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Barnsley Natural Heritage Sites

Site Assessment Criteria (Habitat Quality)

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Prepared by
TEP

for

Barnsley Metropolitan Borough Council

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2481.001h

SPECIES	COMMON NAME	ATTRIBUTES
<i>Poa nemoralis</i>	Wood Meadow-grass	Axiophyte
<i>Polypodium vulgare</i> agg.	Polypody	
<i>Potentilla palustris</i>	Marsh Cinquefoil	Axiophyte
<i>Ranunculus auricomus</i>	Goldilocks Buttercup	Axiophyte
<i>Ranunculus ficaria</i>	Lesser Celandine	
<i>Ranunculus flammula</i>	Lesser Spearwort	WW
<i>Ribes nigrum</i>	Blackcurrant	
<i>Ribes rubrum</i>	Redcurrant	
<i>Ribes uva-crispa</i>	Gooseberry	
<i>Rumex sanguineus</i>	Wood Dock	
<i>Scirpus sylvaticus</i>	Wood Club-rush	Axiophyte
<i>Scrophularia aquatica</i>	Water Figwort	
<i>Scutellaria galericulata</i>	Common Skullcap	Axiophyte, WW
<i>Solanum dulcamara</i>	Bittersweet	WW
<i>Stellaria alsine</i>	Bog Stitchwort	
<i>Stellaria holostea</i>	Greater Stitchwort	AWI
<i>Teucrium scorodonia</i>	Wood-sage	
<i>Oreopteris limbosperma</i>	Lemon Scented Fern	Axiophyte
<i>Valeriana dioica</i>	Marsh Valerian	Axiophyte
<i>Valeriana officinalis</i>	Common Valerian	WW
<i>Veronica beccabunga</i>	Brooklime	
<i>Viburnum opulus</i>	Guelder Rose	WW
<i>Viola palustris</i>	Marsh Violet	WW, Axiophyte

Table 1.4 Tree Species List

<i>Acer campestre</i>	Field Maple	
<i>Alnus glutinosa</i>	Alder	WW
<i>Betula pendula</i>	Silver Birch	
<i>Betula pubescens</i>	Downy Birch	WW
<i>Carpinus betulus</i>	Hornbeam	Axiophyte
<i>Castanea sativa</i>	Sweet Chestnut	
<i>Corylus avellana</i>	Hazel	
<i>Crataegus laevigata</i>	Midlands Hawthorn	AWI, Axiophyte
<i>Crataegus monogyna</i>	Hawthorn	
<i>Fraxinus excelsior</i>	Ash	
<i>Malus sylvestris</i> sens.lat.	Crab Apple	
<i>Populus tremula</i>	Aspen	Axiophyte, WW
<i>Prunus avium</i>	Wild Cherry	Axiophyte
<i>Prunus padus</i>	Bird Cherry	Axiophyte
<i>Quercus petraea</i>	Sessile Oak	AWI
<i>Quercus robur</i>	English Oak	
<i>Quercus Hybrid</i>	Oak Hybrid	
<i>Salix aurita</i>	Eared Willow	WW
<i>Salix caprea</i>	Goat Willow	
<i>Salix cinerea</i>	Grey Willow	WW
<i>Salix fragilis</i>	Cracked Willow	WW
<i>Salix pentandra</i>	Bay Willow	Axiophyte
<i>Salix purpurea</i>	Purple Willow	
<i>Salix viminalis</i>	Osier	WW
<i>Sorbus aucuparia</i>	Rowan	
<i>Sorbus aria</i> agg.	Common Whitebeam	

<i>Sorbus torminalis</i>	Wild Service Tree	AWI
<i>Ulmus glabra</i>	Wych Elm	
<i>Ulmus minor</i>	Smooth-leaved Lime	
<i>Ulmus procera</i>	English Elm	
<i>Viburnum lantana</i>	Wayfaring Tree	Axiophyte

Purple Moor Grass and Rush Pasture

The UKBAP and Barnsley BAP describe Purple Moor Grass and Rush Pastures as occurring on poorly drained, usually acidic soils in areas of high rainfall. They are found typically on undulating plateaux and hillsides, as well as in stream and river valleys. Vegetation is often a mosaic and may take the form of scattered areas in among other habitats.

Their vegetation, which has a distinct character, consists of various species-rich types of fen meadow and rush pasture. Purple moor grass (*Molinia caerulea*), and rushes, especially sharp flowered rush (*Juncus acutiflorus*), are usually abundant. Just as the best examples of lowland heath contain a wide range of plant communities, so the same is true for this habitat: the characteristic plant communities often occur in a mosaic with one another, together with patches of wet heath, dry grassland, swamp and scrub.

Other typical vegetation types found in Purple Moor Grass and Rush Pasture include some Sedges (*Carex* spp.) species, Marsh Thistle (*Cirsium palustre*), Meadow Buttercup (*Ranunculus acris*), wavy St. Johns-wort (*Hypericum undulatum*), Spearwort (*Ranunculus lingua*) and occasionally Sphagnum and other Mosses. Being wet, and with some cover, they are important for upland wader species such as Curlew (*Numenius arquata*), Lapwing and Snipe (*Gallinago gallinago*). They are also important habitats for other Barnsley Biodiversity Action Plan Priority Species such as Barn Owl (*Tyto alba*), Twite (*Carduelis flavirostris*) and Skylark (*Alauda arvensis*).

Many Rush Pasture areas are within enclosed land and are grazed by cattle or sheep, but very little management exists. Environmental Stewardship Schemes provide for appropriate management in creating both a dense and open sward of rush to favour breeding wader species, as well as controlling vigorous rush growth.

The UKBAP identifies the following threats to Purple Moor Grass and Rush Pasture;

- Agricultural improvement through drainage, cultivation and fertiliser applications.
- Inappropriate management, including overgrazing by sheep and too frequent burning.
- Agricultural abandonment, leading to rankness and scrub encroachment through lack of grazing.
- Fragmentation and disturbance for developments such as housing and road constructions.

