designer, ecologist or gardener can confidently recommend a range of wild flowers which will suit the site and match the objectives of the individual scheme.

# **Contents Page**

# Common and Latin names listed

	Common name	Latin name	Page
1	Agrimony	Agrimonia eupatoria	1
2	Bell Heather	Erica cinerea	1
3	Betony	Stachys officinalis	2
4	Birds Foot Trefoil	Lotus corniculatus	2
5	Black Knapweed	Centaurea nigra	3
6	Bladder Campion	Silene vulgaris	3
7	Bluebell	Hyacinthoides non-scripta	4
8	Bugle	Ajuga reptans	4
9	Cats Ear	Hypochaeris radicata	5
10	Chicory	Cichorium intybus	5
11	Clustered Bellflower	Campanula glomerata	6
12	Common Vetch	Vicia sativa	6
13	Common Spotted Orchid	Dactylorhiza fuchsii	6
14	Common Tormentil	Potentilla erecta	7
15	Common Dog Violet	Viola riviniana	7
16	Cow Parsley	Anthriscus sylvestris	8
<b>17</b>	Cowslip	Primula veris	8
18	Cross-leaved or Bog heather	Erica tetralix	9
19	Cuckoo Flower or Lady's Smock	Cardamine pratensis	9
<b>20</b>	Devils Bit Scabious	Succisa pratensis	10
21	Early Purple Orchid	Orchis mascula	11
22	Field Scabious	Knautia arvensis	11
23	Germander Speedwell	Veronica chamaedrys	12
24	Greater Knapweed	Centaurea scabiosa	12
25	Greater Stitchwort	Stellaria holostea	13
<b>26</b>	Ground Ivy	Glechoma hederacea	13
27	Green Winged Orchid	Orchis morio	13
28	Harebell	Campanula rotundifolia	13
29	Heath Bedstraw	Galium saxatile	14
<b>30</b>	Heather	Calluna vulgaris	15
31	Hedge Bedstraw	Galium mullugo	16
<b>32</b>	Herb Robert	Geranium robertianum	16
33	Kidney Vetch	Anthyllis vulneraria	16
<b>34</b>	Lady's Bedstraw	Galium verum	17
35	Lesser Celandine	Ranunculus ficaria	17
<b>36</b>	Marsh-marigold or Kingcup	Caltha palustris	18
37	Marsh Helleborine	Epipactis palustris	18
38	Meadow Buttercup	Ranunculus acris	19
39	Meadow Cranesbill	Geranium pratense	19
40	Meadow Sweet	Filipendula ulmaria	20
41	Musk Mallow	Malva moschata	20
42	Nettled Leaved Bellflower	Campanula trachelium	21
43	Ox-eye Daisy	Leucanthemum vulgare	21
44	Perforate St Johns Wort	Hypericum perforatum	22
45	Primrose	Primula vulgaris	22
46	Purple Loosestrife	Lythrum salicaria	23
47	Ramson or Wild Garlic	Allium ursinum	23

	Common name	Latin name	Page
48	Red Campion	Silene dioica	24
49	Ragged Robin	Lychnis flos-cuculi	24
<b>50</b>	Rough Hawkbit	Leontodon hispidus	25
51	Sainfoin	Onobrychis viciifolia	25
<b>52</b>	Selfheal	Prunella vulgaris	26
53	Small Scabious	Scabiosa columbaria	26
54	Snowdrop	Galanthus nivalis	27
55	Sweet Woodruff	Galium odoratum	27
<b>56</b>	Tufted Vetch	Vicia cracca	28
57	Vipers Bugloss	Echium vulgare	28
<b>58</b>	Water Avens	Geum rivale	29
59	White Campion	Silene alba	29
60	Wild Daffodil	Narcissus pseudonarcissus	29
61	Wild Foxglove	Digitalis purpurea	30
62	Wild Marjoram	Origanum vulgare	30
63	Wild Strawberry	Farrago viscera	31
64	Wild Thyme	Thymus drucei (praecox)	31
65	Wood Anemone	Anemone nemorosa	32
66	Wood Avens	Geum urbanum	32
67	Wood Sage	Teucrium scorodonia	33
68	Wood Sorrel	Oxalis acetosella	33
69	Yarrow	Achillea millefolium	34
<b>70</b>	Yellow Iris	Iris pseudacorus	34
<b>71</b>	Yellow Archangel	Lamiastrum galeobdolon	35
<b>72</b>	Yellow Meadow Vetchling	Lathyrus pratensis	35
73	Yellow Toadflax	Linaria vulgaris	36

#### **Key To Habitat Classifications:**

All species except Chicory and Snowdrop include NVC (National Vegetation Classification) codes taken from J.S Rodwell's British Plant Communities volumes 1 to 3. Habitat types are shown in three ways CG1,CG1,CG1. A normal type coding indicates a habitat where the species occurs, if a coding is in bold type it shows a habitat where the species is constant through the community, if in italics that coding indicates the species is common in sub-communities. The codings below set out the major classifications of the NVC.

Woodlands & Scrub	W
Mires	$\mathbf{M}$
Heaths	H
Mesotrophic (neutral) Grasslands	$\mathbf{MG}$
Calcicolous (alkaline) Grasslands	$\mathbf{C}\mathbf{G}$
Calcifugous (acidic) Grasslands	U

The tables showing the environmental requirements for the individual species have solid black blocks "indicate where it does best, while the "indicate where the plant will grow, but may not thrive.

The tables also set out when the plants are in full flower "and when flowering is more intermittent "a = ".

#### **SPECIES DESCRIPTION**

# 1 Agrimony (Agrimonia eupatoria)

Description and Habitat: This perennial plant has large arrow shaped leaves and produces yellow flowers on a tall erect stem (50cm to 80cm) from June to August with rust coloured hooked fruits. Agrimony is a common way-side perennial which thrives on dry, open, circum-neutral and calcareous grasslands, (MG1,5,9, CG2,3,6,7). The plant does very well on wastelands and chalk pastures. It is common throughout England, but not in Northern Scotland. The plant's height means that it grows above most grasses and requires very little management except cutting back in autumn.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5	-5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: This is a late summer flowering plant of meadows, banks and pastures and once established requires little management. Planted against a dark background, like a hedge, sets off the tall yellow flower spikes. Often found alongside paths and roads. Agrimony is an important nectar source for butterflies, bees and hoverflies, while its leaves provide protection for many insects.

#### **2 Bell Heather** (Erica cinerea)

Description and Habitat: Bell Heather is a low woody sub-shrub very common on dry heaths and in acidic soils of low fertility. It grows to 30cm and produces an abundance of delicate pink bell like flowers during July to September. As well as being found on heaths, bell heather grows in acidic grassland and acidic woodlands (M15,17,H1,2,3,4,5,6,7,8,10,11,12,13,14,15,16,17,20,21,U3,5,16,19,20,21,W11,16,17,18) Bell heather is not tolerant of shade or damp areas and will not grow soils with any lime.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5	-5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low					-				High
Moisture	Dry									Wet
Shade	Sun						•			Shade

Role: This is an evergreen sub-shrub that provides very attractive flowers in the summer. On low fertility, acid soils it is possible to create a pure heather lawn which is mown in autumn after the majority of plants have flowered. Bell Heather's are frequently visited by bees and butterflies which are drawn by its nectar. The area of lowland Bell Heather's has been drastically reduced and are now mainly found on roadsides, railway banks and golf courses.

#### **3 Betony** (Stachys officinalis)

Description and Habitat: Betony produces a 30-50cm stem with a spike of up to 50 red/purple flowers and has a flowering season from June to September, while its foliage provides greenery all year round. Betony is found throughout England and Wales but is generally absent from Scotland and Ireland. The flower is found on a range of sites including mildly acidic through to alkaline grasslands as well as woodland margins. Typically Betony is found on sites which are species rich with closed vegetation, little exposed soil and a low fertility. (MG2,4,5, CG2,8, U4, H7, H8). Betony appears to dislike dry calcareous soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
Flowering												
			6.5>		6.5-	5.0		5.0<				
pН	Alkali									Acidic		
Fertility	Low									High		
Moisture	Dry									Wet		
Shade	Sun									Shade		

Role: A slow growing, long-lived plant that is very attractive to bees and butterflies as a nectar source. Betony can be used in shortish grass, in hedgerows and at the edge of woodlands. The plant is highly tolerant of cutting and can thrive in spring/autumn and autumn cutting regimes. Betony can also persist in unmanaged grasslands.

#### 4 Birds Foot Trefoil (Lotus corniculatus)

Description and Habitat: Birds Foot Trefoil is a long lived perennial producing clusters of yellow and red flowers on 10 to 30 cm stems especially in June and July, but some flowering continues until September. The plant is very common throughout the British Isles and is found mainly in grassy and waste places, often in limestone pastures but also found in some heaths and scrublands (MG1,3,4,5,8,911,12 CG1,2,3,4,5,6,7,8,9,10, 13, 14,U1,4,15,17,20,H4,6, 7, 8,10,11,12,16,7,W24). Its nitrogen fixing root system facilitates colonisation of dry and infertile sites. Birds Foot Trefoil is not found on extremely acidic soils, very fertile sites, in tall grasses or in wood land and wet soils. It is, however, abundant in short grassland, lawns, road verges, downland, heaths and dunes.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
Flowering												
			6.5>		6.5	5-5.0		5.0<				
pН	Alkali									Acidic		
Fertility	Low									High		
Moisture	Dry									Wet		
Shade	Sun									Shade		

Role: Birds Foot Trefoil is widely introduced in a range of open habitats and is particularly valuable in reclamation of derelict land. The plant can persist in un-managed grasslands, provided that the growth is not too rank, but performs best with either an autumn cut or both a spring and autumn cut. In the garden it can be used both in a frequently cut flowering lawn and as an easily maintained herbaceous border plant which is cut back once a year. The plant is an exceptionally important nectar source for butterflies and is a food plant for the Common Blue, other Blues and the Burnet Moth. To function as a food source for Common Blue larva, and possible the Dingy Blue butterfly, the turf should be kept short, at under 2.5 centimetres. Birds Foot Trefoil is an extremely important nectar source for butterflies and is amongst the preferred nectar sources for the Dingy Skipper, Lulworth Skipper, Grizzled Skipper, Small Blue, Brown Argus, Common Blue, Chalkhill Blue, Small Pearl Fritillary and the Pearl Bordered Fritillary.

#### 5 Black Knapweed ( Centaurea nigra )

Description and Habitat: Black Knapweed is a tall (40-80cm), tough perennial flower that produces large purple thistle like flowers, often two or three to a stem, from June to September. Black Knapweed is very common and

is found throughout the British Isles except the northern most tip of Scotland, and is commonest in ungrazed neutral and calcareous grasslands and mires. (W24, MG 1,2,3,4,5,6,8,9, CG 1,2,3,4,5,6,8,13, M 13,22,24,25,26,27). It prefers soils of low to moderate fertility and is found in soils of pH 4 to 8 but particularly in pH 5 to 6 and 7.5 to 8. Black Knapweed is found in pasture, meadows, rock outcrops, waste land, river banks, road verges, beside paths and particularly in ungrazed limestone grassland. It does not do well in dense woodlands and in wetland conditions.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sej	Oct
Flowering										ı
			6.5>		6.5-	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: Black Knapweed is a very widely used and successful species, suitable for almost all open sites and once established can persist in unmanaged grasslands to provide colour over an extended period. It is ideal for grassland sites with very little management. The management can comprise a single cut in the autumn or even no cutting. When planted in a herbaceous border it quickly establishes itself and should be either be cut down in the autumn after flowering, or left through the winter so that its seed provide a food source for birds. The plant is an attractive nectar source for many butterflies e.g. Small Skipper, Essex Skipper, Silver Spotted Skipper, Brimstone, Chalkhill Blue, Adonis Blue, Small Tortoiseshell, Peacock, Comma, Silver-washed Fritillary, Marbled White and Meadow Brown.

