

Durham Biodiversity Action Plan

Priority habitat definitions

WOODLAND HABITATS

Native Hedgerows

Identification & Mapping

A hedgerow is defined as a line of trees or shrubs over 20m long and less than 5m wide, provided that at one time the trees or shrubs were more or less continuous. (from UK Steering Group on Hedgerows, published in Natural England's Hedgerow Survey Handbook*).

A native hedgerow is defined here as one in which over 80% of the woody plants are native species.

A hedgerow tree is an isolated tree, of whatever species, age or origin, which has been deliberately or incidentally allowed to grow within a native hedgerow.

Condition Assessment

Follow DEFRA's Hedgerow Survey Handbook (Appendix 9)* which combines measures of height, width, integrity, nutrient enrichment and other factors.

To be in 'favourable condition' a hedgerow must meet all the thresholds listed below:

- Undisturbed ground of at least 2m
- Herbaceous vegetation of at least 1m
- Within a 2m band of hedgerow there should be less than 20% combined cover of nettles, cleavers and docks
- Within a 2m band of hedgerow there should be a maximum of 10% non-native herbaceous species
- There should be a maximum of 10% non-native woody species
- Height of at least 1m
- Width of at least 1.5m
- Less than 10% of the hedgerow should be made up of gaps
- No gap should be more than 5m wide
- The base of the canopy should be less than 0.5m above ground for shrubby hedgerows

* **DEFRA (2007)** Hedgerow Survey Handbook – A standard procedure for local surveys in the UK. Prepared on behalf of the Steering Group for the UK. DEFRA, London.

Ancient Semi-Natural Woodland (including PAWS and RNWAS)

Identification & Mapping

Ancient woodland includes all woodland sites with evidence of continuous wooded cover since 1600 AD. The definition includes Planted Ancient Woodland Sites (PAWS) and restored Native Woodland on Ancient Sites (RNWAS).

Planted Ancient Woodland Sites (PAWS) are woodland sites which contain evidence of former ancient woodland, or for which there is recorded evidence of former ancient woodland, and which have subsequently been planted with coniferous or broadleaved trees.

Restored Native Woodland on Ancient Sites (RNWAS) are PAWS sites as above which have been restored to native woodland. A PAWS site can be defined as restored if re-establishment of a functioning native woodland ecosystem has been undertaken, both in terms of the woodland structure and its composition. This is undertaken by (as defined by the Forestry Commission 2003):

- Securing features from the former ancient semi-natural woodland.
- Removing introduced species of trees, shrubs, and other plants.
- Encouraging the re-establishment of native species.
- Initiating or enhancing ecological processes which may be absent or damaged (such as appropriate grazing regimes).

There is a current inventory of ancient woodlands (and PAWS) over 2ha in extent. There are known to be inaccuracies in this inventory and further work is planned to revisit these sites and update the inventory.

Condition Assessment

There is a standard condition assessment for Ancient Woodlands (JNCC 2004*)

Durham BAP has also developed its own ASNW condition assessment based on revised Forestry Commission guidelines and used during the Derwent Valley Ancient Woodland Inventory.

To be in 'favourable condition' an ASNW must meet all the conditions below:

- No loss of woodland area.
- More than 50% canopy cover.
- More than 90% native species.
- More than 20% shrub cover.
- More than 90% native shrub species.
- At least 3 fallen trees of >20cm diameter per hectare
- At least 4 standing dead trees of >20cm diameter per hectare
- Sufficient young plants to replace the tree cover
- 90% expected NVC.
- Veteran Trees to be present.
- Presence of particular indicator plants
- Some topographical features to be present.

There will be a baseline for condition for all sites surveyed, but it will be difficult to repeat this work regularly. For sites recorded in unfavourable condition, records of current positive interventions will give the site 'recovering' status. (Note: This will only be applied retrospectively once the results of any interventions are known)

***JNCC, (2004)** Common Standards Monitoring Guidance for Woodland, Version February 2004, ISSN 1743-8160

Other Broadleaf Woodland

Identification & Mapping

This priority habitat encompasses all woodland which is not ancient (established since 1600), and which contains predominantly broadleaf species. This includes plantation, secondary and developing woodland.

Mature broadleaf woodland dominated by non-native broadleaf species such as sycamore and beech are important in the context of the Durham BAP area and are included in this definition, however all new plantation relating to targets for this priority habitat should be of native species.

It should be noted that native but non-broadleaf species such as yew and juniper can be important components of this priority habitat.

An important exclusion to this definition, however, is woodland created by inappropriate planting i.e.:

- broadleaf plantation woodland which has been planted, inappropriately, on another DBAP priority habitat,
- broadleaf plantation woodland which has been planted on land which would have met the definition of another DBAP priority habitat in the previous 30 years.
- broadleaf plantation woodland with more than 70% cover of non-native trees/shrubs

Condition Assessment

To measure the condition of Other Broadleaf Woodland a similar assessment to ASNW should be used.

However before undertaking a condition assessment on this habitat the woodland needs to be defined as either native or non-native (mature broadleaf woodland dominated by non-native broadleaf species such as sycamore and beech is included within this habitat definition). Where the character of the woodland is primarily native species all the conditions below need to be met for the woodland to be in 'favourable condition'. Where the character of the woodland is non-native broadleaf species condition should be disregarded.

To be in 'favourable condition' Other Broadleaf Woodland must meet all the conditions below:

- No loss of woodland area.
- More than 50% canopy cover.
- More than 80% native species*.
- More than 20% shrub cover.
- More than 90% native shrub species.
- At least 3 fallen trees of >20cm diameter per hectare
- At least 4 standing dead trees of >20cm diameter per hectare
- Sufficient young plants to replace the tree cover
- Veteran Trees to be present.
- Presence of particular indicator plants
- Some topographical features to be present.

*see caveat to this above

There will be a baseline for condition for all sites surveyed, but it will be difficult to repeat this work regularly. For sites recorded in unfavourable condition, records of current positive interventions will give the site 'recovering' status. (Note: This will only be applied retrospectively once the results of any interventions are known)

Wet Woodland

Wet woodland occurs on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species. It is found on floodplains, as successional habitat on fens and bogs, along streams and hill-side flushes, and in peaty hollows. In terms of the National Vegetation Classification it includes a wide range of communities from W1 to W8.

Identification & Mapping

For the purposes of mapping, parcels meeting the above description should be mapped as Wet Woodland in addition to either Other Broadleaf Woodland or Ancient Semi-Natural Woodland.

Condition Assessment

No condition assessment has been defined for this habitat

Scrub

There is no overall target set for the extent or condition of Scrub, and as a large scale transitional community it is difficult to map. However, for the purposes of this plan a coastal strip has been defined as a 500m buffer from the coast (mean high water), within which the cover of scrub will be monitored. A target has been set for the extent of scrub within this coastal strip.

