



Department
for Environment
Food & Rural Affairs

Moorland mapping (PA5)

Record

Create a map of your moorland

Your map must:

- have a suitable title
- show your moorland
- indicate parcel boundaries and rural land register (RLR) numbers
- clearly display the location and boundaries of any habitats and features (including environmentally sensitive features)
- include a key which explains all shorthand, symbols and codes used

You can provide a map using any method. We have provided guidance on how to print a map using the Rural Payments Service.

Print a map using the Rural Payment Service

You can print a map of your RLR parcels using the [Rural Payment Service](#):

1. Sign in to the Rural Payments service.
2. From the 'Business overview' screen, click 'Land' then 'View land'.
3. To view individual land parcel details, select the land parcel you need.
4. The 'Parcel details' screen shows you a digital map and details of the land parcel.
5. Select 'Print or save'. This will create a PDF which you can print out.

Add all known habitats and features to your map

You can label habitats and features in any way that helps you understand the map, you can use:

- shorthand of the feature, for example 'BB' for Blanket Bog
- the full name of the feature
- codes from maps you already have for your moorland

You can do this by handwriting labels on a printed map or by editing a digital map.

Labels should be clearly listed in a key for the map.

Habitats and features you should label include:

- blanket bog
- wet heath
- upland flushes, fens and swamps
- dry heath
- fragmented heath
- mountain heath and willow scrub
- species-poor grass moorland

- species-rich grass moorland
- broadleaf woodland
- coniferous plantations
- limestone pavement
- bare ground
- dense bracken
- historic and archaeological features
- water features including grips and gullies
- established tracks
- upland cliffs and screes

See Appendix A for guidance on how to identify different habitats.

How to label any habitats and features

You can use aerial photographs to help you map your moorland.

If a habitat or feature covers your entire moorland, write the label in the centre of your moorland.

If a habitat or feature covers a significant area of your moorland, across more than one parcel, write the label in the centre of the feature and mark the boundary of the feature with a dashed black line.

If your moorland is a combination of different habitats or features (a mosaic) – for example, upland heath and upland flushes, fens and swamps priority habitat – write labels for all features in the centre of your moorland but do not mark the boundaries of the features.

If the boundaries of a habitat or feature are not clear, you need to decide where to mark the boundary to best show their extent and condition.

Visit your site to check the accuracy of your labelled map.

If you're not able to provide a map

If you are not able to create a map due to accessibility reasons, provide a detailed written description of your moorland. Describe the habitats and features, and its context within the wider landscape. We reserve the right to recover funding if you do not create a map but are able to.

Complete a moorland mapping record

Complete the record by adding the area or metres of each habitat and feature you have mapped on your moorland.

Record how much of the habitat is in good or poor condition where you can.

Peatland habitats

| Peatland habitats | Hectares (ha) | Good condition (ha) | Poor condition (ha) |
|--|---------------|---------------------|---------------------|
| Blanket bog (including heather and grass dominated peat): peat depth >30cm | | | |
| <ul style="list-style-type: none"> How much of your blanket bog is heather dominated (this can indicate poor condition) | | LEAVE BLANK | LEAVE BLANK |
| <ul style="list-style-type: none"> How much of your blanket bog is grass dominated (this can indicate poor condition) | | LEAVE BLANK | LEAVE BLANK |
| Wet heath (including heather and grass dominated peat): peat depth 10 - 30cm | | | |
| <ul style="list-style-type: none"> How much of your wet heath is heather dominated (this can indicate poor condition) | | LEAVE BLANK | LEAVE BLANK |
| <ul style="list-style-type: none"> How much of your wet heath is grass dominated (this can indicate poor condition) | | LEAVE BLANK | LEAVE BLANK |
| Upland flushes, fens and swamps: mainly but not always on peat soils | | | |

Heathland habitats

| Heathland habitats | Hectares (ha) | Good condition (ha) | Poor condition (ha) |
|--|---------------|---------------------|---------------------|
| Dry heath on peat soils <10cm or mineral soils | | | |
| Fragmented heath | | LEAVE BLANK | LEAVE BLANK |
| Mountain heath and willow scrub, land above 600m | | | |

Grassland Habitats

| Grassland Habitats | Hectares (ha) | Good condition (ha) | Poor condition (ha) |
|--|---------------|---------------------|---------------------|
| Species-poor grass moorland on peat soils <10cm or mineral soils (including species-poor acid grassland) | | | |
| Species-rich grass moorland on peat soils <10cm or mineral soils (including calcareous grassland, purple moor-grass and rush pastures, upland hay meadows, calaminarian grassland and species-rich acid grassland) | | | |