#### **6 Bladder Campion** (Silene vulgaris)

Description and Habitat: This is a perennial plant that produces white bell like flowers with the characteristic swelling below the petals at 30 to 90cm height. Bladder Campion is found in most disturbed fertile environments such as spoil heaps, building rubble, manure heaps, through out the UK, except northern Scotland It does not like the shade or wet (MG11, H7, W22). This plant needs neutral to alkali soils in order to thrive.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
Flowering												
			6.5>		6.5-	5.0		5.0<				
pН	Alkali									Acidic		
Fertility	Low									High		
Moisture	Dry									Wet		
Shade	Sun									Shade		

Role: Bladder Campion has a role as an early introduction on disturbed sites and alongside paths and streams. Bladder Campion can persist in unmanaged grassland but performs best with an autumn, or a spring and autumn cut. As a tall plant it can have a role at the backs of summer flowering banks. The Bladder Campion is an important nectar source for butterflies and a favourite food plant for frog hoppers, the insects which create cuckoo spittle.

# 7 Bluebell (Hyacinthoides non-scripta)

Description and habitat: The common Bluebell is one of our best known wild flowers and when in bloom en masse creates a uniquely British floral experience. The flower stands between 30-40cm in height and produces a large head of up to 30 blue flowers. The Bluebell starts flowering in March and can continue until May when it eventually sheds its seeds. Even without flowers the bluebell plants produce a beautiful carpet of vivid green leafs. The Bluebell is a common broad-leaved woodland plant, although it can live in shaded and acid grasslands, coniferous plantations, scrub and bracken (W6,7,8,9, 10,11,12,14, 15,16,17,21,22,25, U17,18). Although most commonly a woodland plant the bulb can also be found growing in bracken covered pastures in the uplands, in lowland hedge banks and on cliffs in the North and West. The flower exploits the light phase before the development of full leaf canopy. Shade is important as it restricts competition from other species. The plant is characteristic of moist, freely drained sites. In wetter or more waterlogged locations Bluebells tends to be replaced by Ramsons (*Allium ursinum*).

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
	•		6.5>		6.5-	5.0		5.0<		•
pН	Alkali							•	A	cidic
Fertility	Low								Н	ligh
Moisture	Dry						l		V	Vet
Shade	Sun								S	hade

Role: Bluebells are a ubiquitous feature of most woodlands and especially deciduous woodlands. The species has poor dispersal mechanisms and even from established plants the rate of movement into new sites is only 6 to 15 m per 100 years. Bluebells need to be introduced under new plantations, and particularly once sufficient shade has been created under the canopy. Introductions can be made as bulbs, which are planted at a depth of 12.5 cm in the late summer and early autumn at approximately 9/m2, or sown as seed at 200 seeds/m2 in the winter. From seed it takes 4 - 5 years to produce a flowering plant. Bluebells are extremely easy to maintain and extremely long lived. Bluebells are preferred nectar sources for the Brimstone butterfly and the Pearl Bordered Fritillary. The plants never look untidy and can be just as at home under trees and shrubs in a garden as in a woodland.

#### **8 Bugle** (Ajuga reptans)

Description and Habitat: Bugle is a small plant of only 10-25 cm in height that produces a ring of generally blue flowers on top of each set of leaves. Bugle has a very dark stem and dark green leaves, often tinged with blackish violet. The plant has an extended flowering season from April to July and propagates vegetatively by rhizomes and stolons. Bugle can tolerate either direct sun or shade, but normally does best in semi-shaded moist conditions and it is most often found in woodlands, woodland clearings and in damp grasslands. (W2,3,5,7,8,9,10,11,12, MG3,M22,27).

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	еp	Oct
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali									A	cidic
Fertility	Low									H	igh
Moisture	Dry									W	et
Shade	Sun									Sh	ade

Role: In the garden Bugle is ideal for damp partially shaded situations but can also feature in damp meadows. The flower is an important source of early source of nectar for butterflies, especially for the Duke of Burgundy, Marsh Fritillary and the Pearl-Bordered Fritillary. In the wild because of its liking for moist conditions it also does well near ponds, lakes or streams but is particularly suitable for damp woodlands. The plant spreads vegetatively.

## 9 Cats Ear (Hypochaeris radicata)

Description and Habitat: Cats Ear is a very common plant found throughout the United Kingdom. Cats Ear grows to 20-60cm tall and produces leaves on the bottom third of its stem with several yellow flowers at the top of the stem. The flowering period extends from June to September. It lives in acidic to calcareous short grasslands although it can be found in some woodlands and heaths (MG1,3,4,5,6,7,11,12, CG1,2,3,4,8,10,13, U1,3, H6,7,8,,11, W23,24). Cats Ear prefers a dry, sandy, slightly acidic soil with moderately open vegetation.

Months		Feb Mar A	Apr May	Jun	Jul	Aug	Sep	Oct			
Flowering											
		6.5>	6.5	-5.0		5.0<					
pН	Alkali							Acidic			
Fertility	Low				ı			High			
Moisture	Dry			l				Wet			
Shade	Sun							Shade			

Role: Cats Ear is easy to successfully introduce new sites and into banks and dry meadows. The plant can feature in flowering lawns. The plant benefits from two or three cuts a year and thrives under heavy grazing. The plant is an important nectar source for butterflies.

#### **10 Chicory** (Cichorium intybus)

Description and Habitat: Chicory is a tall (45 to 100 cm) beautiful plant and although probably not native to the UK has naturalised. The stems are woody and have large broken leaves at the bottom of the stem, which get smaller the nearer they are to the flower heads. The flowers themselves are sky blue and have 15-20 petals and bloom in the morning and are held close to the stem. The flowering period extends from July to October. Chicory likes well drained soils (sand and chalk) and is often on roadsides, rough grasslands and wastelands, particularly in South and Central Britain.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry								,	Wet
Shade	Sun									Shade

Role: Chicory is an excellent plant to grow on infertile south facing slopes and wastelands where it quickly adds colour and foliage. It also grows well on grasslands and sheltered dune systems. In the garden Chicory is best positioned behind other flowers against a south facing wall or fence. The plant can be grown in un-managed grasslands but is tolerant of cutting and grazing.

#### 11 Clustered Bellflower ( Campanula glomerata )

Description and Habitat: This plant has an exceptionally beautiful deep blue-purple flowers and stands about 20-40cm height. The Clustered Bellflower only grows well on certain calcareous soils and is restricted to southern central Britain (CG2,3,4,5, U1). Typically its habitat are chalk and limestone grasslands but it is occasionally found on sea-cliffs. The plant requires soils of over pH 6.5 and with low fertility's.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali						•		A	cidic
Fertility	Low								Н	ligh
Moisture	Dry							•	W	/et
Shade	Sun								S	hade

Role: The Clustered Bellflower is a must for calcareous gardens. Once established the plant should easily survive and will spread to open soil around it. During September the plant can be trimmed back. In grassland situations it requires grazing or regular mowing, free draining conditions, calcareous soils and is often found in association with Devils Bit Scabious and Oxeye Daisy in species rich sites.

#### 12 Common Vetch (Vicia sativa)

Description and Habitat: Common Vetch is a quick growing annual plant that produces paired pink to purple flowers along the expanse of its 20-50cm length and flowers from May to September. It is a climbing/sprawling plant that tends to find any gaps that exist in the surrounding vegetation. It favours neutral or alkali unmanaged grasslands and also very open woodland (MG1,3,7, U1, W24). The Common Vetch does well in any pH above 4.5 and likes dry to soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								A	cidic
Fertility	Low								Н	ligh
Moisture	Dry								W	/et
Shade	Sun								S	hade

Role: The Common Vetch is a plant of unmanaged grassland and meadows, or situations where the grass is cut in the autumn. It is beneficial as a food source for insects.

## 13 Common Spotted Orchid ( Dactylorhiza fuchsii)

Description and Habitat: Orchids are often considered to be delicate, fragile and very rare flowers that need constant attention and an exact environment. This is not true of the Common Spotted Orchid which in practice is more robust and adaptable than normally credited. It grows to around 35cm and creates a pyramidal shape cluster of pink/purple flowers from June to August. Its leaves are dark green and speckled with dark purple spots. The Common Spotted Orchid is the most frequent British orchard and is found in a wide range of habitats through out England and Ireland. This orchid is most common on open chalk grassland but it also occurs on neutral and moderately acidic soils and can even be found in mires and woodland borders (MG3,9, CG 2,3, W3, M9, 10, 13, 22, 24). It is also found on former quarries, clay pits, railway embankments and roadside verges. As with all native orchids soil fertility levels need to be low.

Months	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering									

		6.5>	6.5-5.0	5.0<	7
pН	Alkali				Acidic
Fertility	Low				High
Moisture	Dry				Wet
Shade	Sun				Shade

Role: This orchid will grow well in most garden environments as long as it gets plenty of light and the soil is not below pH 5. The plant can be successful on raised beds or mounds, or planted into medium length grass. The Common Spotted Orchid is probably the least fussy of the native orchids available commercially and can be planted in grassland, woodlands and on bare soil sites. Fertility levels need to be low and the site reasonably well supplied with moisture. Planting needs to take place during the late autumn and watered during the first few weeks if conditions are very dry. Maintenance should involve cutting the grass after seed set in September. A further cut can be taken before March. Winter grazing is a particularly effective management technique.

# 14 Common Tormentil (Potentilla erecta)

Description and Habitat: Tormentil is a creeping perennial plant with 3 clubbed leaves that grows to between 10-40cm. Each plant will produce 3-7 stems, each with one or two 4 petalled yellow flowers which appear from June to September. This is a plant that propagates quickly and easily through the use of runners and is best adapted to mires, heaths and acidic grasslands and to a lesser extent woods and moist calcareous grasslands (MG2,3,5,9,CG2,9,10,11,12,13,14,U1,2,3,4,5,6,7,10,13,14,15,16,17,19,20,2, M4,6,8,9,10,11,12,13,14,15,16,1719,21,22,23,24,25,26,29,28, H2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22, W2,4,9,11,16,17,18,19,23,25). It is most common in short acid grasslands, on heaths, moors and roadsides. Tormentil is associated with low to intermediate fertility. Its shallow root system renders the plant susceptible to drought and is more commonly found in the more humid conditions of the North and the West.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry								,	Wet
Shade	Sun									Shade

Role: The Tormentil is an important element in acidic grasslands, heaths and mires. The plant is unpalatable to stock and can sustain itself in grassland with little management, provided the soil is not too fertile. This is a very important plant for several butterflies, especially the Grizzled skipper whose larvae feed on it.

