



# ESC WOODLAND SPECIES GUIDE

This booklet aims to be an easy to use guide for anyone identifying common indicator species in the UK, whether it is solely for interest or for land management purposes.


Designed to compliment the ESC 3 & 4 Decision Support tool available from Forestry Commission.





## How to Use

Common name/s and *Scientific name*.

Images of plant species:  
These are best used in conjunction with the botanical description provided in the text.

Description:  
Includes botanical description, soil requirements, and National Vegetation Classification (NVC) communities a species exists in. NVC is a system developed to classify habitat types according to the vegetation that exists there. It can be a good indicator of the conditions that prevail on a site.

**Elder - *Sambucus nigra*** RFS 



Description	
Elder is a shrub that can grow up to 8m in height. The leaves are divided into 5 serrated oval leaflets, each terminating in a point. Buds are located in opposite pairs and flowers are flat whitish clusters with a distinctive aroma commonly used to flavour drinks; these ripen to red-black berries. The bark can be very corky, especially in older specimens.	
The shrub is found in fertile, moist to dry, neutral to slightly basic soils. Elder is present in a range of woodland communities, W6-11, as well as scrub and hedgerows.	

Soil regimes	
Soil reaction (R)	7
Nitrogen availability (N)	7

**Acknowledgements:**  
FC (L, MR, R), Rob Coltman (ML)

R value:

The soil reaction or 'R' value is related to acidity and indicates the pH of the soil the plant typically exists within. The lower the R value the lower the pH and vice versa. This can be quite specific for some plants, but others have a wider range.

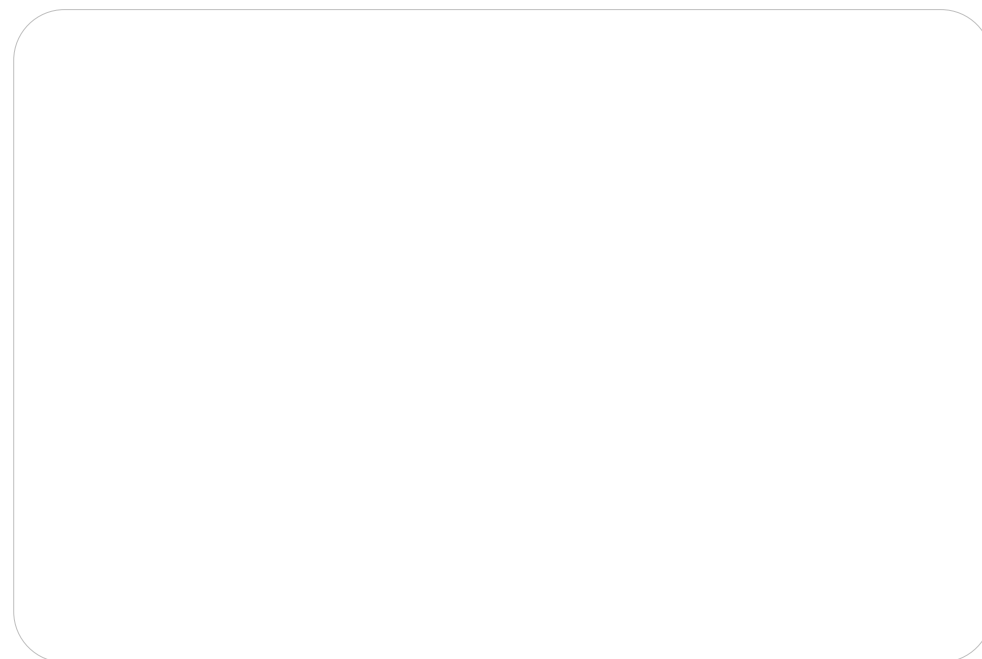
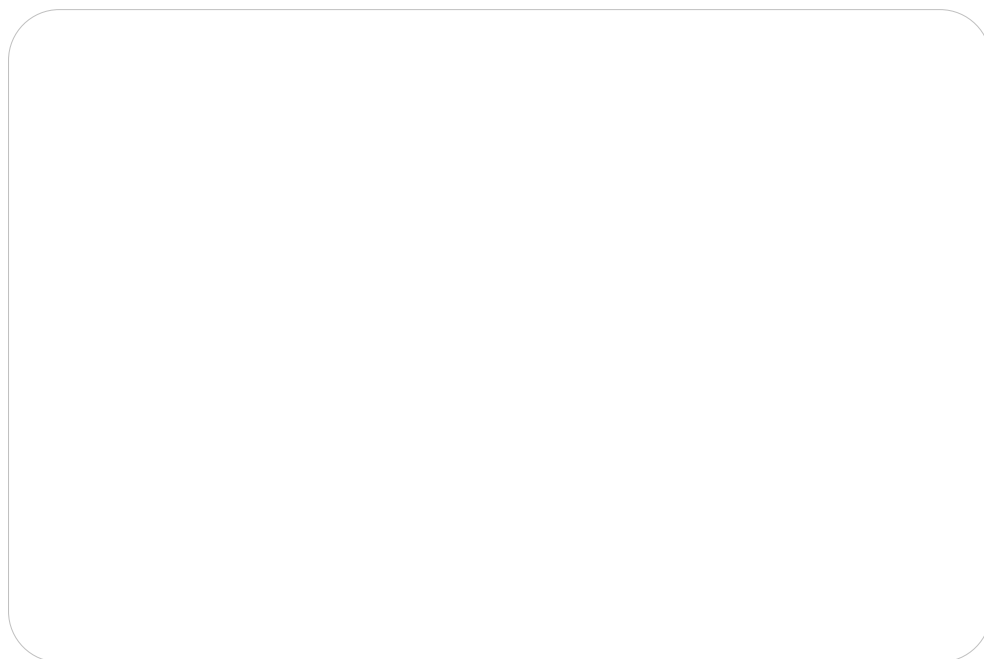
N value:

The 'N' value indicates the level of available nitrogen in soil required by a species. The combined value of the R and N values provide an indication of soil fertility.

Acknowledgements:

These refer to the providers of the images used in the species guide

# Common Bent - *Agrostis capillaris*



## Description

Common bent is a grass species with leaf blades up to 4mm wide, flat with slightly curled edges; stems reach up to 40cm with a symmetrical, branched flower head.

The plant prefers dry to moist, acid to slightly basic soils. The species frequently forms a part of grazed and unimproved grasslands, and is also found alongside wood sorrel in W11 woodland.

As with many grasses, they can compete with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of common bent.

## Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	5
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*Acknowledgements:*

## Bugle - *Ajuga reptans*



### Description

Bugle is a small perennial herb, 10-25cm tall with oppositely arranged oval, shallow-toothed leaves set along a single slightly square stem. Blue spikes of flowers bloom through spring and summer.

The plant is found in moist, rich and neutral soils, predominantly in woodland - in particular NVC W7, though also exists throughout W8-11 communities.

### Soil regimes

<i>Soil pH range (R)</i>	5
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<i>Nutrient availability (N)</i>	5
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### Acknowledgements:

Plantlife: Beth Newman (L), Forestry Comm. (R)



## Ransoms, Wild Garlic - *Allium ursinum*



### Description

The aroma of ransoms may be detected before they are seen with the scent permeating woodlands in spring. The plant has long, shiny green oval leaves with parallel veins that grow from stalks, and droop at the tips. The white flowers are in clusters on stalks above the leaves. Both flowers and leaves smell and taste of garlic. The species can carpet the floor of a wood..

The plant is found in moist, rich neutral to slightly basic soils in W7-9 communities, and are especially found in ancient woodlands in the south of England.

### Soil regimes

*Soil reaction (R)*

7

*Nitrogen availability (N)*

7

### Acknowledgements:

Plantlife: Andrew Gagg (L+M), Donna Radley (R)

## Wood Anemone - *Anemone nemorosa*



### Description

Wood anemone is a small plant, 15cm tall with stalked leaves divided in to 4-5 leaflets. White, 6-petalled flowers bloom in spring.

