# Alport Moor Management Plan

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# 1 Introduction

The National Trust's High Peak Moors Vision, 2013 (HPMV) laid out an aspirational and overarching vision for the Dark Peak estate's SSSI moorlands. This management plan is designed to implement the vision on Alport moor, and is to be used in conjunction with the 'High Peak Estate Guiding Principles'. The plan adopts an Outcomes Approach (NE, 2015) as described in the Guiding Principles. This includes a review process to assess progress towards agreed outcomes. This review will then inform agreed updates to this plan.

## 1.1 Site description

Alport moor lies within the Dark Peak SSSI. This area has two international designations. It is included in the South Pennine Moors Special Area of Conservation (SAC) that is notified for the upland habitats it supports; particularly blanket bog, wet heath, dry heath, transition mires and woodland. It is also included in the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) that is notified for upland breeding bird populations. The Dark Peak SSSI qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European Importance of Golden Plover, Merlin and Short-eared owl.

Alport moor covers an area of 1,162 ha of moorland between the A57 (Snake Road) which runs along the river Ashop to the south, and the Bleaklow plateau to the north. The western edge of the Moor largely follows the line of the Pennine Way north from Snake Summit along the Derwent river catchment boundary to the north east. The north of Alport moor is cut across by gullies which form the headwaters of the Alport River running south to Alport Dale bordering the moor to the south east. Alport Dale contains stands of plantation woodland, managed by the Forestry Commission in long term partnership with The National Trust to restore to native woodland. The blanket bog is largely cotton grass dominated. Bare peat restoration is ongoing within the Bleaklow exclusion area. Some parts of the site have been subject to past wildfire. Typically dwarf shrub heath and acid grassland is found within the cloughs that dissect the edge of the moor in the Snake Valley, containing bracken stands and acid flushes.

## 1.2 Site management

Alport Moor has been managed under an Environmentally Sensitive Areas Scheme (ESA) agreement since the establishment of the North Peak ESA in 1988, and under a subsequent (HLS) agreement from 2013 (agreement AG000369296) ongoing to 30/04/2023. Capital works carried out under these plans have included rewetting work which began on Alport Moor in 2008, with gully blocks installed at Hern clough and Nether North Grain under the ESA, and continuing with blocks to Lady clough under 2013-16 HLS capital works plans and at Upper North Grain and Oyster clough under the Catchment Restoration Fund. In several locations following gully blocking, gullies have also been planted with cottongrass plugs to encourage revegetation. Lime, fertiliser and grass seed has been applied over successive years to bare ground within the Bleaklow exclusion area to aid habitat recovery. Since 2013, in addition to the HLS agreement, the Clough Woodlands Project has been funded through the English Woodlands Grant Scheme (eWGS) to establish clough woodland in selected areas around the edges of the moor (table 1.2).

### 1.2.1 Grouse Moor

Alport moor has been managed as grouse moor through the rotational burning of heather. The main areas of Grouse moor management are centred around North Grains and Oyster Clough. Frequent burning has been used for many years as a method of vegetation control, to manage biomass and fuel load to reduce the risk of wildfire and to encourage the germination and regeneration of heather. The HPMV set out an aspiration to stop regular burning on blanket bog, to reduce the impact on the hydrology and reduce heather dominance. The preferred means of management will be through cutting, with burning only employed on heath, and only permitted on blanket bog when consented separately as a special measure. See Guiding Principles for more information.

### 1.2.2 Grazing

A large area of Bleaklow to the north is excluded from grazing to aid recovery of the restoration areas on the plateau. The exclusion fence runs across the north west of Alport moor, erected in 2003. Outside the fence the moor is grazed with sheep and cattle in accordance with Higher Level Stewardship (HLS) prescriptions.

## 1.3 Management Units

Figure 1.1 shows the site and infrastructure (a) and aerial image (2009) (b). The site is divided into 6 management units which represent the broad differences in habitat character and physical barriers such as fences and walls.

Figure 1.2a shows the predominant habitats present on the moor. Habitats were originally defined during the ESA, 1998. During 2012-13 the ESA habitat map was updated using recent (2009) aerial photography, ground truthing surveys and the most recent SSSI condition assessments. This information was used to inform the Farm Environment Plan (FEP) as part of the moorland HLS application, which broadly defines habitat categories and now forms the 2013 baseline to the HPMV and HLS.

Blanket bog can be further defined by Natural England's Blanket Bog Restoration Strategy (2015) under 6 separate states, see the Guiding Principles for more information. The blanket bog states typically found on the High Peak Moors are also summarised in table 1.1, and those specific to Alport moor in figure 1.2b and table 1.2.