#### **15 Common Dog Violet** (Viola riviniana)

Description and Habitat: This is the commonest Violet found in Britain. The plant is small only growing to 20-25cm but produces dark green ovate, and occasionally hairy, leaves that persist through out the winter. The flowers are violet in colour measuring 2cm wide, with one plant producing many flowers each year. The flowering period is usually from April to September. The Common Dog Violet is usually found in grasslands, wastelands or woodlands and typically in deciduous woods, hedge banks and old pastures. (MG2,3, CG2,8,9,10,11,12,13,14, U4,5,10,13,15, 16,17,19,20, M11,38, H6,7,8,10,11,12,15,16,18,20,21, W7,8,9,10,11,14,17,19,20,21,22,23,24,25) The Common Dog Violet will grow in any pH above 4, the soils are normally moist soils and with low fertility.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali									cidic

Fertility	Low	High
Moisture	Dry	Wet
Shade	Sun	Shade

Role: The Common Dog Violet is most often found on short, grazed calcareous turf and limestone scree. In lowland Britain it is more commonly a woodland species. It is also found on wasteland, river banks, waysides, mire and rock outcrops. In the garden it can be used in shaded areas, damp rock gardens and in the front of herbaceous border. The plant has a role as an early nectar source for butterflies and it is the larval host plant for a range of Fritillary Butterflies including the Small Pearl-bordered, the Pearl Bordered and the Silver Washed Fritillary

## **16 Cow Parsley** (Anthriscus sylvestris)

Description and Habitat: Cow Parsley is a very common plant through out the UK. and some claim is the most important spring flower in the British landscape. Its a perennial that grows from 100-150cm with thick green stems and very luxuriant green leaves. In spring till early summer (April to June) it produces a cluster of creamy white flowers. Cow Parsley is common in hedgerows and woodlands, where it likes the semi-shade, and can also thrive in some mesotrophic grasslands and in alkaline soils, and particularly in moist conditions (W8,9,10,12,24,MG1,2,3). Cow Parsley is abundant on road verges, in hedgerows, in meadows and on river banks. It is also found with a range of tall herbaceous vegetation on waste ground and in woods. The plant is intolerant of drought, waterlogging, trampling and regular cutting.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	p	Oct
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali									Ac	idic
Fertility	Low									Hi	gh
Moisture	Dry									W	et
Shade	Sun									Sh	ade

Role: Its height means that it easily co-exists with tall grasses such as *Arrhenatherum elatius* and so needs virtually no management and can sustain itself in uncut meadows and grasslands. Cow Parsley can become a feature of shaded drives and open woodland.

## 17 Cowslip (Primula veris)

Description and Habitat: The Cowslip is an extremely well known and popular wild flower whose numbers declined dramatically between the 1950's and the 1980's. The Cowslip grows to a height of 20-30 cm when in full flower, with leaves that go up to 10-15cm. It produces delicate yellow flowers 1-2cm, usually between March and May. Its preferred habitat is open grassland either slightly alkali or neutral in nature (MG1,3,4,5,9, CG2,3,4,5,6,8), it also requires a generous amount of light in order to flower and is not successful in woodland or under tall plants. Cowslips are found in both in dry and in continuously moist conditions and in short grasslands.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	ep	Oct
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali						1			Ac	eidic
Fertility	Low									Hi	gh
Moisture	Dry									W	et
Shade	Sun									Sh	ade

Role: The cowslip is a must for almost all non-acidic open grassland sites. The plant forms a key component of spring flowering grasslands. It can be used to create cowslip meadows in ordinary turf grass. The cowslips are allowed to flower and cutting can start either at the end of flowering in May or after seed set in June. Thereafter the lawn can be kept short. Cowslips can be planted at the front of herbaceous borders. Planting should be carried out in the Autumn. Cowslips are increasingly common on roadside verges and wastelands where they provide a valuable food source for bees and are the larval host plant for the Duke of Burgundy butterfly as well as an important nectar source.

#### **18 Cross-leaved or Bog heather** (Erica tetralix)

Description and Habitat: Cross-leaved heather, unlike most heather's needs marshy or damp growing conditions. It grows to 30cm and produces a cluster of pink flowers on the end of each main stem during July to September. Like all heather's it needs acid conditions and is prevalent in acid moors and bogs (M1,2,3,6,8,10,11,13,14,15,16,17,18,19,21,24,25,29,H1,2,3,4,5,6,7,8,10,12,13,16,CG11,U3,W4,17, 18). It likes low fertility and will not grow in shade or limey soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	p	Oct
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali								•	A	cidic
Fertility	Low									Hi	gh
Moisture	Dry									W	et
Shade	Sun									Sh	ade

Role: Cross-leaved heather is an evergreen that can provide both a carpet of colour in bogs and moors and an effective plant for the border with its close knit stems. Like all heather's its flowers are attractive to honey bees and butterflies and the flower is the preferred nectar source for the Large Heath butterfly.

#### 19 Cuckoo Flower or Lady's Smock (Cardamine pratensis)

Description and Habitat: The Cuckoo flower or Lady's Smock is an elegant flower. The plant is 15-40cm in height with narrow long leaves and will produce 2 or 3 pink or white flowers on each stem in late spring/early summer. It flowers from April to July and can be found in moist or wet habitats, often in association with rushes. Its habitats include moist neutral grasslands and can also be found shaded mires. The Cuckoo flower it is common and widespread flower of damp grasslands, roadsides, ditches and river banks. (M4,5,6,8,9,10,11,13,22,23, 24,25,27,28,32,35,37,38, W3,5,7, MG3,4,5,6,7,8,9,10, CG10,12,U6). Once established large numbers of this plant can soon colonise a wet grassland or a mire. The Cuckoo flower will grow in moist, neutral and moderately fertile environments. The species is less common in tall vegetation and but generally found when the height and vigour of the sward is reduced by grazing.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								A	Acidic
Fertility	Low								I	ligh
Moisture	Dry			ı					1	Vet
Shade	Sun								S	hade

Role: In moist or wet habitats the cuckoo flower will quickly establish itself and can quickly spread by means of stolons. In garden situations the plant can play a role in spring flowering lawns on heavy soils, when a regular cutting programme is carried out after flowering. The Cuckoo flower can be established in a range of wet grass lands, including sites waterlogged in the winter. The maintenance regime can comprise a cut in June or July with a second cut in the autumn. The key issue is not to let the sward grow so tall as to swamp the Cuckoo flower. The flower is an important larval host plant and nectar source for the Orange-Tip and Green Veined White butterfly.

# 20 Devils Bit Scabious (Succisa pratensis)

Description and Habitat: A perennial plant that likes damp or moist sites. The Devils Bit Scabious flower grows up to 30 to 100cm in height and produces a mass of red/blue or purple pompons on tall wiry stems, usually from July to October. Although the flower likes moist ground, it also succeeds on grasslands and wastelands (H5,7,10,12,14,15,16,20,21, M4,5,6,9,10,11,13,15,16, 21,22,23,24, 25,26,27,29, W3,4,7,9,11,17,20, MG2,3,4,5,8,9,CG2,3,4,5,6,8,9,10,11,12,13,14,U4,10,15,16,17,19). The flower is found in damp locations in meadows, stream banks, rocky grasslands on calcareous to slightly acid soils. Some light is needed for the plant to really thrive. It is found on soils within the range of pH from 3.5 to 7.5. Grass growth needs to be restricted by either grazing or low fertility. The species is found in species rich grasslands with little bare earth.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: The Devils Bit Scabious plays an important part in wet meadows, fens and grasslands and will survive in nearly all environments except where the soil is very dry. The plant has a poor ability to persist in unmanaged grassland but is very tolerant of cutting and can be cut back in the spring and, if necessary, again in the Autumn. In the designed landscape the Devils Bit Scabious is valuable for its late flowering season, attractive flowers and long life. Out of all our native wildflowers very few attract more butterflies than the Devils Bit Scabious, which is favoured by the Tortoiseshells, Admirals, Marsh Fritillary (as the larval host plant) and nearly all types of bees.

#### 21 Early Purple Orchid (Orchis mascula)

Description and Habitat: The Early Purple Orchid like its relation the Common Spotted Orchid is more robust than generally considered. Standing between 20-30cm,it flowers from April to June and has spotted leaves and a short stem which climaxes in a pyramidal purple flower. The Orchid lives in a wide range of habitats including damp meadows, grasslands and occasionally deciduous woodlands (Oak, Beech and Hazel), (W8,MG3,CG13,U17). Like most Orchids, the Early Purple prefers calcareous or sandy soils and short grazed turf. The plant will not be successful in fertile sites and very acidic or very wet conditions.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	ep	Oct
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali									Ac	idic
Fertility	Low									Hi	gh
Moisture	Dry									W	et
Shade	Sun									Sh	ade

Role: The Early Purple Orchid is an excellent companion for Cowslips in short grass and Bluebells in woodland habitats. The plant is ideal for banks and on roadsides. In the absence of winter grazing the grass should be cut in late July and the aftermath cut in the autumn. Under woodland coppicing it is important to allow sufficient light to the field layer. The Early Purple Orchid is an important nectar source for butterflies.

#### **22 Field Scabious** (*Knautia arvensis*)

Description and Habitat: The Field Scabious is a plant of grassland and meadows and can grow up to 100 cm and produces large pale lilac to purple flowers on the end of the tall stem between July and September. The flower is found in particularly in dry in calcareous grasslands, on way sides, meadows and downland (MG1,5,CG3,4,5,6,7,8) and can be found throughout England, Wales, Ireland and Southern Scotland. The flower is found in soils of pH above 6 and in sands, clays and limestone.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low							•		High
Moisture	Dry								,	Wet
Shade	Sun									Shade

Role: The Field Scabious has a valuable role as a tall, attractive summer flower of banks, roadside verges and meadows. Its size enables Field Scabious to sustain itself in tall quite fertile grasslands. It can persist in unmanaged grasslands but more usually requires an autumn and possibly an additional spring cut. Field Scabious can play a structurally towards the back of the herbaceous border, in summer flowering meadows and alongside drives. The flowers are an extremely important nectar source for both butterflies and bees. It is the preferred nectar source for Small Skipper, Essex Skipper and Small Tortoiseshell butterflies.

#### 23 Germander Speedwell (Veronica chamaedrys)

Description and Habitat: The Germander Speedwell produces a floret of blue/purple flowers and grows to 20cm. It is very tolerant to cutting and enjoys and propagates from seeds and stolons. Germander Speedwell is mainly found in moist, infertile calcareous and mesotrophic grasslands and particularly in broken short turf (W8,9,10,11, 12,22,23,24, MG1,2,5,6,8,CG2,3,4,6,U1,4,20). The flowers often forms large patches in hedge banks and open woodlands.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	-5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hi	gh
Moisture	Dry								We	et
Shade	Sun								Sh	ade

Role: Germander Speedwell can be introduced into short open grasslands, either in full sun or under dappled shade. The stolons are used to rapidly invade gaps in the sward. The grass will need to be lightly grazed or regularly cut. The plants is resistant to trampling and a useful food source for butterflies. Suitable sites include mown hedge banks, flowering lawns and roadsides. The plant does best in quite shaded areas of a garden such as under tall trees or in hedges.