The plant can be found in slightly moist, mildly acidic to neutral soils. Wood anemone often forms carpets in NVC W7-11 woodlands and is frequently found in ancient semi-natural woodlands in the south of the UK. The plant also grows in heathland and unimproved grassland communities.

### Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	4
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### Acknowledgements:

Plantlife: Beth Halski (L),  
Forestry Commission (R)



## Sweet Vernal-Grass - *Anthoxanthum odoratum*



### Description

Sweet vernal-grass exhibits distinctive oval flower spikes, turning pale and golden in August as the plant fruits. The leaf blades are up to 5mm and taper to a point.

The plant is found in dry to slightly moist soils, frequently alongside common bent in unimproved and chalk grasslands, and in W11 woodland communities.

As with many grasses, they can compete with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of sweet vernal-grass.

### Soil regimes

*Soil reaction (R)*

4

*Nitrogen availability (N)*

5

*Acknowledgements:*

Plantlife: Andrew Gagg

## Lady-Fern - *Athyrium filix-femina*



### Description

Lady-fern is distinguished from other ferns by the pinnules (leaflets on the frond) exhibiting distinct teeth and tapering to a point. Additionally, the spore cases on the underside of the frond are shaped like a 'comma', and scales on the stem are brown.

The fern grows in moist, acid to neutral soils within the shady conditions of W7 and W9 woodlands.

### Soil regimes

<i>Soil pH range (R)</i>	5
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<i>Nutrient availability (N)</i>	6
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*Acknowledgements:*  
Plantlife: Andrew Gagg



## Hard Fern - *Blechnum spicant*



### Description

Hard fern grows in tufts of long, slender, rigid and glossy fronds - light green in the spring, growing darker later in the season.

Grows in acidic moist soils, mostly in the shady, humid conditions of woodland NVC communities W11 and 17.

### Soil regimes

<i>Soil pH range (R)</i>	3
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<i>Nutrient availability (N)</i>	3
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### Acknowledgements:

Forestry Commission (L+M),  
Plantlife: Andrew Gagg (R)

## False Brome - *Brachypodium sylvaticum*



### Description

False brome is a grass species with bright green, hairy and soft textured leaf blades that droop at their tips. These can grow up to 35cm. Flowering stalks can grow up to 80cm and have narrow spikey flowers arranged alternately along the length

The species grows in dry to moist, neutral to slightly basic soils in hedgerows, W7-9 woodlands, and occasionally grasslands.

As with many grasses, the species can compete with newly planted trees. As such, effective weeding is especially important for tree establishment in sites with a large population of common bent.

### Soil regimes

<i>Soil pH range (R)</i>	6
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<i>Nutrient availability (N)</i>	5
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### Acknowledgements:

Forestry Commission



## Green-ribbed sedge - *Carex binervis*



### Description

Green-ribbed sedge is recognised by its 2-6mm dark green leaves, on which the tips typically turn a red-brown colour in autumn. The flowering stalk can grow up to 1m in height, along which far spaced brown 'spikelets' emerge.

This sedge is found in very poor acid soils on the range of slightly dry to moist heaths and in unimproved grassland.

### Soil regimes

<i>Soil reaction (R)</i>	3
<i>Nitrogen availability (N)</i>	2

### Acknowledgements:

Plantlife: Andrew Gagg (L+R),  
Cumbria Wildlife Trust (M)



## Heather - *Calluna vulgaris*



### Description

Heather is an evergreen woody dwarf-shrub with 1-2mm long, 3 sided leaves. The characteristic pink-purple flowers are positioned on the leaf tips, typically 4mm long.

Heather is a common indicator of very poor quality sites likely to be deficient in nitrogen. Consequently, it is associated with pine woodland, in particular W18. It can also be found in W16-17, and in various heathland and bog communities.

### Soil regimes

<i>Soil reaction (R)</i>	2
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<i>Nitrogen availability (N)</i>	2
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*Acknowledgements:*  
Forestry Commission  
(L), Rob Coltman (R)

## Rosebay Willowherb - *Chamerion angustifolium*



### Description

Rosebay willowherb is a distinctively tall plant at its most obvious when the pink spikes of flowers are out through mid to late summer. The plant has spirally arranged, narrow, oval, pointed grey-green leaves and can stand up to 2m tall.

Rosebay willowherb is found in in dry to slightly moist and basic, moderately nutrient rich soils. The species frequently grows in patches on recently disturbed land along verges or in areas following tree felling.

### Soil regimes

<i>Soil pH range (R)</i>	6
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<i>Nutrient availability (N)</i>	5
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*Acknowledgements:*  
Forestry Commission (L), Rob Coltman (R)



## Enchanters Nightshade - *Circaea luetiana*



### Description

Enchanters nightshade grows up to 60cm tall with an erect, square stem. The plant has oppositely arranged rounded triangular and slightly serrated leaves, and is topped by the flowering structure which holds a spike of small white flowers.

Enchanters nightshade grows in the moist, basic and nutrient rich soils of W8-9 and W12-13 communities, usually in ancient semi natural woodlands. The species is rarely seen outside of a woodland habitat.

### Soil regimes

*Soil reaction (R)*

7

*Nitrogen availability (N)*

6

### Acknowledgements:

Plantlife: Andrew Gagg (L), Rob Coltman (M), Forestry Comm. (R)



## Hazel - *Corylus avellana*



### Description

Hazel is a multi-stemmed woody shrub. The alternately arranged leaves, are round with serrated edges and a pointed tip. Leaves and leaf stems are hairy. The buds are round and green; catkins emerge Jan-Feb and hazel nuts develop throughout summer and ripening in to autumn - if the squirrels do not get them first.

Hazel grows in dry to slightly moist, neutral to slightly basic, nutrient rich soils - mainly in W8-11 communities. The species was historically coppiced and as such is often a found in ancient semi-natural woodlands.

### Soil regimes

<i>Soil reaction (R)</i>	6
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<i>Nitrogen availability (N)</i>	6
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*Acknowledgements:*

Forestry Commission

## Hawthorn - *Crataegus monogyna*



### Description

Hawthorn is a shrub or small tree that frequently forms a part of hedgerows. Leaves are triangular and deeply lobed, flowers are small and white and display in early summer, fruits (known as 'haws') ripen to red in late summer/early autumn. The twigs hold the characteristic 1-2cm long thorns.

Despite the high 'R' value, hawthorn is found on rich acid to basic soils, sometimes forming part of dense scrub spinneys in W21 communities. It can also be found within W8-10 woodlands.

### Soil regimes

<i>Soil reaction (R)</i>	7
<i>Nitrogen availability (N)</i>	6

### Acknowledgements:

Rob Coltman (L+MR), Forestry Commission (ML+R)



## Cocksfoot - *Dactylis glomerata*



### Description

Cocksfoot is a tufted grass with blue-green leaf blades up to 45cm long. The blades are rough in texture and are up to 14mm wide. The flowering stem is rigid and holds flowers in rounded clusters.

The plant grows in neutral to basic soils in unmanaged grassland and can be present in W10 woodlands if not heavily grazed.

As with many grasses, they can compete with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of cocksfoot.

### Soil regimes

*Soil reaction (R)*

7

*Nitrogen availability (N)*

6

### *Acknowledgements:*

Rob Coltman, Cumbria Wildlife Trust (L+ML), Plantlife: Andrew



## Tufted Hair-Grass - *Deschampsia cespitosa*



### Description

The species common name: 'Tufted hair-grass' describes the species accurately. The plant grows in dense tufts, with long, rough, dark green leaves. These have forward pointing hairs running the length of the blade along parallel grooves. This makes the leaf rough when felt from tip to base. The flower stalks can reach 1m and hold multiple 2-flowered spikelets.

Tufted hair-grass grows in damp, neutral soils and can be found in W7-9 woodland, on cliffs, and in the mildly acidic environments of some mountain grasslands.

The species can compete with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of tufted hair-grass.

### Soil regimes

<i>Soil reaction (R)</i>	5
<i>Nitrogen availability (N)</i>	4

### Acknowledgements:

Plantlife: Andrew Gagg (L), Rob Coltman, Cumbria Wildlife

## Wavy hair-grass - *Deschampsia flexulosa*



### Description

Wavy hair-grass grows in tufts of wiry green leaves, which emerge from slightly purple sheaths. The flower stalks are a distinctive wavy shape that gives the grass its name. The flower heads are small two shiny purple spikelets, set upon the branched stalks.