Sites will be selected as local wildlife sites if they meet any of the following criteria;

1. Sites ≥ 0.5 ha that display the character of Purple Moor Grass and Rush Pasture as described above and score **12+** from Table 1.5 (not including *Molinia caerulea* and the dominant *Juncus species*)
2. Any site that satisfies the site selection criteria for fauna

Species marked in **bold** score 2, these are UKBAP and/or Axiophytes, other species score 1

Table 1.5 Purple Moor Grass and Rush Pasture

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES
<i>Achillea ptarmica</i>	Sneezewort	
<i>Agrostis canina</i> sens.lat.	Velvet Bent	
<i>Agrostis capillaris</i>	Common Bent	
<i>Agrostis stolonifera</i>	Creeping Bent	
<i>Anagallis tenella</i>	Bog Pimpernel	Axiophyte
<i>Cardamine pratensis</i>	Cuckooflower	Axiophyte
<i>Carex acutiformis</i>	Lesser Pond-sedge	
<i>Carex disticha</i>	Brown Sedge	Axiophyte
<i>Carex elata</i>	Tufted Sedge	Axiophyte
<i>Carex hostiana</i>	Tawny Sedge	Axiophyte
<i>Carex nigra</i>	Common Sedge	
<i>Carex leporina</i>	Oval Sedge	
<i>Carex panicea</i>	Carnation Sedge	
<i>Carex pulicaris</i>	Flea Sedge	Axiophyte
<i>Carex rostrata</i>	Bottle Sedge	Axiophyte
<i>Cirsium palustre</i>	Marsh Thistle	
<i>Crepis paludosa</i>	Marsh Hawk's-beard	Axiophyte
<i>Dactylorhiza maculata</i>	Heath Spotted Orchid	Axiophyte
<i>Danthonia decumbens</i>	Heath Grass	Axiophyte
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	
<i>Dryopteris carthusiana</i>	Narrow Buckler-fern	Axiophyte
<i>Epilobium hirsutum</i>	Great Willowherb	
<i>Epipactis palustris</i>	Marsh Hellborine	Axiophyte
<i>Equisetum palustre</i>	Marsh Horsetail	
<i>Erica tetralix</i>	Cross-leaved Heather	Axiophyte
<i>Eriophorum angustifolium</i>	Common Cottongrass	
<i>Filipendula ulmaria</i>	Meadowsweet	
<i>Galium palustre</i> sens.lat.	Marsh Bedstraw	
<i>Geum rivale</i>	Water Avens	
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	Axiophyte
<i>Hypericum tetrapterum</i>	Square-stalked St John's Wort	
<i>Iris pseudacorus</i>	Yellow Flag-iris	
<i>Juncus acutiflorus</i>	Sharp-flowered Rush	
<i>Juncus articulatus</i>	Jointed Rush	
<i>Juncus bulbosus</i>	Bulbous Rush	

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES
<i>Juncus conglomeratus</i>	Compact Rush	
<i>Juncus effusus</i>	Soft Rush	
<i>Juncus subnodulosus</i>	Blunt-flowered Rush	Axiophyte
<i>Lathyrus pratensis</i>	Meadow Vetchling	
<i>Lotus uliginosus/pendunculatus</i>	Common Bird's-foot Trefoil	
<i>Lychnis flos-cuculi</i>	Ragged Robin	Axiophyte
<i>Lycopus europaeus</i>	Gipsywort	
<i>Lysimachia vulgaris</i>	Yellow Loosestrife	Axiophyte
<i>Lythrum salicaria</i>	Purple Loosestrife	Axiophyte
<i>Mentha aquatica</i>	Water Mint	
<i>Menyanthes trifoliata</i>	Bog Bean	Axiophyte
<i>Molinia caerulea</i>	Purple Moor-grass	
<i>Myosotis laxa</i>	Tufted Forget-me-not	
<i>Myosotis scorpioides</i>	Water Forget-me-not	
<i>Myosotis secunda</i>	Creeping Forget-me-not	
<i>Nardus stricta</i>	Mat Grass	
<i>Narthecium ossifragum</i>	Bog Asphodel	Axiophyte
<i>Osmunda regalis</i>	Royal Fern	Axiophyte
<i>Pedicularis palustris</i>	Marsh Lousewort	Axiophyte
<i>Pedicularis sylvatica</i>	Lousewort	Axiophyte
<i>Phalaris arundinacea</i>	Reed Canary-grass	
<i>Phragmites australis</i>	Common Reed	
<i>Plantago lanceolata</i>	Ribwort Plantain	
<i>Polygala vulgaris</i>	Common Milkwort	
<i>Persicaria amphibium</i>	Amphibious Bistort	Axiophyte
<i>Potentilla erecta</i>	Tormentil	Axiophyte
<i>Potentilla palustris</i>	Marsh Cinquefoil	Axiophyte
<i>Pulicaria dysenterica</i>	Common Fleabane	Axiophyte
<i>Ranunculus flammula</i>	Lesser Spearwort	
<i>Scrophularia auriculata</i>	Water Figwort	
<i>Scutellaria galericulata</i>	Skullcap	Axiophyte
<i>Scutellaria minor</i>	Lesser Skullcap	Axiophyte
<i>Senecio aquaticus</i>	Marsh Ragwort	
<i>Stellaria alsine</i>	Bog Stitchwort	
<i>Stellaria graminea</i>	Lesser Stitchwort	
<i>Stellaria palustris</i>	Marsh Stitchwort	Axiophyte
<i>Succisa pratensis</i>	Devil's-bit Scabious	Axiophyte
<i>Triglochin palustris/palustre</i>	Marsh Arrowgrass	Axiophyte
<i>Vaccinium oxycoccos</i>	Cranberry	Axiophyte
<i>Valeriana dioica</i>	Marsh Valerian	Axiophyte
<i>Valeriana officinalis</i>	Common Valerian	
<i>Veronica beccabunga</i>	Brooklime	
<i>Veronica scutellata</i>	Marsh Speedwell	Axiophyte
<i>Viola palustris</i>	Marsh Violet	Axiophyte

Reedbeds

The UKBAP describes Reedbeds as wetlands dominated by stands of the common reed (*Phragmites australis*), wherein the water table is at or above ground level for most of the year. They tend to incorporate areas of open water and ditches,

Reedbeds are amongst the most important habitats for birds in the UK. They support a distinctive breeding bird assemblage including 6 nationally rare Red Data Birds the bittern (*Botaurus stellaris*) also a Barnsley BAP Priority Species, marsh harrier, (*Circus aeruginosus*), crane (*Grus grus*), Cetti`s warbler (*Cettia cetti*), Savi`s warbler (*Locustella luscinioides*) and bearded tit (*Panurus biarmicus*), provide roosting and feeding sites for migratory species (including the globally threatened aquatic warbler (*Acrocephalus paludicola*) and are used as roost sites for several raptor species in winter. Five GB Red Data Book invertebrates are also closely associated with reedbeds including the locally-rare Fen Wainscot Moth (*Arenostola phragmitidis*) whose larvae feed in the stems of Common Reed.