#### **24 Greater Knapweed** (Centaurea scabiosa)

Descriptions and Habitat: The Greater Knapweed produces large numbers of large purple flowers from July until August. The plant grows up to 90cm with leaves at intervals on the main stem. The plant prefers ungrazed, open grasslands or wastelands and particularly calcareous soils and can live in drought conditions. (MG1,CG1,2,3,4,5,6,7,8). Greater Knapweed is found throughout England but is rarer in Scotland and Ireland.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering									1	
			6.5>		6.5-	5.0		5.0<		
pН	Alkali					l			A	cidic
Fertility	Low								Н	ligh
Moisture	Dry								V	Vet
Shade	Sun						•		S	hade

Role: Greater Knapweed is a very attractive summer flower and will flourish in un-managed grass land and because of its height can persist in quite fertile conditions. If management is applied this need only comprise a cut in the autumn. The plant can be eliminated by regular cutting. The flower can have a role at the back of the herbaceous border and in summer flowering meadows. Greater Knapweed is attractive to bees and butterflies and is the preferred nectar source for a number of butterflies including Small Skipper, Essex Skipper, Silver Spotted Skipper, Brimstone, Chalkhill Blue, Common Blue, Painted Lady, Peacock, Common Silver-washed Fritillary, Grayling, Meadow Brown and Ringlet.

#### 25 Greater Stitchwort (Stellaria holostea)

Description and Habitat: The Greater Stitchwort produces beautiful white star like flowers is found in hedgerows, lightly shaded woodland and scrub. The plant scrambles over other vegetation and can grow to 100cm in length and flowers from April to June. It is a perennial that is commonly associated with Bluebells and Red Campion amongst the hedges and trees. (MG12,W7,8,9,10,11,19,21,24,25). Greater Stitchwort is found in all pHs and is commonly found in moist, infertile soils and in habitats with summer shade. It is largely absent from free draining calcareous soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hi	gh
Moisture	Dry								We	et
Shade	Sun								Sh	ade

Role: Greater Stitchwort is a brilliant intermingler with other plants and is a vital flower of hedgerows. It can clamber over tall grassland and can also be planted in a wildflower herbaceous border. It requires limited maintenance with only cutting back to restrict its spread.

#### **26 Ground Ivy** (*Glechoma hederacea*)

Description and Habitat: Ground Ivy is found throughout the UK. The plant is about 20 cm tall, has evergreen heart shaped leaves and small violet flowers. It can flower between March and May and usually spreads through the use of runners. Ground Ivy is mainly found in hedgerows, woodland, damp rough ground and wasteland. (W2,6,7,8,10,12,13,21,24,25,MG1,U1). Ground Ivy tends to occur where there is a relatively high proportion of bare earth, in quite fertile soils where the pH is between 5.5 to 7.5, but can be as acidic as pH of 4.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry								We	et
Shade	Sun								Sha	ade

Role: Ground Ivy is best introduced into hedgerows, shaded roadsides, into woodland, and will rapidly colonise bare earth under dappled shade by means of long creeping stems. The plant provides much needed colour in early spring and has an attractive mint scent. It adds colour to woodlands and is extremely hardy once established

# 27 Green winged Orchid (Orchis morio)

Description and habitat: Although named the Green Winged Orchid it produces are a vivid purple colour flower that seems to cascade down the stem in May and June. The plant is about 20-30 cm tall and has fleshy green leafs. It tends to be restricted to damp, sheltered meadows and species rich pastures with a soil pH in the range of 4.6 to 8, although it prefers calcareous soils with a high proportion of clay. The Green Winged Orchid can often be found in church graveyards and in the occasional lawn. This Orchid will not grow in shade or where the land is too acidic.

Months Feb Mar Apr May Jun Jul Aug Sep	Oct
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Flowering					
		6.5>	6.5-5.0	5.0<	
pН	Alkali				Acidic
Fertility	Low				High
Moisture	Dry				Wet
Shade	Sun				Shade

Role: The Green Winged Orchid is the classic orchid of old, undisturbed, species-rich, neutral, short grassland with one of the most beautiful flowers. Maintenance should comprise a hay cut in late July, after seed set and then to have the aftermath grazed by cattle or sheep until the end of the growing season. Alternatively the grass can be cut again in the autumn.

## 28 Harebell (Campanula rotundifolia)

Description and Habitat: The Harebell is a beautiful and delicate perennial flower. It grows to 30-45cm and produces a cluster of light china blue bell shaped flowers on a number of branching stems. It usually flowers between July and September and enjoys open grasslands. The Harebell is often found abundantly in dry calcareous grasslands and some wastelands and heaths (M11, H1,10,11,12,16,18, W11,19,20,23, MG1,2,3, CG1,2,3,4,5,6,7,8,9,10,11,12,13,14, U1,4,5,10,13,14,15 16,17,19,20). The Harebell is present throughout the UK, but enjoys infertile, grazed habitats with dry soils and a range of pHs from about 4.5 to 8, but is most frequent in the range of 7 to 8.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali						l		A	Acidic	
Fertility	Low								I	ligh	
Moisture	Dry								1	Vet	
Shade	Sun								S	Shade	

Role: Harebells are an extremely attractive flower of low, infertile and mainly alkaline grassland. They can also be planted into screes, rockeries and into terracotta pots. The grass needs to be maintained by cutting, generally with a spring and or autumn cut. Without management the plant will rapidly disappear from unmanaged and fertile sites. Harebells are an important nectar source for butterflies.

# 29 Heath Bedstraw (Galium saxatile)

Description and Habitat: Heath Bedstraw is a long-lived perennial herb, its normally very low growing but can reach 20cm. The plant has groups of leafs arranged on the stem at regular intervals. Clusters of white flowers occur at the apex of the plant from June to August. Heath Bedstraw is most commonly found in a range of acidic habitats including pasture, heathland, moor land and also in disused quarries, derelict grassland and in scrub. (CG7,10,11,12,13,14,U1,2,3,4,5,6,7,8,9,10,11,12, 13,14,15, 16,17,18,19,20,21, M4,6,7,8,15,17,19, H1,4,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22, W4,7,9,10,11,16,17,18,19,20,23,25). Typically Heath Bedstraw is plant of dry acidic (pH < 5) soils. It is commonest in short acid grassland and in heaths.

Months		Feb	Mar	Apr	May	Jul	Aug	Sep	Oc		
									t		
Flowering											
			6.5>		6.5-	5.0		5.0<			
pН	Alkali									Acidic	
Fertility	Low									High	
Moisture	Dry									Wet	
Shade	Sun									Shade	

Role: In an important plant in acid grasslands and in a range of rocky habitats. Heath Bedstraw can become submerged beneath grass unless the site is grazed, or managed with a cut either in the spring or autumn.

#### **30 Heather** (Calluna vulgaris)

Description and Habitat: The Common Heather grows to approximately 30cm in height and produces pink/purple clusters of flowers in late summer. Heathers are found as understorey plants of Birch and Northern Pine and under open Beech and Oak in the lowlands. The great heaths and moors are the result of the clearance of trees on poor, acidic soils coupled with grazing or fire to prevent the trees becoming re-established. (M2,8,11,13,14,15,16,17, 18,19,20,21,24,25, H1,2,3,4,5,6,7,8,9,10,11, 12,13,14,15,16,17,18,19,20,21,22, MG5, CG9,10,11,12,13,14, U1,2,3,4,5,6,7,15,16,17,19,20,21, W4,11,15,16,17,18,19,20,23) Heather grows mainly in moist to dry, acidic soils (pH >5) of low fertility and does best in direct light or slight shade.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Acio	dic
Fertility	Low								Higl	h
Moisture	Dry								Wet	
Shade	Sun								Shao	de

Role: Many low land heaths have been destroyed but the species is regaining habitats on acidic roadsides and on types of spoil. Heather can be the only colonist of soils contaminated by heavy metals. In the garden given well drained, infertile acidic soils heather lawns can be created. These are lightly mown, or cut back in the autumn to prevent the plants becoming too leggy. Heathers can only colonise bare earth and a suitable grass nurse crop of non-invasive grasses (e.g. Common & Highland Bent, Sheep's Fescue, Wavy Hair grass, Crested Dogstail and Sweet Vernal grass) can be sown to give the young seedlings shelter, prevent erosion and reduce damage from needle ice. Heathers can be introduced by spreading top soil or heather litter from a heather site, spreading forage harvested heather shoots or planting seedlings. Heather usually grows in large clumps and dominates the site. Management can comprise light grazing, an occasional forage cut in the autumn, controlled burns to rejuvenate old plants (i.e. over 15 years old) by encouraging new growth from the centre. Like all heather's the flowers attract honey bees and butterflies and is a valuable food source from grouse. Heather is a larval host plant and preferred nectar source for the Silver Studded Blue butterfly.

#### 31 Hedge Bedstraw (Galium mullugo)

Description and Habitat: Hedge Bedstraw can grow to a height of 100-150cm and produces clusters of white flowers on a main stem. The flowering season extends from June to September. The Hedge Bedstraw is found in hedges, woods and scrub as well as some calcareous grasslands. (W12,25, MG1,CG2,3,4,5,6).

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali						1		A	cidic
Fertility	Low								Н	igh
Moisture	Dry								W	<sup>7</sup> et
Shade	Sun							•	S	hade

Role: Hedge Bedstraw does well in open woodland and some grassland, its height means its easily competes with the grass once established. It is an evergreen plant that does particularly well in hedges.

#### **32 Herb Robert** (Geranium robertianum)

Description and Habitat: Herb Robert grows to about 50cm and produces small 5 petalled pink flowers April to September. The stem is a deep red colour, while the leaves are a purple/green and the plant has a characteristic smell. Herb Robert is a woodland plant that can occasionally be found in grasslands and mires (W2,5,6,7,8,9,10,11, 12,21,22,23,25, MG2, U19, M28). Herb Robert is mainly found on moist soils and on pHs of above 5.5, and low fertility. It is common throughout the UK.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Acio	dic
Fertility	Low								High	h
Moisture	Dry								Wet	
Shade	Sun								Sha	de

Role: Herb Robert in lowland Britain is mainly confined moist shaded habitats but in upland Britain it can also be found in open habitats. The flower can be grown in shaded borders, under trees and shrubs and in hedgerows.

#### **33 Kidney Vetch** (Anthyllis vulneraria)

Description and Habitat: Kidney Vetch is a tall slender plant with very narrow leaves and a fragile stem. The flower is produced on top of the plant and comprise a round cluster of 30-40 yellow flower heads. It usually flowers between June and September and enjoys dry low fertile calcareous soils. It is one of the few plants that can survive on bare chalk soils and is common throughout southern England and parts of Yorkshire (H6,7,CG1,2,3,4,5,7,8,9,13,U1). It has the ability to fix nitrogen in the soil and cope with only small amounts of water.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0	5.0	)<		
pН	Alkali								Acidic	
Fertility	Low								High	
Moisture	Dry								Wet	
Shade	Sun								Shade	

Role: The Kidney Vetch plays an important role for the Small Blue butterfly, which lays its eggs on the plant and also is a preferred nectar source for this butterfly. This is a plant that is recommended for any chalk gardens or open grasslands.