Identification & Mapping

Scrub comprises scattered or dense stands of naturally regenerated locally native tree and shrub species, generally under 5m tall.

This plan concerns scrub which is regarded as having a high nature conservation value (as defined by JNCC report 308 *The nature conservation value of scrub in Britain, 2000*)

Scrub vegetation may have high conservation value for one or more of the following reasons:

- The conservation value of the shrub species present
Some scrub types are dominated by shrub species that are of conservation importance because of their rarity, for example juniper, box or downy willow
- The conservation value of other species associated with the scrub type

Scrub composed of woody species of low botanical interest may be of considerable value to particular rare species or groups of associated species

- The conservation value of scrub as a landscape element in a mosaic including other habitats

Scrub may form an important habitat component of habitat mosaics in certain systems.

Within the DBAP area examples of scrub that will be defined as a priority BAP habitat include: (this is not an exclusive list)

- scrub that offers shelter to coastal migrant birds, black grouse chicks or Durham Argus butterflies
- scrub that links blocks of woodland
- scrub that adds to the biodiversity value of a brownfield site
- scrub on calcareous soils with three or more of the following species: way-faring tree, wild privet, dogwood, spurge laurel, black bryony, hawthorn or spindle.
- Scrub on peat soils with two or more of the following species: tea-leaved willow, eared willow, goat willow, grey willow, bay willow, purple willow, osier

Examples of non DBAP priority scrub habitat include:

- scrub developing inappropriately on other DBAP priority habitats such as magnesian limestone grassland, lowland heath, lowland acid grassland, or reedbeds
- scrub developing inappropriately at sites which support DBAP priority species that are detrimentally effected by scrub e.g. common lizard, grass snake

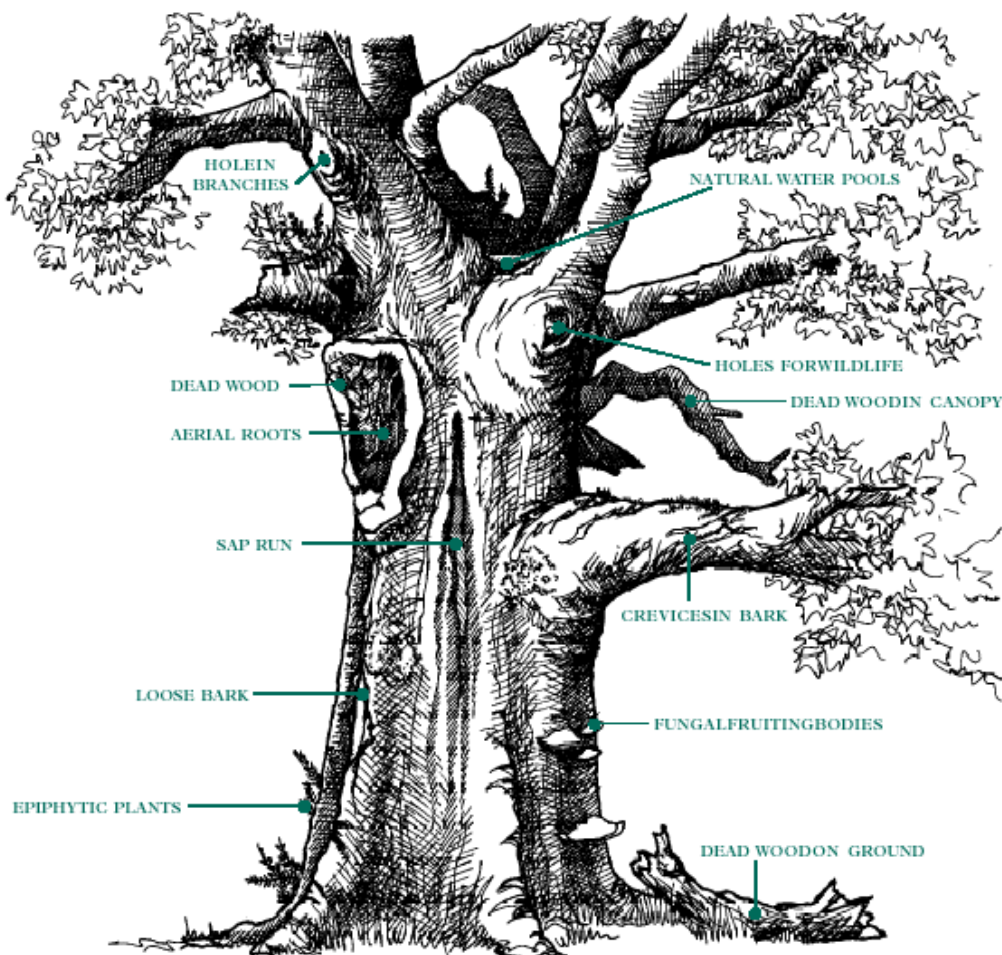
Condition Assessment

No condition assessment has been defined for this habitat.

Wood Pasture, Parkland and Veteran Trees

Wood pasture or parkland are vegetation structures rather than particular plant communities. They are matrices of grassland, heathland and/or woodland habitats which contains large open-grown or high forest trees (often pollards) at various densities (following the UK BAP definition and Defra's T03 definition for parkland and wood pasture)*.

Veteran trees are in-field, boundary or woodland trees which are over mature and with evidence of decay, often having been kept alive through management such as pollarding. It is not possible to use size precisely as a guide to maturity for individual species, because diameter or circumference depends on a number of other factors, including soil type and past and present competition. However a rule of thumb has been developed and is presented in the table below. Veteran trees also contain some or all of the following features:



From the Veteran Trees Initiative / Woodland Trust

In-field trees of this nature often indicate the presence of former wood pasture or parkland

Veteran Tree Rule Of Thumb Trunk Diameters

These 'rules of thumb' collate the maximum trunk sizes recorded by Mitchell (1974) for each species and adapting categories of 'potentially interesting', 'valuable' and 'truly ancient' described by Read (2000) to relate to these maximum trunk sizes