Reedbeds are important for Otter, Water Vole and Bats, all Barnsley Biodiversity Action Plan Priority Species. In Barnsley the largest concentrations of this type of habitat is along the Dearne Valley.

The UKBAP identifies the following threats to reedbeds;

- Small total area of habitat and critically small population sizes of several key species dependent on the habitat.
- Loss of area by excessive water extraction and, in the past, land drainage and conversion to intensive agriculture.
- Lack of or inappropriate management of existing reedbeds leading to drying, scrub encroachment and succession to woodland.
- Pollution of freshwater supplies to the reedbed: siltation may lead to drying; toxic chemicals may lead to loss of fish and amphibian prey for key species; accumulation of poisons in the food chain and eutrophication may cause reed death.

Sites will be selected as local wildlife sites if they meet any of the following criteria;

1. Is ≥ 25 ha and dominated by *Phragmites australis* and scores **6+** from Table 1.6
2. Satisfies the site selection criteria for fauna
3. Or buffers other priority habitats such as Ponds and Rivers and Streams

Species marked in **bold** score 2, these are UKBAP and/or Axiophytes, other species score 1

Table 1.6 Reedbed Species List

SPECIES	COMMON NAME	ATTRIBUTES
<i>Agrostis stolonifera</i>	Creeping Bent	
<i>Apium nodiflorum</i>	Fool's Water-cress	
<i>Athyrium filix-femina</i>	Common Lady Fern	
<i>Berula erecta</i>	Water Parsnip	Axiophyte
<i>Betula pubescens</i>	Downy Birch	
<i>Calamagrostis canescens</i>	Purple Small-reed	Axiophyte
<i>Calamagrostis epigejos</i>	Wood Small-reed	
<i>Callitriche stagnalis</i> sens.lat	Common Water-starwort	
<i>Caltha palustris</i>	Marsh Marigold	Axiophyte
<i>Carex acuta</i>	Slender Tufted Sedge	Axiophyte
<i>Carex acutiformis</i>	Lesser Pond-sedge	
<i>Carex elata</i>	Tufted Sedge	Axiophyte
<i>Carex nigra</i>	Common Sedge	
<i>Carex otrubae</i>	False fox-sedge	
<i>Carex panicea</i>	Carnation Sedge	
<i>Carex paniculata</i>	Greater tussock sedge	Axiophyte
<i>Carex pseudocyperus</i>	Cyperus sedge	Axiophyte
<i>Carex riparia</i>	Great pond-sedge	Axiophyte
<i>Eleocharis palustris</i>	Common Spike-rush	
<i>Epilobium hirsutum</i>	Great Willowherb	
<i>Epilobium palustre</i>	Marsh Willowherb	
<i>Equisetum fluviatile</i>	Water Horsetail	
<i>Equisetum palustre</i>	Marsh Horsetail	
<i>Eupatorium cannabinum</i>	Hemp Agrimony	
<i>Filipendula ulmaria</i>	Meadowsweet	
<i>Frangula alnus</i>	Alder Buckthorn	Axiophyte
<i>Galium palustre</i> sens.lat.	Common Marsh-bedstraw	
<i>Glyceria maxima</i>	Reed Sweet-grass	
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	Axiophyte
<i>Hypericum elodes</i>	Marsh St John's Wort	Axiophyte
<i>Hypericum tetrapterum</i>	Square-stalked St John's Wort	
<i>Iris pseudacorus</i>	Yellow Flag-iris	
<i>Juncus acutiflorus</i>	Sharp-flowered Rush	
<i>Juncus articulatus</i>	Jointed Rush	
<i>Juncus bulbosus</i>	Bulbous Rush	
<i>Juncus effusus</i>	Soft Rush	
<i>Juncus subnodulosus</i>	Blunt-flowered Rush	Axiophyte
<i>Lemna minor</i>	Common Duckweed	
<i>Lotus uliginosus</i>	Greater Bird's-foot Trefoil	
<i>Lychnis flos-cuculi</i>	Ragged Robin	Axiophyte
<i>Lycopus europaeus</i>	Gipsywort	
<i>Lysimachia vulgaris</i>	Yellow Loosestrife	Axiophyte
<i>Lythrum salicaria</i>	Purple Loosestrife	Axiophyte
<i>Mentha aquatica</i>	Water mint	
<i>Menyanthes trifoliata</i>	Bog Bean	Axiophyte
<i>Myosotis laxa</i>	Tufted Forget-me-not	
<i>Myosotis scorpioides</i>	Forget-me-not	
<i>Oenanthe crocata</i>	Hemlock Water-dropwort	
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort	UKBAP, Axiophyte

SPECIES	COMMON NAME	ATTRIBUTES
<i>Phalaris arundinacea</i>	Reed Canary-grass	
<i>Phragmites australis</i>	Common Reed	
<i>Persicaria amphibia</i>	Amphibious Bistort	Axiophyte
<i>Potentilla palustris</i>	Marsh Cinquefoil	Axiophyte
<i>Pulicaria dysenterica</i>	Common Fleabane	Axiophyte
<i>Ranunculus flammula</i>	Lesser Spearwort	
<i>Ranunculus lingua</i>	Greater Spearwort	Axiophyte
<i>Rumex hydrolapathum</i>	Water Dock	Axiophyte
<i>Salix cinerea</i>	Grey Willow	
<i>Scrophularia aquatica</i>	Water Figwort	
<i>Scutellaria galericulata</i>	Skullcap	Axiophyte
<i>Senecio aquaticus</i>	Marsh Ragwort	Axiophyte
<i>Solanum dulcamara</i>	Bittersweet	
<i>Sparganium erectum</i>	Branched Bur-reed	
<i>Stachys palustris</i>	Marsh Woundwort	Axiophyte
<i>Stellaria alsine</i>	Bog Stitchwort	
<i>Stellaria palustris</i>	Marsh Stitchwort	UKBAP, Axiophyte
<i>Succisa pratensis</i>	Devil's-bit Scabious	Axiophyte
<i>Symphytum officinale</i>	Common Comfrey	Axiophyte
<i>Thalictrum flavum</i>	Common Meadow-rue	Axiophyte
<i>Typha latifolia</i>	Great Reedmace	
<i>Valeriana dioica</i>	Marsh Valerian	Axiophyte
<i>Valeriana officinalis</i>	Common Valerian	
<i>Veronica beccabunga</i>	Brooklime	
<i>Veronica scutellata</i>	Marsh Speedwell	Axiophyte

Upland Heath

The UKBAP describes Upland Heathland as a habitat occurring widely on mineral soils and thin peats (<0.5 m deep) throughout the uplands and moorlands of the UK. It is characterised by the presence of dwarf shrubs at a cover of at least 25%. Blanket bog vegetation may also contain substantial amounts of dwarf shrubs, but is distinguished from heathland by its occurrence on deep peat (>0.5 m). For the purposes of the UKBAP plan upland heathland is defined as lying below montane zone (at about 600-750 m 1960-2460ft) and usually above the upper edge of enclosed agricultural land (generally at around 250-400 m 820-1300ft).