Woodland Habitats

| Woodland Habitats | Hectares (ha) | Good condition (ha) | Poor condition (ha) |
|-----------------------|---------------|---------------------|---------------------|
| Broadleaf woodland | | LEAVE BLANK | LEAVE BLANK |
| Coniferous plantation | | LEAVE BLANK | LEAVE BLANK |

Features which need further consideration

| Features | Hectares (ha) or metres (m) |
|--|-----------------------------|
| Limestone pavement | |
| Bare ground | |
| Dense bracken | |
| Historic & archaeological features | |
| Water features including grips and gullies | |
| Established tracks | |
| Upland cliffs and screes | |

Appendix A: Identify habitats and features on your moorland

Check peat depth to help identify habitats on your moorland.

1. Wrap tape around a long, narrow rod every 10cm and mark the length at each piece of tape.
2. Push the rod into the ground every 100m in a grid across your moorland – choose locations which represent the entire site.
3. Record the depth the rod sinks to and check your measurements against the different habitat types.

IMPORTANT: Do not probe near electricity lines or buried utilities.

Blanket bog (including heather and grass dominated peat)

For the purposes of this mapping exercise 'blanket bog' is defined as peat more than 30cm deep.

Blanket bog:

- is extensive rain fed, deep upland peatland
- can be on flat or sloping ground

Vegetation on blanket bog in good condition includes:

- cotton-grasses
- deer grass
- sphagnum mosses
- non-sphagnum mosses
- cloudberry
- cranberry
- bog asphodel
- cross-leaved heath

It may have other vegetation growing above.

Heather and purple moor grass can occur but do not dominate. Heather or grass dominated peat are poor condition blanket bog.

Poor condition blanket bog can look like dry heath or grass moorland. If this is the case, you should map it based on the depth of the peat.

Wet heath (including heather and grass dominated peat)

For the purposes of this mapping exercise wet heath is defined as peat between 10cm and 30cm deep.

Wet heath includes mixtures of

- cross-leaved heath
- deer grass
- heather and purple moor-grass
- sphagnum and other mosses

Wet heath in poor condition is often dominated by heather or purple moor grass - both species can occur in healthy wet heath but will not be dominant. Heather or grass dominated peat are poor condition wet heath.

Poor condition wet heath can look like dry heath or grass moorland. If you are not sure which you have, you should map it based on the depth of the peat.

Upland flushes, fens and swamps

These include:

- acidic and base-rich mires in valleys and basins
- springs, seepages and flushes

Upland flushes, fens and swamps:

- are usually at least seasonally waterlogged
- are typically dominated by sedges, cotton grasses, spike-rushes and rushes (with occasional wetland herbs or a carpet of mosses – including sphagnum)
- can include other features as part of a mire system for example, runnels, soakaways, sedge lawns and species-rich rush beds
- generally receive water and nutrients from surface and ground-water as well as rainfall

They do not include:

- blanket bog
- narrow (less than 5m wide) fringes of swamp next to open standing water
- reedbeds

Dry heath

Dry heath occurs on peat soils less than 10cm or mineral soil.

Vegetation on dry heath:

- is dominated by heather and bilberry
- has low sphagnum moss cover

Fragmented heath

This is relict heath in moorland grazing units, generally in a mosaic with grass moorland. Relict heath are small areas of dry or wet heath which have been severely damaged (either by grazing or other means) and do not fit typical habitat definitions. It often contains dwarf shrubs.

Mountain heath and willow scrub

These habitats are confined to the montane (highest) areas on the tallest hills in the north of England, where the climate is harsh.

Mountain heath and willow scrub:

- occurs on exposed areas and patches of late snow lie
- is dry heath and grassland above the natural tree line (typically around 600m)
- includes prostrate dwarf shrub heath and sedge, moss and grass heaths
- typically contains Arctic and Alpine species such as alpine clubmoss, stiff sedge, viviparous fescue, crowberry, alpine lady's-mantle, woolly fringe-moss and bushy (*Cladonia*) lichens

Species-poor grass moorland

This includes wet and dry species-poor grassland in moorland grazing units, on peat soils less than 10cm or mineral soils. This includes species-poor acid grassland.

Vegetation on grass moorland is typically dominated by:

- bent and fine leaved fescue grasses
- mat-grass
- heath rush and purple moor-grass

Species-rich grass moorland

This is grassland on peat soils less than 10cm or mineral soils with 15 or more species per square metre. It has more than 30% cover of wildflowers and sedges (excluding white clover, creeping buttercup and injurious weeds).