Species	Diameter at Breast Height (1.3m) in meters			
	Max diameter	Potentially interesting	Valuable	Truly ancient
<i>Acer campestre</i>	0.96	0.31	0.45	0.60
<i>Acer platanoides</i>	1.27	0.41	0.60	0.80
<i>Acer pseudoplatanus</i>	2.23	0.71	1.05	1.39
<i>Aesculus hippocastanum</i>	2.04	0.65	0.96	1.27
<i>Alnus glutinosa</i>	1.18	0.38	0.55	0.74
<i>Alnus incarna</i>	0.64	0.20	0.30	0.40
<i>Arbutus unedo</i>	0.38	0.12	0.18	0.24
<i>Betula pendula</i>	0.96	0.31	0.45	0.60
<i>Betula pubescens</i>	0.96	0.31	0.45	0.60
<i>Buxus sempervirens</i>	0.25	0.08	0.12	0.16
<i>Carpinus betulus</i>	1.27	0.41	0.60	0.80
<i>Castanea sativa</i>	3.18	1.02	1.50	1.99
<i>Crataegus monogyna</i>	0.96	0.31	0.45	0.60
<i>Fagus sylvatica</i>	1.97	0.63	0.93	1.23
<i>Fraxinus excelsior</i>	1.91	0.61	0.90	1.19
<i>Ilex aquifolium</i>	0.57	0.18	0.27	0.36
<i>Juglans regia</i>	1.91	0.61	0.90	1.19
<i>Malus sylvestris</i>	0.96	0.31	0.45	0.60
<i>Mespilus germanica</i>	0.48	0.15	0.22	0.30
<i>P. x canadensis var serotina</i>	1.91	0.61	0.90	1.19
<i>P. x canescens</i>	1.59	0.51	0.75	0.99
<i>Pinus sylvestris</i>	1.59	0.51	0.75	0.99
<i>Populus alba</i>	0.64	0.20	0.30	0.40
<i>Populus nigra</i>	1.59	0.51	0.75	0.99
<i>Prunus avium</i>	1.43	0.46	0.67	0.90
<i>Pyrus pyrastrer</i>	0.64	0.20	0.30	0.40
<i>Quercus cerris</i>	2.55	0.82	1.20	1.59
<i>Quercus ilex</i>	1.37	0.44	0.64	0.86
<i>Quercus petraea</i>	2.83	0.91	1.33	1.77
<i>Quercus robur</i>	3.18	1.02	1.50	1.99
<i>Robinia pseudoaccacia</i>	1.59	0.51	0.75	0.99
<i>S. x thuringiaca</i>	0.48	0.15	0.22	0.30
<i>Salix caprea</i>	1.27	0.41	0.60	0.80
<i>Salix fragilis</i>	1.11	0.36	0.52	0.70
<i>Sorbus aria agg</i>	0.60	0.19	0.28	0.38
<i>Sorbus aucuparia</i>	0.80	0.25	0.37	0.50
<i>Sorbus intermedia agg</i>	0.64	0.20	0.30	0.40
<i>Sorbus latifolia agg</i>	0.86	0.28	0.40	0.54
<i>Sorbus torminalis</i>	0.89	0.29	0.42	0.56
<i>Tilia x europea</i>	2.23	0.71	1.05	1.39
<i>Taxus baccata</i>	3.18	1.02	1.50	1.99
<i>Tilia cordata</i>	1.91	0.61	0.90	1.19
<i>Tilia platyphyllos</i>	1.85	0.59	0.87	1.15
<i>U. x hollandica</i>	1.59	0.51	0.75	0.99
<i>U. x vegeta</i>	1.75	0.56	0.82	1.09
<i>Ulmus glabra</i>	2.23	0.71	1.05	1.39
<i>Ulmus minor</i>	1.94	0.62	0.91	1.21
<i>Ulmus procera</i>	2.23	0.71	1.05	1.39

From Hedgerow Survey handbook 2nd edition**

Identification & Mapping

For the purposes of monitoring, a **Veteran Tree** will be defined as any tree in the 'valuable' or 'truly ancient' columns in the table above.

It is obviously important for recruitment to also monitor trees in age classes below. Whichever monitoring methodology is adopted for this target, data on species and diameter at breast height should be recorded for all trees in the sample which fall into the 'potentially interesting' column or above.

Parkland will be defined and mapped through the Durham County Council's Historic Landscape Character Assessment.

There is insufficient understanding of **Wood Pasture** in the Durham context at present to allow a definition.

Condition Assessment

Any **Parkland** which is covered by funding from Environmental Stewardship or a Woodland Grant Scheme will be assumed to be in favourable condition, until such time as further work is undertaken to determine a more appropriate condition assessment. See Defra's condition assessment in the T03 definition of wood pasture & parkland for further guidance.*

Any Wood Pasture (once defined) which is covered by funding from Environmental Stewardship or a Woodland Grant Scheme will be assumed to be in favourable condition, until such time as further work is undertaken to determine a more appropriate condition assessment. See Defra's condition assessment in the T03 definition of wood pasture & parkland for further guidance.**

***DEFRA (2005)** Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

** **DEFRA (2007)** Hedgerow Survey Handbook – A standard procedure for local surveys in the UK. Prepared on behalf of the Steering Group for the UK. DEFRA, London.

WETLAND HABITATS

Phragmites australis Reedbed

Reedbeds are wetlands dominated by stands of common reed (*Phragmites australis*), where the water table is at or above ground for most of the year (swamps). *Phragmites australis* must cover more than 60% of the swamp community for the habitat to meet this definition. *Phragmites australis* Reedbed is a type of Fen community that is of particular value to many birds.

Condition Assessment

1. Cover of scrub within the reedbed must be less than 10%.
2. Surface water is present over at least part of the reedbed for most of the year.
3. Cover of undesirable species (docks, thistles, ragworts, Indian (Himalayan) balsam) must be less than 5%.

Adapted from the Defra's W08 reedbeds definition.*

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

Lowland Fen habitats

The definition of lowland for the Durham BAP is all land outside the North Pennines Natural Area.

There is a lot of confusion surrounding fen classifications and terminology. Many classifications use highly technical terminology that combine topographical features, hydrology and vegetation types, which can make the subject inaccessible for the non-specialist. In this classification we define the fen types according to the vegetation alone as this is most easily observed at a site. There is also little agreement on where fen starts and other wetland habitats stop. The narrowest views of what is meant by fen, might include only small sedge rich fen and species-rich tall herb fen vegetation types while other views of fen can be much broader.

For the purposes of the Durham BAP, we are taking a broad view of fen to include all wetland habitats apart from the following that are covered under other HAPs:

- aquatic (wholly or predominantly submerged) vegetation
- blanket bog (including bog pools) & wet heath
- fen carr (wet woodland)
- wet grassland (lowland meadows & pastures)
- fen meadow (purple moor-grass and rush pasture)

The dividing line between some of these habitats and fen is not always clear. Wetlands can have complex patterns of vegetation and the different types of fen described below often merge into each other. This is especially apparent in wet depressions and around the margins of ponds where there is a gradual transition between very wet conditions and much drier conditions higher up. Further information on how to differentiate between these habitats is/will be available on the DBAP website.