The plant is found in the dry to moist acid soils of W16 and 17 woodlands, and in various heaths and grasslands environments; is a frequent coloniser following felling of conifer plantations.

The species can compete strongly with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of wavy hair-grass.

### Soil regimes

<i>Soil reaction (R)</i>	2
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<i>Nitrogen availability (N)</i>	3
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### Acknowledgements:

Rob Coltman, Cumbria Wildlife Trust



Foxglove - *Digitalis purpurea*



Description

The conspicuous size and distinctive flower of Foxglove make it an iconic plant. The plant grows up to 1.5m tall, with 20-30cm oval, serrated leaves at the base, which have soft, hairy undersides. The pink flowers form in vertical clusters at the top of the plant and exhibit a dappled pattern inside.

The species prefers moderately moist, slightly acidic, rich soils. Foxgloves are frequently found in open woodland (the plant cannot tolerate heavy shade), in particular in NVC communities W10-11. Commonly seen in disturbed ground, in particular following clearing of conifer plantations.

Soil regimes

<i>Soil reaction (R)</i>	4
<i>Nitrogen availability (N)</i>	5
<i>Acknowledgements:</i> FC (L), Rob Coltman (M), FC (R)	



## Scaly Male-fern - *Dryopteris affinis*



### Description

Scaly male-fern grows in tufts of slightly stiff fronds 60-120cm in length. The species is distinguished from other ferns by the blunt edged pinnules upon the frond. In addition to this there is a dense covering of scales on the stem that are golden to rusty brown in colour.

The fern grows in moist, rich, neutral to slightly acidic soils in woodland communities W9-11 and 16-17, though can also be found on open hillsides.

### Soil regimes

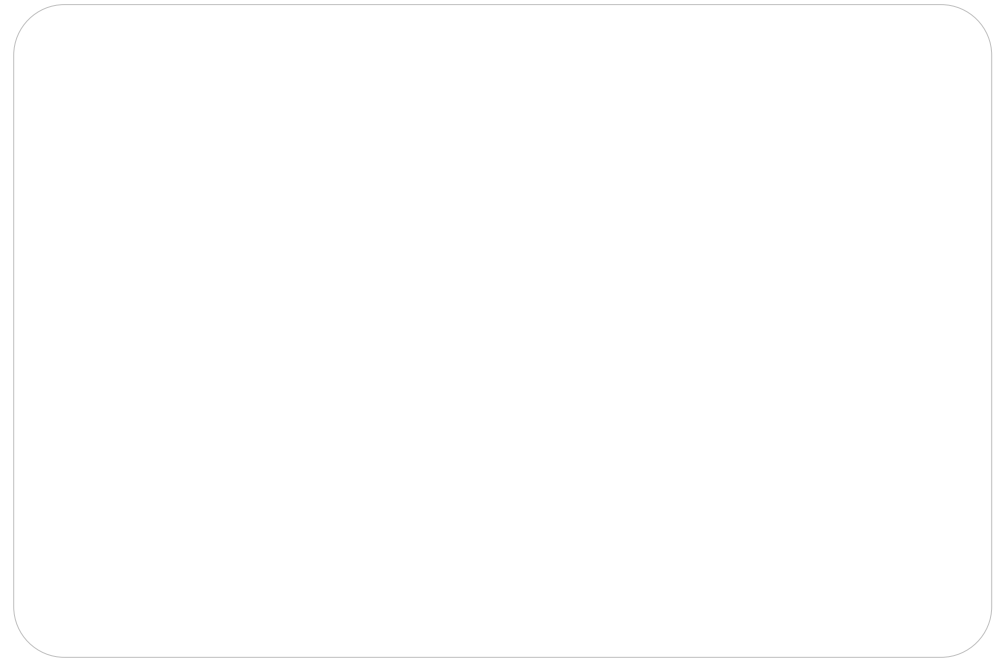
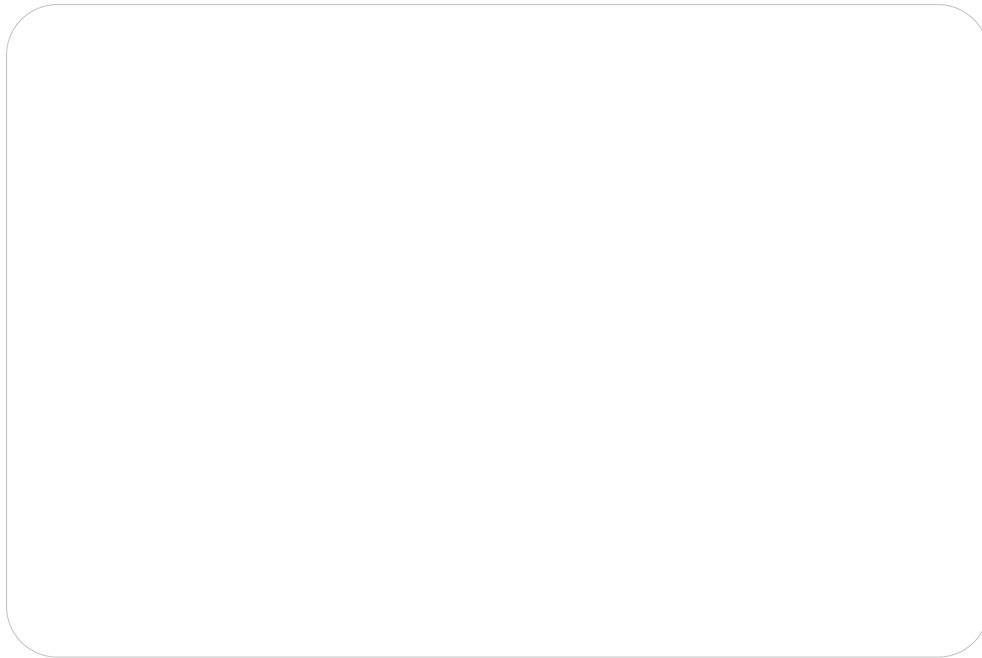
<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	5
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### Acknowledgements:

Plantlife: Andrew Gagg

## Broad Buckler-fern - *Dryopteris dilatata*



### Description

Broad buckler-fern grows in tufts of broad, triangular fronds up to 120cm long in good conditions. The species can be difficult to distinguish from other buckler-ferns. The key identifying features are the longest pinnule is at the base of the frond (forming the triangular shape), and there is a dark stripe in the centre of the scales that hang from the stem.

The fern is common the acid soils of W9-11 and 16-17 woodland, also heaths, bogs and on cliffs.

### Soil regimes

*Soil reaction (R)*

4

*Nitrogen availability (N)*

5

*Acknowledgements:*



## Male Fern - *Dryopteris filix-mas*



### Description

Male fern is a tall tufted fern with fronds tending to grow in an upright form. The fronds grow can grow up to 140cm in length in good conditions, though are usually less. The species can be distinguished from other tufted ferns by edges of the fronds (the pinnule), which taper to a blunt, slightly toothed tip. Additionally, the scales of the stem are pale or grey-brown.

The fern is extremely common, especially in woodlands with slightly acidic soils, W9-11 and W16-17.

### Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	5
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### Acknowledgements:

Rob Coltman

## Bell heather - *Erica cinerea*



### Description

Bell heather is similar in appearance to common heather. The dwarf woody shrub has slightly longer whorled leaves 5-7mm long. The flowers are bell-shaped, vivid bright pink-purple and 5-6mm long.

Bell heather is a common indicator of very poor quality sites likely to be deficient in nitrogen. Consequently, it is associated with pine woodland, in particular W18. It can also be found in W16-17, in heathland and bogs in a range of NVC communities.

