

Booklet 2 Guide to Recording Grassland Habitats in Rhondda Cynon Taf



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Rhondda Cynon Taf habitats mapping project

In order to conserve and enhance our biodiversity we need up-to-date information about habitats and species. Understanding habitats is fundamental to understanding how to protect and manage biodiversity. Between the late 1980s and the mid 1990s, the Countryside Council for Wales (now part of Natural Resources Wales) undertook a Phase I Habitat Survey of the whole of Wales. An amazing undertaking, which has proved invaluable to Welsh nature conservation. However, that information is now aging. So perhaps it is time for all of us who have an interest in finding, identifying and recording species, to start thinking about and recording their habitats as well? If that sounds interesting, and perhaps a new way to interpret and understand the biodiversity of Rhondda Cynon Taf (RCT), then read on.

Use this booklet in conjunction with the Introduction to Recording Habitats in RCT and the other 5 habitat booklets in this series.

RCT grasslands

There are 8 types of grasslands in RCT:

- [Improved grasslands](#) (also known as grass leys)
- [Species-poor semi-improved grassland](#)
- [Semi-improved acid grassland](#)
- [Semi-improved neutral grassland](#)
- ['Sleeping' neutral grassland](#)
- [Calcareous grassland](#)
- [Marshy grassland](#)
- [Colliery spoil grassland](#)

For more information see rctlnp.wixsite.com/rct-actionfornature/grassland

Grassland Fungi

When recording grasslands, important information can be gained by making an autumn visit to look for grassland fungi. Good quality semi-improved grasslands can be discovered through high diversity of grassland fungi, even if the plants have been eaten to the ground by sheep.

These grassland fungi are also known as CHEGD fungi. They are named after the main taxonomic groups that they are part of as follows:

- C** Clavarioids. Spindles, club and coral fungi
- H** *Hygrocybe* genus and relatives. Waxcap fungi
- E** Entoloma. Pinkgills
- G** Geoglossum and relatives. Earthtongues
- D** Dermoloma and relatives. Crazy Caps

Use Plantlife's 'Waxcaps and grassland fungi leaflet to help identify the more distinctive species: plantlife.org.uk/wp-content/uploads/2023/03/Waxcaps_GrasslandFungiGuideManagement.pdf

You can join Plantlife's Waxcap Watch survey to help find ancient grasslands by recording Waxcaps by their colour: plantlife.org.uk/waxcapwatch



Pink or Ballerina Waxcap
(*Porpolomopsis calyptriformis*)
© Katherine Slade

Why are grassland habitats important in RCT?

Agriculture in the south Wales valleys is based on pasture and livestock rearing. Climate, soils and topography all favour the growing of grass for the rearing of grazing animals and sometimes the growing of hay as winter feed. Before the advent of artificial fertilisers and herbicides, and mechanised farming, the farmed grasslands of Britain were also a huge reservoir of wildflower rich habitats. However, in parts of Britain that is no longer the case and as a result, flower rich grasslands are now rarely seen. Luckily, in RCT, with our relatively low intensity agriculture, we still have a lot of important biodiversity grassland habitat.

For further information, visit RCT's action for nature site for grasslands:

rctlnp.wixsite.com/rct-actionfornature/grassland

Identifying and recording a grassland habitat

Grasslands are habitats comprised of low growing plants particularly grass species up to around 1.5 metres, especially grasses and non-woody plants, with none or few shrubs or trees. In species-rich grasslands they can support a wide variety of flowering plants, including sedges and rushes, and often host grassland fungi.

Similar Habitats

- If there is more than 25% dwarf shrubs such as Heather (*Calluna vulgaris*) or Heaths (*Erica* species) present, consult [Booklet 3: Heathlands](#).
- Ffridd and Colliery Spoil have grassland components. For habitats with small patches of grassland in a mosaic, please also consult [Booklet 6: Mosaic Habitats](#).
- Important grassland habitats can often be associated with scrub habitats. For further information about scrub habitats, please consult [Booklet 1: Woodland and Scrub](#).
- Some grass species often found in wetlands/swamps. If soil is very waterlogged may be indicator of swamp rather than marshy grassland, please consult [Booklet 4: Swamp](#)

To record the habitat, start with the [Introduction to Recording Habitats in RCT booklet](#) for step by step instructions.

Staying safe

Please take a common sense approach to recording. We do not advocate any form of trespassing, and please do not take any risks with regards to your own health and safety.