Table 1.1 Relationship between different habitat codes

| FEP code | Blanket bog states | ESA code |
|---|---|---|
| MO6 – Blanket bog | State 2 – Bare peat | Bare Peat & Eroding Moorland |
| | State 3 – Dwarf shrub dominated bog | Dry bog heather dominated. Dry bog, non-heather dominated |
| | State 4 – Grass/sedge dominated | Cotton grass moorland |
| | State 5 – Modified bog | No ESA code |

Table 1.2 Site compartments and habitat types summarised together with their management schemes.

| Site name | Management unit | Unit Code | Unit area (ha) | Scheme (options) | Main habitat types (FEP code) and Blanket Bog State | Area (Ha) |
|---|---|---|---|---|---|---|
| Alport Moor | Alport Moor | ALP01 | 793 | UELS/HLS (UX3, UD13, UL18, A13, HL10, HL12, HL13, HL15, HL16, HR5, HR7) | Blanket Bog (M06) | 674 |
| | | | | | State 2 | 26 |
| | | | | | State 3 | 343 |
| | | | | | State 4 | 306 |
| | | | | | Dry Heath (M04) | 83 |
| | | | | | Acid Grassland (M01) | 2 |
| | | | | | Acid Flush (M08) | 3 |
| | | | | | Fragmented Heath (M02) | 25 |
| | | | | | Rocks, Cliff & Scree (M07) | 2 |
| | | | | | Bracken | 3 |
| | Alport Moor - Bleaklow exclusion | ALP02 | 275 | UELS/HLS (UX3, A13, HL10, HL13, HL15) | Blanket Bog (M06) | 263 |
| | | | | | State 2 | 88 |
| | | | | | State 3 | 141 |
| | | | | | State 4 | 33 |
| | | | | | Heath (M04) | 7 |
| | | | | | Acid Flush (M08) | 0.3 |
| | | | | | Fragmented Heath (M02) | 4 |
| | Alport Valley | ALP03 | 50 | UELS (UX3, UD13) eWGS | Dry Heath (M04) | 36 |
| | | | | | Acid Flush (M08) | 3 |
| | | | | | Bracken | 11 |
| | Upper & Nether North Grain | ALP04 | 3 | UELS (UX3, UD13, A13) eWGS | Dry Heath (M04) | 32 |
| | Oyster Clough | ALP05 | 18 | UELS (UX3, A13) | Dry Heath (M04) | 16 |
| | | | | | Acid Grassland (M01) | 0.8 |
| | | | | | Acid Flush (M08) | 0.6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Bracken | 0.1 |
| | Lady Clough (Alport) | ALP06 | 22 | UELS/HLS (UX3, UD13, UL18, A13, HL10, HL12, HL13, HL15, HL16, HR5, HR7) | Dry Heath (M04) | 21 |
| | | | | | Acid Flush (M08) | 0.1 |

# 2 Current status of main features

All habitats are in 'unfavourable recovering' condition according to Natural England's current assessment methods (JNCC, 2009). Features are described below under National Trust Land Outdoors and Nature (LON) themes.

## 2.1 LON Theme: Rich in Wildlife

### 2.1.1 Blanket bog

Generally the large blanket bog units on Alport moor are unfavourable due to the erosion still present in places and the lack of positive indicator species. The most extensive erosion has historically been on the northern plateau area towards Bleaklow, fenced from grazing and with restoration works ongoing. Erosion is also present and being treated on Upper / Nether north grain fire site (Over Wood Moss slopes) although further work is needed to improve condition here. Gully blocking has been carried out in various locations across Alport moor but more is required, specifically south east of Hern clough which would help encourage Dunlin and *Sphagnum* (2015 assessment). The eastern half of the moor is noted as being generally wetter, with *Sphagnum* found on open ground, although it is restricted to gully bottoms in the west. In Birchin clough areas where burning has ceased are now recovering with a good range of positive indicators present (2013 assessment), but height is restricted in more recently burnt areas, currently limiting the habitat suitable for breeding bird species.

#### *2.1.1.1 The Blanket bog states*

**State 2:** Inactive bare peat is still found within the Bleaklow exclusion area although this is currently still being restored and coverage of bare peat is low. **State 3**: largely inactive, heather dominated dry bog is found in North Grains and also around the head of Oyster clough and in Birchin clough, this state is not well represented on Alport moor. Potentially active **state 4 –** cotton grass dominated bog, is found extensively on the flat ground of the moor top and represents the largest proportion of blanket bog states.

### 2.1.2 Dry heath

Dry heath is confined to the edges of the blanket bog area on Alport Moor. All dry heath found on Alport moor is non-heather dominated, but largely species poor. The largest swathe of this habitat is found on the western slopes of Oyster clough, consisting mainly of bilberry with few other dwarf shrubs present: a symptom of historical overgrazing.