Blanket bog and other mires, grassland, bracken, scrub, trees and woodland, freshwater and rock habitats frequently form intimate mosaics with heathland vegetation in upland situations. The UKBAP recognises the importance of this habitat mosaic.

Upland heath in 'favourable condition' is typically dominated by a range of dwarf shrubs such as heather (*Calluna vulgaris*), bilberry (*Vaccinium myrtillus*), crowberry (*Empetrum nigrum*), bell heather (*Erica cinerea*). Wet heath is most commonly found in the wetter north and west and, in 'favourable condition', should be dominated by mixtures of cross-leaved heath (*Erica tetralix*), deer

grass (*Scirpus cespitosus*), heather and purple moor-grass (*Molinia caerulea*), over an under-storey of mosses often including carpets of Sphagnum species.

This habitat is distinct from blanket mire which occurs on deeper peat and which usually contains frequent occurrence of hare's-tail cotton-grass (*Eriophorum vaginatum*) and characteristic mosses. High quality heaths are generally structurally diverse, containing stands of vegetation with heather at different stages of growth. Upland heath in 'favourable condition' also usually includes areas of mature heather.

National Vegetation Classification (NVC) plant communities found within upland heath include. H12 *Calluna vulgaris* - *Vaccinium myrtillus* () is particularly widespread in the east.), H18 *Vaccinium myrtillus* – *Deschampsia flexuosa* is generally widespread in the uplands but other communities are more local in distribution, notably H9 *Calluna vulgaris* - *Deschampsia flexuosa*, and M16 *Erica tetralix* - *Sphagnum compactum*.

The distribution of these communities is influenced by climate, altitude, aspect, slope and management practices including grazing and burning. An important assemblage of birds is associated with upland heath, including red grouse (*Lagopus lagopus*), black grouse (*Tetrao tetrix*), merlin (*Falco columbarius*) and hen harrier (*Circus cyaneus*).

The Western Moors in Barnsley are where nearly all of the Borough's upland heath can be found and is an important part of the Pennine Upland habitats supporting several of the above species including the twite (*Carduelis flavirostris*) a local BAP species and Golden plover (*Pluvialis apricaria*). In addition to this the small streams are home to populations of water vole.

- Threats to upland heathland include;
- Over-grazing
- Inappropriate burning
- Afforestation
- Drainage and agricultural improvement

In Barnsley much of the upland heath lies within the Peak National Park and a significant proportion of this is designated as a Site of Significant Scientific Interest (SSSI). For heathland outside of the National Park boundary to be designated as a local wildlife site it must fulfil the following criteria.

Upland Heathland sites will be selected as local wildlife sites if they meet any of the following criteria;

1. Sites over .25ha that contain $\geq 25\%$ coverage of one or more of the following dwarf shrubs:

<i>Calluna vulgaris</i>	Heather
<i>Erica cinerea</i>	Bell Heather
<i>Erica tetralix</i>	Cross-leaved Heather
<i>Vaccinium myrtillus</i>	Bilberry/Winberry
<i>Vaccinium vitis-idea</i>	Cowberry

Ulex species Gorse spp. (in combination with dwarf shrubs)
Empetrum nigrum Crowberry

2. Satisfy the site selection criteria for fauna

Lowland Heath

The UKBAP describes lowland heathland as being a broadly open landscape on impoverished, acidic mineral and shallow peat soil, which is characterised by the presence of plants such as heathers and dwarf gorses. It is generally found below 300m (980ft) in the UK, but in more northerly latitudes the altitudinal limit is often lower.

Areas of heathland in good condition should consist of an ericaceous layer (Heather and Bell Heather) of varying heights and structures, plus some or all of the following additional features, depending on environmental and/or management conditions; scattered and clumped trees and scrub; bracken; areas of bare ground; areas of acid grassland; lichens; gorse; wet heaths, bogs and open waters.

Lowland heathland is a dynamic habitat which undergoes significant changes in different successional stages, from bare ground (e.g. after burning or tree clearing) and grassy stages, to mature, dense heath. These different stages often co-occur on a site. The presence and numbers of characteristic birds, reptiles, invertebrates, vascular plants, bryophytes and lichens are important indicators of habitat quality. In terms of distinguishing between lowland heathland and genuine acid grassland, less than 25% dwarf shrub cover should be assessed as grassland, over 25% as heathland.

Lowland heathland supports a number of nationally important species including Brown hare (*Lepus europaeus*), Green Hairstreak Butterfly (*Callophrys rubi*) and a number of reptiles including the adder (*Vipera berus*).

Lowland heathland is threatened by a number of factors including;

- Burning
- Nutrient enrichment
- Agricultural practices

Lowland heathland sites will be considered for local wildlife site selection if they meet the following criteria;

1. Sites over .25ha that contain $\geq 25\%$ coverage of one or more of the following dwarf shrubs:

<i>Calluna vulgaris</i>	Heather
<i>Erica cinerea</i>	Bell Heather
<i>Erica tetralix</i>	Cross-leaved Heather
<i>Vaccinium myrtillus</i>	Bilberry/Winberry
<i>Vaccinium vitis-idea</i>	Cowberry
<i>Ulex species</i>	Gorse spp. (in combination with dwarf shrubs)

Empetrum nigrum Crowberry

2. Satisfy the site selection criteria for fauna

Rivers

River and streams are some of the most important natural corridors in our landscape. They provide cover and continuous connected networks along which wildlife can move. Bank-side vegetation along watercourses provides a corridor for those species that are not necessarily associated with rivers.

The main watercourses in Barnsley are the Don and the Dearne; other smaller watercourses include Daking Brook, Cawthorne Dike, Silkstone Beck and the River Dove.

Rivers and streams are home to several of Barnsley's Biodiversity Action Plan Priority Species including White-clawed Crayfish (*Austropotamobius pallipes*), water vole, salmon (*Salmo salar*), otter and Bullhead/Miller's Thumb (*Cottus gobio*). Other species such as eel (*Anguilla anguilla*) and Eurasian Kingfisher (*Alcedo atthis*) depend on rivers and streams and are both good indicators of a watercourse's health.

