

BSBI Ireland Annex I Grassland Resources

Lowland Hay Meadows (EU Habitats Directive Code 6510)

*[Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)]*



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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



CEDaR
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Lowland hay meadows (6510 in the EU Habitats Directive Annex I) in Ireland are mesotrophic semi-natural grasslands that are generally managed as traditional hay meadows. This means they are cut only once a year in late summer or autumn and the hay crop is removed. These meadows occur on fertile river plains, such as the Shannon and Moy, as well as on flatter ground amongst low hills and drumlins, and a few sites on the coast. The Shannon Callows account for twenty-seven percent of lowland hay meadow area in the Republic of Ireland, and the River Moy near Foxford is another stronghold.

The distribution of this habitat has reduced drastically over the last fifty years due to a decline in the use of traditional hay meadows in farming systems. The main threats to this habitat are from agricultural intensification and fertilisation. Lowland hay meadows generally contain species characteristic of neutral or calcareous habitats and are moderately species rich. At the right time of year, they often display an impressive number of flowers with species such as *Leucanthemum vulgare* (Oxeye Daisy) creating a striking impression. Some other indicative species include *Alopecurus pratensis* (Meadow Foxtail), *Daucus carota* (Wild Carrot), *Knautia arvensis* (Field Scabious), *Lotus corniculatus* (Common Bird's-Foot-Trefoil), *Pimpinella major* (Greater Burnet-saxifrage), *Plantago lanceolata* (Ribwort Plantain) and *Rhinanthus minor* (Yellow Rattle). *Rhinanthus minor* is known as the 'meadow maker' because of its hemiparasitic nature of gaining some of its nutrients from the roots of neighbouring grasses. It plays a vital role in species diversity enhancement within the habitat, keeping vigorous grasses at bay.

Characteristic species of Lowland Hay Meadows

The species listed below are characteristic of Lowland Hay Meadows in Ireland. They have been developed based on scientific analysis of hundreds of relevés (=vegetation surveys). If a Lowland Hay Meadow is in good condition, it will typically have at least seven positive indicator species, with at least one of these being a high-quality indicator. 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>Bromus racemosus</i> | Smooth Brome | <i>Alopecurus pratensis</i> | Meadow Foxtail |
| <i>Hordeum secalinum</i> | Meadow Barley | <i>Centaurea nigra</i> | Common Knapweed |
| <i>Knautia arvensis</i> | Field Scabious | <i>Crepis capillaris</i> | Smooth Hawksbeard |
| <i>Leucanthemum vulgare</i> | Oxeye Daisy | <i>Daucus carota</i> | Wild Carrot |
| <i>Lotus corniculatus</i> | Common Bird's-foot-trefoil | <i>Filipendula ulmaria</i> | Meadowsweet |
| <i>Pimpinella major</i> | Greater Burnet-saxifrage | <i>Heracleum sphondylium</i> | Common Hogweed |
| <i>Rhinanthus minor</i> | Yellow Rattle | <i>Hypochaeris radicata</i> | Cat's-ear |
| <i>Sanguisorba officinalis</i> | Great Burnet | <i>Lathyrus pratensis</i> | Meadow Vetchling |
| <i>Tragopogon pratensis</i> | Goat's-beard | <i>Leontodon hispidus</i> | Rough Hawkbit |
| Orchid species | | <i>Plantago lanceolata</i> | Ribwort Plantain |
| | | <i>Prunella vulgaris</i> | Self-heal |
| | | <i>Ranunculus acris</i> | Meadow Buttercup |
| | | <i>Scorzoneroidea autumnalis</i> | Autumn Hawkbit |
| | | <i>Trifolium pratense</i> | Red Clover |
| | | <i>Trisetum flavescens</i> | Yellow Oat-grass |
| | | <i>Vicia cracca</i> | Tufted Vetch |