# 34 Lady's Bedstraw (Galium verum)

Description and Habitat: It is a long-lived perennial which grows up to 30cm. A slender stem with smaller stems at the top of the plant which produce clusters of yellow flowers from June to August. These frothy flowers smell strongly of honey. It has small narrow leaves and a large root system which enables it to find water in times of drought. Lady's Bedstraw can be found in dry sites such as on sandy soils and in sand dunes as well as calcareous and mesotrophic grasslands (CG1,2,3,4,5,6,7,8,9,10,13, U1,4,20, MG1,2,4,5,9, W14,19, M24, H6,7,8,11). It is recorded on soils in the pH range of 4 to 8 but is mainly found in pHs of 5.5 to 6.5. Lady's Bedstraw mainly propagates vegetatively and is very hardy once established.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0	4	5.0<		
pН	Alkali								Acio	dic
Fertility	Low								High	h
Moisture	Dry								Wet	;
Shade	Sun								Shao	de

Role: Lady's Bedstraw is a vital component of dry, low fertility alkaline grasslands. It is highly tolerant of cutting and can be included in flowering lawns, more frequently it is managed with either a spring on autumn cut. The flower attracts a wide range of butterflies.

## 35 Lesser Celandine (Ranunculus ficaria)

Description and Habitat: Lesser Celandine is one of the earliest flowering plants (February to May). The plant itself is small 10-15cm with dark leaves and the yellow flowers appear on small stalks. Lesser Celandine is largely restricted to shaded sites and is abundant in woodlands, river banks, road verges, hedgerows, meadows and pastures. (MG1,2,9,W6,7,8,9,10,12,24,25). Lesser Celandine is found on damp soils in the pH range of 4 to 8, but is more commonly found in pHs of 6 to 6.5.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali						l		A	cidic
Fertility	Low								Н	igh
Moisture	Dry								V	/et
Shade	Sun								S	hade

Role: Because of its very early spring flowering, Lesser Celandine can provide much needed colour early in the year, particularly on damp rockeries or under deciduous trees. This is an invasive plant but finishes its annual growth too early to compete with most other species. The plant can grows in flowering lawns, alongside paths, on stream banks, in ditches, under trees and shrubs, in shady gardens and in damp woodlands. Lesser Celandine is an important early nectar source.

#### **36 Marsh-marigold or Kingcup** (Caltha palustris)

Description and Habitat: As its name suggests Marsh-Marigold thrives near water and in wet soils. The plant grows to 30-40cm in height and produces buttercup like flowers on the end of long stalks in the spring. Marsh-marigold is not exclusively found in mires and marshes, it can also be found in some wet woodlands and occasionally on mesotrophic grasslands (W1,2,3,5,6,7,20,MG3,4,8,10,13, M5,8,9,10,11,12,13,22,23,26,27, 28,32,37,38). It is for example found in water meadows, cattle wallows and growing amongst Willows and Alders in wet woods. This is a plant most frequently found on soils of pH 6 to 7 and on moderately fertile soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								A	cidic
Fertility	Low								Н	igh
Moisture	Dry								V	/et
Shade	Sun								S	hade

Role: The Marsh-Marigold is one of the best suited plants for mires and marshes and in the wild can be found living in most of them it is also well suited to damp gardens, woodlands or around the banks of ponds and streams.

## **37 Marsh Helleborine** (Epipactis palustris)

Description and Habitat: Marsh Helleborine has a slender stem that grows to 25-60cm and has soft leaves. The orchid produces extremely pretty white flowers, with yellow sepals veined with red on top of the stem from late June to September. The Marsh Helleborine thrives in damp or wet areas with no free lime in the water. It is a plant of sun although it establishes well under dappled shade.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: This is an orchid of damp short grassland. It thrives in short marshes of low fertility and is often found in association with the Common Reed (*Phragmites australis*). It is actually more adaptable than generally considered and the rhizomes can be successfully established in a range of sites but in particular in moist soils under light shade. The plant propagates vegetatively and can spread quite quickly given the right conditions.

#### 38 Meadow Buttercup (Ranunculus acris)

Description and Habitat: The Meadow Buttercup is one of the most well known and commonest wildflowers. The plant has bright yellow flowers which are produced from May to July and can grow up to 100cm. Its very common in grazed or mown meadows and prefers slightly damp, calcareous soils. It can also be found in mires and marshes, woodlands, mesotrophic grasslands and the occasional calcareous grassland. (M8,9,10,12,13,22,23,24, 25, **26**, 27,28,31,32,34,38, W3,5,6,7,8,9,11,19,20,24, MG1,2,**3**,4,5,6,7,8,9,10,11, 12, CG10,11,12,13,14, U4,5,13,14,**15**,17,20,H18). The Meadow Buttercup is found mainly in pHs 5.5 to 7, in damp (but not waterlogged) soils of moderate fertility.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low							1	Hi	gh
Moisture	Dry							l	We	et
Shade	Sun						1		Sh	ade

Role: The Meadow Buttercup has a very high tolerance of cutting and thrives in managed grasslands that are not cut between March and the end of July. The Meadow Buttercup being taller than other Buttercups can persist in unmanaged grasslands. It is an important plant for including in damp pastures of moderate fertility and pH. It is invasive and needs to be controlled in the herbaceous border.

#### **39 Meadow Cranesbill** (Geranium pratense)

Description and Habitat: Meadow Cranesbill is a tall perennial that produces large violet/blue flowers on a leafy stem, usually around 40 to 60m tall. The flowering season extends from June to September, but peaks in the early months. Many flowers can be produced by one plant and two or three stems will arise from each root stock. Once the root stock is established after 1 or 2 years the flowers are very reliable and persistent. The Meadow Cranesbill is commonly found on unmanaged calcareous and neutral grasslands and is particularly common on roadsides verges subject to an annual cut (MG1). Meadow Cranesbill likes damp soils of pH 6 to 8 and once established is sustainable in fertile conditions.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Flowering											
			6.5>		6.5-5	5.0		5.0<			
pН	Alkali								Ac	idic	
Fertility	Low								Hig	gh	
Moisture	Dry										
Shade	Sun								Sha	ade	

Role: Meadow Cranesbill is an excellent flower for road and drive side planting. The plant can withstand frequent cutting but can thrive on a single cut in the autumn. Meadow Cranesbill can also play an important role in a wild meadow garden or herbaceous border, providing colour over an extended flowering season with the added attraction of strong shaped leaves that turn red in the autumn. This plant requires very little maintenance and will self propagate as long as cutting is carried out in the autumn. It will also attract a wide variety of bees and butterflies.

#### 40 Meadow Sweet (Filipendula ulmaria)

Description and Habitat: Meadow Sweet is a large and attractive plant with strong white flowers. It has dark red stems, with green velvety leaves. The Meadow Sweet flowers from June to September and will grow from 40cm to 120cm tall. Meadow Sweet is common on damp and marshy ground and is often found in shaded mires, ditches, river banks and in open woodlands and hedgerows., (W1,2,3,4,5,6,7,8,9,20,22,24, MG1,2,3,4,5,8,9,10, CG 10,11,12,13,14, U17). The plant is found in pHs of 5 to 8 and in moderately fertile sites. Soils are always moist and the Meadow Sweet is often found near water but not in permanently flooded sites.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low								I	High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: Meadow Sweet is a vital component of wet meadows, damp hedgerows, ditches and water side plantings. Little or no management is required. Meadow Sweet is best suited to damp or moist gardens where it can act as a very beautiful border, particularly around ponds or streams. The plant has a very clear sweet smell that is often dried and used in pot-pourri. It is intolerant of being cut when growing and the only maintenance it requires is to be cut back in late autumn to encourage spring growth.

#### **41 Musk Mallow** (Malva moschata)

Description and Habitat: Musk Mallow is a an erect perennial with multiple stems and a delicate 5 petalled pink flower, although white variants are common. It flowers from July to September, and can grow from 30-75cm tall. Musk Mallow commonly lives on grassy slopes and banks where the soil is mainly dry (MG1). It is found on chalk pastures, roadsides, churchyards and old quarries. The Musk Mallow is able to cope with all but the most acidic soils and can be found throughout England and Wales.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry							We	et	
Shade	Sun							Shade		

Role: Musk Mallow is often found alongside roads, in grassy banks and in open scrub as well as in a range of grasslands including alkaline, neutral and mildly acidic. Although often thought of as a plant of dry and infertile sites, it can be highly successful in tussock grass on soil that has been fertilised. Musk Mallow can even gain a foothold on highly fertile sites (i.e. Phosphate over 30 ppm and total Nitrogen 7000 ppm). Maintenance normally involves a single cut in the autumn although the plant can sustain itself in un-managed grasslands. A spring cut results in a shorter more upright plant which flowers later in the summer. The Musk Mallow is useful in wildflower herbaceous borders where it should be cut back in the autumn. The flower is attractive to bees and butterflies.

#### **42 Nettled Leaved Bellflower** (Campanula trachelium)

Description and Habitat: Nettled Leaved Bellflower has nettled shaped leaves and is a tall plant of 50-100 cm with one main hairy stem. The top 10 or 20 cm of the stem is covered with blue/purple bell flowers during June to September. The Nettle Leaved Bellflower will quickly seed and multiply if left in an ideal site and will reappear year after year. The most suitable habitats are in damp shaded woodland areas (W8,12). The plant is found in calcareous woods, riverbanks and sheltered paths, mainly in Southern Britain. To really thrive and produce their best colour they also need good fertility and little competition.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: An important, attractive and late flowering plant of alkali and neutral woodlands and hedgerows. The Nettled Leaved Bellflower is found in both deep and partial shade and can feature in shaded herbaceous borders.

#### **43 Ox-eye Daisy** (Leucanthemum vulgare)

Description and Habitat: The Ox-eye Daisy is a tall (20-70cm), very common species, and is extremely popular species of wild flower landscaping schemes. The flower head produced on the end of each stem is very akin to a common lawn daisy except around 5 or 10 times bigger. The plant needs full sunlight and grows mainly in calcareous or neutral grasslands, while occasionally appearing in some heaths (MG1,3,4,8,9, CG2,3,4,5,6, H6,7). The plant is very common on disturbed soils or banks, especially quarries and wastelands, in meadows and abandoned pastures. Ox-eye Daisy is found in pHs of 5 to 8 and in soils of low to moderate fertility. The plant is a short lived perennial and needs bare earth or disturbed sites for the population to sustain itself through second generation propagation.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Ac	eidic
Fertility	Low								Hi	gh
Moisture	Dry								W	et
Shade	Sun								Sh	ade

Role: The Oxeye Daisy is a vital component of almost all wildflower seed mixes or planting projects. It is a very good plant for exposed banks or newly created grasslands or meadows. The Oxeye Daisy is highly tolerant of cutting which can be carried out in the spring or late summer. The population will decline unless the sward is very open with bare patches of earth or light harrowing is carried out with the final grass cut. Planting Oxeye Daisy in drifts will create dramatic and highly visible blocks of colour in grass or the herbaceous border. The Oxeye Daisy provides nectar for a range of butterflies and bees.