Types of fen in lowland Durham:

Pioneer vegetation on exposed mud

This type of usually short-lived vegetation colonises areas left exposed after water levels subside, e.g. on the margins of ponds or other water bodies with fluctuating water levels. There is usually a high proportion of annual species and often a high cover of bare mud. Sometimes there is a high cover of bryophytes. It is a dynamic type of vegetation that can undergo rapid changes in a relatively short time. The early open stages provide an important habitat for highly specialised and scarce species of invertebrates and bryophytes. In lowland Durham this includes the NVC communities OV31 and the more open examples of OV32

Species-poor swamps

Swamp is vegetation that grows out of water so that water is visible at the surface between the emergent plants. Most swamps are species-poor with the individual plants often densely packed together. Some swamp types are uncommon or of relatively high conservation interest. Other types are common and of less interest and if not controlled, invade more valuable vegetation. Example of these 'invasive' types in Durham include S12 - bulrush swamp, S4 & S26 - reedbed and to a lesser extent S14 - branched bur-reed swamp. In lowland Durham swamps are most frequently dominated by the following species (NVC community in brackets) bulrush (S12), branched bur-reed (S14), common spike-rush (S19), common reed (S4 & S26), lesser pond-sedge (S7), water horsetail (S10), and soft rush (not in NVC). Less common swamp types in lowland Durham include reed sweet-grass (S5), greater pond-sedge (S6), common club-rush (S8), bottle sedge (S9), bladder-sedge (S11), lesser bulrush (S13), false fox-sedge (S18), grey club-rush (S20), sea club-rush (S21) and hard rush (not in NVC).

Reedbed

Reedbed is a separate UKBAP habitat but has already been mentioned above as it is a type of species-poor swamp. Large stands of reeds can provide valuable habitat for specialist birds such as bittern, bearded tit, reed warbler and sedge warbler. Smaller stands are not used by these birds and are usually of less conservation interest compared to the types of vegetation they often replace when the reeds spread. If *Phragmites* cover is greater than 60%, then the habitat is both *Phragmites australis* reedbed and fen.

Tall herb fen

This type of fen includes various mixtures of tall wetland herbs such as meadowsweet, great willowherb, wild angelica, hemp agrimony, marsh cinquefoil and many more. These herbs are sometimes mixed with grasses, sedges or rushes. Many examples of this type of habitat in lowland Durham are now unmanaged, rank and species-poor. These include the NVC types OV26, S28 and the more species-poor examples of M27. The most species-rich types of tall herb fen in lowland Durham include S27 and the more species-rich examples of M27.

Small sedge poor fen

This vegetation is usually much shorter than tall herb fen and consists of open mixtures of small sedges such as common sedge, glaucous sedge and sometimes star sedge with grasses, rushes and wetland herbs suited to acidic conditions. There is usually a high cover of bryophytes. Some examples in lowland Durham are similar to forms of M6 but there is usually no *Sphagnum* present.

Small sedge rich fen

Most of the more species-rich examples of fen vegetation in lowland Durham are of this type. It is similar to small sedge poor fen but is usually more species-rich and includes species that prefer calcareous conditions including yellow, carnation and tawny sedges.

There is usually a wide mixture of sedges, herbs and bryophytes with no one species dominating. It sometimes includes uncommon or very specialist calcareous flush species like common butterwort, grass of Parnassus and round-leaved wintergreen. This vegetation mostly conforms to M10 (sub-community b). It is a rare habitat in lowland Durham and is always of high conservation interest. It is confined to flushes and pond margins where the water is influenced by the magnesian limestone.

Mixed rush and bryophyte fen

This type of vegetation is not uncommon in lowland Durham and does not conform to any of the NVC types. It is a species-rich type of vegetation that usually has a continuous carpet of bryophytes with a relatively open canopy comprised of a mixture of rushes and wetland herbs. It is usually found on fen peat near the margins of water bodies. Other types of vegetation also fit in here but further analysis of recent survey data is needed to define this type of fen more precisely and work out its relationship to the other fen types.

Other marginal vegetation

Other species-poor or moderately species-rich types of marginal vegetation include the more closed examples of OV32 – mixtures of marginal herbs including water forget-me-not and celery-leaved buttercup, S23 – similar mixtures of marginal herbs such as fool's water-cress, water cress, water forget-me-not and brooklime and S22 – a species-poor type of vegetation dominated by floating sweet-grass.

Note on the topographical situations where fens occur in lowland Durham:

The topographical situation largely determines the hydrology of the habitat which influences the type of fen vegetation that can develop. Other fen classifications use topographical terms so some of these are explained below. More information on the types of topographical situations that each of the fen types described below occur in lowland Durham is/will be available on the DBAP website.

Springs and flushes – areas where water comes to the surface and seeps over the ground.

Valley fen – wetland adjacent to a stream or river and sometimes on the wettest parts of the valley sides.

Flood plain fen – flat river valleys that flood regularly.

Basin fen – wet depressions without water flowing through and out.

Open water transition fen – wetland that develops on the margins of water bodies.

Ponds

For the purposes of the Durham BAP a pond is defined as any permanent or seasonal water body up to 2ha in surface area, which holds water either seasonally or permanently. Newly created ponds are counted as Durham BAP ponds, but will be subject to a condition assessment.

Some of these Durham BAP ponds which support rare or threatened species or contain a high diversity of wildlife can also be classed as having higher wildlife value, if they fit in with one or more of the following criteria;

- Provide habitats of international importance: Ponds that meet criteria under Annex I of the Habitats Directive.
- Support species of high conservation importance (Red Data Book species, UK BAP species, Durham BAP priority species, species fully protected under the Wildlife and Countryside Act Schedule 5 and 8, Habitats Directive Annex II species, Regionally Rare and Scarce wetland plant species and Nationally Scarce aquatic invertebrate species.
- Ponds of high ecological quality: Ponds classified in the fair or above PSYM category for ecological quality (i.e. having a PSYM score 51% or above).

The limit of a pond is defined as the winter high water mark.

Rivers & Streams

Rivers and streams are naturally dynamic habitats with a constant or seasonal flow of water. In their unmodified state rivers are dynamic features, which interact with their floodplains enabling a range of wetland habitats to develop such as grazing marsh, wet woodland and fen habitats including reedbed. This habitat definition covers any flowing water, including rivers, streams, ditches and their associated riparian habitat. Both shingle beds and eroding river banks support a range of specialised invertebrates, including very rare beetles. Small streams and ditches are important, particularly as corridors for mobile species such as the otter and kingfisher. Rivers and their banks are both important.

Note: Further work by specialists is required to develop guidelines for the identification of river reaches which will be priorities for UK BAP

Floodplain grazing marsh

Floodplain grazing marsh is an area of lowland grassland within a floodplain, which is seasonally inundated with water. The grassland may or may not be species rich. Species-poor versions are, none-the-less, important as habitat for wading birds. Species rich versions of this type of grassland should be additionally recorded under **lowland meadows and pasture** (see definition).