- Check the weather forecast, avoid recording in bad weather.
- Ideally avoid working alone. If not, always tell someone where you are going and when you will be back.
- Carry a mobile phone.
- Carry a basic first aid kit, and maybe a whistle for emergencies.
- Take appropriate equipment and clothing for the weather and site conditions. For example, walking boots or shoes, warm clothes, waterproofs, sunhat, suncream.
- Take an OS map and a compass if going to remote areas. Don't rely solely on your mobile to know where you are, especially in remote and upland areas with fewer landmarks or areas with limited phone or GPS signal. An OS map may also help you map habitats within an area. If you are not confident in reading maps, stick to established routes.
- Remember to always wash your hands before eating, particularly after touching plants, animals, fungi or water. Some plants and fungi are poisonous so don't be tempted to have a nibble!
- Ticks are small invertebrates that can bite humans and spread Lyme disease. High risk places include grassy and wooded areas. To reduce risk, cover your skin, tuck trousers into socks, and use insect repellent containing DEET. Check your body for any ticks on arriving home and safely remove any as soon as possible using a tick-removal tool. If you start to feel unwell or develop a rash in the following days, consult a GP. For more information see [nhs.uk/conditions/lyme-disease](https://www.nhs.uk/conditions/lyme-disease)
- Trust your own instincts. If you feel uneasy, leave and return home.

Habitat Descriptions

Habitat guide symbols

The following symbols are used in the habitat guides to denote indicator species to record.



A key symbol means that a plant is a key feature of the habitat.



A hand symbol means this species is associated with the habitat, but not always present.



A beetle symbol means these animals are supported in this habitat.



This icon denotes invasive non-native species (INNS) which may cause damage to the habitat.

'Improved' Grassland (also known as grass leys)

These are temporary grasslands planted for a single season or a number of years, to be grazed or cut for hay. They have been subject to intense agricultural 'improvement', by periodic reseeding and the addition of chemicals such as fertilisers, herbicides and pesticides. This decreases species diversity and habitat value and, promotes a few agriculturally productive species.



The two classic species of heavily improved grass leys, are:

Perennial Rye-grass (*Lolium perenne*). Flowering May to August

White Clover (*Trifolium repens*). Flowering June to September

Very obviously improved grasslands often appear shiny from the sheen of the rye grass. From a distance, fields can appear intensely and evenly bright green from the added nitrogen.

Species Poor Semi-Improved Grasslands

It is easy to mistake heavily grazed semi-improved grasslands for improved grassland because where flowering plants are cropped short it can be difficult to find the range of species. If you find herb or flower poor grasslands, which are mainly composed of species such as Common Bent and Red Fescue, then these may have a greater ecological potential than may be immediately obvious. In such cases, record these habitats as 'species poor' semi-improved grassland. Also look out for 'species rich' acid and neutral grasslands described on the next pages.



Common Bent (*Agrostis capillaris*) and Red Fescue (*Festuca rubra*)

Many short grazed, apparently flower poor grassland, can be shown to be semi-improved through their grassland fungi assemblages. Make an autumn visit to look for grassland fungi and read more on page 4 of this booklet.

Semi-improved Acid Grassland

Semi-improved acid grasslands are associated with the thin, acidic soils of the Valley sides and upland plateau of the central and northern parts of RCT. Lowland dry semi-improved acid grassland also occurs in the south, often associated with drier areas within a larger grassland mosaic and are an important component of colliery spoil sites.

Semi-improved acid grassland occurs on nutrient poor, free draining soils, with a pH lower than 6. They have a characteristic grassland flora, with some very distinctive indicator species. This habitat is perhaps most threatened by tree planting schemes, the scrubbing over of sites through the abandonment of grazing, and agricultural improvement and reseeded.

Also see [marshy grassland](#) on page 14, which is also acidic, but found on wetter ground.

Semi-improved Acid Grassland: What to look for

In RCT, semi-improved acid grasslands are found on valley sides, small upland edge pasture fields, on the upland plateaus, parks and cemeteries, and quarries, and often associated with drier areas on complex mosaic lowland rhôs pasture sites. It is also very common on colliery spoil. For [colliery spoil grassland](#) see page 17. Acid grasslands can sometimes be very mossy and are excellent grassland fungi habitat.



Common grasses include: Sheep's Fescue (*Festuca ovina*), Common Bent (*Agrostis capillaris*), Heath-grass (*Danthonia decumbens*) and Wavy Hair-grass (*Avenella flexuosa*). Also look out for the rare Bristle Bent (*Agrostis curtisii*) which occurs in the south-western corner of RCT.