#### **44 Perforate St Johns Wort** (Hypericum perforatum)

Description and Habitat: A tall perennial flower which is mainly found in disturbed sites with relatively low fertility. Perforate St Johns Wort grows to 60-70cm in height and has green shrubby leaves and stems. The flowers are bright yellow with 5 petals and adds of colour from June to September. The St John's Wort is found on freely drained soils, low fertility and exposed earth. It is commonly observed in calcareous wasteland, sandy soils, woodland margins and rides and some lightly grazed pastures. Although St John's Wort is widespread it is generally found growing in groupings of relatively few plants . (W8,MG1,9,CG7) The habitat normally has a soil pH of above 5, although frequencies increase in pHs above 7, in dry conditions and where there are significant amounts of bare earth between the vegetation.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry								We	et
Shade	Sun								Sha	ade

Role: Perforate St Johns Wort is a useful plant to introduce in wasteland habitats, under light shade and in open grasslands of low fertility. The plant can withstand light mowing.

#### **45 Primrose** (*Primula vulgaris*)

Description and Habitat: The Primrose is an extremely popular flower which heralds the spring and the ending of winter. The Primrose grows to 15cm and will produce up to 20, yellow 5 petalled flowers from February up until May. Mainly a plant that enjoys woodland and woodland edge the Primrose can also be found in damp semi-shaded or open grasslands (W7,8,9,10,11,19,24,H10,MG2,CG10,11,13,U16,17,19). Typically the wetter the climate the less shade the plant requires. The Primrose is found in soils with a range of pH's but not in very acidic or very alkali sites. The plant is rarely found in direct sunlight and is more common under dappled shade or on north facing slopes.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry								We	et
Shade	Sun								Sha	ade

Role: Primroses are often found in lawns, on north facing grassy banks and lightly shaded graveyards. In grassland, unless the soil is infertile, the maintenance programme involves taking a cut after flowering or seed set has finished and a second cut in the autumn. Primroses can be planted as part of a flowering lawn under dappled shade. After flowering the grass is mown regularly. Primroses thrive in hedgerows and in partial shade. They are pollinated at night by a wide variety of moths which are attracted by its petal colours. The plant is a larval host plant for the Duke of Burgundy butterfly as well as a nectar source.

# **46 Purple Loosestrife** (*Lythrum salicaria*)

Description and Habitat: The Purple Loosestrife is a tall striking plant, which can grow up to 120cm. The flowers are produced from June to August and comprise a tall spire of purple blooms. Purple Loosestrife is a plant of wet soils, marshes and water side sites but will also grow in some woodlands (W2,5,M9,13,22,23,24, 27,28).

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Flowering											
			6.5>		6.5-5	5.0		5.0<			
pН	Alkali								I	Acidic	
Fertility	Low								I	High	
Moisture	Dry		<b>■■■■■■■■■■■■</b> Wet								
Shade	Sun								5	Shade	

Role: The Purple Loosestrife will grow well in marshy areas of a garden or near ponds or streams. It would be very effective in a water meadow or in a fertile marsh where it would provide colour as well as being an important nectar source for insects, bees and butterflies.

#### **47 Ramson or Wild Garlic** (Allium ursinum)

Description and Habitat: Ramson or Wild garlic is a particularly pretty plant which smells strongly of garlic when crushed. It has a large stork with a cluster of white flowers on the end which appear from April to June. Ramson is a predominantly woodland plant and enjoys similar conditions to *Anemone nemorosa*, and prefers natural woodland growing on a limestone base. (W8,9,12,21). Ramsons are found in soils with a pH range of 4 to 8, but are most abundant in the range 6 to 7.5. The habitat needs to be moist but well drained. The sites often experience winter flooding and can be moderately fertile. In Eastern Britain the Ramson is found in damp woods while in the West and North they are also found in more open locations.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								A	cidic
Fertility	Low								Н	igh
Moisture	Dry								W	et et
Shade	Sun								s Si	nade

Role: Ramson is relatively immobile and a poor coloniser of new sites and often needs to be introduced to woodland plantings. The plant can propagate vegetatively to cover a significant portion of the woodland floor, providing a dark green carpet and an explosion of colour and smell in late spring. Mixed with Bluebells a woodland planting of Ramson can look spectacular in the spring.

## **48 Red Campion** (Silene dioica)

Description and Habitat: The Red Campion is an attractive perennial plant with arrow shaped leaves and narrow stems. They usually grow to 30-100 cm tall and produce a number of pink flowers between April and July with peak flowering in May till June. The Red Campion commonly occurs in damp, fertile soils in lightly shaded habitats such as in woodlands (particularly broad-leaved woods), scrub and hedgerows but can also be seen on some tall mesotrophic grasslands (W6,7,8,9,10,12,21,22,23, 24,25, MG1,2,11, U17). The plant likes well drained, slightly moist, fertile soil in dappled sunlight. Red Campion is found in pHs of 3.5 to 8, but in calcareous woodlands the Wood Forget-me-not (*Myosotis sylvatica*) will partly replace the Red Campion. It can often be found on the shaded banks of rivers and streams.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry								We	et
Shade	Sun								Sha	ade

Role:. The Red Campion is an ideal species for the planting at the interface between grassland and woodland. Planted in front of hedgerows and on north facing banks the Red Campion can create a solid mass of colour in May and June. The plant can also be established successfully in woods by seeding given sufficient shade to provide significant areas of bare earth for plant establishment. In open sites Red Campion appears to prefer calcareous soils. Red Campion is an important nectar source for butterflies.

# 49 Ragged Robin (Lychnis flos-cuculi)

Description and Habitat: The name Ragged refers to its ragged red/pink flowers which appear in May to June. At the base of the plant is a conical set of leaves standing 10cm upright while the stem of the plant totals 30-50cm. Ragged Robin is common in wet grassland throughout the United Kingdom and is also found in mires, wetlands and can be found in some damp woodlands. (M5,9,13,22,23,24,26,27,28, MG 3,8,10, W1,3,5,7). Ragged Robin prefers reasonable fertility and neutral or slightly acidic soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low							l	Hi	gh
Moisture	Dry								We	et
Shade	Sun								Sh	ade

Role: The Ragged Robin plays an important role in wetlands, wet meadows and damp grasslands where it can create sheets of pink colour during its season. It is very tolerant of cutting, as long as it is not in the flowering or seeding stage, and can feature in damp flowering lawns. The normal management is a cut in the autumn. It will not persist in unmanaged grasslands. Ragged Robin is an important nectar source.

#### 50 Rough Hawkbit (Leontodon hispidus)

Description and Habitat: Rough Hawkbit has low growing rosette and produces its flowers on the end of a stem some 10 cm to 40 cm tall. The golden yellow flowers are produced between June and September and are similar to the Dandelion, except its has smaller and has more distinctive, well spaced petals. Rough Hawkbit is a plant of calcareous, low fertility and dry grasslands in full sun (M26, MG1,2,3,4,5,8, CG1,2,3,4,5,6,7,8,9, U1). The Rough Hawkbit thrives best in pHs above 7, in relatively disturbed sites and un-productive grasslands.

		1	1		1	1	1	1	1	1
Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hi	gh
Moisture	Dry								We	et
Shade	Sun								Sh	ade

Role: The Rough Hawkbit is plant of managed grassland and thrives under gazing and cutting. In the garden it can feature in a wildflower lawn, with cutting being only being withheld when in flower or has its grey fluffy seeds still attached. This plant is a key ingredient of chalk grasslands. Rough Hawkbit is an important source of nectar and pollen for insects and is a preferred nectar source for the Grizzled Skipper and Marsh Fritillary.

#### **51 Sainfoin** (Onobrychis viciifolia)

Description and Habitat: Sainfoin is a tall attractive plant possibly native on chalk grasslands in the Southern part of Britain, and now found in southern and central Britain. The plant is some 30-60cm tall. The flower head is a spire of pink/red blooms which usually appear between June and September. Sainfoin is found on calcareous and chalk grasslands (CG2,3) The plant prefers a south facing slope and dry conditions.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-	5.0		5.0<		
pН	Alkali					ı			Ac	idic
Fertility	Low								Hi	gh
Moisture	Dry								W	et
Shade	Sun							•	Sh	ade

Role: Sainfoin is successful on dry, chalk banks and in calcareous grassland. It normally responds well to an autumn cut, but can tolerate no management given dry, infertile conditions. Densely planted the flowers can create a dramatic effect of pink flowers in the early summer on a road cutting or on waste land. Sainfoin can also play a role at the back of a herbaceous wild flower border. The flower is an important nectar source for many chalk butterflies and bees.

#### **52 Selfheal** (Prunella vulgaris)

Description and Habitat: As its name suggests Selfheal was thought to have some medicinal value and is an attractive wild flower. Selfheal is a small plant of only 5-25cm in height. Its purple/violet flowers are produced on a spike from June to September. It is normally found on mesotrophic or calcareous grasslands and in pastures. It is particularly frequent in short, or open turf that has been heavily grazed or trampled. It can also be found on mires, marshes, heaths and woodland rides. (H7,10, M10,11,22,23,24,26,27,32,38, MG1,2,3,4,5,6,7,8,9,10, CG1,2,3,4,5,6,7,8,9,10,11,13,14, U4,15,19,20). Selfheal is typically associated with moist, moderately fertile soils of moderate disturbance. Selfheal is normally found in soils of pH above 5. The flower is widely distributed throughout the United Kingdom.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
Flowering					!						
			6.5>		6.5-5	5.0		5.0<			
pН	Alkali							ı	A	cidic	
Fertility	Low								Н	ligh	
Moisture	Dry										
Shade	Sun								S	hade	

Role: Selfheal can feature in most grasslands provided it is grazed or regularly cut. It can also withstand some trampling. It can be introduced into sites with significant amounts of exposed soil and will rapidly colonise any gaps in a grass sward. Self Heal is an important nectar source.

#### **53 Small Scabious** (Scabiosa columbaria)

Description and Habitat: Small Scabious is a very attractive flower of short turf. The beautiful flowers are blue/lilac colour and found at the end of a 15 to 70 cm stem during the months of July and August. interesting plant that has a number of attractive aspects. The Small Scabious mainly grows on calcareous grasslands (CG1,2,3,4,5,6,7,8,9, MG1,2). In particular the Small Scabious is associated with moist to dry soils with a pH of over 5.5 in infertile semi-natural grasslands.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								A	cidic
Fertility	Low								Н	igh
Moisture	Dry									
Shade	Sun								S	hade

Role: Small Scabious an important and attractive flower for relatively infertile grasslands of pH 6 and over. The flower thrives under grazing and cutting, but is out competed in amongst tall vegetation. Small Scabious is an excellent plant of the wild flower herbaceous border where it flowers profusely. It attracts many types of bees by its ample pollen and the Small Scabious is the preferred nectar source of the Adonis Blue butterfly.