Exposed Riverine Sediments

Exposed riverine sediments (ERS) are mineral deposits (normally sand, gravel, pebble with cobble in this context) in river channels that are exposed during low flows, particularly in the spring and summer. The scouring action of winter floods plays a vital

role in producing suitable habitat (namely exposed insolated substrate), by removing vegetation and also finely divided organic matter that would promote the growth of lush material.

UPLAND HABITATS

Blanket Bog and Upland Wet Heath

Blanket Bog and Upland Wet Heath share many floristic characteristics which make them difficult to differentiate, but which separate them both from Upland Dry Heath. In broad terms all three habitats contain dwarf shrubs such as heather and cross-leaved heath, but Sphagnum mosses are sparse or absent on dry heath.

A standard definition differentiates these two habitats on the basis of the depth of peat (blanket bog on more than 50cm of peat, and wet heath on less than 50cm of peat), however this is often difficult to ascertain in the field, and we treat the two habitats as one broad habitat for the purposes of this plan.

Identification & Mapping

The definition of upland for the Durham BAP is all land within the North Pennines Natural Area.

The definition of this habitat is upland wetland vegetation characterised by Sphagnum mosses, cotton grasses and dwarf shrubs (especially heather and cross-leaved heath).

This definition aligns with the definitions M06 and M04 (wet component) by Defra.*

The definition also encompasses NVC communities as follows: Bog pools M2, M3, Blanket Bog M17, M18, M19, M20, M25, wet heath M16, H21a. (Rodwell 1991)**

Condition Assessment

Not yet agreed.

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

**Rodwell, JS (ed.) (1991) British plant communities. Volume 2. Mires and heaths. Cambridge University Press, Cambridge

Calaminarian Grassland

A particular community type matching the NVC community OV37 (Rodwell)*, typically found within the North Pennines Natural Area but also found on river shingles derived from spoil from leadmining.

Identification & Mapping

Generally short open vegetation of fine-leaved grasses, flowers, mosses and lichens on spoil and gravel from mineral extraction or river gravels, principally associated with lead, or associated with metal-rich ultrabasic exposures. A very rare habitat type, found in the North Pennines, Yorkshire Dales, Derbyshire, the Mendips, Tyne Valley, Tees Valley and areas downstream.

Typical grasses include: common bent, red fescue, sheep's fescue, sweet vernal-grass.

- If it meets the description above and contains one or more of the following wild flower indicator species in the sward then the grassland meets the definition.

Alpine penny-cress
Mountain pansy

Pyrenean scurvygrass
Sea campion

Spring sandwort
Thrift

Condition Assessment

1. Cover of bare ground, including cobbles, gravel and encrusting lichens must be between 20% and 90%.
2. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle, cow parsley, hogweed, coarse grasses) less than 10%.
3. Cover of trees and scrub less than 5%.

Adapted from Defra's G10 calaminarian grassland definition*.

DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

** **Rodwell J (ed.) 1998.** *British Plant Communities, Volume 3 Grasslands and montane communities.* Cambridge University Press.

Species-rich Upland Acid Grassland

The definition of upland for the Durham BAP is all land within the North Pennines Natural Area.

Most upland acid grassland is relatively species-poor but occasionally very species-rich examples are found which are closely related to the NVC community U4c (Rodwell 1998)*. This is a poorly understood type of grassland. The description in British Plant Communities is based only on a small number of samples from the Peak District. In 2006 and 2007 similar vegetation was found several times in the North Pennines, in mostly small patches on unmown banks within upland hay meadows, but it may also occur in other situations in the uplands.

This type of grassland may be very important for the following rare or uncommon plants:

adder's-tongue	eyebright (<i>Euphrasia rostkoviana</i>)	shady horsetail
alpine bistort	fragrant orchid (subspecies <i>borealis</i> & <i>conopsea</i>)	small white-orchid
bird's-eye primrose	greater butterfly-orchid	twayblade

Identification & Mapping

Typical grasses and rushes include: common bent, red fescue, crested dog's-tail, sweet vernal-grass, and field wood-rush.

The typical acid grassland herbs tormentil and heath bedstraw are normally present. Sometimes other species normally associated with acid grassland are also present including heath rush, purple moor-grass, sheep's fescue, heather, bracken, wavy hair-grass, mat grass, hard fern and bilberry.

This vegetation is highly species rich, normally with more than 20 species per square metre.

To meet the definition at least three of the following indicator species should be present and usually at least one of these is frequent:

betony	devil's-bit scabious	zig-zag clover
bitter-vetch	heath grass	

In addition the vegetation will usually contain at least five of the following:

bluebell	eyebright (<i>Euphrasia arctica</i>)	pignut
bugle	germander speedwell	primrose
bush vetch	harebell	quaking-grass
cat's-ear	heath spotted-orchid	ribwort plantain
common bird's-foot-trefoil	lady's bedstraw	rough hawkbit
common dog-violet	meadow oat-grass	selfheal
common milkwort	meadow vetchling	wood anemone
common spotted-orchid	mountain pansy	wood horsetail
downy oat-grass	northern marsh-orchid	yarrow

Condition Assessment

1. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 30%.
2. At least 20 species present per square metre.
3. Cover of litter/thatch less than 30%.
4. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.
5. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle, false oat-grass, tufted hair-grass, bracken) less than 10%.

Averis A, Averis B, Birks J, Horsfield D, Thompson D & Yeo M. (2004). *An illustrated guide to British upland vegetation.* Joint Nature Conservation Committee.

***Rodwell J (ed.) 1998.** *British Plant Communities, Volume 3 Grasslands and montane communities.* Cambridge University Press, Cambridge.

Upland Screes & Rock Habitat

The definition of upland for the Durham BAP is all land within the North Pennines Natural Area.

Upland Screes and Rock habitats are part of the Annex 1 habitat Inland Rock, and includes Acid Screes, Calcareous Screes, Calcareous Rocky Slopes with Chasmophytic vegetation, Acid Rocky Slopes with Chasmophytic vegetation, Upland tall herbs, and also recently exposed rock (e.g. worked quarries with potential for recolonisation).

Identification & Mapping

This habitat is broadly defined as vegetated areas of rocky substrates or exposed rock with potential for vegetation, within moorland grazing units of upland areas. This includes vegetation growing out of crevices, cracks and ledges on exposed rocks, including cliffs, scree, rubble and rocky slopes.

Condition Assessment

1. Cover of bracken, scrub and trees less than 25%.
2. Cover of weeds (e.g. creeping and spear thistles, docks, brambles, common ragwort, common nettle) or non-native species less than 1%.
3. Less than 50% of live leaves (broad-leaved plants), fronds (ferns) or shoots (dwarf shrubs) showing signs of grazing or browsing.
4. Cover of disturbed bare ground less than 10%.