### 2.1.3 Acid flushes

There are numerous flushes of varying diversity on Alport moor (Oyster clough and Alport Dale). Some are dominated by soft rush or of low species diversity although many support small sedges, mosses, horsetails with a higher floristic interest including (rare) Bog Asphodel and *Sphagnum*, marsh arrowgrass and a large population of butterwort (200+ plants in Alport Dale). Localised trampling is occurring and in some cases over grazing. Species accounts have been made in the FEP and in 2016 Penny Anderson surveyed some of the Alport Dale flushes and produced a detailed account. Further species surveys are required to add to the knowledge base of these features. Clough woodland planting in Alport Dale has been informed by these recent surveys. In addition, in 2015 the NT Biosurvey team conducted an assessment of Alport Dale although this report was not available at the time of writing.

### 2.1.4 Upland Oak and Birch woodland

These habitats are being extended by our Clough Woodlands Project, supported by eWGS funding: within Alport Dale and Upper North Grain. Elsewhere, further up the cloughs on HLS areas on heath and moorland habitats, there are very few scattered trees. Dwarf shrub diversity is generally low within cloughs, with species poor grassland and dense bracken stands common features.

### 2.1.5 Species poor acid grassland

The largely mat grass dominated grassland is largely restricted to cloughs. Alport Dale, Oyster clough and above Hey Ridge and Doctors Gate clough have been overgrazed in the past, with little diversity beyond low growing bilberry and mat grass. This habitat is of value for grazing, but its wildlife value should be improved. The aspiration is to manage acid grassland by grazing (with sheep and cattle) and effective shepherding in order to restore where possible to a richer heath and grassland mosaic.

### 2.1.6 Invasive species

Bracken is not considered a problem on the blanket bog, but forms dense beds in several cloughs, spreading from here onto heath areas in places. Dense stands are found within Upper North Grain, with coverage recorded as over 10% of this unit (2013 ISA), and within Alport Dale. Bracken beds have been aerially sprayed within Alport Dale preceding eWGS planting, with the associated leading edge sprayed under the HLS agreement to prevent encroachment onto the blanket bog. Bracken control by spraying in other areas has been limited due to the risk of erosion on slopes. Bracken will be managed to aid the establishment of planted trees in Upper North Grain, with the aim of eventually reducing bracken dominance here. Adjacent conifer woodlands of the Woodlands Valley to the west of Alport moor and the Alport Valley plantations to the east represent a seed source and an ongoing need to control to prevent establishment on other habitats.

### 2.1.7 Important species

A search of local biological records centres found 12 BAP species or other species of conservation concern within the Alport boundary, including: Mountain hare, Water vole, Common lizard, Bog rosemary, Bog asphodel, Red Grouse, Ivy-leaved Bellflower, Royal Fern, Broom moth, Trailing St John's Wort and Marsh arrowgrass.

## 2.2 LON theme: Healthy

### 2.2.1 Soils & Geology

Acidic, poorly draining moorland peat soils underlay Alport Moor. GCR (site 2861) Alport Valley spans the boundary between Alport and Birchinlee moors, a steep sided valley designated for its range of characteristic upland river channel features. It is a valuable site for the research of river landforms due to the range of features it contains, including waterfalls, steps and pools, a narrow floodplain, steep valley sides, coarse bedload and direct sediment input from the slopes.

## 2.3 LON theme: Rich in culture

### 2.3.1 Archaeology and historical interest:

Features of archaeological interest typical of the Dark Peak moors can be found across Alport Moor, including trackways, peat cuttings, marker cairns, shooting butts and huts. The line of the 'Doctor's Gate' path is reputedly of Roman origin, and the 'Devil's Dike' is a substantial ditch feature running along the Pennine Way which is thought to be a medieval land boundary. Archaeological features on the open moorland are generally at low risk of damage by scrub, tree or bracken encroachment due to the open nature of these habitats. Risks may arise within cloughs, where much of the archaeological interest is found, alongside woodland and bracken stands.
All archaeological features have been mapped and catalogued on the NT HBSMR database and an established system of monitoring and reporting will continue to inform management.

## 2.4 LON theme: Beautiful and Enjoyed

The landscape character of Alport moor is synonymous with the Dark Peak; open access land instilling a spirit of place synonymous with the wildness and foreboding of the open moors. The Peak District National Park was the first designated National Park, culturally significant as being at the heart of the open access and conservation movements (Kinder Scout mass trespass). As such, Alport moor is of great value to visitors for the freedom offered by the open tracts of countryside and stunning views. The High Peak Moors receives large numbers of organised groups every year from mountain bike events to fell runs and large walking parties. Several footpaths cross the Alport moor, not least the Pennine Way, a national bridleway and iconic Peak District route.

## 2.5 LON theme: Productive

Grasslands, heath and bog are grazed by sheep and cattle herds, delivering High Nature Value Farming. Grouse Moor is managed to help deliver HPMV objectives. Ecosystem services including biodiversity, clean water, flood management, carbon management and recreational access are delivered by the range of conservation objectives outlined in this plan.