Classic acid grassland flowers include: Tormentil (*Potentilla erecta*), Sheep's Sorrel (*Rumex acetosella*), Betony (*Betonica officinalis*) and Heath Bedstraw (*Galium saxatile*). Heath Bedstraw is also a secondary species in marshy grassland and rhôs pasture.



Tormentil Mining Bee (*Andrena tarsata*), Small Heath butterfly (*Coenonympha pamphilus*) and Common Lizard (*Zootoca vivipara*)

Semi-improved Neutral Grassland

Semi-improved neutral grasslands are found on low nutrient neutral soil with a pH around 6-7. They have experienced limited agricultural improvement and have not been re-seeded. In RCT they are mainly livestock grazed, but some are hay meadows. Many road verges, school grounds, parks and cemeteries support flower rich neutral grasslands.

Within a wider Welsh and UK context semi-improved neutral grassland is a much declined and threatened habitat. For a variety of fortunate reasons, in RCT semi-improved neutral grassland is still widespread and can often be found. Species-rich neutral grasslands support a wide diversity of grasses, sedges, flowering plants, mosses and liverworts. Short grazed neutral grasslands are particularly important for their grassland fungi (see also page 4 of this booklet).

In RCT this habitat is perhaps most threatened by tree planting schemes, the 'natural' scrubbing over of sites through the abandonment of grazing, as well as agricultural improvement and reseeded.

Semi-improved Neutral Grassland: What to look for

Look for species-rich semi-improved neutral grasslands in the south of RCT, and in the north on valley bottoms and lower valley sides in the Cynon and Taff valleys. Using the National Vegetation Classification, the classic species-rich semi-improved neutral grassland of RCT is MG5. The two most important indicators of MG5 grassland is the frequent to abundant occurrence of:



Common Knapweed (*Centaurea nigra*). Flowering July to September

Bird's-foot Trefoil (*Lotus corniculatus*). Flowering June to September



There is often a greater diversity of grass species in neutral grasslands than in acid grasslands, and while Perennial Rye-grass may be present, it is at low frequency. There is also great diversity of other characteristic species which include;

Red Clover (*Trifolium pratense*), Rough Hawkbit (*Leontodon hispidus*) - hairy stem, forked hairs on leaves, Devil's-bit Scabious (*Succisa pratensis*), Ox-eye Daisy (*Leucanthemum vulgare*), Common Spotted-orchid (*Dactylorhiza fuchsia*), Field Scabious (*Knautia arvensis*), Selfheal (*Prunella vulgaris*), Yellow-rattle (*Rhinanthus minor*) and Bulbous Buttercup (*Ranunculus bulbosus*).

In the far south of RCT, Cowslip (*Primula veris*) may naturally occur, while in the Cynon Valley the spectacular Great Burnet (*Sanguisorba officinalis*) is feature of damper neutral grassland, including rare floodplain grassland MG4 in the National Vegetation Classification.

Grassland fungi, including Pink or Ballerina Waxcap (*Porpolomopsis calyptriformis*).



Brown Banded Carder Bee, Long-horn Bee, Burnet Companion moth, Common Blue Butterfly

'Sleeping' Neutral Grassland

Conservation of soils, and soil ecology is the key to so much of our biodiversity. Old permanent pasture grasslands can often support complex undisturbed soils, with mycorrhizal fungi communities and stored seedbanks that, for some species, can persist for decades. When either heavily grazed, regularly mown or subject to low level but periodic agricultural improvement such 'Sleeping' grasslands can appear to be species poor. However, when management conditions are right a surprisingly rapid floristic and fungi renaissance can occur. This resource of sleeping neutral and acid grassland urgently requires nature conservation recognition, because it offers a huge future potential to massively improve wildflower and grassland fungi habitat extent and connectivity. This resource may be a particularly south Wales Valleys asset, a product of the historic low intensity agriculture practice of the area. However, because its value has gone unrecognised it is also extremely vulnerable to other land use pressures, particularly well-intentioned but damaging tree planting schemes.

Read more about species-rich neutral grasslands and their 'sleeping' version here: <https://rctlnp.wixsite.com/rct-actionfornature/neutral-grasslands>

'Sleeping' Neutral Grassland: What to look for

Look for sites which are not Perennial Rye-grass (*Lolium perenne*) dominated, but support sheep cropped or regularly mown swards of fescue (*Festuca*) and bent (*Agrostis*) grasses, with perhaps Field Wood-rush (*Luzula campestris*), Cat's-ear (*Hypochaeris radicata*), or Ribwort Plantain (*Plantago lanceolata*).

