

BSBI Ireland Annex I Grassland Resources

Semi-natural dry grasslands on calcareous substrates (EU Habitats Directive Code 6210/*6210) [*important orchid sites]

[Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)]



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This is one of a series of reference documents that have been created as part of the Irish Grasslands Project that started in 2020. Their aim is to provide a better understanding of the four main grassland types found in Ireland that are listed on Annex I of the EU Habitats Directive. We list the main indicator species, and provide additional information on selected species, aiming to help with identification.



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage



National Parks & Wildlife Service





Semi-natural dry grasslands are species-diverse plant communities found on shallow, well-drained calcareous substrates, and are among the most species-rich plant communities in Europe. This habitat is considered a priority habitat at an EU level if it is an important orchid site. The most frequent species to be found in this habitat include *Carex flacca* (Glaucous Sedge), *Lotus corniculatus* (Common Bird's-foot-trefoil), *Succisa pratensis* (Devil's-bit Scabious) and *Plantago lanceolata* (Ribwort Plantain). Other characteristic species present which are good calcareous indicators include *Linum catharticum* (Fairy Flax), *Thymus polytrichus* (Wild Thyme), *Galium verum* (Lady's Bedstraw) and *Campanula rotundifolia* (Harebell). Also frequent are *Briza media* (Quaking-grass) *Carex caryophyllea* (Spring-sedge), *Poterium Sanguisorba* (Salad Burnet) *Anthyllis vulneraria* (Kidney Vetch), *Anthoxanthum odoratum* (Sweet Vernal-grass) and *Koeleria macrantha* (Crested Hair-grass).

This habitat is associated with low intensity agriculture and normally occurs on free-draining mineral soils of various depths. In Ireland, it usually occurs on obvious geological features such as esker ridges, outcropping limestone rock and in association with limestone pavement. The Burren and Aran Islands (Cos Clare/Galway) and Dartry Mountains (Cos Sligo/Leitrim) are particularly important areas for this Annex I habitat, though it can be found all across the central limestone plain in Ireland and at some other more isolated sites also. The main threats to this habitat are agricultural intensification, quarrying, under-grazing and abandonment.

Characteristic species of Semi-natural dry grasslands

The species listed below are characteristic of semi-natural dry grasslands in Ireland. They have been developed based on scientific analysis of hundreds of relevés (=vegetation surveys). If a semi-natural dry grassland is in good condition, it will typically have at least seven positive indicator species, with at least two of these being high-quality indicators. For further info: [Irish Semi-natural Grasslands Survey](#) (O'Neill *et al.* 2013)

High Quality Indicator Species		Positive Indicator Species	
<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>
<i>Antennaria dioica</i>	Mountain Everlasting	<i>Arabis hirsuta</i>	Hairy Rock-cress
<i>Anthyllis vulneraria</i>	Kidney Vetch	<i>Brachypodium pinnatum</i>	Tor-grass
<i>Asperula cyanchica</i>	Squinancywort	<i>Bromopsis erecta</i>	Upright Brome
<i>Blackstonia perfoliata</i>	Yellow-wort	<i>Carex flacca</i>	Glaucous Sedge
<i>Briza media</i>	Quaking-grass	<i>Ctenidium molluscum</i>	Comb-moss
<i>Campanula rotundifolia</i>	Harebell	<i>Daucus carota</i>	Wild Carrot
<i>Carex caryophyllea</i>	Spring-sedge	<i>Galium verum</i>	Lady's Bedstraw
<i>Carlina vulgaris</i>	Carline Thistle	<i>Helictotrichon pubescens</i>	Downy Oat-grass
<i>Centaurea scabiosa</i>	Greater Knapweed	<i>Homalothecium lutescens</i>	Yellow Feather-moss
<i>Filipendula vulgaris</i>	Dropwort	<i>Leontodon spp.</i>	Hawkbit spp.
<i>Gentiana verna</i>	Spring Gentian	<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil
<i>Gentianella amarella/campestris</i>	Autumn/Field Gentian	<i>Origanum vulgare</i>	Wild Marjoram
<i>Geranium sanguineum</i>	Bloody Crane's-bill	<i>Pilosella officinarum</i>	Mouse-ear Hawkweed
<i>Knautia arvensis</i>	Field Scabious	<i>Ranunculus bulbosus</i>	Bulbous Buttercup
<i>Koeleria macrantha</i>	Crested Hair-grass	<i>Sesleria caerulea</i>	Blue Moor-grass
<i>Linum catharticum</i>	Fairy Flax	<i>Thymus polytrichus</i>	Wild Thyme
<i>Poterium sanguisorba</i>	Salad Burnet	<i>Trisetum flavescens</i>	Yellow Oat-grass
<i>Primula veris</i>	Cowslip		
Orchid species			

Semi-natural dry grasslands: Selected Indicator Species



High Quality Indicator Species



Positive Indicator Species

Anthyllis vulneraria (Kidney Vetch)



Anthyllis vulneraria is an easily recognised member of the pea family with its distinctive flower heads that are composed of numerous pea flowers. Leaves are multi-pinnate. The species is an important plant for the Small Blue butterfly (*Cupido minimus*), whose caterpillars feed exclusively on this species. The most common colour form is yellow, however this species can occur in a variety of colour forms. *A. vulneraria* is commonly found around the coast, but can also be found inland growing in calcareous grassland.