# 3 Management objectives

**Land Outdoors and Nature theme – Rich in wildlife**

## 3.1 Feature: Whole Moor

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|

### 3.1.1 Factor: Grazing – Stocking

| Grazing unit | HLS Grazed Area (ha) | Maximum stock numbers and timing |
|---|---|---|
| SK 1193 1093 | 1056.18ha | 300 ewes (based on 0.08 LU per ewe) plus 72 hoggs (based on 0.06 LUs per hogg) during summer.<br>16 cows (based on 1LU per cow).<br>A minimum of 30 per cent of the LUs must be grazing cattle. All stock excluded for 4 months over winter. |

| Month | Maximum Ewes | Maximum Hoggs | Maximum Cows |
|---|---|---|---|
| January – March 13th | 0 | 0 | 0 |
| March 14th – Apr 15th | 283 | 0 | 0 |
| April 16th - 30th | 42 | 72 | 0 |
| May 1st - 15th | 42 | 72 | 16 |
| May 16th - 31st | 300 | 72 | 16 |
| June 1st – July 31st | 300 | 72 | 16 |
| August 1st - 7th | 0 | 0 | 16 |
| August 8th – 30th Sept | 300 | 72 | 16 |
| October 1st - 10th | 0 | 0 | 0 |
| Oct 11th - Nov 14th | 300 | 0 | 0 |
| Nov 15th - Dec 31st | 0 | 0 | 0 |

1. Remove redundant fence lines to facilitate even grazing, particularly in cloughs.
2. Monthly patrol monitoring visits recording location and number of stock seen.

*Attribute:* Compliance with grazing calendar*

Lower limit: Stocking rates, livestock type and grazing periods should maintain the habitat mosaic in good condition in balance with natural grazers (birds and mountain hare).

**Project obligations**

* HLS

| | | |
|---|---|---|
| | 3. Tenants' stocking records to be made available on a quarterly basis, including gathering numbers.<br>4. Stocking records to be made available to Natural England as per HLS agreement*<br>5. Maintain Bleaklow fence line to ensure stock exclusion from bare peat restoration areas (Bleaklow exclosure and Nether North Grain fire site)* | |
| **3.1.2 Factor: Grazing – Shepherding** | 6. Tenant to make regular weekly (minimum) shepherding visits to heft stock to the moor top and away from cloughs to avoid over grazing of clough vegetation - Fig 3.1.<br>7. Tenants to keep all records of shepherding activities and make these available on a quarterly basis.<br>8. Shepherding records to be made available to Natural England as per HLS agreement*<br>9. NT vegetation condition survey protocol will be used to assess grazing impacts eg, levels of flowering bilberry and heather consumption. | *Attribute:* Shepherding records<br>Lower limit: At least one shepherding visit per week to each grazing unit.<br><br>*Attribute:* Under/over grazing<br>Lower limit: Sheep evenly grazing the unit. No poaching or erosion from livestock. |
| **3.1.3 Factor: Disturbance by vehicles** | 10. Low ground pressure vehicles & 4x4's may use consented access routes providing routes are maintained in a sustainable manner (Fig 1.1a).<br>11. Tracks shown on Fig 1.1a will be maintained as per the Guiding Principles.<br>12. Low ground pressure vehicles may operate away from consented routes providing no damage occurs to the SSSI or archaeological features.<br>13. New track consents and significant repairs will require separate planning permission. | *Attribute:* Impacts from vehicle use<br>Upper Limit: Any negative impacts to SSSI must recover within 12 months.<br>Lower Limit: no damage to the SSSI or archaeological features |
| **3.1.4 Factor: Access and Recreation – managing open access** | 14. There is an aspiration to monitor visitor numbers to see which part of the estate receives the highest visitor pressure. This information will help us to plan infrastructure maintenance accordingly.<br>15. The Trust is an active member of the Local Access Forum (LAF) and will continue to be represented to work with partner Access and Interest groups.<br>16. There are various activities that are not compatible with open access land (eg, illegal off-roading, mountain bike and horse access away from bridleways and on sensitive habitat) the Trust will continue to manage these activities with help from the LAF and with the Police. | *Attribute:* Monitor visitor numbers<br>*Attribute:* Record all illegal open access use |
| **3.1.5 Factor: Access and Recreation – managing events & organised** | 17. The Trust will maintain its part in the Events Notification Procedure as part of the LAF with the PDNPA.<br>18. The Trust will vet all applications for events.<br>19. The Trust will consult with NE and PDNPA to prevent damage to the SSSI and encourage events to use public rights of way and avoid the bird breeding season.<br>20. No damage to archaeology. | *Attribute:* Record all organised group applications<br>*Attribute:* Monthly monitoring of footpath and boundary condition |