On steeper slopes or banks, where grazing is less intense, species such as Common Knapweed (*Centaurea nigra*) and Common Bird's-foot Trefoil (*Lotus corniculatus*) may be able to flower. Finding those places is often a hint of a field's greater floristic potential.

Grassland fungi (see page 4) are often the best indicators of sleeping grasslands. Repeat visits over the autumn can be very rewarding and can detect old grasslands sites which might otherwise go undetected. Managing sites for their grassland fungi value is just as important as managing them as wildflower or invertebrate habitat.

Calcareous Grassland

Carboniferous limestone outcrops occur along the southern edge of the south Wales coalfield around Pontyclun and Llanharry and in the extreme north. The calcareous soils, have pH higher than neutral soils, and specialist lime-loving plants are able to grow within calcareous grassland swards.

In RCT such habitat is localised, and mainly associated with quarries and road cuttings. It is therefore secondary in nature. Elsewhere, calcareous grassland species can also take advantage of limestone railway ballast or concrete hardstanding. Where waste concrete or limestone has been left in post-industrial areas such as coal spoil, an interesting mosaic of acidic and calcareous habitats can form. The white tip in Treforest, Pontypridd is a superb example of a post-industrial limestone grassland, formed on the limestone slag of former blast furnace.



RCT limestone areas (in bright green)

Calcareous Grassland: What to look for

Look for this habitat on old quarries, rail or road cuttings, in the extreme north or south of RCT. Also on railway ballast, coal spoil or old concrete hardstanding.

Site's support an often eclectic mix of species, which can include Bee Orchid, Red Fescue, Yellow Oat-grass, Quaking-grass, Sheep's Fescue, Glaucous Sedge, Bird's-foot Trefoil, Common Knapweed, Greater Knapweed, Agrimony, Lady's Bedstraw, Fairy Flax, Carlina Thistle, Pyramidal Orchid, Salad Burnet, Kidney Vetch and Twayblade.



Small Blue Butterfly, Dingy Skipper, Glow-worm, Slow worms

Marshy Grassland

One of the most characteristic and important habitats in RCT, marshy grassland, is a priority habitat for Wales, the UK and Europe. Marshy grassland is the predominant vegetation within rhôs pasture sites. Rhôs pastures are a complex mosaic of marshy, acid and neutral grassland, heath and peat features. For a description of rhôs pasture habitat, see booklet 6.



Rhôs pasture at Llantrisant Common, a SSSI protected area, with characteristic tussocks of dark green and white of Purple Moor-grass and rushes.

Marshy grassland supports a superb flora and is an excellent habitat for invertebrates such as the rare Marsh Fritillary Butterfly (*Euphydryas aurinia*). Large areas have been lost since the 1960s to farming, industry and urban development. The parts that remain, although still significant, are more fragmented than they were. Therefore finding pockets of this habitat to 'join up' the landscape is important for this internationally important habitat, and the species that rely on it.

Marshy Grassland: What to look for

Marshy grassland occurs in damp, low lying areas that are poorly drained, or on flushed hillsides. Soil will be shallow, nutrient poor and often acidic. More rarely, soils can be neutral or alkali which provide for special variations in the rhôs pasture of RCT.

Secondary, or brownfield marshy grassland habitat can also occur on brownfield land which was previously developed, particularly colliery spoil in RCT. Such sites often support a significant component of natural marshy grassland habitat, and provide some very important habitat connectivity for marshy grassland biodiversity.

There is also a great opportunity to go a little further in your investigation of marshy grassland habitats and look out for the following:

M25 mire: If you find areas of marshy grassland dominated by Purple Moor-grass (*Molinia caerulea*), then you might be in what is called National Vegetation Classification M25 mire. That assessment will be backed up if you can find some Tormentil (*Potentilla erecta*), Devil's-bit Scabious (*Succisa pratensis*), or Lousewort (*Pedicularis sylvatica*).

M24 mire: If you are in Purple Moor-grass dominated vegetation and you find the beautiful Meadow Thistle (*Cirsium dissectum*), then you can be sure you have found some of the much rarer M24 mire. This is a marshy grassland type which is flushed by alkaline rich groundwater and in RCT, often occurs as small areas within larger stands of M25 mire.