Blackstonia perfoliata (Yellow-wort)



Blackstonia perfoliata is an unmistakeable, erect member of the gentian family whose flowers only open in the sunshine. It has oval-triangular leaves, which are a greyish green and are fused at their bases. *B. perfoliata* is a species of open calcareous grassland and gravelly places, and is predominantly found in the centre of Ireland or along the south and east coast. It is absent from large areas of the north and south-west of Ireland.



***Briza media* (Quaking-grass)**

HQ

Briza media is a delightful species to come across, being both delicate and graceful in appearance. Its inflorescence is a panicle that is made up of many green and purple spikelets that are multi-flowered, and held on thin 'wiry' stalks that shake/quiver in even the lightest of breezes. *B. media* is generally found on calcareous and unimproved soils, and is fairly common across Ireland, most frequent in the centre of the country, with a somewhat limited distribution in the south-west of the island.



***Carex caryophylla* (Spring-sedge)**

HQ

Carex caryophylla is a loosely tufted, creeping species - and as its name suggests, it is the earliest species of sedge to flower each year. Although a distinctive species, it could be confused with *C. pilulifera* (Pill Sedge), however the two species can be readily differentiated. In *C. caryophylla* the lowest bract has a sheath, whereas this is not present in *C. pilulifera*. Habitat wise, *C. caryophylla* shows a preference for calcareous conditions, whereas *C. pilulifera* tends to occur in more acidic situations.



***Carlina vulgaris* (Carline Thistle)**

HQ

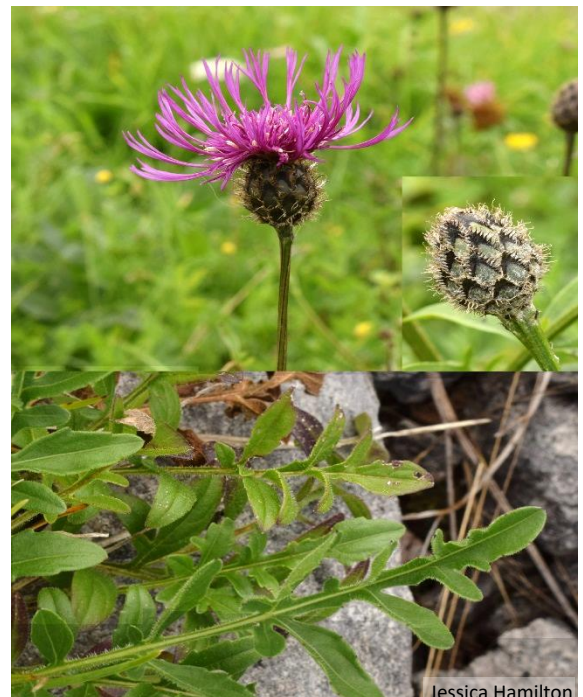
Carlina vulgaris is a striking biennial member of the daisy family that is unlikely to be confused with any other species. The flower heads are composed of golden-purple florets that are surrounded by prominent yellowish bracts. Its leaves are alternate with lobed, spiny margins and are cottony below. In its first year, it has a basal rosette that withers before its second year, when it comes into flower. *C. vulgaris* can be found growing in unimproved grasslands as well as dunes and cliff edges. It is most frequent in the centre of Ireland and is a strong indicator of calcareous geology.



***Centaurea scabiosa* (Greater Knapweed)**

HQ

A distinctive species with deep pink flower heads that are made up of many disc florets and a handful of enlarged outer florets. Its leaves are deeply pinnate and its stems are ridged. *C. scabiosa* is an uncommon species across Ireland and is classified as 'Near Threatened' on the Irish Red List of Vascular Plants. *C. scabiosa* could be confused with its similar cousin *C. nigra* (Common Knapweed), however the latter species lacks the enlarged outer florets and its leaves are not pinnate.



***Gentianella campestris/amarella* (Field/ Autumn Gentian)**

HQ

Gentianella campestris/amarella are both members of the gentian family that could easily be confused with one another. The primary difference between the two species is the calyx lobes – in *G. campestris* they are four in number and unequal in size, where as in *G. amarella* they tend to be five in number and equal in size. Furthermore, *G. amarella* is primarily a species of calcareous grassland, whereas *G. campestris* occurs in both neutral and acidic soils. Both species are classified as ‘Near Threatened’ on the Irish Red List of Vascular Plants.



***Koeleria macrantha* (Crested Hair-grass)**

HQ

Koeleria macrantha is a tufted, perennial species of grass that flowers in June and July and has a narrow, oblong inflorescence. The species overall is quite downy and its leaves are short and ridged. The ligule of *K. macrantha* is also very short and the glumes have conspicuous silvery margins. *K. macrantha* is a species of dry/calcareous grassland, particularly in coastal situations. It can be found around much of the coast of Ireland, but has a limited inland distribution.



***Linum catharticum* (Fairy Flax)**



Linum catharticum is a delicate member of the flax family that could be easily overlooked due to its sometimes diminutive size. The small flowers have five white, veined petals with a yellow centre. Leaves are oval, narrow and held oppositely on the stem. *L. catharticum* is common all over Ireland and found in a wide variety of habitats from grassland to dunes and heaths.



***Poterium sanguisorba* (Salad burnet)**



Poterium sanguisorba, (formerly *Sanguisorba minor*), is a rather unusual looking member of the rose family. Its flower heads are globular in shape and its leaves are basal and pinnately divided into as many as twelve pairs of leaflets. *P. sanguisorba* is not a very common species in Ireland and is primarily a species of unimproved calcareous grassland, predominately occurring in the Burren region, and in a relatively small number of areas across the centre and east of Ireland.



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In order of occurrence:

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