

Identification of Grassland Features

The Farm Environment Plan (FEP) is an essential part of an application to Higher Level Stewardship (HLS). A FEP should record the presence and condition of all environmental features which may benefit from HLS management.

The Environmental Features Data Sheet (part 2) of the FEP is where details of these features should be recorded.

This guidance note contains two keys to help FEP surveyors determine which FEP grassland feature applies to an area of grassland. The keys are intended to support the definitions of the grassland features found in part 4 of the FEP handbook. (A full list of FEP features can be found in Appendix 3 of the FEP handbook.) The keys are only intended for use in the lowlands and upland in-bye grasslands. On unenclosed moorland or large enclosures within the Moorland Line, refer to the key to HLS habitat features on moorland which can be found on the ES website www.defra.gov.uk/erdp/schemes/es.

Key 1A is to determine whether a grassland is : 'species-rich'; semi-improved' or 'improved' (G01 G02 G03 respectively) We expect all FEP surveyors to make this judgment on all grasslands on the holding. We will not penalise FEPs (or the associated HLS application) that only have grassland recorded to this level. Key 1B is for surveyors, confident in their botanical skills, to determine whether the grassland is a Biodiversity Action Plan (BAP) Priority Habitat feature (G04-G10). If a BAP Priority Habitat is identified then it should be recorded as such in the FEP data sheet using the appropriate code, instead of codes G02 or G03.

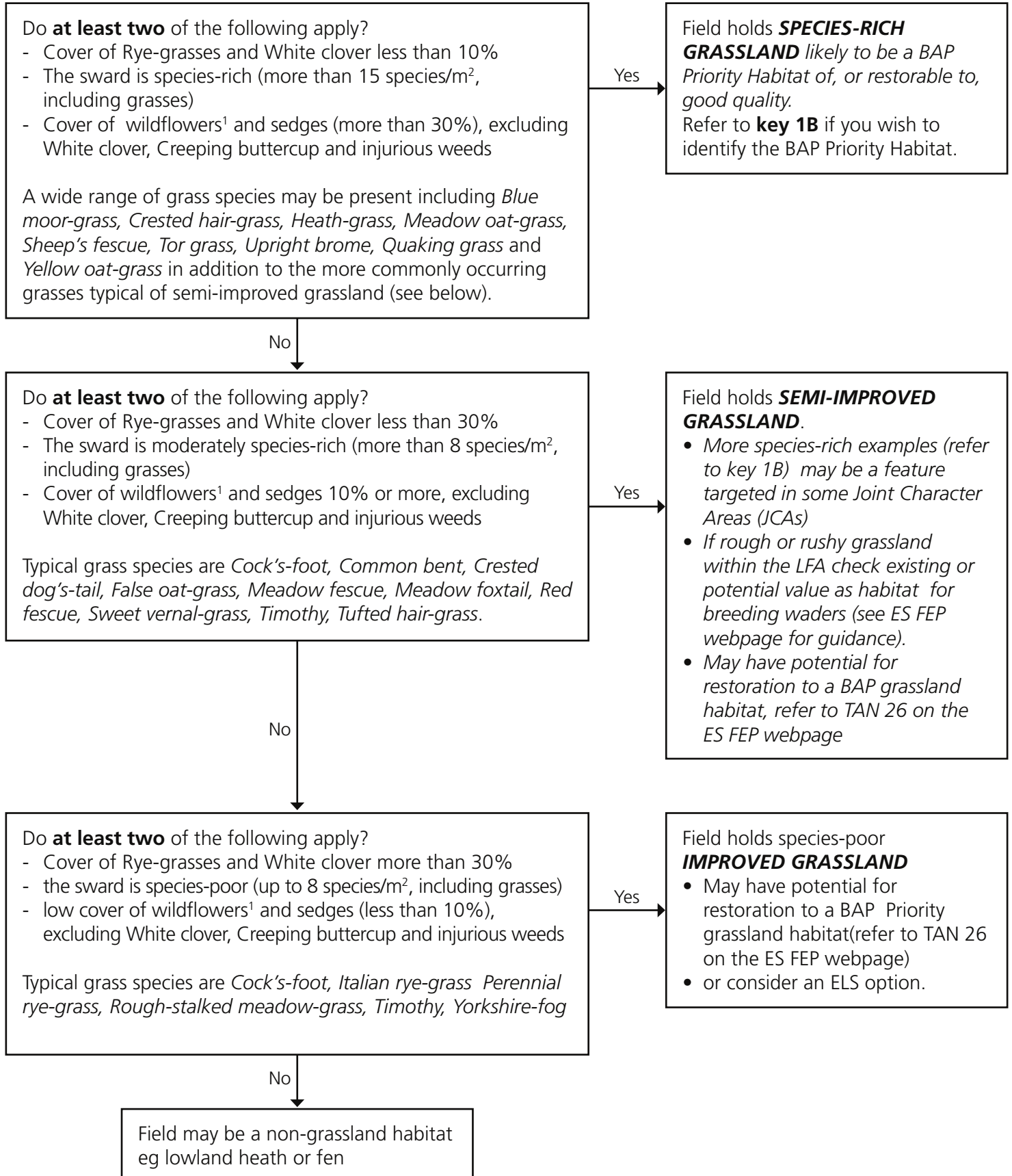
BAP Priority Habitat grasslands are targets for ES in all regions. However the maintenance of flower-rich semi-improved grassland can be important in its own right, please refer to your regional Joint Character Area (JCA) targeting statement for more details.