M23 marshy grassland: If the vegetation is rush-dominated then you are probably standing in M23 marshy grassland, where amongst the Soft and Sharp-flowered Rushes (*Juncus effusus* and *J. acutiflorus*) you may find Greater Bird's-foot-trefoil (*Lotus pedunculatus*), Marsh Bedstraw (*Galium palustre*) and Ragged Robin (*Silene flos-cuculi*). On brownfield marshy grassland look out for Hard Rush (*Juncus inflexus*), which is much more common in such situations.

Purple Moor-grass (*Molinia caerulea*)

Flowering June to August on tall flower heads. The leaves change colour through the year, from the white of winter, through the green of summer, to a very characteristic orange in the autumn. A great way to find Purple Moor-grass dominated rhôs pasture, is to look in the autumn and winter, when sites can be much easier to find than in the summer. The 'winter white' can also stand out on aerial photos taken in the winter.

Another characteristic feature is that Rhôs pasture can be awkward to walk across where grazing is low, due to the large hummocks of Purple Moor-grass.



 Rushes (*Juncus* species). A range of rushes occur, the most important from an RCT habitat perspective are Sharp-flowered Rush (*Juncus acutiflorus*) and Soft Rush (*Juncus effusus*).

 There are a large number of flowering plants including sedges. For example Marsh-bedstraw (*Galium palustre*), Meadow Thistle (*Cirsium dissectum*), Tormentil (*Potentilla erecta*), Devil's-bit Scabious, Lousewort (*Pedicularis sylvatica*), Saw-wort (*Serratula tinctoria*), Greater Bird's-foot Trefoil (*Lotus paniculatus*), Heath Spotted-orchid (*Dactylorhiza maculata*), Southern Marsh Orchid (*Dactylorhiza praetermissa*), Marsh Valerian (*Valeriana dioica*), Marsh Violet (*Viola palustris*), Meadowsweet (*Filipendula ulmaria*), Wild Angelica (*Angelica sylvestris*) and Carnation Sedge (*Carex panicea*).

 Marsh Fritillary butterfly (*Euphydryas aurinia*), Narrow-bordered Bee Hawk-moth, Small Scabious Mining Bee, Small Pearl-bordered Fritillary, and in upland marshy grassland, Water Vole and Harvest Mouse.

Colliery Spoil Grassland

An extremely important grassland habitat type in RCT is colliery spoil grassland. These often occur as complex mosaics, usually acidic in character, but also with frequent neutral and calcareous grassland elements. They can therefore be difficult to clearly assign to a single grassland type. See *Booklet 6: Recording Mosaic Habitats* for a full description of colliery spoil mosaic habitats which will have elements of heath, scrub and woodland.

Colliery spoil grasslands have developed via the local seedbank and through natural colonisation, and are a hugely valuable grassland habitat resource. They are always exciting sites to survey, you are never sure what you may find, so look out for grasslands on colliery soils. The colliery spoil itself is usually easy to find. You can also use this interactive map maintained by Welsh Government to find disused coal tips in Wales: gov.wales/find-disused-coal-tips#133910. Coal spoil is made up of the discarded rocks from coal mining including rubble, slate, soil, coal fragments and often bits of old equipment. It can be piled high into hills, sometimes with flat tops where they have been landscaped. Runoff from rain often produces runnels and streams throughout.

There will be acid, neutral and calcareous grassland often growing in close association, and where ponding occurs marshy grassland, and pseudo-dune slack vegetation. **When surveying with Phase I, map to the closest Phase I category but it may be helpful with a target note to record that you are on coal spoil.** Visit Bug Life's Coal Spoil Connections website for further information: buglife.org.uk/projects/coal-spoil-connections

Certain species only occur on colliery spoil in RCT, these include Carline Thistle (*Carlina vulgaris*), Round-leaved Wintergreen (*Pyrola rotundifolia*), Marsh Helleborine (*Epipactis palustris*), Wild Thyme (*Thymus drucei*), and Pearly Everlasting (*Anaphalis margaritacea*). These grassland sites support extremely important bee habitat, and are strong holds for Grayling butterfly (*Hipparchia semele*), Dingy Skipper (*Erynnis tages*) and Small Blue butterfly (*Cupido minimus*).