The UKBAP identifies a number of threats to our rivers and streams;

- Pollution including eutrophication and acidification.
- Excessive ground water and surface water abstraction.
- Construction of dams and reservoirs.
- Water transfer schemes between rivers.
- Land drainage and flood defence works which if not sensitively carried out, can reduce stream habitat and isolate streams from their floodplains.
- Inappropriate bank management, including overgrazing.
- Introduction of invasive plant and animal species.
- Industrial and housing development within the floodplain.

Rivers and streams will be selected as local wildlife sites if they satisfy any of the following criteria;

1. Connects areas of biodiversity value such as Natural Heritage Sites, UKBAP LBAP Priority habitats, SSSIs designated for their biodiversity interest
2. Satisfy the site selection criteria for fauna
3. Or Scores **12+** from Table 1.6 river species scoring sheet

Once selected as wildlife sites, the site boundary should include a buffer strip of at least 10m of natural vegetation.

Species marked in **bold** score 2, these are UKBAP and/or Axiophytes, other species score 1

Table 1.6 River Species

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES
<i>Alisma plantago-aquatica</i>	Common Water-plantain	Axiophyte
<i>Apium nodiflorum</i>	Fool's Water-cress	
<i>Berula erecta</i>	Lesser Water-parsnip	Axiophyte
<i>Bidens tripartita</i>	Trifid Bur-marigold	Axiophyte
<i>Callitriche hamulata sens.lat.</i>	Intermediate Water-starwort	Axiophyte
<i>Callitriche hermaphroditica</i>	Autumnal Water-starwort	
<i>Callitriche platycarpa</i>	Various-leaved Water-starwort	
<i>Callitriche stagnalis sens.lat</i>	Common Water-starwort	
<i>Equisetum fluviatile</i>	Water Horsetail	
<i>Glyceria declinata</i>	Small Sweet-grass	
<i>Glyceria fluitans</i>	Floating Sweet-grass	
<i>Glyceria plicata/notata</i>	Plicate Sweet-grass	
<i>Groenlandia densa</i>	Opposite-leaved Pondweed	Axiophyte
<i>Hippuris vulgaris</i>	Common Mare's Tail	Axiophyte
<i>Juncus bulbosus</i>	Bulbous Rush	
<i>Lemna minor</i>	Common Duckweed	
<i>Lemna trisulca</i>	Ivy-leaved Duckweed	Axiophyte
<i>Mentha aquatica</i>	Water Mint	
<i>Myosotis scorpioides</i>	Water Forget-me-not	
<i>Myriophyllum alterniflorum</i>	Alternate-flowered Water-milfoil	Axiophyte
<i>Myriophyllum spicatum</i>	Spiked Water-milfoil	Axiophyte
<i>Nasturtium officinale</i>	Watercress	
<i>Nuphar lutea</i>	Yellow Water-lily	Axiophyte
<i>Nymphaea alba</i>	White Water-lily	
<i>Nymphoides peltata</i>	Fringed Water-lily	
<i>Oenanthe aquatica</i>	Fine-leaved Water-dropwort	Axiophyte
<i>Phalaris arundinacea</i>	Reed Canary-grass	
<i>Persicaria amphibium</i>	Amphibious Bistort	Axiophyte
<i>Persicaria hydropiper</i>	Water-pepper	
<i>Potamogeton berchtoldii</i>	Small Pondweed	
<i>Potamogeton crispus</i>	Curled Pondweed	
<i>Potamogeton pectinatus</i>	Fennel Pondweed	
<i>Potamogeton perfoliatus</i>	Perfoliate Pondweed	
<i>Potamogeton pusillus</i>	Lesser Pondweed	Axiophyte
<i>Potamogeton trichoides</i>	Hair-like Pondweed	Axiophyte
<i>Ranunculus aquatilis sens.lat.</i>	Water-crowfoot	Axiophyte
<i>Ranunculus circinatus</i>	Fan-leaved Water-crowfoot	Axiophyte
<i>Ranunculus fluitans</i>	River Water-crowfoot	
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot	
<i>Ranunculus omiophyllus</i>	Round-leaved Crowfoot	
<i>Ranunculus peltatus</i>	Pond Water-crowfoot	
<i>Ranunculus sceleratus</i>	Celery-leaved Buttercup	Axiophyte
<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot	Axiophyte
<i>Sagittaria sagittifolia</i>	Arrowhead	Axiophyte
<i>Sparganium emersum</i>	Unbranched Bur-reed	Axiophyte
<i>Sparganium erectum</i>	Branched Bur-reed	
<i>Veronica beccabunga</i>	Brooklime	
<i>Zannichellia palustris</i>	Horned Pondweed	Axiophyte

Ponds

The UKBAP defines ponds as permanent and seasonal water-bodies up to 2ha in extent. A pond should be considered as a UKBAP Priority Habitat if it meets one of the following criteria;

- 'Habitats of international importance: Ponds that meet criteria under Annex I of the Habitats Directive.'
- 'Species of high conservation importance: Ponds supporting Red Data Book species, UK BAP Species i.e. otter, water vole, species fully protected under the Wildlife and Countryside Act Schedule 5 and 8, Habitats Directive Annex II species i.e. Great-crested Newt (*Triturus cristatus*), a Nationally Scarce wetland plant species, or three Nationally scarce aquatic invertebrate species.'
- 'Exceptional assemblages of key biotic groups: Ponds supporting exceptional populations or numbers of key species. Based on (i) criteria specified in guidelines for the selection of biological SSSIs (currently amphibians and dragonflies only), and (ii) exceptionally rich sites for plants or invertebrates (i.e. supporting ≥ 30 wetland plant species or ≥ 50 aquatic macroinvertebrate species).'
- 'Ponds of high ecological quality: Ponds classified in the top PSYM category ("high") for ecological quality (i.e. having a PSYM score $\geq 75\%$). [PSYM (the Predictive SYstem for Multimetrics) is a method for assessing the biological quality of still waters in England and Wales; plant species and / or invertebrate families are surveyed using a standard method; the PSYM model makes predictions for the site based on environmental data and using a minimally impaired pond dataset; comparison of the prediction and observed data gives a % score for ponds quality].'
- 'Other important ponds: Individual ponds or groups of ponds with a limited geographic distribution recognised as important because of their age, rarity of type or landscape context.'