There are several types of species-rich grassland:

Calcareous grassland:

- are found on calcareous soils, they are species-rich, semi-natural grassland on chalk and limestone

- are found in both the lowlands and the upland fringe, generally below 300m in altitude but can also be found above the moorland line.

Vegetation on calcareous grassland is typically made up of:

- grasses such as blue moor-grass, cock's-foot, common bent, crested hair-grass, downy oat-grass, meadow oat-grass, quaking grass, sheep's fescue, tor-grass, upright brome and yellow oat-grass
- wildflowers such as common bird's-foot-trefoil, common rock-rose, cowslip, eyebright, greater knapweed, lady's bedstraw, milkwort, small scabious and wild thyme

Purple moor-grass and rush pastures:

- have abundant purple moor-grass or jointed rushes (sharp-flowered rush, jointed rush or blunt-flowered rush)
- are found on poorly drained neutral and acidic soils
- often associated with springs, seepage lines and slopes surrounding waterlogged depressions and hollows

Vegetation on purple moor-grass and rush pastures is typically made up of:

- grasses such as creeping bent, crested dog's-tail, purple moor-grass, quaking-grass, red fescue, sweet vernal grass, tufted hair-grass, velvet bent and Yorkshire-fog
- wildflowers such as devil's-bit scabious, marsh thistle, fen or marsh bedstraw, common knapweed, lesser spearwort and meadowsweet

This habitat is not the same as species-poor, rush-dominated flushes and semi-improved pastures (where soft rush is often the most abundant rush).

Upland hay meadows:

- enclosed land on moist or free-draining neutral soils
- found in the Pennines and Dales of Yorkshire, Durham, Northumberland, Lancashire and Cumbria, and in the eastern Lake District
- cut for hay with aftermath grazing

Vegetation on upland hay meadows is typically made up of:

- grasses such as cock's-foot, common bent, crested dog's tail, red fescue, rough meadow-grass, soft brome, sweet vernal grass and Yorkshire-fog
- wildflowers such as common knapweed, eyebrights, hawkbits, meadow vetchling, meadowsweet, pignut and tormentil

Calaminarian grassland:

- generally has short, open vegetation of fine-leaved grasses, flowers, mosses and lichens on previous mining areas (metal-rich ultrabasic exposures)
- is very rare and found only in the North Pennines, Yorkshire Dales, Derbyshire, Cornwall and the Mendips

Vegetation on calaminarian grassland is typically made up of:

- grasses such as common bent, red fescue, sheep's fescue and sweet vernal grass

Broadleaf woodland

Woodland has a:

- minimum area of 0.5ha
- minimum width of 20m
- potential tree canopy cover of at least 20%
- canopy consisting of specimens that meet the [definition of trees](#)

Broadleaved woodland has trees which have broad leaves of different shapes. Most of these trees will be deciduous which means that they lose their leaves in the autumn, species include birch, willow and oak species.

Coniferous plantation

Woodland has a:

- minimum area of 0.5ha
- minimum width of 20m
- potential tree canopy cover of at least 20%
- canopy consisting of specimens that meet the [definition of trees](#)

A conifer plantation will often be populated with non-native needled trees such as Douglas Fir, Corsican Pine, Sitka Spruce and Larch and native tree species may be Scots Pine.

Limestone pavement

Limestone pavement is a particular type of rock habitat found in the north of England. It is made up of exposed, flat expanses of limestone. It:

- has a complex pattern of blocks (clints) and deep fissures (grikes)
- has vegetation which is rich in vascular plants, bryophytes and lichens
- usually has low tree and shrub cover

Bare ground

These are areas with no vegetation and bare ground.

Dense bracken

Dense bracken has a deep litter layer that excludes most other plant species.

Historic and archaeological features

You can find these features on your [Historic Environment Farm Environment Record](#) (HEFER) - including scheduled monuments. You should include additional features that you know of.

Water features including grips and gullies

Water features include areas of standing open water, water courses and drainage features such as grips and gullies. Gullies are channels cut through peatland usually by water.

Established tracks

Tracks include rough paths created through the repeated use by vehicles, and constructed tracks made for vehicle use.

Upland cliffs and screes

This includes vegetation growing out of crevices, cracks and ledges on exposed rocks (including cliffs, scree, rubble and rocky slopes) on moorland. The vegetation may be sparse or thick and is generally dominated by herbs, grasses, ferns, mosses or lichens.