Due to the nature of colliery spoil, free draining grassland can occur in close proximity to wet ground with plant communities reminiscent of Glamorgan's coastal dune slacks containing hundreds of Southern Marsh-orchids (*Dactylorhiza praetermissa*) and Round-leaved Wintergreens (*Pyrola rotundifolia*). Heathland

areas often support encrusted surfaces of reindeer lichens (*Cladonia* species), communities that are usually found on mountain tops or the northern tundra. Scrub is often a strong component of sites with Gorse (*Ulex europaeus*) and low growing, lichen-covered Hawthorns (*Crataegus monogyna*), and colonising oak trees. On longer established sites, woodland naturally colonises but only when soils have had time to develop. Locally distinctive alien plant species are also a feature with for instance yellow-flowered Small Cudweed (*Logfia minima*) and Pearly Everlasting typical non-native, but non-problem species. Many coal spoil tips are also important as refuges of grassland, heathland and woodland fauna, with superb invertebrate communities (a third of Britain's bee fauna has been recorded on just a handful of RCT colliery spoil tips), grassland fungi assemblages, complex lower plants communities and ideal reptile habitat.

Colliery Spoil Grassland: What to look for



No key species as coal spoil is a mosaic so could have any key species from its composite habitats, in particular heathland, grassland, woodland and scrub. Please refer to the following habitat booklets for further details: *Booklet 3: Heathland, Booklet 2: Grassland and Booklet 1: Woodland & Scrub*.



Reindeer Lichen (*Cladonia* species), Small Cudweed (*Filago minima*), Pearly Everlasting (*Anaphalis margaritacea*), Round-leaved Wintergreen (*Pyrola rotundifolia*), Fairy Flax (*Linum catharticum*), Carlina Thistle (*Carlina vulgaris*), Southern Marsh-orchid (*Dactylorhiza praetermissa*).



Herpetiles: Adder (*Vipera berus*), Grass Snake (*Natrix natrix*), Common Lizard (*Zootoca vivipara*), Common Frog (*Rana temporaria*), Common Toad (*Bufo bufo*), Palmate Newt (*Lissotriton helveticus*).

Invertebrates: Broad-margined Mini-mining Bee (*Andrena falsifica*), Red-backed Mining-bee (*Andrena similis*), Tormentil Mining-bee (*Andrena tarsata*), Bilberry Bumblebee (*Bombus monticola*), Brown-banded Carder Bee (*Bombus humilis*), Mottled Grasshopper (*Myrmeleotettix maculatus*), Maerdy Monster (*Turdulidomops helenreadae*), Green Tiger Beetle (*Cicindela campestris*).

Where to see grassland habitats in RCT

Become familiar with key habitats in RCT by visiting the network of sites managed for nature. These important areas are nature hotspots and connected stepping stones in the wider countryside. Below are a few examples. For more information click on the links for each site in the table, or see the RCT Living Landscapes website: rctlivinglandscape.wales

National Vegetation Communities are given in brackets for those who want to study habitats further.

Habitat	RCT Sites	Location – What3Words
Marshy Grassland & Rhôs Pasture <i>NVC M23 and M25</i>	<u>Caeau Cwm</u>	<u>affair.energetic.enlighten</u>
	Dare Valley Country Park	<u>retraced.offhand.doted</u> or <u>storybook.ownership.dislodge</u>
	<u>Rhos Llanilltud Faerdref</u>	<u>highly.prevented.blur</u>
	Parc Eirin	<u>roaring.harps.blackbird</u>
	<u>Pant Marsh</u>	<u>indicated.suppose.organ</u>
Semi improved Acid Grassland <i>NVC U4</i>	<u>Parc Nant Celyn</u>	<u>array.carting.fooling</u>
	<u>Clydach Vale CP</u>	<u>hotspot.crumples.pints</u> or <u>thumb.blotting.strutting</u>
	<u>Dare Valley CP</u>	<u>retraced.offhand.doted</u> or <u>storybook.ownership.dislodge</u>
	<u>Glyncornel Meadows</u>	<u>invent.neat.pasta</u>
Species-rich (Semi-improved) Neutral Grassland <i>NVC MG5/MG6</i>	Treorchy Cemetery	<u>level.indeed.rots</u>
	<u>Cefn Parc Cemetery</u>	<u>gazes.casino.ready</u>
	<u>Glyncornel LNR</u>	<u>invent.neat.pasta</u>
	<u>Llanharan Cemetery</u>	<u>harps.merge.tequila</u>
	Parc Heddwach	<u>report.ballooned.unsightly</u> or <u>verve.overhaul.turkeys</u>
	<u>Pontyclun Park</u>	<u>galloped.scored.jolt</u>
	Ty Rhiw Cemetery	<u>thinks.grit.swung</u>
'Sleeping' Species-rich Neutral Grassland <i>NVC MG5/MG6</i>	<u>Ynysangharad Park</u>	<u>pets.highs.landed</u>
	Old pasture grasslands, old lawned gardens, cemeteries, parks and road verges	