Adapted from Defra's M07 upland cliffs & screes definition*

*DEFRA (2005) *Higher Level Stewardship: Farm Environment Plan – Guidance handbook*. www.defra.gov.uk

Upland Calcareous Grassland

The definition of upland for the Durham BAP is all land within the North Pennines Natural Area.

The best upland calcareous grassland matches CG9 or CG10 (Rodwell 1998)**.

Identification & Mapping

Species-rich, semi-natural grassland generally dominated by fine-leaved grasses, on calcareous soils over carboniferous limestone in upland areas. Managed primarily by grazing. Often occurs in parts of large scale enclosures with other less species-rich grassland types.

Typical grasses include: common bent, crested hair-grass, meadow oat-grass, red fescue, sheep's fescue, sweet vernal-grass, quaking-grass.

- If at least two of the following wildflower indicator species are frequent and another two at least occasional in the sward then the grassland meets this definition.
- If three indicator species are occasional or four are present (but not limited to field corners or edges) then the grassland meets this definition but must be recorded as being in poor condition

Alpine bistort	Fairy flax	Mountain everlasting
Bird's-eye primrose	Gentians	Mouse-ear hawkweed
Carline thistle	Grass-of-parnassus	Rough hawkbit
Common bird's-foot-trefoil	Harebell	Salad burnet
Common butterwort	Hoary rock-rose	Small scabious
Common rock-rose	Hoary whitlowgrass	Squinancywort
Dropwort	Horseshoe vetch	Wild thyme
Devil's-bit scabious	Lesser clubmoss	Yellow saxifrage
Eyebrights	Mossy saxifrage	Small sedges

Condition Assessment

1. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.
2. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved

- dock, common ragwort, common nettle, false oat-grass) less than 10%.
3. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 20%.
 4. Cover of herbs indicative of nutrient enrichment (daisy, creeping buttercup) less than 25%.

Adapted from Defra's G08 upland calcareous grassland definition.*

***DEFRA (2005)** Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

****Rodwell J (ed.) 1998.** British *Plant Communities, Volume 3 Grasslands and montane communities*. Cambridge University Press, Cambridge.

Upland Dry Heath

Identification & Mapping

The definition of upland for the Durham BAP is all land within the North Pennines Natural Area.

Heath vegetation with at least 25% cover of dwarf shrubs (heathers, bilberry, crowberry and western gorse).

Heath characterised by frequent cross-leaved heath and wetland species such as bog-mosses (*Sphagnum*) and/or purple moor-grass, heath rush and deergrass should be recorded as upland wet heath / blanket bog.

Heathland mosaics with more than 75% acid grassland or other habitats do not meet the definition and should be mapped as alternate habitats (e.g. acid grassland) or divided into appropriate parcels for mapping separately.

Condition Assessment

1. Cover of dwarf shrubs must be at least 75%, with at least two dwarf shrub species frequent.
2. At least 10% of the area of dwarf-shrub heath remains unburnt throughout the burning rotation.
3. There must be a range of age classes of heather present, with cover of young (pioneer stage) heather between 25% and 50% and cover of old (mature/degenerate stages) between 10% and 30%.
4. No more than 33% of heather shoots grazed (when assessed between February and April), or flowering heather plants are at least frequent in autumn.

Adapted from Defra's M04 upland heath definition.*

***DEFRA (2005)** Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

Upland Hay meadows

The definition of upland for the Durham BAP is all land within the North Pennines Natural Area.

The best upland hay meadows match the MG3 community (Rodwell) with some gradation into MG5 in more low lying areas.

As well as the main MG3 community, upland hay meadows often contain other areas of species rich grassland within the field boundary. In the wetter meadows the main community is more like a species-rich, upland version of MG8 than MG3. The meadows often contain smaller areas of other types of species-rich grassland on steep uncut banks, among rock outcrops or lead mining waste or on different soil types.

Identification & Mapping

The following definition is an amalgam of the structure of DEFRA's G09 definition for upland haymeadow (which includes damper MG8-type communities) and the positive indicator list from EN's non-statutory site condition assessments for MG3.

Upland Haymeadows conform to the following:

- Species-rich neutral grassland on moist, free-draining soils in the North Pennines Natural Area.
- At least three indicators occasional or four indicators present (but not limited to field corners or edges) from the following list:

Lady's mantles
Wood anemone
Common Knapweed
Melancholy thistle
Pignut
Eyebrights

Meadowsweet
Wood cranesbill
Water avens
Meadow vetchling
Hawkbits
Bird's foot trefoil

Common bistort
Yellow rattle
Great burnet
Devil's bit scabious
Globe flower

Condition Assessment

Follow the non-statutory site condition assessment for MG3.

Both this condition assessment and the G09 condition statement* set the bar relatively low for good condition, and so an additional higher tier of condition may be added at a later date.

Enhancement of DBAP habitat in poor condition to meet the above condition assessment contributes to the '**increase extent of habitat in good condition**' target

Restoration of non-BAP habitat to habitat meeting the above definition (even in poor condition), would contribute to an '**increase extent of habitat**' target.

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

LOWLAND HABITATS

Early Successional Brownfield Land (syn: Open Mosaic Habitats on Post Industrial Land)

The habitat comprises mosaics of bare ground with, typically, very early pioneer communities on skeletal substrates, more established open grasslands, usually dominated by fineleaved grasses with many herbs, areas of bare ground, scrub and patches of other habitats such as heathland, swamp, ephemeral pools and inundation grasslands. High quality examples may be characterised as unmanaged flower-rich grasslands with sparsely vegetated areas developed on poor soils/substrates.

Invertebrate faunas can be species-rich and may include many uncommon species, such as dingy skipper and grayling. Exotic plants provide for an extended flowering season and, with the floristic and structural diversity of the habitat mosaic, contribute to the value of the habitat for invertebrates.

Some areas are important for birds such as little ringed plover, as well as more widespread, but UK BAP priority species, including skylark and grey partridge. The habitat provides secure breeding and feeding areas commonly absent from land under agricultural management.

Identification & Mapping

Brownfield land has **some mosaics of open ground, less than 30% shrub or tree cover**, and **may** contain one or more of the plants (or species groups) from the following list.