**Project obligations**

* HLS

| | | |
|---|---|---|
| **groups** | | |
| **3.1.6 Factor: Managing invasive species – bracken** | 21. Follow up all leading edges sprayed under HLS agreement, following Guiding Principles, to ensure bracken spread is kept in check (fig. 3.2) - 3.1 ha*.<br>22. Control bracken within eWGS tree planting area in Alport Dale to aid tree establishment and prevent spread, following Guiding Principles (fig. 3.2) – 1.4 ha<br>23. Annual walkover of treated areas to determine frequency and cover of vegetation and guide follow up control.<br>24. Ground truth bracken density maps (developed based on aerial imagery and FEP information), to prioritise further treatment of bracken according to Guiding Principles. | *Attribute:* Bracken cover<br><br>Upper Limit:<br><1% encroachment onto blanket bog in a SSSI unit.<br><10% cover on dry heath in a SSSI unit.<br><br>*Attribute*: Bare ground (over grazing)<br>Upper Limit: <10% disturbed bare ground in a SSSI unit |
| **3.1.7 Factor: Managing invasive species – conifer and rhododendron** | 25. Continue to monitor non-native invasive species through NT vegetation condition monitoring<br>26. Continue to remove seedlings on ad hoc basis across all habitats.<br>27. ML2020 project to fund at least 1 day of organised pulling in 2017-18 | *Attribute:* Cover of Conifer & Rhododendron<br><br>Upper Limit: <1% cover of vegetation |
| **3.1.8 Factor: Managing encroachment outside cloughs by native trees and scrub** | 28. Monitor frequency and abundance of broadleaf tree regeneration, through ongoing NT vegetation condition monitoring.<br>29. Heath, blanket bog and flushes: keep broadleaf tree regeneration within upper limits through the proposed grazing regime and cutting operations.<br>30. Individual tree removal if required should include spot treatment with Glyphosate to prevent coppicing.<br>31. No tree planting within 20m of flushes (ref. Clough Woodland guiding principles) | *Attribute:* Cover of Native Trees and Scrub<br><br>Upper Limit: <10% on blanket bog and flushes, <20% on heath |

## 3.2 Blanket Bog

**What do we want?**

On the blanket bog, diverse areas of blanket bog vegetation with abundant *Sphagnum* mosses and sedges and high water table for most of the year. Small pools attract invertebrates like dragonflies and damselflies in the summer months and abundant crane flies provide food for birds in the autumn. Over time blanket bog vegetation will stabilise, eventually forming an uneven-aged and unevenly structured community. The competitive advantage of heather will be reduced by ending regular rotational burning on blanket bog. Vegetation stands will provide a habitat favourable to lower plants and invertebrates that need high humidity and shelter. Many of these species are uncommon and/or have poor powers of dispersal.

The vision above describes blanket bog State 6 – active bog. See Guiding Principles, section 1: 'what good looks like' for blanket bog & reference milestones and trajectories table

**Project obligations**

* HLS

| What are the factors to manage? | Action | Attributes |
|---|---|---|
| **3.2.1 Factor: Cutting** | 1. Break the cycle of heather dominance by stopping the regular rotational burning of heather on blanket bog and replace with cutting.<br>2. Maintain varied vegetation structure and species diversity through heather management following Guiding Principles to cut and diversify the structure of heather dominant blanket bog.<br>3. Under the HLS agreement cut a minimum of 0.4 ha annually OR 1.2 ha in a 3 year period to a height of approx. 10cm (fig. 3.3a)*<br>ALP01: 0.4 ha<br>4. Record all cuts with GPS and maintain log of cutting operations | *Attribute:* Variation in vegetation height across the moor<br>Upper limit: Retain 20% heather uncut to allow heather layering and provide sufficient tall vegetation for ground nesting birds<br><br>*Attribute:* Area and location of cuts<br>Lower limit: Cutting 0.4 ha of heather dominated bog per year to manage fire risk (fig 3.3a)*. |
| **3.2.2 Factor: Diversifying species composition** | 5. Introduce *Sphagnum* propagules to cuts in high wetness potential areas (fig. 3.4a). Other blanket bog indicator species may be used to achieve the desired outcomes<br>6. Record area and location of all applications of seed and *Sphagnum*.<br>7. Monitor cover and frequency of indicator species in 10% of annual cuts and re-survey every 3 years. Use NT vegetation condition protocol – see Guiding Principles. | *Attribute: Sphagnum* cover<br><br>*Attribute*: Species composition<br><br>Lower limit: Compliant with the milestones and trajectories for the different blanket bog states. |
| **3.2.3 Factor: Revegetation of bare ground** | 8. Monitor bare peat cover in 10% of treated areas annually and re-survey every 3 years.<br>9. Plan additional follow up revegetation treatments as necessary on treated bare ground within Bleaklow enclosure and Nether North Grain fire site (M2020 work plan to be confirmed). See fig 3.4b. | *Attribute: Cover of Bare peat in treated areas*<br>Lower limit: <10% bare ground in treated areas, refer to milestones and trajectories for timescale |
| **3.2.4 Factor: Re-wetting** | 10. Install dams - piling (420), timber (96) and stone (100) at Lady clough 2017 – 2018, according to Guiding Principles (funded by M2020). Fig. 3.4a<br>11. Install dams – piling (200), timber (96) and stone (50) at Upper Reddale clough 2017-2018, according to Guiding Principles (M2020). Fig. 3.4a<br>12. Assess and plan for possible further gully blocking within Nether North Grain for 2018-2019 (M2020).<br>13. Additional ML2020 Project gully blocking to be confirmed by Moors for the Future.<br>14. Assess gully block function in 10% of HLS gully blocks annually (rolling programme).<br>15. Maintain dams as required to achieve 90% success rate*. | *Attribute: Gully block function*<br><br>Lower Limit: Established gully blocks are functional and 90% hold water and/or silt behind them by year 10 of the agreement*. |