#### **54 Snowdrop** (Galanthus nivalis)

Description and Habitat: Snowdrops so called because they often flower when there is still snow on the ground. Most plants found in semi-natural habitats are believed to be garden escapes but the species is probably both naturalised and a native. Snowdrops are a common sight throughout most of the county but those from the south—west have the greatest claim to be of native stock. The plants are usually between 10-25cm tall and have several narrow leaves growing from the base of the plant. The flower itself is pure white and droops towards the ground. Flowering takes place from January to March. The Snowdrop appears mainly in shaded banks and woodlands where the soil is fertile.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	Oct
									p	
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								A	cidic
Fertility	Low								Н	igh
Moisture	Dry						1		W	<sup>7</sup> et
Shade	Sun								Sl	nade

Role: Snowdrops have an important role in the landscape because of their very early flowering and ability to colonise woodland and hedgerows. They can also feature in grassland, particularly under dappled shade. In a flowering lawn cutting can commence after the plant has died back. Snowdrops are of limited use to insects and bees as most are still hibernating when the plant is in flower. Propagation is almost exclusively by division of the bulb and will colonise open woodland.

# **55 Sweet Woodruff** (Galium odoratum)

Description and Habitat: Sweet Woodruff grows to 15-30cm and produces sets of six dark green leaves. The attractive white star like flower, with 4 petals, are produced from May to June. Sweet Woodruff is a plant that needs shade and is found almost exclusively in woodland habitats (W8,9,10,12,14). The plant is found throughout the British Isles but is scarce in East Anglia. In Southern and Central England the Woodruff is generally found in woodland and hedge banks on chalky soil, while in the North and West the plant is found on a variety of shady sites such as stream banks and sunken lanes. Sweet Woodruff prefers fertile, alkali soils which are damp for most of the year.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry		<b>■ ■ ■ ■■■■■■■■■■</b> Wet							
Shade	Sun	■ ■ ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■								Shade

Role: In shaded woodland Sweet Woodruff does well and provides colour after the early bulbs have finished flowering. Sweet Woodruff propagates using underground runners.

#### **56 Tufted Vetch** (Vicia cracca)

Description and Habitat: Tufted Vetch is a long-lived perennial plant which scrambles and grows around other vegetation. It can grow up to 130cm tall and has a number of stems coming off the main stem either with a dozen pairs of leaves or a very beautiful row of flowers. The plant sprawls and clambers over the surrounding vegetation. The colour of the flowers range from blue/purple to pink/red and are usually observed between July and September. Tufted Vetch is mainly found in mesotrophic (neutral) and calcareous grasslands but is also recorded in marshes, banks, hedgerows and wastelands. (M9,13,22,24,27

,28,MG1,4,5,7,9,10,12,CG2,3,4,5,6,7,8). The Tufted Vetch mainly grows on relatively fertile, dry to moist soils. It is absent from acidic soils below pH 4.5 and is intolerant of grazing and multiple cutting.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Acie	dic
Fertility	Low								Hig	h
Moisture	Dry								Wet	
Shade	Sun								Sha	de

Role: Tufted Vetch is beautiful plant for tall unmanaged grassland and hedgerows. In the garden it makes a highly attractive climbing plant and is useful for growing over hedges and fences. The plant should only be cut at the end of the season.

#### **57 Vipers Bugloss** (*Echium vulgare*)

Description and Habitat: The name Vipers Bugloss is taken from its use for counteracting the venom of the spotted viper. Vipers Bugloss is very beautiful biennial plant, growing to a height of 50-120cm it produces 30-40 flowers on each head from June to September. The flowers are violet/blue in colour flecked with dark pink and long red stamens and can create spectacular shows of colour. The plant only thrives in southern south east England on chalk soils (CG1). The plant is associated with dry, alkaline soils of low fertility.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Acie	dic
Fertility	Low								Hig	h
Moisture	Dry								Wet	t
Shade	Sun				İ				Sha	de

Role: Vipers Bugloss is a highly attractive flower and should feature in dry, sandy and chalky sites. It is also suitable for introduction into open and wasteland sites. It is often able to colonise polluted soils and contaminated sites. The Vipers Bugloss should not be cut down until after seed set in the late summer. The plant has such an attractive flower that it warrants inclusion in dry herbaceous borders. Once established it is happy to be left on its own to self propagate. It is a larval host plant of the Wood White Butterfly.

#### 58 Water Avens (Geum rivale)

Description and Habitat: Water Avens is a perennial plant that is very closely related to its relation the Wood Avens. It is a member of the rose family and grows to 45-60cm. The leaves are club shaped and form a green backdrop to display its multi-coloured flowers. These are purple, pink and orange and look like small drooping bells. Water Avens is a plant well adapted to wet or moist conditions in damp grasslands. It can also be found in moderate shade. (M9,11,12,26,27,32,38, MG2,38, CG10,11,12,14,U15,17, W3,7,8,9,19,20). Water Avens is mainly found in damp woods and river sides in Southern England.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	p	Oct
Flowering											
			6.5>		6.5-5	5.0		5.0<			
pН	Alkali									Aci	idic
Fertility	Low									Hig	gh
Moisture	Dry									We	t
Shade	Sun									Sha	ıde

Role: The Water Avens is a plant of damp, shaded places and can be grown on the sides of ponds and streams. It also makes an attractive feature in herbaceous borders.

#### **59 White Campion** (Silene alba)

Description and Habitat: The White Campion grows from 30cm to 100cm tall and produces a large number of paired leaves up the flower head. The flowers consist of 5 broken petals and are of pure white colour except for the very centre which is tinted yellow. The normal flowering period is from May to August. This short lived perennial is found abundantly in the British Isles in fields and waste places. The plant prefers dry soils of pH over 6 and full sun.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering			1	1 - F				<b>I I</b>	- F	
			6.5>		6.5-	5.0		5.0<		
pН	Alkali								Acie	dic
Fertility	Low								Hig	h
Moisture	Dry								Wet	t
Shade	Sun								Sha	de

Role: White Campion is a plant that has adapted well in living in dry grasslands. It can look particularly effective in small or large clumps where the white of the flowers stands out. The flower is moderately tolerant of cutting which can be carried out either in the spring or in the autumn. The White Campion is an important nectar source and very attractive to moths.

# **60 Wild Daffodil** (Narcissus pseudonarcissus)

Description and Habitat: The Wild Daffodil is a smaller plant than the garden daffodil. The plant grows to around 20-30cm tall. The flower petals are yellow or white/yellow in colour with the trumpet being of a very pure yellow. The Wild Daffodil is found in woodland environments and in damp and often slightly shaded meadows (W8,10). The numbers have declined leaving a disjointed distribution with greater abundance in the West.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: The Wild Daffodil can be planted in Oak and Beech woodlands and in shaded, damp meadows. Grass should not be cut back until after the daffodils have died back. In the garden situation the Wild Daffodil is much more delicate and smaller than the typical garden daffodil. It is ideal for smaller borders or for adding colour in the more shaded areas of a garden as well as in woodlands and damp meadows. Daffodils are an important nectar source.

#### **61 Wild Foxglove** (Digitalis purpurea)

Description and Habitat: The Foxglove is one of our most stunning and easily recognised wild flowers growing up to 1.5 m. tall. The flowers are downward facing bells with speckled insides and petals which are pink/white/purple shaded. The foxglove has 20-80 flowers which usually show from June to September. The normal habitat for this plant is woodland environments and, more occasionally, acidic grasslands and heaths (W6,7,8,9,10,11,14,16,17,22,23,24,25, H8, U16,20,21). Foxgloves are generally associated with lightly shaded areas, in disturbed acidic soils (mainly of pH 5 and under) of moderate fertility. The Foxglove is found on river banks, in hedgerows, open roadsides and disturbed wasteland, amongst bracken, on steep banks and in glades in acid woods.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	р	Oct
Flowering											
			6.5>		6.5-5	5.0		5.0<			
pН	Alkali								Α	cidic	
Fertility	Low									Н	igh
Moisture	Dry								W	'et	
Shade	Sun							•		Sł	nade

Role: Foxgloves are important species for introduction into acidic woodlands, hedgerows, open grasslands and wasteland. Little management is required and the plant should self seed readily given sufficient open soil.

# **62 Wild Marjoram** (Origanum vulgare)

Description and Habitat Marjoram is a perennial plant with a bushy appearance which grows to 30-60cm and produces strongly scented leaves. Marjoram flowers profusely from July to September producing clusters of pink petalled flowers (the 'Oregano' of Mediterranean cooking). This plant is normally associated with dry, infertile calcareous soils. It is found on rocky limestone habitats, roadsides and some pastures as well on some woodland edges. (MG1,2,CG3,4,W21). It is found throughout Britain but is rare in northern Scotland and Northern Ireland.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Aci	dic
Fertility	Low								Hig	h
Moisture	Dry							Wet	t	
Shade	Sun							Sha	de	

Role: Marjoram is suitable for infertile calcareous grasslands which receive little or no management. The plant can be cut back in the autumn. The flowers are very attractive to a wide range of bees and insects. Marjoram is the preferred nectar source of a number of butterflies including the Lulworth Skipper, Small Copper, Common Blue, Chalkhill, Wall Brown, Marbled White, Gatekeeper and Meadow Brown.

#### **63 Wild Strawberry** (Fragaria vesca)

Description and Habitat: The Wild Strawberry is a smaller plant than the cultivated variety but has similar shaped leaves and flowers and produces runners. The brown or green stems lead up to a white 5 petalled flower with a yellow centre. Flowering extends from April until June. Once pollinated the plant produces a very small red strawberry with its yellow pips. The strawberry is usually found in partial shade such as woodland edges, and in calcareous rocky soils. It is also found in open turf with shallow soils but in habitats not exposed to drought. (W7,8,9,10,12,13,19,21,24,CG2,6,7). The plant likes dry, infertile, well drained soils that are generally in the range of pH 6.5 to 8.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering							1			
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry						l		We	et
Shade	Sun								Sha	ade

Role: The Wild Strawberry can have a role in shaded rock gardens and will colonise between paving stones. The runners can be highly invasive. The flower can feature in scrub and hedgerows. The Wild Strawberry is a larval host plant of the Grizzled Skipper butterfly.

# **64 Wild Thyme** (Thymus drucei (praecox)

Description and Habitat: Wild Thyme is a runner spreading plant, with small leaves and with a pretty purple coloured flower. It grows between 2 to 5cm tall and usually flowers between May and August. The plant is rapidly submerged by taller plants and is consequently found in dry, infertile open calcareous grasslands and rocky sites. It tends to occupy wastelands, spoils and skeletal habitats like scree slopes. (M10,11,38, MG1,3, CG1,2,3,4,5,6,7,8,9,10,11,12,13,14, U4,7,10,13,14,15,17, H4,5,6,7,8,9,10, 14,15,18,20, W20). Thyme is confined to chalk in South east England but is found elsewhere in a range of habitats including short, acidic pastures, on ant hills in meadows, on cliffs, walls and in rocky places.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering								•		
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Ac	idic
Fertility	Low								Hig	gh
Moisture	Dry								We	et
Shade	Sun								Sha	ade

Role: Wild Thyme is used is infertile, calcareous dry and rocky sites. It can be planted in dry rock gardens and into low open turf to provide colour. Wild Thyme is also often used on the edge of flower groups and borders to add colour and to attract bees and thymeoptera. Wild Thyme is an important source of nectar and is particularly visited by the Dingy Skipper, Brown Argus, Northern Brown Argus, Common Blue, Chalkhill Blue, Adonis Blue and Wall Brown butterfly.