Blue fleabane (<i>Erigeron acer</i>)	Mignonette (<i>Reseda lutea</i>)	Squirrel tail fescue (<i>Vulpia bromoides</i>)
Common bird's foot trefoil (<i>Lotus corniculatus</i>)	Mouse-ear hawkweeds (<i>Pilosella</i> sp.)	Toadflaxes, purple & common (<i>Linum purpurea</i> and <i>Linum vulgaris</i>)
Common Centaury (<i>Centaureum erythraea</i>)	Mullein (<i>Verbascum thapsus</i>)	Yellow-wort (<i>Blackstonia perfoliata</i>)
Early hair grass (<i>Aira praecox</i>)	Orchids	Cup lichens and Dog lichens (<i>Cladonia</i> & <i>Peltigera</i> sp.)
Fairy Flax (<i>Linum catharticum</i>)	Rat's tail fescue (<i>Vulpia myuros</i>)	Kidney Vetch (<i>Anthyllis vulneraria</i>)
Hawkweeds (<i>Hieracium</i> sp.)	Silver hair grass (<i>Aira caryophyllea</i>)	

The main criteria for brownfield land of high nature conservation value are one or more of the following;

- Habitats typical of the soil/substrate conditions concerned which demonstrate the characteristic mosaic of bare ground, pioneer communities, flower-rich grassland and other habitat patches with associated structural and topographical features.
- Areas that have retained bare ground and pioneer communities over an extended period, demonstrating arrested succession.
- Areas that support either the last remaining examples where the habitat was formerly widespread/extensive, or rare/specialised types of this habitat for example where the nature of the substrate is particularly unusual.
- Presence of UK BAP priority species, Durham BAP priority species or Red Data Book/List species.
- Importance for a significant assemblage of key species groups.

When **mapping** the habitat, areas of scrub, wet flush or more lush vegetation should be included as part of the habitat's structural diversity, unless these elements take the habitat outside of the definition. In places brownfield sites have been landscaped/planted with trees, but still retain areas of brownfield habitat. Estimates of tree cover should apply to each individual habitat area rather than the entire land parcel.

Notes

Later successional stages on brownfield land may become important as semi-natural habitats such as lowland heath and neutral or calcareous grassland in their own right, and conform to those definitions. We are not concerned with these stages within this definition.

Sites with communities intermediate between brownfield land and later successional stages such as heath or grassland may in fact be excluded from either definition. It is our intention that these communities should also be classified as DBAP habitats and further work will be done to establish a working definition for these communities. Indicators for these communities may include heathers, heath grass (*Danthonia decumbens*) and field woodrush (*Luzula campestris*).

Condition Assessment

There is currently no condition assessment designed for this habitat.

Maritime Grassland

Identification & Mapping

The definition of maritime is all land within 500m of the coast (mean high water mark)

Maritime grassland is defined as any grassland meeting the definition for **lowland meadows and pasture**, or **magnesian limestone grassland** which lies within the maritime zone.

Condition Assessment

Follow the condition assessment for **lowland meadow and pasture** or **magnesian limestone grassland** as appropriate.

Coastal Soft Cliffs and Slopes

Identification & Mapping

To be defined following a habitat audit.

Condition Assessment

To be defined following a habitat audit.

Strandline

Strandline is an easily identifiable line of seaweed and other debris which is left stranded along the high water mark on beaches.

Identification & Mapping

For the purpose of monitoring to be measured as a linear feature on all beaches.

Condition Assessment

No condition assessment defined

Lowland Acid Grassland

Identification & Mapping

The definition of lowland for the Durham BAP is all land outside the North Pennines Natural Area.

Semi-natural grassland generally dominated by fine-leaved grasses on nutrient-poor, free-draining soils in the lowlands. Mosses and/or lichens are sometimes frequent. Managed primarily by grazing. Some sites may be species-poor (dominated, for example, by wavy hair-grass). However lowland acid grassland is a scarce resource and any site is likely to be considered of high value.

Typical grasses include: common bent, early hair-grass, heath-grass, sheep's fescue, sweet vernal-grass, wavy hair-grass.

- If at least one of the following wild flower indicator species are frequent and another three at least occasional in the sward then the grassland meets the definition for this habitat.

- If three indicator species are occasional, or four are present at lower frequency (but not limited to field corners or edges) then the habitat meets this definition but must be recorded as being in poor condition.

Autumn Hawkbit
 Betony
 Bitter-vetch
 Common Catsear
 Devil's-bit scabious
 Harebell
 Hawkweeds

Heath bedstraw
 Heath milkwort
 Heath Speedwell
 Heath spotted orchid
 Lousewort
 Mouse-eared
 Hawkweed

Sheep's sorrel
 Tormentil
 Wood sage
 Cup lichens and Dog
 lichens (Cladonia &
 Peltigera sp.)

Where lowland acid grassland occurs as part of a lowland heath mosaic it should additionally be recorded as lowland heath, unless the cover of heather is insufficient for it to meet this definition.

Condition Assessment

1. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle, rosebay willowherb, marsh thistle, musk thistle, greater plantain) less than 5%.
2. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.
3. Cover of scrub and bramble less than 5%.
4. Cover of coarse grass species, such as yorkshire-fog and cock's-foot, must be less than 20%.

Adapted from Defra's G05 lowland dry acid grassland definition.*

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

Lowland Heath

Identification & Mapping

The definition of lowland for the Durham BAP is all land outside the North Pennines Natural Area.

Dry heath, wet heath and valley mire communities in the lowlands on acidic soils and shallow peat, typically comprising heathers, gorses, fine grasses, wild flowers and lichens in a complex mosaic, usually with at least 25% cover of heathers and other dwarf shrubs.

Condition Assessment

1. Cover of dwarf shrubs must be between 25% and 95%, with at least two species frequent.
2. There must be a range of age classes of heather present, with cover of young (pioneer stage) heather between 10% and 15% and cover of old (mature/degenerate stages) between 10% and 30%.
3. Cover of undesirable species (bracken, injurious weeds, invasive non-native plants) must be less than 10%.
4. Cover of trees/scrub must be less than 15%.

Adapted from Defra's M03 lowland heath definition.*

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

Lowland Meadows & Pasture

Identification & Mapping

The definition of lowland for the Durham BAP is all land outside the North Pennines Natural Area.

Species-rich, semi-natural grassland (meadows or pastures) on free-draining, neutral soils in the lowlands and upland fringes, including species-rich flood plain grassland. Managed by cutting and/or grazing.

Typical grasses include: cock's-foot, common bent, crested dog's-tail, red fescue, meadow fescue, sweet vernal-grass, yellow oat-grass, yorkshire-fog.

- If at least two of the following wildflower indicator species are frequent and another two at least occasional in the sward then the grassland meets the definition for this habitat.
- If three indicator species are occasional or four are present at lower frequencies (but not limited to field edges or corners) then the grassland meets the definition but it must be recorded as being in poor condition.