For Barnsley ponds should be selected as local wildlife sites if they meet any of the following criteria;

1. Any that meets the above criteria set out in the UKBAP
2. Satisfy the site selection criteria for fauna
3. Or scores **12+** from Table 1.7 ponds scoring sheet (at least **6** of which should be submerged/emergent vegetation
4. Or is located within a Local Wildlife Site
5. Or scores **15+** from Table 1.7 and is within 300m of two other ponds that meet any of the above criteria (including scoring **9+**)

Once selected as wildlife sites, the site boundary should include a surrounding buffer of natural vegetation of >5m

Species marked in **bold** score 2, these are UKBAP and/or Axiophytes, other species score 1

Table 1.7 Pond Species Scoring Sheet

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES
<i>Acorus calamus</i>	Sweet-flag	Axiophyte
<i>Agrostis stolonifera</i>	Creeping Bent	
<i>Alisma lanceolatum</i>	Narrow-leaved Water-plantain	Axiophyte
<i>Alisma plantago-aquatica</i>	Common Water-plantain	Axiophyte
<i>Alnus glutinosa</i>	Alder	
<i>Alopecurus geniculatus</i>	Marsh Foxtail	
<i>Apium nodiflorum</i>	Fool's Water-cress	
<i>Baldellia ranunculoides</i>	Lesser Water-plantain	Axiophyte
<i>Berula erecta</i>	Lesser Water-parsnip	Axiophyte
<i>Bidens tripartita</i>	Trifid Bur-marigold	Axiophyte
<i>Butomus umbellatus</i>	Flowering Rush	Axiophyte
<i>Callitriche agg.</i>	Water-starwort	
<i>Callitriche hamulata sens.lat.</i>	Callitriche hamulata	Axiophyte
<i>Callitriche hermaphroditica</i>	Autumnal Water-starwort	
<i>Callitriche obtusangula</i>	Blunt-fruited Water-starwort	
<i>Callitriche platycarpa</i>	Various-leaved Water-starwort	
<i>Callitriche stagnalis sens.lat</i>	Common Water-starwort	
<i>Caltha palustris</i>	Marsh Marigold	Axiophyte
<i>Cardamine pratensis</i>	Cuckoo Flower	
<i>Carex acuta</i>	Slender Tufted Sedge	Axiophyte
<i>Carex acutiformis</i>	Lesser Pond Sedge	
<i>Carex diandra</i>	Lesser Tussock Sedge	Axiophyte
<i>Carex elata</i>	Tufted Sedge	Axiophyte
<i>Carex otrubae</i>	False Fox Sedge	
<i>Carex paniculata</i>	Greater Tussock Sedge	Axiophyte
<i>Carex pseudocyperus</i>	Cyperus Sedge	Axiophyte
<i>Carex riparia</i>	Great Pond Sedge	Axiophyte
<i>Carex rostrata</i>	Bottle Sedge	Axiophyte
<i>Carex vesicaria</i>	Bladder Sedge	Axiophyte
<i>Ceratophyllum demersum</i>	Rigid Hornwort	Axiophyte
<i>Cirsium palustre</i>	Marsh Thistle	
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	
<i>Eleocharis palustris</i>	Common Spike-rush	
<i>Epilobium hirsutum</i>	Great Willowherb	
<i>Epilobium palustre</i>	Marsh Willowherb	
<i>Epipactis palustris</i>	Marsh Helleborine	Axiophyte
<i>Equisetum fluviatile</i>	Water Horsetail	
<i>Equisetum palustre</i>	Marsh Horsetail	
<i>Equisetum telmateia</i>	Great Horsetail	
<i>Eriophorum angustifolium</i>	Common Cottongrass	
<i>Eupatorium cannabinum</i>	Hemp Agrimony	

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES
<i>Filipendula ulmaria</i>	Meadowsweet	
<i>Galium palustre sens.lat.</i>	Marsh Bedstraw	
<i>Galium uliginosum</i>	Fen Bedstraw	Axiophyte
<i>Glyceria declinata</i>	Small Sweet-grass	
<i>Glyceria fluitans</i>	Floating Sweet-grass	
<i>Glyceria maxima</i>	Reed Sweet-grass	
<i>Glyceria (notata) plicata</i>	Plicate Sweet-grass	
<i>Groenlandia densa</i>	Opposite-leaved Pondweed	Axiophyte
<i>Hippuris vulgaris</i>	Mare's-tail	Axiophyte
<i>Hottonia palustris</i>	Water-violet	Axiophyte
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort	Axiophyte
<i>Hypericum elodes</i>	Marsh St John's Wort	Axiophyte
<i>Iris pseudacorus</i>	Yellow Iris	
<i>Juncus acutiflorus</i>	Sharp-flowered Rush	
<i>Juncus articulatus</i>	Jointed Rush	
<i>Juncus bufonius sens.lat.</i>	Toad Rush	
<i>Juncus bulbosus</i>	Bulbous Rush	
<i>Juncus conglomeratus</i>	Compact Rush	
<i>Juncus effusus</i>	Soft Rush	
<i>Juncus inflexus</i>	Hard Rush	
<i>Lemna gibba</i>	Fat Duckweed	Axiophyte
<i>Lemna minor</i>	Common Duckweed	
<i>Lemna trisulca</i>	Ivy-leaved Duckweed	Axiophyte
<i>Lotus pendunculatus/uliginosus</i>	Greater Bird's-foot Trefoil	
<i>Luronium natans</i>	Floating Water-plantain	UKBAP
<i>Lychnis flos-cuculi</i>	Ragged Robin	Axiophyte
<i>Lycopus europaeus</i>	Gipsywort	
<i>Lysimachia vulgaris</i>	Yellow Loosestrife	Axiophyte
<i>Lythrum salicaria</i>	Purple Loosestrife	Axiophyte
<i>Mentha aquatica</i>	Water mint	
<i>Menyanthes trifoliata</i>	Bog Bean	Axiophyte
<i>Myosotis laxa</i>	Tufted Forget-me-not	
<i>Myosotis scorpioides</i>	Forget-me-not	
<i>Myriophyllum alterniflorum</i>	Alternate-leaved Water-milfoil	Axiophyte
<i>Myriophyllum spicatum</i>	Spiked Water-milfoil	Axiophyte
<i>Myriophyllum verticillatum</i>	Whorled Water-milfoil	Axiophyte
<i>Nasturtium officinale</i>	Water-cress	
<i>Nuphar lutea</i>	Yellow Water-lily	Axiophyte
<i>Nymphaea alba</i>	White Water-lily	
<i>Nymphoides peltata</i>	Fringed Water-lily	
<i>Oenanthe aquatica</i>	Fine-leaved Water-dropwort	Axiophyte
<i>Oenanthe crocata</i>	Hemlock Water-dropwort	
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort	Axiophyte
<i>Phalaris arundinacea</i>	Reed Canary-grass	
<i>Phragmites australis</i>	Common Reed	
<i>Polygonum/Persicaria amphibium</i>	Amphibious Bistort	
<i>Polygonum/Persicaris hydropiper</i>	Water-pepper	
<i>Potamogeton berchtoldii</i>	Small Pondweed	Axiophyte
<i>Potamogeton coloratus</i>	Fen Pondweed	
<i>Potamogeton compressus</i>	Grass-wrack Pondweed	UKBAP