Calcareous Grassland	<u>Llanharry Quarry</u>	<u>lavender.broth.remix</u> or <u>folks.cascaded.outbursts</u>
	White Tip in Treforest	<u>medium.chimp.famous</u>

Summary: Key grassland species by habitat

Habitat	Key Species
<u>Improved grassland</u> also known as grass leys	Perennial Rye-grass (<i>Lolium perenne</i>) White Clover (<i>Trifolium repens</i>)
<u>Species-poor semi-improved grassland</u>	Common Bent (<i>Agrostis capillaris</i>) Red Fescue (<i>Festuca rubra</i>)
<u>Semi-improved acid grassland</u>	Betony (<i>Betonica officinalis</i>) Common Bent (<i>Agrostis capillaris</i>) Heath Bedstraw (<i>Galium saxatile</i>) Heath-grass (<i>Danthonia decumbens</i>) Sheep's Fescue (<i>Festuca ovina</i>) Sheep's Sorrel (<i>Rumex acetosella</i>) Tormentil (<i>Potentilla erecta</i>) Wavy Hair-grass (<i>Avenella flexuosa</i>)
<u>Semi-improved neutral grassland</u>	Bird's-foot Trefoil (<i>Lotus corniculatus</i>) Black Knapweed (<i>Centaurea nigra</i>)
<u>'Sleeping' neutral grassland</u>	** especially grassland fungi Bent grasses (<i>Agrostis</i>) Common Bird's-foot Trefoil (<i>Lotus corniculatus</i>)

	Common Knapweed (<i>Centaurea nigra</i>) Fescue grasses (<i>Festuca</i>)
<u>Calcareous grassland</u>	Agrimony (<i>Agrimonia eupatoria</i>) Bee Orchid (<i>Ophrys apifera</i>) Bird's-foot Trefoil (<i>Lotus corniculatus</i>) Carlina Thistle (<i>Carlina vulgaris</i>) Common Knapweed (<i>Centaurea nigra</i>) Fairy Flax (<i>Linum catharticum</i>) Glaucous Sedge (<i>Carex flacca</i>) Greater Knapweed (<i>Centaurea scabiosa</i>) Kidney Vetch (<i>Anthyllis vulneraria</i>) Lady's Bedstraw (<i>Galium verum</i>) Pyramidal Orchid (<i>Anacamptis pyramidalis</i>) Red Fescue (<i>Festuca rubra</i>) Quaking-grass (<i>Briza media</i>) Salad Burnet (<i>Poterium sanguisorba</i> subsp. <i>sanguisorba</i>) Sheep's Fescue (<i>Festuca ovina</i>) Common Twayblade (<i>Neottia ovata</i>) Yellow Oat-grass (<i>Trisetum flavescens</i>)
<u>Marshy grassland</u>	Purple Moor-grass (<i>Molinia caerulea</i>) Sharp-flowered Rush (<i>Juncus acutiflorus</i>) Soft Rush (<i>Juncus effusus</i>)
<u>Colliery spoil grassland</u>	No key species as coal spoil is a mosaic so could have any key species from its composite habitats, see: Booklet 1: Woodland & Scrub; Booklet 2: Grassland and Booklet 3: Heathland

Alphabetical list of key grassland species

Key Species by Common Name	Grassland Habitat
Agrimony (<i>Agrimonia eupatoria</i>)	Calcareous
Bee Orchid (<i>Ophrys apifera</i>)	Calcareous
Bent grasses (<i>Agrostis</i>)	'Sleeping' neutral
Betony (<i>Betonica officinalis</i>)	Semi-improved acid
Bird's-foot Trefoil (<i>Lotus corniculatus</i>)	Semi-improved neutral 'Sleeping' neutral Calcareous
Carlina Thistle (<i>Carlina vulgaris</i>)	Calcareous
Common Bent (<i>Agrostis capillaris</i>)	Species-poor semi-improved Semi-improved acid
Common Knapweed (<i>Centaurea nigra</i>)	'Sleeping' neutral Calcareous Semi-improved neutral
Common Twayblade (<i>Neottia ovata</i>)	Calcareous
Fairy Flax (<i>Linum catharticum</i>)	Calcareous
Fescue grasses (<i>Festuca</i>)	'Sleeping' neutral
Glaucous Sedge (<i>Carex flacca</i>)	Calcareous
Greater Knapweed (<i>Centaurea scabiosa</i>)	Calcareous
Heath Bedstraw (<i>Galium saxatile</i>)	Semi-improved acid
Heath-grass (<i>Danthonia decumbens</i>)	Semi-improved acid
Kidney Vetch (<i>Anthyllis vulneraria</i>)	Calcareous
Lady's Bedstraw (<i>Galium verum</i>)	Calcareous
Perennial Rye-grass (<i>Lolium perenne</i>)	Improved
Purple Moor-grass (<i>Molinia caerulea</i>)	Marshy
Pyramidal Orchid (<i>Anacamptis pyramidalis</i>)	Calcareous
Red Fescue (<i>Festuca rubra</i>)	Species-poor semi-improved Calcareous
Quaking-grass (<i>Briza media</i>)	Calcareous
Salad Burnet (<i>Poterium sanguisorba</i> subsp. <i>sanguisorba</i>)	Calcareous
Sharp-flowered Rush (<i>Juncus acutiflorus</i>)	Marshy
Sheep's Fescue (<i>Festuca ovina</i>)	Semi-improved acid Calcareous