### Soil regimes

*Soil reaction (R)*

2

*Nitrogen availability (N)*

2

### *Acknowledgements:*

Forestry Commission (L), Plant-life: Deborah Long (M), Rob Coltman (R)



## Common Cotton-grass - *Eriophorum angustifolium*



### Description

Common cotton-grass is a has tough, rigid grass-like foliage (it is a sedge). The leaves are dark green 3-6mm wide and 5-10cm long, with a single edge running along the length of the blade, tapering to a 3-sided, pointed tip. The flower emerges in spring and when germinated takes on the recognisable white fluffy heads in groups of 3-7.

The plant is found in bog conditions, in soils that are waterlogged, acidic, and with very low nutrient availabilities.

### Soil regimes

<i>Soil reaction (R)</i>	4
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<i>Nitrogen availability (N)</i>	1
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*Acknowledgements:*  
Rob Coltman (L), Forestry Commission (R)

## Hare's Tail, Cotton-grass - *Eriophorum vaginatum*



### Description

Hare's tail has similar fruit heads to common cotton-grass, though looks more distinctively (as the name suggests) like a hare's tail. The leaves are quite different however, with tufts of wiry and thin blades, up to 50cm. Flowering stalks hold smaller leaves, and hold yellow-white oval flower spike that develop in spring.

The species is found in acid bog conditions in waterlogged soils with very low nutrient availability.

### Soil regimes

<i>Soil reaction (R)</i>	2
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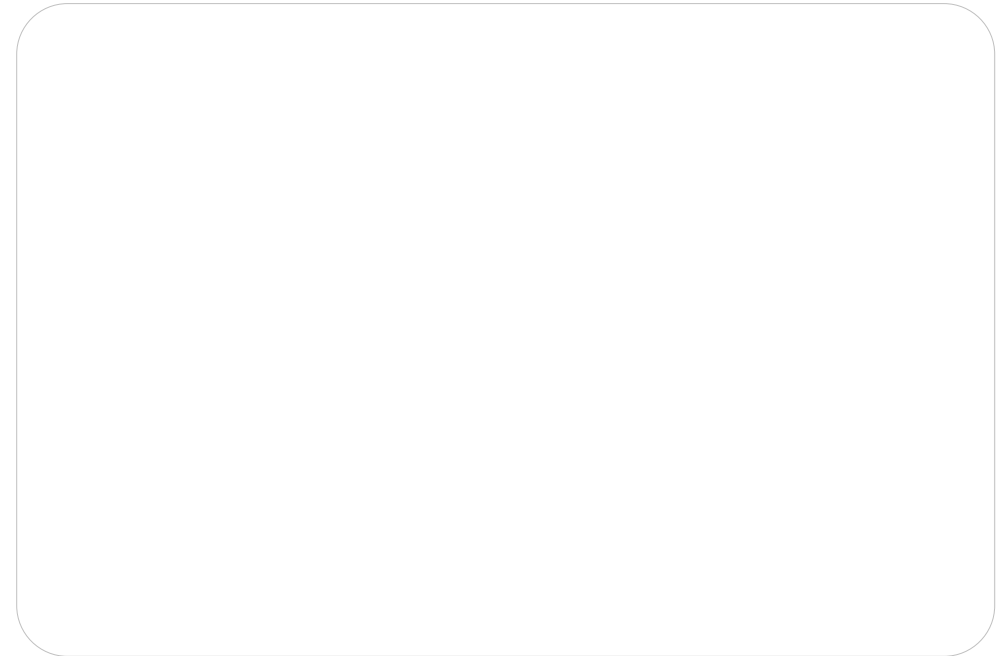
<i>Nitrogen availability (N)</i>	1
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### Acknowledgements:

Plantlife: Andrew Gagg  
(L+M), Forestry Comm. (R)



## Cleavers/Goosegrass - *Galium aparine*



### Description

The plant climbs over surfaces and other plants, growing up to 2m long. Leaves are in whorls (6-9 leaves) from the same point around the stem) and are covered in small hairs that make the plant sticky - and a favourite for children to play with!

Cleavers prefer nutrient rich, moist, neutral to basic soils, and are found in W6-9 woodlands, hedgerows and disturbed land. It's presence in some locations can indicate eutrophicated soils - places where nitrogen has been introduced by human intervention. In such sites, weed species that compete with newly planted trees can be an issue, as such effective weed control should be implemented.

### Soil regimes

<i>Soil reaction (R)</i>	7
<i>Nitrogen availability (N)</i>	8

*Acknowledgements:*

Plantlife: Luke Morton

Heath Bedstraw - *Galium saxatile*



Description

Heath bedstraw is a small plant, with the short stalks harbouring oval leaves 5-10mm with tiny hairs on the edges and a point at its tip. Small white flowers are present throughout summer.

The species prefers moist, acidic, poor quality soils, and is commonly found in heavily grazed grasslands, heaths and bogs. Heath bedstraw is found in W11 and 17-19 woodlands.

Soil regimes

<i>Soil reaction (R)</i>	3
<i>Nitrogen availability (N)</i>	3
<i>Acknowledgements:</i> Rob Coltman, Cumbria Wildlife Trust	



## Herb Robert - *Geranium robertianum*



### Description

Herb robert is a small green to red tinged plant. It has hairy, deeply incised triangular leaves, fragrant when bruised. Flowers, present spring to summer, are small and pink with 5 petals, set upon hairy stalks.

The plant prefers moist, rich and neutral to basic soils. Herb robert can be found in W8-9 and 12 communities, though can also be found in hedgerows and rocky areas.

### Soil regimes

<i>Soil reaction (R)</i>	6
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<i>Nitrogen availability (N)</i>	6
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*Acknowledgements:*

Forestry Commission

## Wood Avens - *Geum urbanum*



### Description

Wood avens are a hairy plant that can grow up to 50cm tall. The toothed leaves on the lower plant are split in to 3 leaflets, Higher up the plant the leaves are often smaller with one single leaflet. The flower is small and yellow with 5 petals, maturing to a spiky green fruit head.

The species prefers rich, moist, neutral to basic soils in W8-9 woodland communities. It is highly palatable to grazers, making its present indicative of low grazing levels.

### Soil regimes

<i>Soil reaction (R)</i>	7
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<i>Nitrogen availability (N)</i>	7
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### Acknowledgements:

Plantlife: Sue Harris (L),  
Rob Coltman (M+R)



## Ground Ivy - *Glechoma hederacea*



### Description

Ground ivy is a short plant that, as the name suggests, grows close to the ground. A member of the mint family, the plant is fragrant when crushed. Stems are square shaped and hairy, with heart shaped, round-toothed, green to purple tinged leaves. Purple flowers emerge next to leaves on the stem.

Ground ivy prefers moist, rich, basic soils in woods, in particular W8. The plant can also be found in hedgerows, and can cover areas to form carpets.

### Soil regimes

<i>Soil reaction (R)</i>	7
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<i>Nitrogen availability (N)</i>	7
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### Acknowledgements:

Plantlife: Andrew Gagg (L), Rob Coltman (R)



## Ivy – *Hedera helix*



### Description

A common plant throughout the UK, characterised by dark glossy leaves spreading up and across walls and trees. The leaves can be oval or have 3-5 lobes; all have pale veins. The flowers are small and white/yellow and dark fruits develop in the winter.

Ivy thrives in neutral to basic, moist to dry, nutrient rich soils in lowland woodland communities W8, 10 and 12. The plant is not parasitic and does not directly damage host trees. It can however indirectly affect a tree by leaving it open to damage in adverse weather conditions.

### Soil regimes

<i>Soil reaction (R)</i>	7
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<i>Nitrogen availability (N)</i>	6
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*Acknowledgements:*

Rob Coltman



## Yorkshire Fog - *Holcus lanatus*



### Description

Yorkshire fog is a grass that grows in tufts of softly hairy leaf blades up to 10mm wide, with a slightly grey-green colour. The flower head is grey-green to pink tinged, soft textured and opens to a spread form throughout spring and summer (L+M). Closed form (R).

The species is widespread, growing on neutral soils of varying moisture content in various grass communities and woodland, in particular W10. The species can be indicative of high levels of nitrogen caused by agricultural fertilisers. All grasses can compete with newly planted trees and effective weed control should be utilised.