Lowland Hay Meadows: Selected Indicator Species

HQ

High Quality Indicator Species

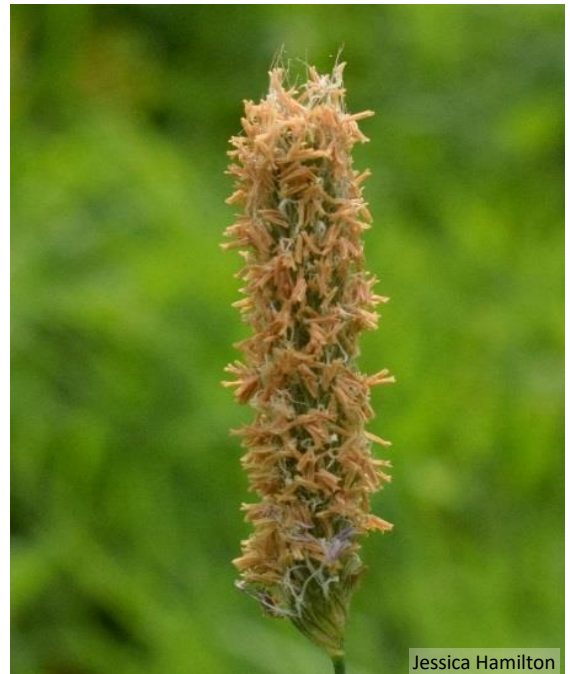
P

Positive Indicator Species

Alopecurus pratensis (Meadow Foxtail)

P

Alopecurus pratensis is an early flowering species with a distinctive flower head which looks like a fox's tail. It is a perennial species and can be found growing along roadsides or in grasslands and meadows, showing a preference for ground that is fertile and moist; but avoiding overly damp or dry terrain. Overall a fairly common species, slightly less frequently recorded in the west of Ireland, and becoming less common as a component of ever-decreasing semi-natural grasslands.



Jessica Hamilton

Bromus racemosus (Smooth Brome)

HQ

Bromus racemosus is an attractive grass species. It has an erect, open panicle that is made up of spikelets that are awned, ovoid, and can be green or purple in colour. *B. racemosus* can be an annual or biennial and ranges from 25-110cm in height. Overall *B. racemosus* is quite a rare species in Ireland with a very scattered distribution across the country, and is currently classified as 'Near Threatened' on the Irish Red List of Vascular Plants.



Hannah Northridge

***Hordeum secalinum* (Meadow Barley)**

HQ

Hordeum secalinum is a slender species of grass that possesses distinctive flower heads that are composed of awned spikelets which are clustered in groups of three. This species has a ligule that is short and membranous, with auricles that are short and spreading. *H. secalinum* is a species of brackish/marshy and meadow habitat and is overall a very rare species in Ireland, confined to a handful of sites across the country. It is currently classified as 'Vulnerable' on the Irish Red List of Vascular Plants and is a protected species.



***Knautia arvensis* (Field Scabious)**

HQ

Knautia arvensis is an attractive perennial that puts on a great display when the plant occurs in abundance. Flower heads are a distinctive blue/lilac colour and the leaves are pinnately lobed. *K. arvensis* is sometimes confused with *Succisa pratensis* (Devil's-bit-scabious), however the flower heads of *S. pratensis* are a deeper purple colour, the leaves are unlobed and oval shaped, as well as often being covered in blotches.



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



Leucanthemum vulgare is an easily recognised and common member of the daisy family with its familiar daisy-like appearance. This species flowers from May to September and can be seen in a variety of habitats including roadsides verges and meadows, where it puts on an impressive display when it occurs en masse. Its basal leaves form a rosette and are spoon-shaped, whereas the stem leaves are stalk-less and lanceolate.



***Lotus corniculatus* (Common Bird's-foot-trefoil)**



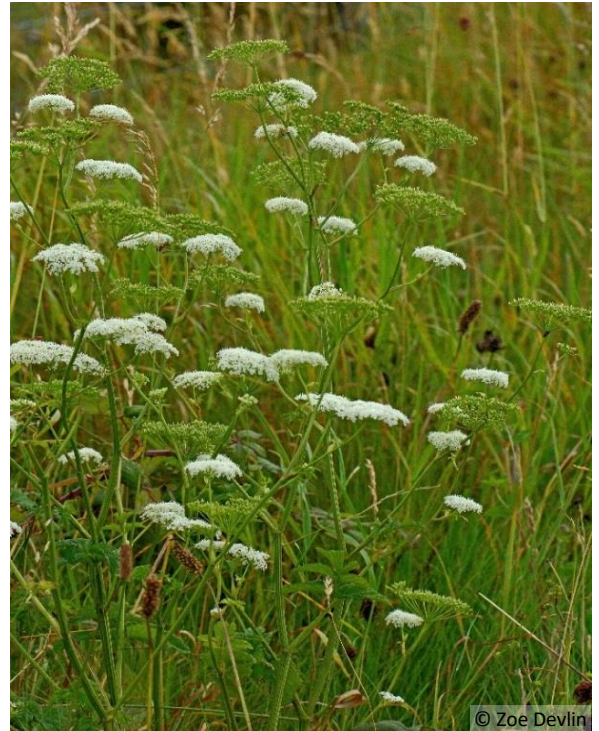
A very common member of the pea family, which grows on roadsides, sand dunes, grasslands and wall tops. Flowers are usually yellow, but are often tinged with red/orange, and are clustered in groups of between two and eight. Growth habit is low and creeping, and the plant is hairless with solid stems. It is the main larval food plant for the Common Blue butterfly (*Polyommatus icarus*). It could be confused with *L. pedunculatus*, (Greater Bird's-foot-trefoil), however that species is taller and more robust, has a hollow stem, and flowers are in clusters of up to twelve.