Adder's Tongue Fern
Agrimony
Autumn hawkbit

Field Scabious
Field Woodrush
Goat's-beard

Oxeye daisy
Pepper-saxifrage
Pignut

Betony	Great burnet	Ragged-robin
Bitter vetch	Greater bird's-foot trefoil	Sneezewort
Common knapweed	Lady's-mantles	Tormentil
Bugle	Marsh/Fen bedstraw	Tufted Vetch
Common bird's-foot-trefoil	Marsh-marigold	Water avens
Cowslip	Meadow Cranesbill	Water mint
Devil's-bit scabious	Meadow vetchling	Yellow rattle
Dyer's greenweed	Meadowsweet	Zig Zag Clover
Eyebrights	Rough hawkbit	Small blue-green sedges
	Orchids	

Species rich grasslands which conform to this definition and are seasonally inundated by floodwater should be recorded as lowland meadows and pastures, and also as **Floodplain Grazing Marsh**.

Condition Assessment

1. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle, marsh ragwort, cow parsley, bracken) less than 5%.
2. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 20%.
3. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.
4. Cover of invasive trees and shrubs must be less than 5%.

Adapted from Defra's G06 lowland meadows definition.*

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

Magnesian Limestone Grassland

Identification & Mapping

The definition of lowland for the Durham BAP is all land outside the North Pennines Natural Area.

Species-rich, semi-natural grassland on magnesian limestone in the lowlands. Managed primarily by grazing.

Typical grasses include: blue moor-grass, cock's-foot, common bent, downy oat-grass, meadow oat-grass, quaking-grass, sheep's fescue, upright brome, yellow oat-grass.

- If at least two of the following wild flower indicator species are at least frequent and another three at least occasional in the sward then the grassland meets the definition.
- If only three indicator species are occasional in the sward or four species are present at a lower frequency (but not limited to field edges or corners) then the habitat meets this definition but must be recorded as being in poor condition.

Betony	Greater knapweed	Rough/Lesser hawkbit
Bloody cranesbill	Hairy violet	Salad burnet
Burnet saxifrage	Harebell	Saw-wort
Carline thistle	Hoary plantain	Small scabious

Common bird's-foot-trefoil
Common rock-rose
Cowslip
Dropwort
Devil's-bit scabious
Eyebright
Fairy flax
Gentians

Kidney vetch
Lady's bedstraw
Milkworts
Mouse-ear hawkweed
Orchids
Oxeye daisy
Purple milk-vetch
Restharrow

Spiny restharrow
Thyme-leaved sandwort
Wild basil
Wild marjoram
Wild thyme
Yellow-wort

Condition Assessment

1. Cover of undesirable species (creeping thistle, spear thistle, curled dock, broad-leaved dock, common ragwort, common nettle) less than 5%.
2. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 30%.
3. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.
4. Cover of invasive trees and shrubs must be less than 5%.

Adapted from Defra's G04 lowland calcareous grassland definition.*

*DEFRA (2005) Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

CG8 Grassland

The particular community - Blue Moor grass / Small Scabious (*Sesleria albicans* / *Scabiosa columbaria*) grassland - is a NVC community of lowland calcareous grassland which occurs uniquely within Europe in the Durham Magnesian Limestone Natural Area. This community is included in the definition for Magnesian Limestone Grassland, but because of its rarity is defined separately as an additional monitoring target.

Identification & Mapping

The community should conform to the description of CG8 (Rodwell 1992*). For rapid identification of this habitat and mapping the presence of Blue Moor grass (*Sesleria albicans*) is taken as the defining feature of CG8 in the Durham area.

Condition Assessment

Condition Assessment should follow the non-statutory condition assessment for CG8 grassland.

*Rodwell J S (1992) British Plant communities Volume 3 Grasslands and Montane Communities. Cambridge University Press. Pages 211-217.

Road Verges of Conservation Importance

Road verges contain a variety of habitats, but in the Durham context their main value lies in the species rich grassland communities that have managed to survive in parts. These botanically species rich verges also have value for invertebrates.

Identification & Mapping

To meet the definition a road verge of conservation importance must

1: contain at least 5 species from the following list within at least one 20m linear section.

Agrimony	Goat's-beard	Mouse-ear	Water mint
Betony	Fairy flax	hawkweed	Wild marjoram
Bitter vetch	Great burnet	Orchids	Wild thyme
Bloody cranesbill	Gentians	Pepper	Wood
Bugle	Greater	saxifrage	anemone
Burnett saxifrage	Knapweed	Purple milk	Yellow rattle
Carline thistle	Hairy violet	vetch	Yellow-wort
Common bird's-foot trefoil	Harebell	Quaking Grass	
Common bistort	Hawkbits	Ragged robin	Small blue-green sedges
Common Centaury	Hoary plantain	Salad burnet	
Common meadow-rue	Horeshoe vetch	Saw-wort	
Common rock-rose	Kidney vetch	Small Scabious	Ancient
Cowslip	Lady's	Sneezewort	woodland
Devil's-bit scabious	bedstraw	Sweet cicely	indicators
Dyer's greenweed	Lady's mantles	Thyme-leaved	
Eyebright	Marsh/Fen	sandwort	
	bedstraw	Tormentil	
	Milkworts	Water avens	

(Derived from lists for lowland calcareous grassland and lowland meadow in **DEFRA's HLS-FEP handbook*** with some adjustment for Durham.)

or

2: contain any of the red-listed* lady's mantles **Alchemilla acutiloba**, **A. glomerulans**, **A. monticola**, **A. subcrenata**, **A. wichurae**, or Northern Hawks-beard - **Crepis mollis**.

or

3: be a recorded breeding site for any Durham BAP invertebrate species.

For the purposes of **mapping** a road verge parcel needs to be contained within a reasonable management unit (e.g between field entrances or road junctions).

Condition Assessment

There is currently no condition assessment defined for this habitat, although species lists from fixed quadrats on a sample of road verge parcels are recorded regularly to monitor species loss / gain.

***DEFRA (2005)** Higher Level Stewardship: Farm Environment Plan – Guidance handbook. www.defra.gov.uk

***JNCC (2007)**. Conservation Designations for UK Taxa – downloadable spreadsheet. jncc.gov.uk

Waxcap Grasslands

Identification & Mapping

To qualify as the priority habitat a grassland compartment needs to contain five or more species of *Hygrocybe*, or to contain one of the UKBAP species for waxcap grasslands listed below:

Hygrocybe calyptriformis

Hygrocybe spadicea

Microglossum olivaceum

Condition Assessment

There is currently no condition assessment for this habitat.

References

DEFRA (2005) *Higher Level Stewardship: Farm Environment Plan – Guidance handbook*. www.defra.gov.uk

DEFRA (2007) *Hedgerow Survey Handbook – A standard procedure for local surveys in the UK. Prepared on behalf of the Steering Group for the UK*. DEFRA, London.

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