### Soil regimes

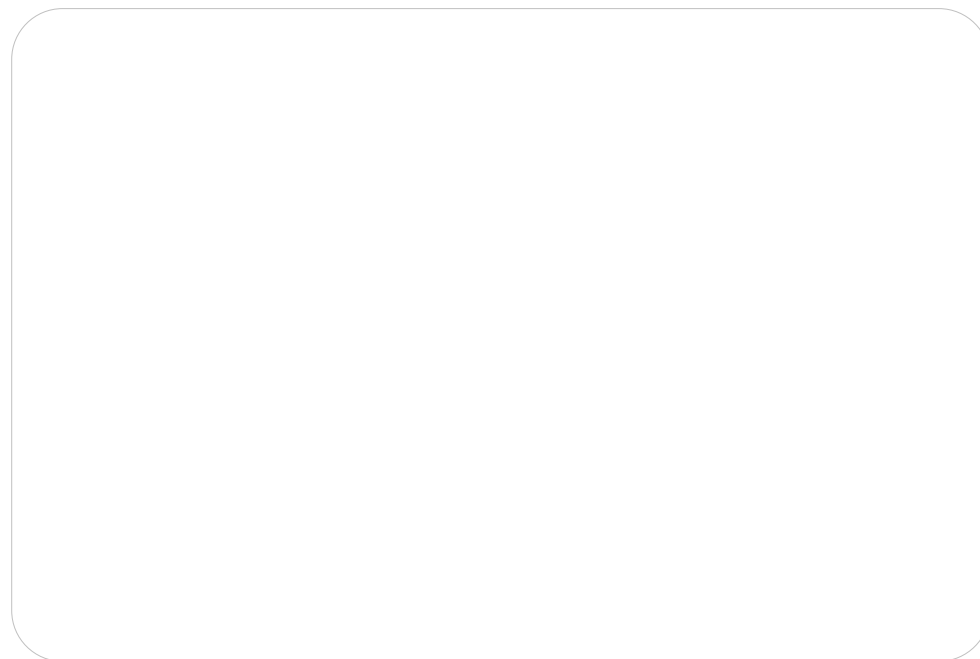
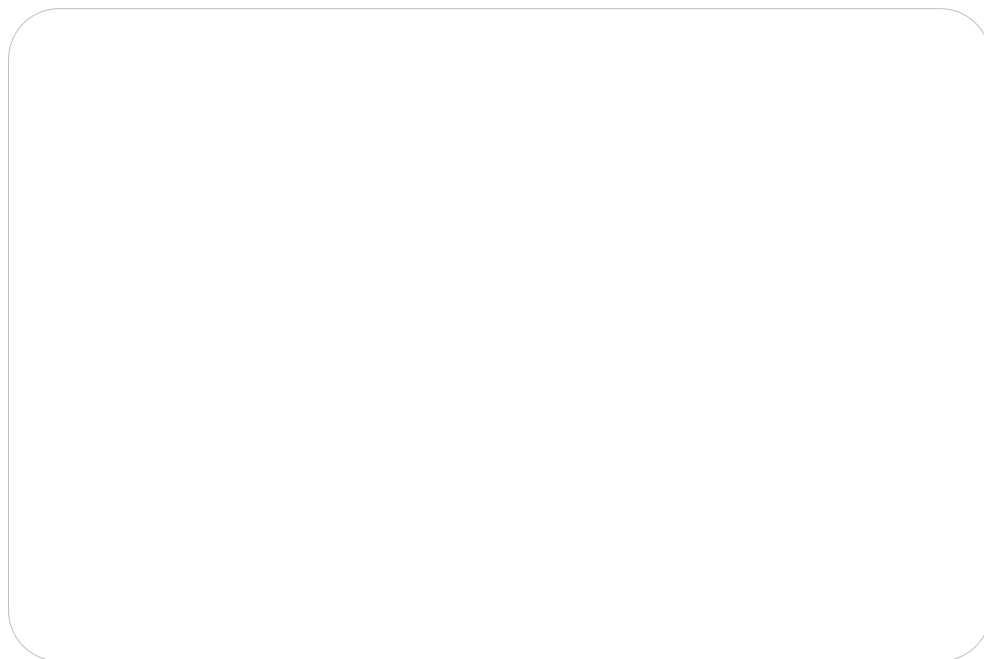
<i>Soil reaction (R)</i>	6
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<i>Nitrogen availability (N)</i>	5
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### *Acknowledgements:*

Plantlife: Andrew Gagg (L+M),  
Cumbria Wildlife Trust (R)

## Creeping Soft-grass - *Holcus mollis*



### Description

Creeping soft-grass has soft-textured leaf blades either hairless or very slightly hairy, up to 20cm long and 3-12mm wide. The key identifying feature is the white hair at the nodes of the plant. Spreads through rhizomes (horizontal growth via roots) and forms patches.

The grass prefers a neutral to acidic soils of varying moisture levels. It is seen in W10-11 woodland and can be widespread in various neutral grassland communities.

Many grasses can compete with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of creeping soft-grass.

### Soil regimes

<i>Soil reaction (R)</i>	3
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<i>Nitrogen availability (N)</i>	3
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*Acknowledgements:*



## Bluebell - *Hyacinthoides non-scripta*



### Description

Bluebells begin to emerge in early spring as tufts of narrow, blunt tipped, hairless leaves 20-40cm long. Blue-violet flowers with slightly curled, upturned tips, droop one-sided from the stalk.

The plant is found in dry to moist soils, mildly basic to mildly acidic. Bluebells are typically found in woodland (esp. ancient NVC W8-11) where it can cover large areas of the forest floor.

### Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	6
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*Acknowledgements:*

Adam Todd

## Holly - *Ilex aquifolium*



### Description

Immediately recognisable, holly is an evergreen shrub with glossy, spiky leaves, smooth grey bark, and red berry fruit in the winter. The species is 'dioecious' - individual trees have only male *or* female flowers. Both male and female flowers are small and white, though males have stamen. In some instances, the upper leaves do not exhibit the typical spiky form and are more oval.

Holly thrives in acid to neutral, dry to moist soils with moderate nutrient levels. The species usually is found in woodlands in W10-11 and 14 communities and is extremely shade tolerant.

### Soil regimes

<i>Soil reaction (R)</i>	5
<i>Nitrogen availability (N)</i>	5

### Acknowledgements:

Rob Coltman (L+R), Forestry Commission (M)



## Soft Rush - *Juncus effusus*



### Description

Soft rush has smooth, dark green pointed, photosynthetic stems. Fairly dense light brown flower heads emerge along these stems, below the tip.

The plant exists in damp to wet, neutral to mildly acid soils. Soft rush is found a range of grassland communities, and in wet woodlands W1, 4 and 7.

Small areas of wet woodland can be found within drier woodland communities. The presence of soft rush is indicative of seasonally damper areas, useful in the summer when a drought may have dried an area.

### Soil regimes

<i>Soil reaction (R)</i>	4
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<i>Nitrogen availability (N)</i>	4
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*Acknowledgements:*  
Rob Coltman, Cumbria Wildlife Trust

## Honeysuckle - *Lonicera periclymenum*



### Description

Honeysuckle is a climbing plant, with woody stems twisting up trees, shrubs, and anything else that could provide height. Leaves grow straight from the stem, unstalked in opposite pairs. The sweet scented flowers are a cream-yellow colour with long anthers and mature in to clusters of red berry-like fruit.

The species is found in neutral to slightly acidic soils of a moderate fertility and range of moisture content. Honeysuckle is mainly a woodland plant, especially in W10 and 11 communities.

The plant is highly palatable to herbivores. As such, if it is common on a site, it can be indicative of low levels of grazing.