**Project obligations**

* HLS

| | | |
|---|---|---|
| **3.2.5 Factor: Managing Wildfire** | 16. Fire risk will be managed through the cutting done under the HLS agreement.<br>17. Maintain public awareness of wildfire risk during high risk periods through use of signage and media campaigns with our partner organisations<br>18. Maintain close involvement with the Fire Operations Group (FOG) and local partners | *Attribute:* Wildfire risk<br>*Attribute:* Incidence of wildfire<br><br>Upper Limit: No catastrophic wildfire<br>Lower limit: N/A |

## 3.3 Feature: Dry Heath

**What do we want?**

On heath, diverse areas of dwarf shrubs are present, in wet heath *Sphagnum* mosses and sedges form as layering stands. The amount of heather present may undergo pronounced cycles due to the stand passing through successive degenerate phases, while wetter conditions conducive to further layering slowly become established. Similar uneven aged stands of bilberry and heather develop in the cloughs with rowan, birch, holly and oak becoming scattered. Cattle and sheep graze here throughout the year, keeping some of these favoured grazing areas relatively open and rich in plant life. Grazing is closely managed to encourage efficient foraging and species diversity in the vegetation.

There is an aspiration to increase the diversity of dwarf shrub species through the addition of species where appropriate. *Sphagnum* could also be introduced in suitable areas of high wetness potential to encourage a shift from dry to wet heath where opportunities exist although this is subject to financial limitations and to a large extent the results of current experimental *Sphagnum* introduction trials (MoorLIFE 2020).

See Guiding Principles, section 1: 'what good looks like' for heath & reference milestones and trajectories table.

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|
| **3.3.1 Factor: Diversifying species composition** | 1. Species diversification will be implemented though grazing of heather dominant vegetation.<br>2. Monitor cover and frequency of indicator species and re-survey every 3 years. Use NT vegetation condition protocol – see Guiding Principles. | *Attribute: Species composition*<br><br>Upper limit: 75% heather cover<br>Lower limit: 2 dwarf shrub (+2 other) indicator species present |
| **3.3.2 Factor: Managing Wildfire** | 3. Maintain public awareness of wildfire risk during high risk periods through use of signage and media campaigns with our partner organisations.<br>4. Maintain close involvement with the Fire Operations Group (FOG) and local partners. | *Attribute: Wildfire risk*<br>*Attribute: Incidence of wildfire*<br>Upper Limit: No catastrophic wildfire |

## 3.4 Feature: Acid flush

**What do we want?**

**Project obligations**

* HLS

Acid flushes are at least seasonally waterlogged and will be dominated by sedges, cottongrasses, and diverse rushes. They will contain occasional wetland specialist plants like round leaved sundew, bogbean and butterwort and support abundant *Sphagnum* and other mosses. Acid flushes are diverse in specialist plants and are at risk of becoming dominated by rushes if damaged by over grazing and trampling.

See Guiding Principles, section 1: 'what good looks like' for acid flushes & reference milestones and trajectories table.

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|
| **3.4.1 Factor: Diversify species composition** | 1. Survey flushes for vegetation condition, rare and notable species – NT rare plant survey protocol and vegetation condition assessments.<br>2. Determine high priority flushes in need of restoration<br>3. Maintain low intensity grazing and good shepherding | *Attribute:* Maintain extent of good quality flushes<br>*Attribute:* Cover & Frequency of indicator species<br>*Attribute:* Frequency of bog mosses, 'brown mosses' and sedges<br><br>*Attribute:* Cover & Frequency of rank species<br>Upper limit: <10%<br>Lower limit: N/A |

## 3.5 Feature: Acid grassland (and Heath mosaics)

**What do we want?**

Acid grasslands are typically species poor and tend to be dominated by fine leaved grasses and purple moor grass. Some of these (especially mat grass) are not palatable to sheep, have relatively low nutrient value and these tend to dominate as a result of past over grazing. Acid grassland is often the most important upland habitat for hill grazing and also supports important bird species such as hen harrier, short eared owl, meadow pipit and curlew. In some cases acid grasslands are former degraded heaths and have a heath component that can be restored (mosaics). They often have a mossy layer of acrocarpous and pleurocarpous mosses as well as forbs like heath bedstraw and tormentil.