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES	
<i>Potamogeton crispus</i>	Curled Pondweed	Axiophyte	
<i>Potamogeton natans</i>	Broad-leaved Pondweed		
<i>Potamogeton pectinatus</i>	Fennel pondweed		
<i>Potamogeton perfoliatus</i>	Perfoliate Pondweed		
<i>Potamogeton polygonifolius</i>	Bog Pondweed		
<i>Potamogeton pusillus</i>	Lesser Pondweed		
<i>Potamogeton trichoides</i>	Hair-like Pondweed		
<i>Potentilla anserina</i>	Silverweed		Axiophyte
<i>Potentilla palustris</i>	Marsh Cinquefoil		
<i>Pulicaria dysenterica</i>	Common Fleabane		
<i>Ranunculus acris</i>	Meadow Buttercup		
<i>Ranunculus aquatilis sens.lat.</i>	Common Water-crowfoot		
<i>Ranunculus circinatus</i>	Fan-leaved Water-crowfoot		
<i>Ranunculus flammula</i>	Lesser Spearwort		
<i>Ranunculus hederaceus</i>	Ivy-leaved Crowfoot		
<i>Ranunculus lingua</i>	Greater Spearwort		
<i>Ranunculus omiophyllus</i>	Round-leaved Crowfoot	Axiophyte	
<i>Ranunculus peltatus</i>	Pond Water-crowfoot		
<i>Ranunculus sceleratus</i>	Celery-leaved Buttercup		
<i>Ranunculus trichophyllus</i>	Thread-leaved Water-crowfoot		
<i>Rorippa amphibia</i>	Great Yellow-cress		
<i>Rumex conglomeratus</i>	Clustered Dock		
<i>Rumex crispus</i>	Curled Dock		
<i>Rumex hydrolapathum</i>	Water Dock		
<i>Sagittaria sagittifolia</i>	Arrowhead		
<i>Salix cinerea</i>	Grey Willow		Axiophyte
<i>Scirpus/Schoenopectus lacustris</i>	Common Club-rush		
<i>Scrophularia aquatica</i>	Water Figwort		
<i>Scutellaria galericulata</i>	Skullcap		
<i>Solanum dulcamara</i>	Bittersweet		
<i>Sparganium emersum</i>	Unbranched Bur-reed		
<i>Sparganium erectum</i>	Branched Bur-reed		
<i>Stachys palustris</i>	Marsh Woundwort		
<i>Stellaria alsine</i>	Bog Stitchwort		
<i>Stellaria palustris</i>	Marsh Stitchwort		
<i>Stratiotes aloides</i>	Water Soldier	UKBAP, Axiophyte	
<i>Symphytum officinale</i>	Common Comfrey		
<i>Typha angustifolia</i>	Lesser Reedmace		
<i>Typha latifolia</i>	Greater Reedmace		
<i>Valeriana dioica</i>	Marsh Valerian		
<i>Veronica beccabunga</i>	Brooklime		
<i>Veronica catenata</i>	Pink Water-speedwell		
<i>Veronica scutellata</i>	Marsh Speedwell		
<i>Zannichellia palustris</i>	Horned Pondweed		

Lowland dry-acidic grassland

The UK BAP describes Lowland acid grassland as typically occurring on nutrient-poor, generally free-draining soils with pH ranging from 4 to 5.5 overlying acid rocks or superficial deposits such as sands and gravels.

National Vegetation Classification communities associated with lowland dry acidic grassland include U1 (*Festuca ovina* - *Agrostis capillaris* - *Rumex acetosella*), U2 (*Deschampsia* grassland), U4 (*Festuca ovina* - *Agrostis capillaris* - *Galium saxatile*).

Definition of lowland acid grassland can be problematical but here it is defined as both enclosed and unenclosed acid grassland throughout the UK lowlands (normally below c. 300m/980ft). It covers all acid grassland managed in functional enclosures; swards in old and non-functional enclosures in the upland fringes, which are managed as free-range rough grazing in association with unenclosed tracts of upland, are excluded.

It often occurs as an integral part of lowland heath landscapes, in parklands and locally on coastal cliffs and shingle. It is normally managed as pasture. Acid grassland is characterised by a range of plant species such as Heath Bedstraw (*Galium saxatile*), Sheep's Fescue (*Festuca ovina*), Common Bent (*Agrostis capillaris*), Sheep's Sorrel (*Rumex acetosella*), Wavy Hair-Grass (*Deschampsia flexuosa*), Bristle Bent (*Agrostis curtisii*) and Tormentil (*Potentilla erecta*), with presence and abundance depending on community type and locality. Dwarf shrubs such as Heather (*Calluna vulgaris*) and Bilberry (*Vaccinium myrtillus*) can also occur but at low abundance. Lowland acid grassland often forms a mosaic with dwarf shrub heath.

Acid grasslands can have a high cover of bryophytes and parched acid grassland can be rich in lichens. Acid grassland is very variable in terms of species richness and stands can range from relatively species-poor (less than 5 species per 4m²) to species-rich (in excess of 25 species per 4m²). Parched acid grassland in particular contains a significant number of rare and scarce vascular plant species many of which are annuals. These include species such as Mossy Stonecrop (*Crassula tillaea*), Smooth Rupturewort (*Herniaria glabra*), Slender Bird's-Foot-Trefoil (*Lotus angustissimus*), Bur Medick (*Medicago minima*) and Clustered Clover (*Trifolium glomeratum*) and Spring Speedwell (*Veronica verna*). Perennial taxa associated with these grasslands include, Sticky Catchfly (*Lychnis viscaria*) and Shaggy Mouse-Ear-Hawkweed (*Pilosella peleteriana*).