***Pimpinella major* (Greater Burnet-saxifrage)**

HQ

Pimpinella major is a very attractive member of the carrot family whose flowers are flat-topped and whose leaves are pinnate. The species is hairless and bract-less, with stems that are hollow and distinctively ridged. It can be found growing along grassy roadsides as well as woodland edges. *P. major* has a restricted distribution across the country, occurring predominantly in the south and west of the country.



***Rhinanthus minor* (Yellow Rattle)**

HQ

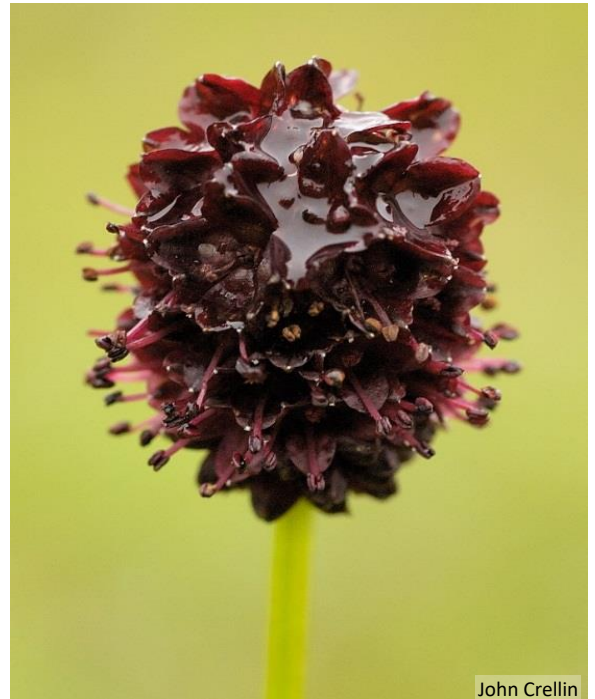
Rhinanthus minor is an attractive annual which can be found growing on heaths, dunes and in some semi-natural grasslands. It is a hemiparasitic species, obtaining some of its nutrition from nearby plants, particularly grasses. It has a bright yellow flower which is two-lipped and has bright mauve teeth. Leaves are narrow, opposite and toothed. When the seeds heads ripen, the seeds inside can be heard rattling in the wind - hence the plant's common name. *R. minor* flowers from May to September and is overall a very common species.



***Sanguisorba officinalis* (Great Burnet)**

HQ

Sanguisorba officinalis is an extremely rare species in Ireland, confined to only a handful of sites across the country. Visually it is a very distinctive species, with large flower heads, which are a deep crimson colour, the individual flowers of which are bisexual. The leaves are mostly basal and are pinnate with rounded, toothed leaflets. *S. officinalis* is found mainly in Mayo and in the north east of the country. It is a protected species in Ireland and is currently classified as 'Vulnerable' on the Irish Red List of Vascular Plants.



***Tragopogon pratensis* (Goat's-beard)**

HQ

Tragopogon pratensis is a beautiful member of the daisy family whose dandelion-like flowers only open in the morning sunshine, and are otherwise held within a distinctive, pointed bud. The flower head is surrounded by bracts, which are narrow, pointed and extend beyond the length of the florets. Leaves are grass-like and sheathing at the base - the stem leaves being shorter than the basal leaves. *T. pratensis* is somewhat of a scarce species in Ireland, predominantly confined to the centre and east of Ireland, and grows in tall grassland, verges and waste-ground.



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Thank you to everyone who allowed us to use their photographs in this booklet.

In order of occurrence:

6510 Habitat, Fionnuala O'Neill (©NPWS); 6510 Habitat, Fionnuala O'Neill (©NPWS); *Alopecurus pratensis*, Jessica Hamilton; *Bromus racemosus*, Hannah Northridge; *Hordeum secalinum*, Paul Green; *Knautia arvensis*, Jessica Hamilton; *Leucanthemum vulgare*, Jessica Hamilton; *Lotus corniculatus*, Jessica Hamilton; *Pimpinella major*, ©Zoe Devlin; *Rhinanthus minor*, Jessica Hamilton; *Sanguisorba officinalis*, John Crellin; *Tragopogon pratensis*, Jessica Hamilton.

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