### Soil regimes

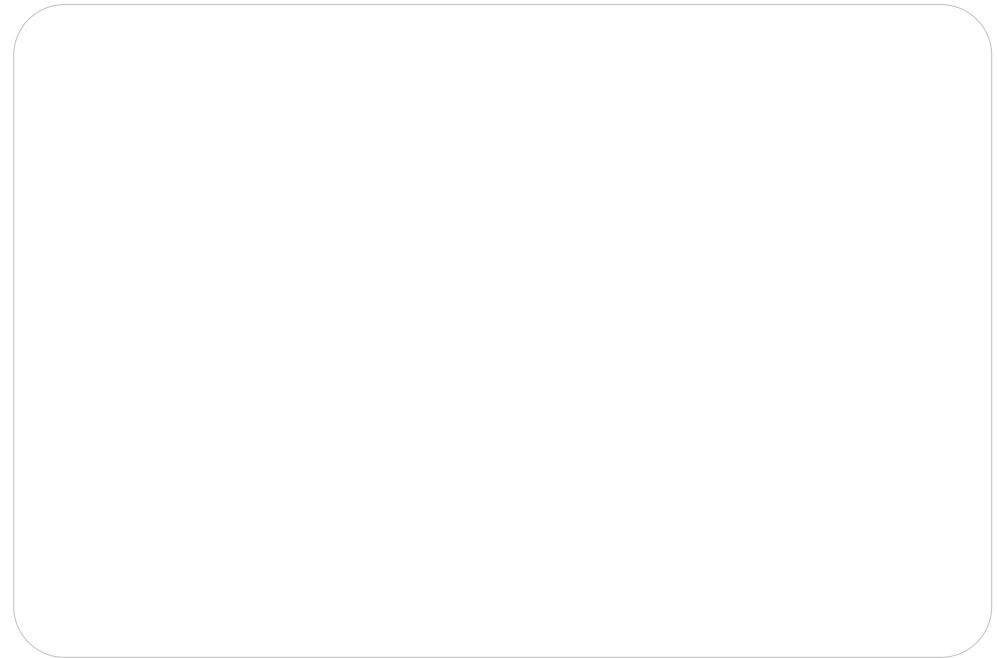
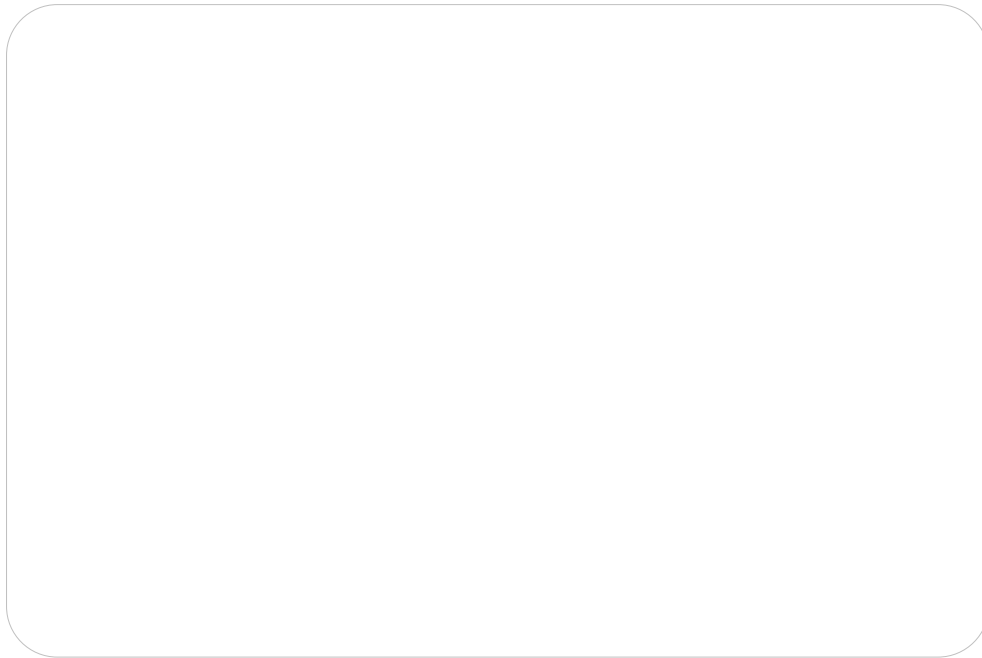
<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	5
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*Acknowledgements:*  
Rob Coltman (L+R),  
Forestry Comm. (M)



# Great woodrush - *Luzula sylvatica*



## Description

Great woodrush grows in clumps of bright green, flat, shiny, broad leaves up to 30cm long and 6-15mm wide. The leaves are tough, and have long white marginal hairs. Small, brown flowers are small and brown and set upon widely branched flower stalks up to 80cm tall.

The species is found in moist to slightly dry, acid to neutral, poor quality soils in various woodlands—in particular W10, 11, 15 and 17. Great woodrush can also be found in grassland, heath and bog NVC communities. The plant can carpet woodland floors.

## Soil regimes

<i>Soil reaction (R)</i>	4
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<i>Nitrogen availability (N)</i>	4
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*Acknowledgements:*

## Common Cow-wheat - *Melampyrum pratense*



### Description

Common cow-wheat is a small plant up to 30cm tall with a square stem and opposite narrow leaves that reach 10cm long. The white-yellow flowers grow in pairs and distinctively both face in the same direction.

Common cow-wheat can be seen from May to September in dry, very acidic soils in woodland communities W11 and 17. The plant also be seen in heathland.

### Soil regimes

<i>Soil reaction (R)</i>	2
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<i>Nitrogen availability (N)</i>	3
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### Acknowledgements:

Plantlife: Andrew Gagg



**Dog's Mercury** - *Mercurialis perennis*



Description

Dog's mercury is a hairy, low lying plant with oppositely arranged, serrated, oval shaped leaves, set upon a single upright stem. Small, inconspicuous flowers emerge in spring, with male and female flowers on separate plants (dioecious).

The plant prefers basic to neutral , dry to moist soils in the shaded conditions of woods, and forms a key part of (typically ancient) W8, 9 and 12 communities, often carpeting large areas.. The species has increased its spread in in modern times due to the decline in coppiced woodland. The plant is highly shade tolerant, and the darker conditions of less managed woodland in the UK has meant it has outcompeted other species.

Soil regimes

<i>Soil reaction (R)</i>	7
<i>Nitrogen availability (N)</i>	7
<i>Acknowledgements:</i> Rob Coltman (L), Forestry Commission (R)	

## Purple Moor-grass - *Molinia caerulea*



### Description

Purple moor-grass grows in tufts of leaf blades up to 45cm long and 3-10mm wide, gradually narrowing to a point at the tip. Leaves are shed in winter, turning light brown-gold and forming a layer of bundled leaf litter. Flowers are purplish spikelets that give the grass its name, set upon stalks up to 90cm long.

The plant grows in very poor, acidic and wet soils. It can be found in wet woodland W4 communities, wet heath, bog, and grassland, in particular in the west of the UK.

Grasses can compete with newly planted trees. As such, effective weed control is especially important for tree establishment in sites with a large population of purple moor grass.

### Soil regimes

<i>Soil reaction (R)</i>	3
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<i>Nitrogen availability (N)</i>	2
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### Acknowledgements:

Plantlife: Andrew Gagg (L+M),  
Rob Coltman, Cumbria Wildlife



## Wood Sorrel - *Oxalis acetosella*



### Description

Wood sorrel is a short plant up to 10cm tall, similar in appearance to clover. The leaf is divided in to three leaflets, though differently to clover they are heart shaped as opposed to oval. The 5-petaled white flowers are also small, reaching up to 5cm above the leaf, with a drooping head.

Wood sorrel is found in dry to moist, acid soils. The species cannot tolerate high levels of light and is therefore almost exclusively found in woodland, in particular W11 communities.

Leaves are edible, and with a flavour and texture akin to apple peel.

### Soil regimes

<i>Soil reaction (R)</i>	4
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<i>Nitrogen availability (N)</i>	4
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*Acknowledgements:*  
Forestry Commission

## Tormentil - *Potentilla erecta*



### Description

Tormentil is a small plant with leaves divided into 3 leaflets, but with two 'stipules' at the base, looking like two more leaflets—ultimately making the leaf appear 5-lobed. Both leaves and stipules can reach 2cm, and are loosely oval in shape with large teeth towards the tips. Flowers are yellow with four petals 3-6mm long.

The plant is found in poor quality, dry to damp acid soils in W4, 11, and 17-19 communities, as well as wet and dry heaths and some grasslands. Frequently seen alongside heath bedstraw.