Key 1B also helps to identify better quality, i.e. more flower-rich, semi-improved grasslands , which should be recorded in the 'Notes' column of the Environmental Features Data Sheet. It may be possible to manage such grassland to encourage it to become more species-rich. 'Sward Enhancement: Selection of suitable sites (TAN 26)' is available on the ES FEP webpage www.defra.gov.uk/erdp/schemes/es to help you make this judgment. This potential can be recorded in part 3.4 (Biodiversity) of the FEP form.

Semi-improved grassland can also be important for HLS target species eg breeding waders. We have provided other keys to help determine this – please refer to the ES webpages: www.defra.gov.uk/erdp/schemes/es.

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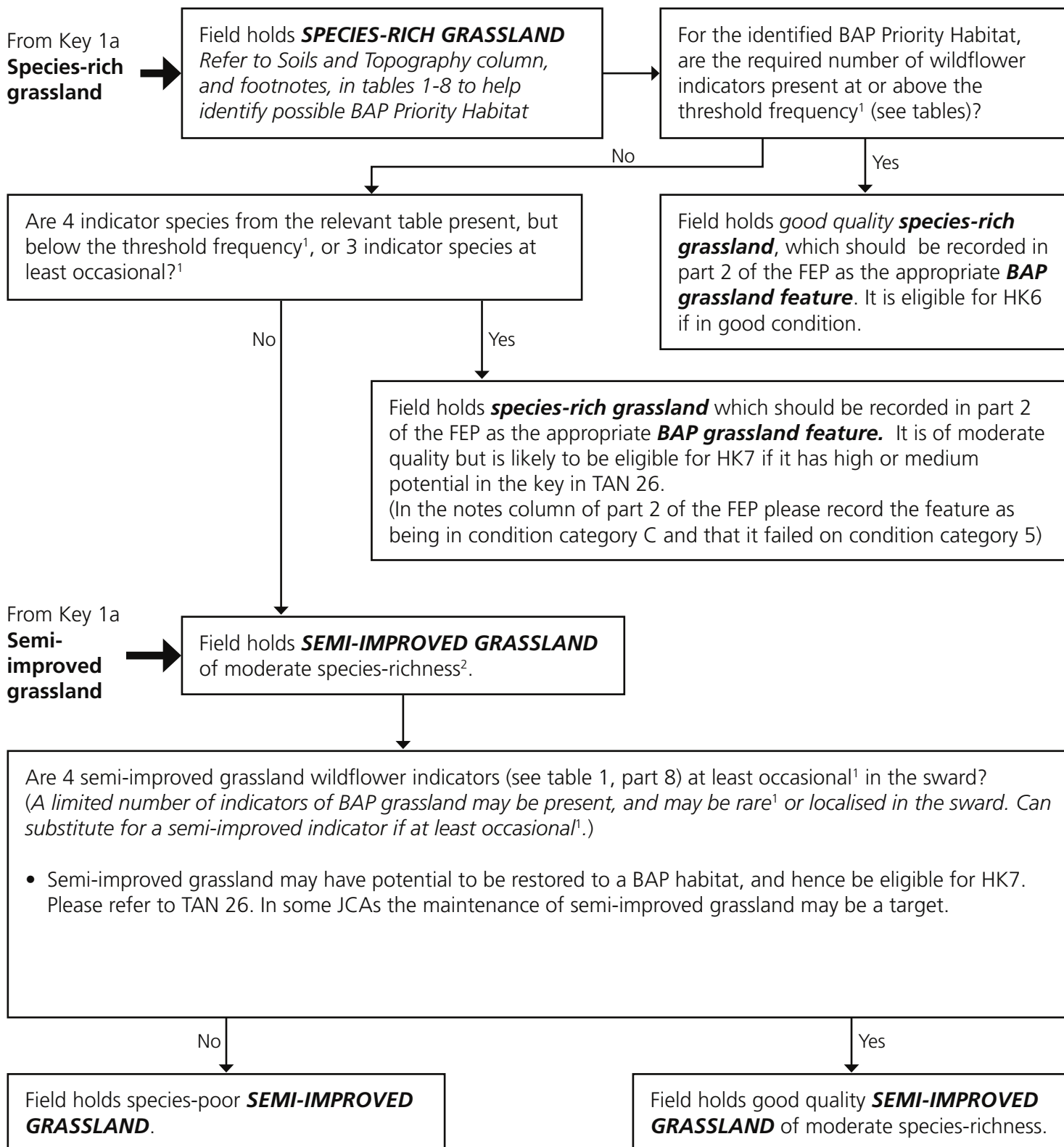
KEY 1A Key to the identification broad grassland types



¹The term 'wildflowers' is used here to mean broadleaved herbs. Plants will not all be in flower at time of survey.

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KEY 1B Key to the identification of BAP priority habitats



¹For definition of frequencies, e.g. occasional, frequent and rare, please see section 4.1.1 on page 41 of the FEP handbook.

²In wet grassland with a bulky sward which includes a number of wildflowers and occasional to frequent rushes and sedges, and where rye-grasses and white clover cover are less than 10%, check for number and frequency of indicator species of Purple Moor-grass and Rush Pasture and Lowland Meadow and Pasture and record as such if the criterion is met. In such swards there may be fewer than 15 species per m² and less than 30% cover of wildflowers and sedges, so may be identified as 'semi-improved' in key 1A.

Identification of Grassland Features

Guide to identification of BAP and other grassland features, with wildflower indicator species and frequency thresholds

This table should be used as a guide, and applied with a degree of flexibility. Sites which are mosaics or transitional between two or more BAP grassland habitats may not meet the quality thresholds for any one habitat, but indicators of the different habitat types should be used interchangeably and a judgement made as to which BAP habitat best describes the site.