The acid grassland should be diverse and support a range of fine leaved grasses (e.g. wavy hair grass, sheep's fescue, bents and sweet vernal grass). Single species dominance should be avoided and specifically mat grass and purple moor grass dominance. Vegetation structure should be varied and a range of mosses should be present as well as forbs being frequent, these will provide better nutrition for livestock. Livestock management will need to be flexible to accommodate restoration. On areas of heath mosaic dwarf shrub diversity should be encouraged and restoration as for dwarf shrub heath should be employed.

See Guiding Principles, section 1: 'what good looks like' for acid grassland / mosaics & reference milestones and trajectories table.

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|
| **3.5.1 Diversify species** | 1. Species diversification will be achieved primarily through grazing and bracken treatment follow up – see the Whole Moor Factors for more details | There are currently no attributes assigned to this category |

**Project obligations**

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| **composition** | | |

## 3.6 Feature: Clough woodland

**What do we want?**

To re-establish characteristic valley cloughs rich in dwarf shrubs, native trees and scattered scrub. The typically steep sided cloughs and slopes running to the higher moors have suffered from historical overgrazing, with livestock preferentially sheltering in these areas, resulting in a species poor sward of mat grass or dominant bracken stands with few shrub species present. With the correct stocking regime and shepherding practises, some parts of cloughs will recover with dwarf shrubs and native rowan, birch, holly and oak becoming scattered. Clough woodlands offer a transition between moor and valley woodland and provide shelter for breeding and feeding habitats for key bird species such as ring ouzel, forming a key part of the upland mosaic.

In the lower cloughs, and in particular in areas of dense bracken and mat grass dominance, the establishment of clough woodland through tree planting is preferential. This will be achieved through a mix of planting inside and outside of livestock exclusion areas as part of the English Woodlands Grants Scheme (eWGS) funded Clough Woodlands Project.

The actions below relate to moorland management units ALP 03, ALP04, ALP05 & ALP06 representing the upper reaches of cloughs and slopes fringing the moor, where the aim is for very scattered trees, maintained by the grazing and cutting regime on heath and blanket bog. Trees are not desirable on the blanket bog as they will dry out the peat and change this habitat. Rewetting actions will limit the spread of trees to these areas.

See Guiding Principles, section 1: 'what good looks like' for clough woodlands.

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|
| **3.6.1 Factor: Habitat extent** | 1. eWGS<br>a. Following the Clough woodland project guiding principles and eWGS 2013-23 grant, establish woodland in eWGS plots (Fig 3.5).<br>b. Either by planting or through natural colonisation, on average there will be 18% at 1.5m spacing, 12% at 3m spacing, 30% at 10m spacing and 40% of the area retained as open ground.<br><br>2. Candidate sites<br>a. Determine the suitability of remaining candidate sites for woodland development (fig 3.5) | *eWGS*<br>*Attribute: Area of woodland establishment*<br>13.7 ha of native broadleaf woodland in eWGS compartments<br><br>*Candidate sites*<br>*Attribute: Area of woodland establishment*<br>To be confirmed in 2018 |
| **3.6.2 Factor: Structure** | 3. eWGS<br>a. Sites will be managed to ensure a stocking density of 1600 trees per hectare (960/ha including the 40% open ground requirement) including the maintenance of open ground. | eWGS<br>*Attribute: Open ground*<br>Lower limit 40% |

**Project obligations**

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| | b. All trees will be suitably protected against herbivores for the duration of the grant period.<br>c. Thinning of trees to be determined after 15-20 years by the site manager.<br>4. Candidate sites<br>a. On suitable sites establish average 5% cover scattered trees and scrub by 15-20 years after planting<br>5. Protect trees against herbivores<br>6. Encourage establishment of self-set native trees using guards | *Attribute: Tree density*<br>Lower limit 1600 trees/ha (960/ha accounting for 40% open ground)<br><br>*Candidate sites*<br>*Attribute: Sparse trees*<br>Upper limit: 20% scattered trees<br>Lower limit: average 5% cover |
| **3.6.3 Factor: Species diversity** | 7. eWGS<br>a. Monitor and beat up where necessary to maintain established species mix<br>8. Candidate sites<br>a. Follow recommended species mix (Clough Woodlands Guiding Principles) for planted sites<br>b. Monitor self-set trees and maintain and avoid single species dominance by thinning and planting where necessary<br>9. Maintain low intensity grazing and good shepherding practises (Whole Moor Factors).<br>10. Monitor cover and frequency of ground flora indicator species and re-survey every 3 years. | *Attribute: Presence of scattered trees and scrub*<br>Upper limit: 20% scattered trees<br><br>*Attribute: Frequency and structure of dwarf shrub species*<br>Upper limit: 75% heather cover<br>Lower limit: 2 dwarf shrub (+2 other) indicator species present |