Sheep's Sorrel (<i>Rumex acetosella</i>)	Semi-improved acid
Soft Rush (<i>Juncus effusus</i>)	Marshy
Tormentil (<i>Potentilla erecta</i>)	Semi-improved acid
Wavy Hair-grass (<i>Avenella flexuosa</i>)	Semi-improved acid
White Clover (<i>Trifolium repens</i>)	Improved
Yellow Oat-grass (<i>Trisetum flavescens</i>)	Calcareous

Key Species by Scientific Name	Habitat
Agrimony (<i>Agrimonia eupatoria</i>)	Calcareous
<i>Agrostis</i> (Bent grasses)	'Sleeping' neutral
<i>Agrostis capillaris</i> (Common Bent)	Species-poor semi-improved Semi-improved acid
<i>Anacamptis pyramidalis</i> (Pyramidal Orchid)	Calcareous
<i>Anthyllis vulneraria</i> (Kidney Vetch)	Calcareous
<i>Avenella flexuosa</i> (Wavy Hair-grass)	Semi-improved acid
<i>Betonica officinalis</i> (Betony)	Semi-improved acid
<i>Briza media</i> (Quaking-grass)	Calcareous
<i>Carex flacca</i> (Glaucous Sedge)	Calcareous
<i>Carlina vulgaris</i> (Carlina Thistle)	Calcareous
<i>Centaurea nigra</i> (Common Knapweed)	Semi-improved neutral 'Sleeping' neutral Calcareous
<i>Juncus acutiflorus</i> (Sharp-flowered Rush)	Marshy
<i>Juncus effusus</i> (Soft Rush)	Marshy
<i>Centaurea scabiosa</i> (Greater Knapweed)	Calcareous
<i>Danthonia decumbens</i> (Heath-grass)	Semi-improved acid
<i>Festuca</i> (Fescue grasses)	'Sleeping' neutral
<i>Festuca ovina</i> (Sheep's Fescue)	Semi-improved acid Calcareous
<i>Festuca rubra</i> (Red Fescue)	Species-poor semi-improved Calcareous

<i>Galium saxatile</i> (Heath Bedstraw)	Semi-improved acid
<i>Galium verum</i> (Lady's Bedstraw)	Calcareous
<i>Linum catharticum</i> (Fairy Flax)	Calcareous
<i>Lolium perenne</i> (Perennial Rye-grass)	Improved
<i>Lotus corniculatus</i> (Bird's-foot Trefoil)	Semi-improved neutral 'Sleeping' neutral Calcareous
<i>Molinia caerulea</i> (Purple Moor-grass)	Marshy
<i>Neottia ovata</i> (Common Twayblade)	Calcareous
<i>Ophrys apifera</i> (Bee Orchid)	Calcareous
<i>Potentilla erecta</i> (Tormentil)	Semi-improved acid
<i>Poterium sanguisorba</i> subsp. <i>sanguisorba</i> (Salad Burnet)	Calcareous
<i>Rumex acetosella</i> (Sheep's Sorrel)	Semi-improved acid
<i>Trifolium repens</i> (White Clover)	Improved
<i>Trisetum flavescens</i> (Yellow Oat-grass)	Calcareous

Useful resources

- **Britain's Habitats:** A field guide to the wildlife habitats of Great Britain and Ireland, Lake, S. *et al.* Wild Guides. 2nd Edition, 2020
- RCT Action for Nature, 2023 rctlnp.wixsite.com/rct-actionfornature
- Action Plan for Nature: RCT LBAP October 2000