### Soil regimes

<i>Soil reaction (R)</i>	3
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<i>Nitrogen availability (N)</i>	2
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*Acknowledgements:*  
Forestry Commission (L), Rob Coltman (R)



## Bracken - *Pteridium aquilinum*



### Description

Bracken is a fern that produces fronds from a single stem up to 2m tall. They die back to their roots in the winter and create a mat of brown leaf litter.

The plant can cover large areas in moist, acid to neutral soils in W10, 11, 14-17 woodlands, on heaths and grasslands. They form a key part of U20 NVC communities.

Despite the plant's association with poorer soils, generally the presence of bracken indicates sufficient soil fertility for a wide range of tree species.

Where bracken is vigorous, young trees may require weeding to aid their establishment.

### Soil regimes

<i>Soil reaction (R)</i>	3
<i>Nitrogen availability (N)</i>	3
<i>Acknowledgements:</i> Forestry Commission	

## Creeping Buttercup - *Ranunculus repens*



### Description

Creeping buttercup is similar in appearance to meadow buttercup with the characteristic 5-petal yellow flower. However, creeping buttercup has stalks that are more angled and grooved leaf than the other. Leaves with 5 toothed lobes are upon hairy stalks, and flowers are out from May to September, ripening to a spiky green fruit head.

The plant grows in rich, moist, neutral to slightly basic soils in woodlands, in particular W7 communities. It also hedgerows, grasslands, mires, fens and gardens.

### Soil regimes

<i>Soil reaction (R)</i>	6
<i>Nitrogen availability (N)</i>	7

### Acknowledgements:

Cumbria Wildlife Trust (L),  
Plantlife: Andrew Gagg (R)



## Bramble - *Rubus fruticosus*



### Description

Bramble is an iconic plant of the British landscape. The reddish stems hold thorns that help the plant to spread. The leaves are 5-7 leaflets, oval, serrated with pointed tips, and thorns running along the central vein on the underside of the leaf. The flowers are white with 5 petals, maturing in to the distinctive blackberries.

The plant grows in a range of soils - acid to basic and dry to moist - provided they are relatively fertile. Bramble is found growing in W8-14 woodlands, and can carpet a forest floor if kept unchecked. It also found in a range of other areas where conditions allow - hedgerows, field margins, scrub, and other waste ground.

### Soil regimes

<i>Soil reaction (R)</i>	6
<i>Nitrogen availability (N)</i>	6

*Acknowledgements:*  
Rob Coltman (L+M),  
Forestry Comm. (R)

## Raspberry - *Rubus ideaus*



### Description

Raspberry is similar in appearance to bramble, but has upright stems, smaller thorns (under 2mm and thinner) and has slightly greener flowers which mature to a red raspberry. The leaves are a bright green with a pale underside, oval, and serrated with a point at the tip.

The plant is not tolerant of alkaline conditions like bramble and is consequently found on acid to neutral, dry to moist soils. It is found in particular within W10-11 woodlands and amongst bramble and bracken W24-25 communities.

Raspberry is palatable to herbivores and condition or height of a plant can indicate levels of grazing in an area.

### Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	5
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### Acknowledgements:

Rob Coltman



## Elder - *Sambucus nigra*



### Description

Elder is a shrub that can grow up to 8m in height. The leaves are divided into 5 serrated oval leaflets, each terminating in a point. Buds are located in opposite pairs and flowers are flat whitish clusters with a distinctive aroma commonly used to flavour drinks; these ripen to red-black berries. The bark can be very corky, especially in older specimens.

The shrub is found in fertile, moist to dry, neutral to slightly basic soils. Elder is present in a range of woodland communities, W6-11, as well as scrub and hedgerows.

### Soil regimes

<i>Soil reaction (R)</i>	7
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<i>Nitrogen availability (N)</i>	7
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*Acknowledgements:*  
FC (L, MR, R), Rob  
Coltman (ML)

## Hedge Woundwort - *Stachys sylvatica*



### Description

Hedge woundwort can look a little like stinging nettles, with similar oppositely arranged serrated, oval leaves terminating in a point. The flowers emerge as a distinctive purple spike in the summer months. The stem is square in shape.

The plant prefers rich, neutral to basic, dry to moist soils in woodlands and hedgerows, mostly in ancient W8-9 communities.

### Soil regimes

<i>Soil reaction (R)</i>	7
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<i>Nitrogen availability (N)</i>	8
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*Acknowledgements:*  
Rob Coltman, (L, M),  
Forestry Comm. (R)



## Greater Stitchwort - *Stellaria holostea*



### Description

Greater stitchwort has 4 edged, long, stiff, narrow leaves, slightly grey-green with rough edges, that grow 4-8cm in length. The white flowers emerge in spring and have 5 deeply notched petals that can sometimes appear like 10 separate petals. These mature in to green fruits during summer.

The plant is found most commonly in W10-11 woodlands, in rich soils ranging from slightly acid to basic, and dry to slightly moist. Greater stitchwort is palatable to deer, consequently its presence can indicate low to moderate grazing levels in an area.

### Soil regimes

<i>Soil reaction (R)</i>	6
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<i>Nitrogen availability (N)</i>	6
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*Acknowledgements:*  
Forestry Commission

## Chickweed - *Stellaria media*



### Description

Chickweed is a low lying herb (<20cm) with small, bright green, oval leaves 5-25mm long. The leaves are not hairy, but the stem has a single line of hairs running down its length. The flowers are white with deeply split petals.

The plant prefers very rich, neutral to slightly basic soils in recently disturbed soils. As such, chickweed is frequently found on field margins, cliffs, gardens and roadsides.

### Soil regimes

<i>Soil reaction (R)</i>	6
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<i>Nitrogen availability (N)</i>	7
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### Acknowledgements:

Plantlife: Sue Harris



## White Clover - *Trifolium repens*



### Description

White clover exhibits the widely recognised three leaved form that gives the plant its scientific name (*tri* - three, *folium* - leaf). The supposedly lucky 4-leaved variety remains exceptionally rare. The leaves are oval in shape with blunt tips and many straight veins. The flowers are white, in clusters that rise 10cm from the ground from leafless stalks. The plant gets the name *repens* from its creeping habit and it can spread to cover large areas of ground.

White clover is found on dry to moist, neutral to slightly basic soils in various grassland communities.

### Soil regimes

<i>Soil reaction (R)</i>	6
<i>Nitrogen availability (N)</i>	6

### Acknowledgements:

Rob Coltman

## Wood Sage - *Teucrium scorodonia*



### Description

Wood sage has oval heart-shaped, slightly grey-green leaves with a wrinkled texture that when crushed smell slightly of sage. The plant grows 30-60cm, with the small yellow-green flowers appearing on one side of a spike, all pointing in the same direction.

The species prefers thin, acid to neutral, dry and nutrient poor soils. The plant is found in various habitats, though most regularly in W8-11 and 15-17 woodland.

### Soil regimes

*Soil reaction (R)*

4

*Nitrogen availability (N)*

3

*Acknowledgements:*

Plantlife: Sue Harris



## Stinging Nettle - *Urtica dioica*



### Description

Stinging nettle is a species almost all will be familiar with. The plant has deeply toothed oval or heart-shaped leaves, oppositely arranged along a straight hairy stem. The hairs contain formic acid and when touched, break off in the skin causing the stinging effect.

The plant prefers very rich, moist, neutral to basic soils. Stinging nettles are found in a range of habitats with W6-9 the most common amongst woodland communities. The species can be an indicator of a soil that has been historically fertilised—for example through eutrophication. In such sites, weed species that compete with newly planted trees can be an issue, as such effective weed control should be implemented.

### Soil regimes

<i>Soil reaction (R)</i>	7
<i>Nitrogen availability (N)</i>	8

### Acknowledgements:

Rob Coltman

## Blaeberry/Bilberry - *Vaccinium myrtillus*



### Description

Blaeberry (Scotland) or bilberry (England) is a small, woody dwarf-shrub species with small 1-3cm leaves on green, ridged stems. The plant rarely grows taller than 30cm. The small pale-pink flowers ripen to the berries when fertilised, and are very similar in appearance to blueberries.