1. Lowland Meadow and Pasture G06				
Soils and Topography	Wildflower indicator species		Quality threshold	Typical grasses (not counted as indicators)
Free-draining, neutral soils in the lowlands and upland fringes, including species-rich floodplain grasslands (if high rush cover, go to 3.)	Agrimony, Autumn hawkbit , Betony, Bird's-foot trefoils, Bitter-vetch, Black knapweed, Bugle, Burnet saxifrage, Common bistort , Common Meadow-rue , Cowslip, Devil's-bit scabious , Dropwort, Dyer's greenweed Eyebright, Goat's beard, Great burnet , Lady's bedstraw, Lady's-mantles, Marsh/Fen bedstraw, Marsh marigold,	Marsh valerian, Meadow vetchling, Meadowsweet , Milkworts, Narrow-leaved Water-dropwort Rough hawkbit, Orchids, Ox-eye daisy, Pepper-saxifrage , Ragged Robin, Salad burnet, Saw-wort, Sneezewort, Tormentil, Water avens, Watermint, Wood anemone, Yellow rattle, small blue-green Sedges: (Glaucous, Common, Carnation)	At least 2 <i>frequent</i> and 2 <i>occasional</i> in sward, or for floodplain meadows 1 bold species <i>frequent</i> and 3 <i>occasional</i>	Cock's-foot, Common bent, Crested dog's-tail, Red fescue, Meadow fescue, Sweet vernal-grass, Yellow oat-grass, Yorkshire-fog
2. Upland Hay Meadow G09				
Soils and Topography	Wildflower indicator species		Quality threshold	Typical grasses (not counted as indicators)
Free-draining or moist neutral soils in the North Pennine and Cumbrian uplands, largely cut for hay Note- many indicators are common to both upland and lowland neutral grassland, and the two types can occur in the same geographical area. In the absence of strict UHM indicators, a high frequency of those species in bold would indicate Upland Hay Meadow	Common bird's-foot trefoil, Black knapweed, Bugle, Burnet saxifrage, Common bistort, Devil's-bit scabious, Globeflower, Eyebright , Great burnet Hawkbits, Lady's-mantles , Marsh marigold, Marsh valerian, Meadow vetchling, Meadowsweet, Melancholy thistle, Orchids,	Pignut , Ragged Robin Saw-wort, Sneezewort, Tormentil, Water avens, Wood anemone, Wood cranesbill, Yellow rattle, small blue-green Sedges: (Glaucous, Common, Carnation)	At least 2 <i>frequent</i> and 2 <i>occasional</i> in sward or, for wet meadows, at least 1 <i>frequent</i> and 3 <i>occasional</i>	Cock's-foot, Common bent, Crested dog's-tail, Red fescue, Rough-stalked meadow-grass, Soft brome, Sweet vernal-grass, Yorkshire-fog

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3. Purple Moor-grass and Rush Pasture G07

Soils and Topography	Wildflower indicator species	Quality threshold	Typical grasses (not counted as indicators)	
<p>Pastures dominated by Purple moor-grass or jointed rushes on poorly-draining, neutral or mildly acidic soils of the lowlands and upland fringe.</p> <p>Associated with springs, seepage lines and slopes surrounding waterlogged depressions and hollows.</p>	<p>Bog asphodel, Bog mosses, Bog pimpernel, Bugle, Common valerian, Cross-leaved heath, Devil's bit scabious, Globeflower, Greater burnet, Greater bird's-foot-trefoil, Hemp agrimony, Jointed rushes, Lesser spearwort, Lesser water-parsnip, Lousewort, Marsh/ Fen bedstraw, Marsh cinquefoil, Marsh hawk's-beard, Marsh marigold,</p>	<p>Marsh pennywort, Marsh valerian, Marsh violet, Meadow rue, Meadow thistle, Meadowsweet, Orchids, Ragged Robin, Rough hawkbit, Saw-wort, Sneezewort, Tormentil, Water avens, Water mint, Whorled caraway, Wild angelica, small blue-green Sedges: (Glaucous, Common, Carnation)</p>	<p>At least 2 <i>frequent</i> and 2 <i>occasional</i> in sward or, where purple moor-grass is frequent, at least 1 <i>frequent</i> and 3 <i>occasional</i></p>	<p>Creeping bent, Crested dog's-tail, Floating sweet-grass, Marsh foxtail, Purple moor-grass, Red fescue, Sweet vernal-grass, Yorkshire-fog</p>