The bird fauna of acid grassland is very similar to that of other lowland dry grasslands which collectively are considered to be a priority habitat for conservation action. Bird species of conservation concern which utilise acid grassland for breeding or wintering include woodlark (*Lullula arborea*), Stone curlew (*Burhinus oedicephalus*), nightjar (*Caprimulgus europaeus*), lapwing, skylark, Green woodpecker (*Picus viridis*), Hen harrier (*Circus cyaneus*) and merlin (*Falco columbarius*). Many of the invertebrates that occur in acid grassland are specialist species which do not occur in other types of grassland. The open parched acid grasslands on sandy soils in particular, can support a considerable number of ground-dwelling and burrowing invertebrates such as solitary bees and wasps. A number of rare and scarce species are associated

with the habitat, some of which are included on the UK Biodiversity Action Plan list of species of conservation concern, such as the Field-cricket (*Gryllus campestris*). As with other lowland semi-natural grassland types, acid grassland has undergone substantial decline in the 20th century, this decline is mostly due to agricultural intensification.

The UKBAP list the following factors as affecting Lowland Dry-acidic Grassland and leading to increasing fragmentation of this habitat;

- Agricultural intensification by use of fertilisers, herbicides and other pesticide, liming, re-seeding or ploughing for arable crops.
- Agricultural and other management neglect leading to rank over-growth, and bracken (*Pteridium aquilinum*) and scrub encroachment.
- Over-grazing is a more localised problem, and is sometimes associated with supplementary feeding which can cause localised sward damage.
- Afforestation particularly with softwoods on light sandy soils.
- Development activities such as mineral and rock extraction, road building, housing and landfill.
- Atmospheric pollution and climate change, the influence of which is not fully assessed.

For Barnsley Lowland Dry-acidic grassland should be selected as local wildlife sites if they meet any of the following criteria

1. Any site ≥ 0.5 ha that has an affinity with NVC communities U1, U2 and U4
2. Satisfies the site selection criteria for fauna
3. Any site ≥ 0.5 ha that scores **15+** from Table 1.8 dry acid grassland

Species marked in **bold** score 2, these are UKBAP and/or Axiophytes, other species score 1

Table 1.8 Lowland dry-acidic grassland species table

SCIENTIFIC NAME	COMMON NAME	ATTRIBUTES
<i>Agrostis canina</i> sens.lat.	Velvet Bent	Axiophyte
<i>Agrostis capillaris</i>	Common Bent	
<i>Agrostis stolonifera</i>	Creeping Bent	
<i>Aira praecox</i>	Early Hair-grass	
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	
<i>Arenaria serpyllifolia</i>	Thyme-leaved Sandwort	
<i>Blechnum spicant</i>	Hard Fern	
<i>Calluna vulgaris</i>	Heather	
<i>Campanula rotundifolia</i>	Harebell	
<i>Carex arenaria</i>	Sand Sedge	
<i>Carex echinata</i>	Star Sedge	
<i>Carex nigra</i>	Common Sedge	

<i>Carex panicea</i>	Carnation Sedge	
<i>Carex pilulifera</i>	Pill Sedge	Axiophyte
<i>Conopodium majus</i>	Pignut	
<i>Danthonia decumbens</i>	Heath Grass	Axiophyte
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	
<i>Deschampsia flexuosa</i>	Wavy Hair-grass	
<i>Empetrum nigrum subsp.nigrum</i>	Crowberry	
<i>Erica cinerea</i>	Bell Heather	Axiophyte
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	
<i>Festuca ovina</i>	Sheep's Fescue	
<i>Filago minima</i>	Small Cudweed	Axiophyte
<i>Galium saxatile</i>	Heath Bedstraw	
<i>Hieracium pilosella</i>	Mouse-eared Hawkbit	
<i>Holcus lanatus</i>	Yorkshire Fog	
<i>Holcus mollis</i>	Creeping Soft-grass	
<i>Hypochaeris radicata</i>	Common Cat's-ear	
<i>Juncus effusus</i>	Soft Rush	
<i>Juncus squarrosus</i>	Heath Rush	
<i>Lathyrus linifolius</i>	Bitter Vetch	Axiophyte
<i>Leontodon/saxatilis</i>	Lesser Hawkbit	Axiophyte
<i>Lotus corniculatus</i>	Common Bird's-foot Trefoil	
<i>Luzula multiflora</i>	Heath Wood-rush	
<i>Luzula sylvatica</i>	Great Wood-rush	
<i>Molinia caerulea</i>	Purple Moor-grass	
<i>Nardus stricta</i>	Mat grass	
<i>Ornithopus perpusillus</i>	Bird's-foot	Axiophyte
<i>Polygala serpyllifolia</i>	Heath Milkwort	
<i>Potentilla erecta</i>	Tormentil	Axiophyte
<i>Rumex acetosella</i>	Sheep's Sorrel	
<i>Succisa pratensis</i>	Devil's-bit Scabious	Axiophyte
<i>Teucrium scorodonia</i>	Wood Sage	
<i>Ulex gallii</i>	Western Gorse	Axiophyte
<i>Vaccinium myrtillus</i>	Bilberry	
<i>Veronica officinalis</i>	Heath Speedwell	Axiophyte
<i>Viola palustris</i>	Marsh Violet	Axiophyte
<i>Viola riviniana</i>	Dog Violet	

Lowland Meadows

Lowland meadows include most forms of unimproved neutral grassland in the enclosed lowland landscapes of the United Kingdom. They tend to contain the National Vegetation Classifications of MG4 (*Alopecurus pratensis* – *Sanguisorba officinalis* grassland), MG5 (*Cynosurus cristatus* – *Centaurea nigra* grassland – *Centaureo* - *Cynosuretum cristati*) and MG8 (*Cynosurus cristatus* – *Caltha palustris* flood pasture grassland).

The UKBAP plan is not restricted to grasslands cut for hay, but also takes into account unimproved neutral pastures where livestock grazing is the main land use. On many farms in different parts of the UK, use of particular fields for grazing pasture and hay cropping changes over time, but the characteristic plant community may persist with subtle changes in floristic composition.

<i>Oxalis acetosella</i>	Wood Sorrel
<i>Potentilla sterilis</i>	Barren Strawberry
<i>Primula vulgaris</i>	Primrose
<i>Quercus petraea</i>	Sessile Oak
<i>Sanicula europaea</i>	Sanicle
<i>Sorbus torminalis</i>	Wild Service Tree
<i>Stellaria holostea</i>	Greater Stitchwort
<i>Tilia cordata</i>	Small-leaved Lime
<i>Veronica Montana</i>	Wood Speedwell
<i>Vicia sepium</i>	Bush Vetch