#### **65 Wood Anemone** (Anemone nemorosa)

Description and Habitat: Wood Anemone is found on continental Europe and North America as well as being a native of the UK. This is a predominately woodland flower growing to between 6-30cm tall. The flowers are brilliant white with yellow stamens and occur during March to May. Wood Anemone commonly grows in woodlands but can be found in some grasslands (notably damp calcareous pastures in limestone dales), marshes and heaths (W7,8,9,10,11,12, 14,17,19,20,21,25, M26, MG3, CG11,12,14,U4,5,16,17, H12,16,18). The plant likes dampish infertile soils and is tolerant of soil pHs in the range 4.5 to 7.5.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	p Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: Wood Anemone is an important species to introduce under deciduous plantains as it is a poor coloniser spreading at the rate of only 2 m per hundred years. The plant is found in both deep and dappled shade and exploits the light before the canopy closes.

#### **66 Wood Avens or Herb Bennet** (Geum urbanum)

Description and Habitat: Wood Avens is a perennial of partial shade. The plant has a number of large stems each with 2 or 3 small slender yellow flowers during June to August. It likes hedgerows, coppiced woodlands, woodland rides but can also be found in shaded wastelands and spoils (W6,7,8,9,12,14,21,22,24). The plant thrives in soils of pH above 5, in moderate shade and in moist soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	p	Oct
Flowering											
			6.5>		6.5-5	5.0		5.0<			
pН	Alkali									Ac	idic
Fertility	Low									Hig	gh
Moisture	Dry									We	et
Shade	Sun									Sha	ade

Role: Wood Avens is a plant that likes shade and can add life to the damp dark corners of a garden. This is a good plant for introduction into woodlands as it requires little management and will readily spread itself to its best suited habitats.

#### **67 Wood Sage** (Teucrium scorodonia)

Description and Habitat: A relative of the common mint plant, Wood Sage has one main hairy stem, with crinkled, rounded leaves and yellow spiked flowers. Often 4 or 6 spikes will appear on the main stem at any one time with the flower period being from July to September. The plant usually reaches 40-50cm in height. Contrary to its name the plant is also commonly found in grasslands and some heaths as well as in open, dry woodlands. (W7,8,10,11,12,16,17,21,22,23,25,MG1,2,CG1,2,4,U1,3,,17,19,20,H1,6,8,9). This is a plant that does best in, well drained soils but not droughty soils that are infertile. Wood Sage is particularly found in soils with pHs of between 4 and 5, and over 7. It is only moderately tolerant of shade and is more frequently found in woodland margins and open scrub.

Months		Feb Mar Apr May Jun Jul Aug S						Sep	Oc	t	
Flowering											
			6.5> 6.5-5.0 5.0<								
pН	Alkali										2
Fertility	Low									High	
Moisture	Dry							•		Wet	
Shade	Sun									Shade	

Role: Wood Sage forms extensive patches through rhizome growth. It is a useful plant of woodland understorey and where scrub growth has developed on rocky wasteland. The species is sensitive to grazing and trampling.

#### **68 Wood Sorrel** (Oxalis acetosella)

Description and Habitat: The Wood Sorrel has distinctive shamrock, or trefoil shaped leaves and a delicate white flower which appears from April until June. The Wood Sorrel is predominately a wood land plant especially in the lowlands, forming patches and spreading vegetatively by means of rhizomes by about 10 cm per year. The plant can be occasionally be found in north facing slopes in semi-natural grasslands and on river banks but mainly in higher altitude and wetter areas. (W4,7,8,9,10, 11,14,15,16,17,18, 19, 20, 22). Wood Sorrel is found in soil pHs from 3.5 to 8, but is most common in acidic soils in the range pH 3.5 to 5. The rhizomes lie on the soil surface and the root system is shallow resulting in the plant being restricted to continuously moist soils. Sites are typically infertile and undisturbed. Wood Sorrel is extremely tolerant of shade.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali									Acidic
Fertility	Low									High
Moisture	Dry									Wet
Shade	Sun									Shade

Role: Wood Sorrel is an idea species for deeply shade, moist sites, and is typically planted under trees but can also be found in poorly lit rock crevices. Although often found in deep leaf litter it is best planted on slightly raised or sloping sites to ensure that the slow growing plant is not swamped by falling leaves.

The Wood Sorrel is one of the very few species that can be successfully established under coniferous plantations.

# **69 Yarrow** (Achillea millefolium)

Description and Habitat: Yarrow is a very common plant throughout all of the UK and succeeds in adapting to many different habitats. It normally grows from 5 to 60cm, depending upon how often its cut. It produces very finely divided leaves that grow from the main stem, at the top of each stem is a flat cluster of creamy/white flowers from June to September. Yarrow is essentially a common and resilient meadow plant however its also occasionally found in heaths, marshes and woodlands. (H7,M38, W22,23,24, MG1,2,3,4,5,6,7,8,9, CG2,3,4,5,6,7,8,9,10,11,12, U1,4,6,10,13,14,20). Yarrow is found in soil pHs from 4 and 8. It is drought tolerant but sensitive to waterlogging and is often found in relatively fertile soil conditions and on both un-grazed and grazed grassland.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5> 6.5-5.0 5.0<							
pН	Alkali								A	cidic
Fertility	Low								H	igh
Moisture	Dry								W	et
Shade	Sun								Sl	nade

Role: Yarrow does very well in most grassland situations accept very wet or shaded sites. It is very tolerant of cutting and can be included in flowering lawns. Cutting can take place in spring or autumn and the plant can persist in unmanaged grassland but is relatively intolerant of competition from taller herbs. Yarrow is an important nectar source.

#### **70 Yellow Iris** (*Iris pseudacorus*)

Description and Habitat: One of only two native Irises, the Yellow Iris is a magnificent plant growing from 50-200cm tall with strong reed like leaves and yellow flowers. The yellow flowers have 3 large down slopping petals and 3 smaller up facing ones. Flowering extends from May to July. Yellow Iris usually grows in marshes, ditches, damp meadows, beside rivers and ponds but can also found in wet woodlands. (M4,22,23,27,28, W1,5,6,7, MG6,10,12). The plant needs permanently moist, neutral soils.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct			
Flowering													
			6.5> 6.5-5.0 5.0<										
pН	Alkali												
Fertility	Low								Н	igh			
Moisture	Dry								W	'et			
Shade	Sun								Sl	nade			

Role: Yellow Iris is suitable for wet sites whether in sunlight, partial shade or beside rivers and ponds. Flowering is stronger in sunlight. The plant rapidly expands and can be invasive. Although of little butterfly value, the Yellow Iris gives off a sweet smell and attracts a great many bees and hoverflies.

# 71 Yellow Archangel (Lamiastrum galeobdolon)

Description and Habitat: The Yellow Archangel is a relative of the nettle and grows to 20-60cm in height with its jagged arrow leaves and faintly hairy stem it produces several ringlets of small yellow hooded flowers, which are extremely pretty when examined closely. The Yellow Archangel usually flowers from May to July. This is a plant of ancient woods and old hedge banks. It tolerates deep shade and will flower without any exposure to direct sunlight, but produces its best colour in semi-shade. (W7,8,9,10,12,14). It is found extensively in Southern England, and the Midlands but does not grow in Scotland, Ireland or West Wales. The Yellow Archangel is found in woodlands and similar shaded habitats, often the soil conditions are moderately fertile and with a thick tree litter.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Se	ep	Oct
Flowering											
			6.5> 6.5-5.0 5.0<								
pН	Alkali									Ac	idic
Fertility	Low									Hig	gh
Moisture	Dry									We	et
Shade	Sun									Sha	ade

Role: An important and attractive flower for introduction into mixed deciduous woodlands and particularly sites with heavier soils or on the banks of shaded rivers and streams. Once established the plant will propagate by means of stolons. The Yellow Archangel is useful plant for the dark, damp areas of the garden, where it will add some brightness in the early summer Normally planted in small or large groups and not as individuals, it is commonly visited by bees an flies..

# 72 Yellow Meadow Vetchling (Lathyrus pratensis)

Description and Habitat: Yellow Meadow Vetchling is a climbing and sprawling legume. The plant usually grows from 30-120cm and produces clusters of yellow flowers. Each flower is tightly knitted and has a mixture of large and small petals, with a flowering times from May to August. The Yellow Vetchling is found in wet and moist grasslands, mires and the occasional woodland (W24, MG1,2,3,4,5,6,7,8,12, CG2,3,4,8, M13,22,23,24,26,27,28). Yellow Vetchling is found mainly in neutral grasslands but tolerate a range of pHs and relatively high fertility's.

Months	Months		Feb Mar A		May	May Jun		ul Aug		ep	Oct	
Flowering												
			6.5> 6.5-5.0 5.0<									
pН	Alkali									Ac	idic	
Fertility	Low									Hig	gh	
Moisture	Dry									We	et	
Shade	Sun									Sha	ade	

Role: Yellow Meadow Vetchling is an important plant of wet meadows with a range of fertility's and pHs. It can sustain itself in unmanaged grasslands or a cut can be taken in the spring or autumn. Yellow Vetchling is an important source of nectar for butterflies and is a larval host plant for the Wood White butterfly.

#### 73 Yellow Toadflax (Linaria vulgaris)

Description and Habitat: The Yellow or Common Toadflax is a late flowering plant between 5-50cm tall. The flowers number 10-15 per a stork are often compared to yellow snapdragons and are produced from July to October. The Toadflax is generally found in disturbed artificial habitats such as rubble, spoil, cinders, hedgerows and roadsides. (CG6). The plant is found in soils within the range of pHs from 5.5 to 8 and in dry, unshaded conditions with low fertility's.

Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5>		6.5-5	5.0		5.0<		
pН	Alkali								Α	Acidic
Fertility	Low								I	Iigh
Moisture	Dry								V	Vet
Shade	Sun								S	hade

Role: Yellow Toadflax is a plant for dry, infertile sites where the plant will not be strongly competed against. It is suitable for introducing on waste sites, tips, building sites, gravel and roadsides. It is tolerant of cutting and will not persist in unmanaged swards. In the garden situation the plant is suitable for introducing beside drives and into gravel. Care should be exercised when planting into the herbaceous border as Toadflax can spread extremely quickly. Yarrow is an important nectar source.

#### 74 Yellow Rattle (Rhinanthus minor)

Description and Habitat: Yellow Rattle is a 10 - 50cm tall summer annual producing yellow flowers in May through to July. The seed rattle in their inflated calyces when ripe. This plant is semi-parasitic on grasses and will reduce the vigour of grass sward. Yellow Rattle is found mainly on well-drained calcareous soils but is also found on a range of other sites (MG1, 3, 4, 5, 6, 8, CG1, 2, 3, 5, 8, 14, U15, 17).

		T		T .		1 _	T	T .	T	I _
Months		Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Flowering										
			6.5> 6.5-5.0 5.0<							
pН	Alkali								A	cidic
Fertility	Low								Н	igh
Moisture	Dry								W	'et
Shade	Sun								Sl	nade

Role: Yellow Rattle has a vital role in reducing grass vigour in grass which will not be grazed or cut in the spring and early summer. Seed can be oversown from August through to December at 0.5 gm/m2. The grass should be cut short (i.e. 2 - 5cm) in late February to facilitate seeding emergence. The grass should not be cut again until late July. The grass should be kept short from August to March as it prevents the grass from outdoing the small seedlings.