It can be difficult to separate this habitat from other fen communities. In Purple Moor-grass and Rush Pasture grasses generally make a greater contribution to the sward than in other fen habitats and there is usually a history of management as a grazed pasture. Swards dominated by tall herbs such as Meadowsweet and Yellow Iris, and/or tall tussocky Sedges should be considered as Fen. More open valley mire habitats with low cover of grasses and characterised by bog Mosses, dwarf shrubs, Cotton grasses, small Sedges and Sundews should similarly be considered Fen, or if on unenclosed moorland as the FEP feature 'Upland valley mires, spring and flushes'. Purple Moor-grass and Rush Pasture can occur on the upland fringes and within the Moorland Line, but should not be confused with species-poor rush dominated flushes or rush pastures, which lack most of the wildflower indicator species.

4. Lowland Calcareous Grassland G04

Soils and Topography	Wildflower indicator species	Quality threshold	Typical grasses (not counted as indicators)	
<p>Calcareous soils over chalk and limestone in the lowlands and enclosed upland fringe, generally below 300m.</p> <p><i>See footnote to Upland Calcareous grassland</i></p>	<p>Betony, Beautiful St. John's-wort, Common bird's-foot-trefoil, Bloody cranesbill, Carline thistle, Clustered bellflower, Common rockrose, Cowslip, Dropwort, Devil's-bit scabious, Eyebright, Fairy flax, Gentians, Greater knapweed, Hairy violet, Harebell, Hoary plantain, Hoary rockrose, Horseshoe vetch,</p>	<p>Kidney vetch, Lady's bedstraw, Marjoram, Milkworts, Mouse-ear Hawkweed, Orchids, Ox-eye daisy, Purple milk-vetch, Rough/Lesser hawkbit, Salad burnet, Saw-wort, Small scabious, Squinancywort, Stemless thistle, Thyme-leaved sandwort, Wild basil, Wild thyme, Yellow-wort</p>	<p>At least 2 <i>frequent</i> and 3 <i>occasional</i> in the sward</p>	<p>Blue moor-grass, Cock's-foot, Common bent, Crested hair-grass, Hairy oat-grass, Meadow oat-grass, Quaking grass, Sheep's fescue, Tor grass, Upright brome, Yellow oat-grass</p>

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5. Upland Calcareous Grassland G08

Soils and Topography	Wildflower indicator species		Quality threshold	Typical grasses (not counted as indicators)
Calcareous soils over carboniferous limestone in enclosed upland areas, generally above 300m. Large-scale enclosures in the Pennines of North Yorkshire, Durham and Cumbria	Alpine bistort, Bird's-eye primrose, Common bird's-foot-trefoil, Carline thistle, Common butterwort, Common rockrose, Dropwort, Devil's-bit scabious, Eyebright, Fairy flax, Gentians, Grass of Parnassus, Harebell, Hoary rockrose,	Hoary whitlow grass, Horseshoe vetch, Lesser club-moss, Mossy saxifrage, Mountain everlasting, Mouse-ear hawkweed, Rough hawkbit, Salad burnet, Small Scabious, Squinancywort, Wild thyme, Yellow saxifrage, small Sedges: (Spring, Flea, Glaucous, Carnation)	At least <i>1 frequent</i> and <i>3 occasional</i> in the sward	Blue moor-grass, Common bent, Crested hair-grass, Meadow oat-grass, Red fescue, Sheep's fescue, Sweet vernal-grass, Quaking grass

In the upland fringe, some enclosed swards on south-facing valley sides, particularly on deeper soils, may have many of the indicators of Lowland Meadows and Pastures and Lowland Calcareous Grassland, and may be considered as examples of the latter.