**3.6.4 Feature: Soils and Geology**

**What do we want?**

To protect peat soils and minimise or halt peat (carbon) loss where practical, and to promote conditions where peat is actively forming. Soils should be healthy, stable and free from excessive erosion. Carbon should be stored in the variety of soil types under a diversity of species-rich, robust habitats. Regionally important geological features, including gritstone tors and sections of exposed geology along streams, should be preserved as visible and free from human induced disturbance and damage.

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|
| **3.6.5 Factor: Disturbance to GCR site** | 1. No removal of material (including specimen collection for research) from within the GCR without prior consent.<br>2. Leave any landslip material in-situ.<br>3. Maintain visibility of geological features – control encroaching scrub or trees as required (fig 3.6).<br>4. Ensure recreational activities do not damage geological features: promote their | *Attribute:* condition of CGR<br><br>Upper limit: Changes to CGR not impacted on by restoration work<br>Lower limit: Maintained visibility and no damage to |

**Project obligations**

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| | sensitive use.<br>5. Ongoing monitoring by SAGT and PDNPA. | GCR by human activity. |
| **3.6.6 Factor: Access and Recreation – managing footpath erosion** | 6. Visitor pressure is very high in some unprotected (unsurfaced) routes through the SSSI, the Trust will continue to monitor (informed by NT patrol monitoring) the condition of these routes and seek consent to repair/surface where necessary.<br>7. Encourage the use of surfaced routes.<br>8. Maintain footpaths and routes with appropriate materials to minimise impact of footfall and water drainage to prevent erosion of soil (following Guiding Principles)<br>9. Prioritise footpath and routes requiring repairs and maintenance Fig. 3.7 | *Attribute:* Condition of footpaths, bridleways and other routes |
| **3.6.7 Soil hydrology** | 10. Work with partners (MFF & Universities) to maintain hydrological monitoring equipment (dipwells, vegetation quadrats and catchment discharge weirs). | *Attribute:* Soil water table<br>*Attribute*: vegetation condition<br>*Attribute*: catchment discharge |

## 3.7 Feature: Archaeology

**What do we want?**

The National Trust owns and manages thousands of archaeological sites, historic buildings and cultural landscapes throughout England, Wales and Northern Ireland. We will:

- sustain the maximum archaeological, historical and cultural significance of Moorland Archaeological sites;
- inform conservation and manage change in the historic environment through identifying, recording, understanding and communicating its significance
- share the archaeological and historical significance of our properties with members, visitors and stakeholders for all to appreciate and enjoy.

The archaeological heritage of the High Peak moors will be maintained as distinctive and visible features within the landscape, protected from damage or disturbance. A well-established monitoring scheme will continue to inform management actions on these features, with specific restoration works carried out as necessary under the specialist advice of an archaeologist. All features are catalogued within a database and accessible to all via a web portal, which continues to be updated to best inform the public / stakeholders of the archaeological interest and significance of the area.

| What are the factors that we need to manage? | Action | Attributes |
|---|---|---|
| **3.7.1 Factor: Disturbance** | 1. No disturbance of archaeology by vehicles – see whole moor factors (Factor 3.1.3).<br>2. All machinery used for capital works, such as heather cutting, to avoid damaging archaeological features. Contractors to be made aware of sensitive archaeology when working. | *Attributes:* Disturbance by vehicle / machinery use, recreational or vehicle access |
| **3.7.2 Factor: Access and recreation** | 3. No disturbance of archaeology by access and recreation – see whole moor factors (Factor 3.1.4).<br>4. Grouse butts to be maintained according to Guiding Principles<br>5. Prioritise Upper North Grain section of the Pennine Way for repairs and | *Attribute:* condition of grouse butts<br><br>*Attribute:* Condition of archaeological features |

**Project obligations**

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| | maintenance, according to specifications developed with Regional Archaeologist – see fig. 3.7 footpaths and tracks requiring maintenance/surfacing.<br>6. Continued bi-annual HART monitoring of archaeology. | along access routes |
| **3.7.3 Factor: Encroachment of trees, scrub or bracken** | 7. Maintain visibility of archaeological features as set out in option UD13* (fig 3.8).<br>8. Bi-annual monitoring of all archaeological features by HART team. | *Attribute: Maintain visibility of listed features** |

**Project obligations**
* HLS