The species is found in very poor, dry to moist, acid soils in a range of habitats. It can be seen growing under conifer plantations in some locations and is palatable to sheep and deer, making a useful indicator of grazing level in an area.

### Soil regimes

<i>Soil reaction (R)</i>	2
<i>Nitrogen availability (N)</i>	2

*Acknowledgements:*  
Forestry Commission



## Cowberry - *Vaccinium vitis-idaea*



### Description

Cowberry is a woody dwarf-shrub related to bilberry and blueberry. The plant has oval shaped tough, dark, evergreen leaves 1-3cm in length. The flowers are bell shaped and pale pink, with a very pink base. These emerge in spring and mature to the red 'cowberry's' in summer.

The species grows in poor quality, dry, acidic soils in heathland, and W17 and 18 woodlands - especially in the north of the UK, in exposed, colder locations.

### Soil regimes

<i>Soil reaction (R)</i>	2
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<i>Nitrogen availability (N)</i>	2
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*Acknowledgements:*

Forestry Commission

## Germander Speedwell - *Veronica chamaedrys*



### Description

Germander speedwell has hairy, toothed, oval or triangular, oppositely arranged leaves set on thin stems that rarely grow above 20cm. Hairs run down the stem in 2 lines on opposite sides, and small 8-11mm pale blue-violet flowers emerge spring-summer.

The plant grows in dry to moist, slightly basic to slightly acid and moderately fertile soils. Germander speedwell is found in W11 woods, grassland and hedgerows.

### Soil regimes

<i>Soil reaction (R)</i>	6
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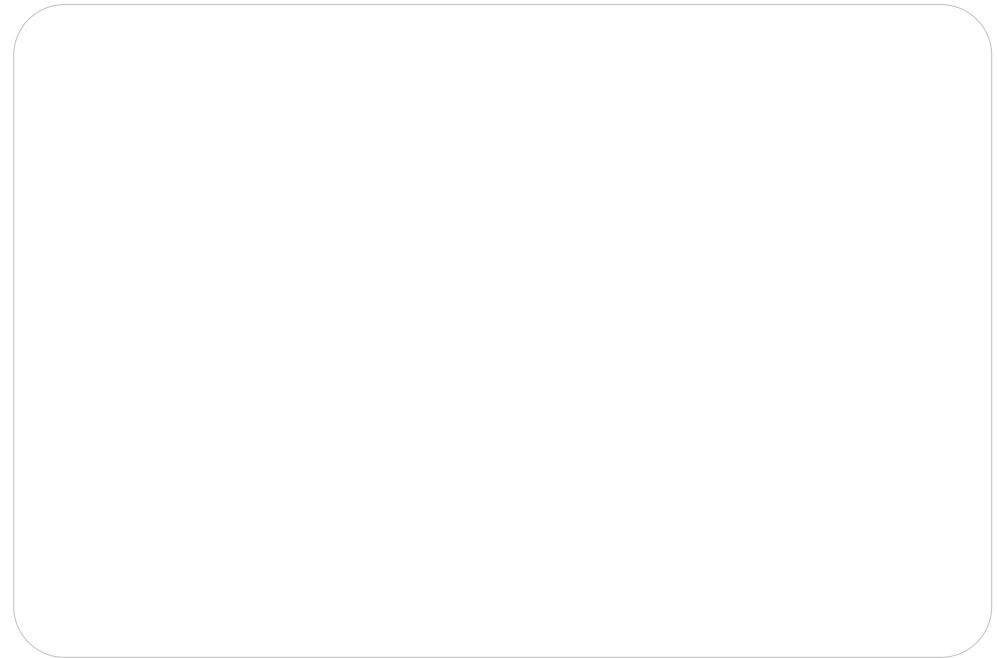
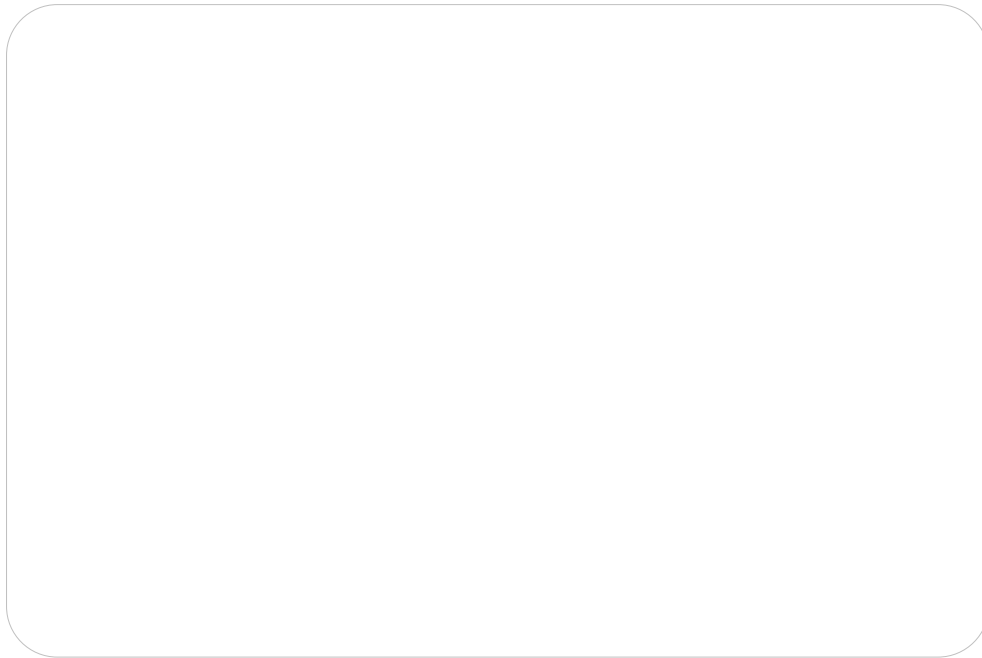
<i>Nitrogen availability (N)</i>	5
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### Acknowledgements:

Rob Coltman and Cumbria Wildlife Trust (L), Forestry Comm. (M+R)



## Wood Speedwell - *Veronica montana*



### Description

Wood speedwell is a small plant, similar in appearance to germander speedwell. The main differences are a stem that is hairy all over, opposed to hairs in two lines in germander, and leaves, brighter green in colour.

The species is found in neutral to slightly basic, rich and moist soils in W7-10 communities.

### Soil regimes

*Soil reaction (R)*

6

*Nitrogen availability (N)*

6

*Acknowledgements:*

## Common Valerian - *Valeriana officinalis*



### Description

Common valerian has oppositely arranged leaves which are divided into leaflets. The stem is green to reddish and culminates in fragrant heads of pink flower clusters. The plant can grow to over 1m in height.

The species prefers wet to moist, neutral soils in fens, mires and other damp conditions, including in W3-7 woodlands.

### Soil regimes

<i>Soil reaction (R)</i>	6
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<i>Nitrogen availability (N)</i>	5
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*Acknowledgements:*

Plantlife: Andrew Gagg



## Common Violet - *Viola riviniana*



### Description

Common violet is a small plant with characteristic long stalked heart shaped leaves, slightly longer than they are wide. The purple flowers emerge in spring and exhibit a cream coloured spur from the back of the flower.

The species prefers neutral to basic, dry to slightly moist soils in W8-12 woodlands, scrub, grassland, hedgerows, and some heaths.

### Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	4
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*Acknowledgements:*

Plantlife: Beth Halski

## Gorse - *Ulex europaeus*



### Description

Gorse is a sprawling woody, spiky shrub growing up to 3m in height. The foliage is sharp, deeply grooved, evergreen spines. Flowers are yellow and coconut scented, and can be present on the plant all year round - though are typically present spring-summer.

The species prefers dry, acid to neutral soils of poor nutrient availability, and is found in heathland, woodland edges and other scrub habitats.

### Soil regimes

<i>Soil reaction (R)</i>	5
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<i>Nitrogen availability (N)</i>	3
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*Acknowledgements:*

Forestry Commission