6. Lowland Acid Grassland G05

Soils and Topography	Wildflower indicator species		Quality threshold	Typical grasses (not counted as indicators)
Acid soils in the lowlands and enclosed upland fringe. Some sites may be species-poor (dominated, for example, by Bristle bent or Wavy hair grass). However lowland acid grassland is a scarce resource and any site is likely to be considered of high value. Lichens and mosses may be prominent.	Bell heather, Betony, Bilberry, Common bird's-foot-trefoil, Biting stonecrop, Bitter vetch, Blue fleabane, Buck's-horn plantain, Common centaury, Common rockrose, Common stork's-bill, Harebell, Heath bedstraw, Heath speedwell, Heather, Lady's bedstraw, Devil's-bit scabious,	Lousewort, Lichens, Maiden pink, Milkwort, Mouse-ear Hawkweed, Parsley pierts, Purple milk-vetch, Rough/Lesser hawkbit, Saw-wort, Sheep's-bit, Sheep's sorrel, Shepherd's-cress, Thymes, Tormentil, Violets, Wild strawberry, Wood anemone, Wood sage	At least <i>1 frequent</i> and <i>3 occasional</i> in sward	Bristle bent, Common bent, Early hair-grass, Heath grass, Sheep's fescue, Sweet vernal-grass, Wavy hair-grass

Acid grassland is widespread within the moorland line where it exists largely as extensive species-poor communities on the open fell or enclosed rough grazing. Where it is species-rich and enclosed it should be treated as lowland. Such sites would generally be dominated by Sheep's fescue and Common bent with a high proportion of herbs such as Betony, Devil's-bit scabious, Bitter vetch, Harebell, Heath bedstraw, Lady's bedstraw and Mountain pansy.

Some acid grassland sites may form part of a heathland mosaic, or have potential for heathland restoration or creation.

Where cover of dwarf shrub >25%, the vegetation is considered to be heathland.

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7. Calaminarian Grassland G10

Soils and Topography	Wildflower indicator species	Quality threshold	Typical grasses (not counted as indicators)
Gravels and spoil from mineral extraction and ultrabasic exposures.	Alpine, pennycress, Mountain pansy, Pyrenean scurvy-grass, Sea campion, Spring sandwort, Thrift	Any indicators singly or together at least <i>occasional</i> in sward.	Common bent, Red fescue, Sheep's fescue, Sweet vernal-grass

Generally associated with lead mine spoil and outcropping mineral veins in the upland fringes of northern and western England, and river gravels arising from mining activity. Mineral veins are largely found within Carboniferous limestones of the North Pennines and Yorkshire Dales, Derbyshire and the Mendips. Serpentine soils rich in metals such as nickel and chromium will support similar vegetation

8. Semi-improved Grassland G02

Soils and Topography	Wildflower indicator species	Quality threshold	Typical grasses (not counted as indicators)
Wide range of soil conditions, often derived from above habitats by a degree of agricultural improvement. Moderately species-rich, with typically 8-15 species/m ² . Total cover of wildflowers and sedges usually 10-30%, excluding White clover and injurious weeds. Ryegrass cover generally <25%.	Autumn hawkbit, Black medick, Cuckoo flower, Bulbous buttercup, Common cat's-ear, Common sorrel, Field woodrush, Germander speedwell, Lesser trefoil, Ribwort plantain, Meadow buttercup, Red clover, Self-heal, Yarrow	At least 4 <i>occasional</i> <i>A limited number of indicator species from BAP grassland habitats may be present, and may be only rare or localised in the sward. Can substitute for a semi-improved indicator if at least occasional.</i>	Cock's-foot, Common bent, Crested dog's-tail, False oat-grass, Meadow fescue, Meadow foxtail, Red fescue, Sweet vernal-grass, Timothy, Tufted hair grass, Yorkshire-fog