Ronksley 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 Ronksley 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

Ronksley 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.

Ronksley Moor covers a 1,149 ha area of the Upper Derwent valley, encompassing the moorland area to the north west of the Howden reservoir. The river Derwent marks its boundary to the north and east, flowing into the Howden reservoir and its western edge is marked by Grinah Grain which forms the boundary between Ronksley and Birchinlee, its neighbouring moor to this side. It is a predominantly heather dominated blanket bog, spreading across the relatively flat higher ground. Wetter blanket bog can be found on the higher plateau areas, supporting a range of characteristic species and breeding populations of upland birds such as dunlin and plover. The eastern slopes and steeply incised cloughs running down to the river Derwent support a mixture of habitats from acid grassland in mosaic with heath, flushes, bracken stands and scrub. The lower slopes running to the edge of Howden reservoir are owned by Severn Trent Water and managed largely as conifer plantation woodlands with a large amount of Rhododendron.

1.2 Site management

Ronksley 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 Higher Level Stewardship (HLS) agreement from 2013 (agreement AG00398970) ongoing to 30/04/2023. Re-wetting work began on Ronksley in 2009, with dams installed at Swains Greave as part of the ESA Capital works program and added to under the later Moorlife project. Gully blocking has also been carried out at Lower Small clough under HLS. Bare peat across the northern section of this moor was treated under the 2012-15 Moorlife project, with heather brash, and lime, fertiliser and seed applications to support the restoration of eroding peat. 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).

Extensive areas of Ronksley moor have been managed as grouse moor through the rotational burning of heather. Frequent burning has been used for many years as a method of vegetation control on the middle heft, 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.

The Bleaklow exclosure fence line cuts across the north west corner of Ronksley moor, from Swains Head to Barrow Stones. It was erected in 2003 to exclude stock from the bare peat restoration areas of the Bleaklow plateau further north. Outside the fence the moor is grazed with sheep 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 7 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 Ronksley 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	

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)
Ronksley Moor	Ronksley Moor	RONKS01	886	UELS/HLS (EL3, UX2, EL6, UX3, UD13, A13, HL10, HL12, HL13, HL15, HL16, HR5, HR7)	Blanket Bog (M06)	716
					State 2	1
					State 3	404
					State 4	185
					State 5	126
					Dry Heath (M04)	28
					Acid Grassland (M01)	90
					Acid Flush (M08)	2
					Fragmented Heath (M02)	7
					Rocks, Cliff & Scree (M07)	0.1
					Broadleaf semi-natural woodland (T08)	0.04
					Bracken	1
	Ronksley - Bleaklow exclosure	RONKS02	113	UELS/HLS (EL6, UX3, UD13, A13, HL10, HL12)	Blanket Bog (M06)	111
					State 2	15
					State 3	62
					State 4	4
					State 5	30
					Acid Grassland (M01)	0.2
					Acid Flush (M08)	1
	Ronksley Pens	RONKS03	13	UELS/HLS (UX3, EL5, A13, HC17, HL10, HL16)	Acid Grassland (M01)	12
					Acid Flush (M08)	0.2
	Mosely Bank - Deer Holes - Small Clough	RONKS04	49	UELS (UX3, EL5, A13, EL6, UD13). eWGS	Blanket Bog (M06)	5
					State 3	3
					State 4	2
					State 5	0.1

					Dry Heath (M04)	12
					Acid Grassland (M01)	15
					Acid Flush (M08)	0.8
					Broadleaf semi-natural woodland (T08)	2
					Bracken	11
	Misden Clough Woodland	RONKS05	23	UELS (UX3, EL5, A13 EL6, UD13) eWGS	Dry Heath (M04)	3
					Acid Grassland (M01)	10
					Fragmented Heath (M02)	3
					Broadleaf semi-natural woodland (T08)	1
					Bracken	5
	Ridge Clough - Cow Hey - Linch Clough	RONKS06	48	UELS (UX3, EL5, A13 EL6, UD13) eWGS	Dry Heath (M04)	1
					Acid Grassland (M01)	25
					Acid Flush (M08)	0.6
					Bracken	9
	Ronksley Pens exclosure	RONKS07	0.1	none	Broadleaf semi-natural woodland (T08)	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

The vast majority of Ronksley Moor is dry blanket bog, with a mixture of dwarf shrubs and cotton grass present in the wetter areas. There are some deeply incised gullies present within the blanket peat and several historical drains and grips also dissect the southern end of the moor. A stretch of cotton grass dominated bog is present to the south and west of Ronksley Moor. This habitat is generally species poor, failing the 2013 condition assessment on the cover of positive indicator species. *Sphagnum* is localised to standing water in pools and gullies across the blanket bog. Within the Bleaklow fence line, bare peat areas have undergone restoration and recovery is evident, aided by the exclusion of sheep, although additional treatments will be required.

2.1.1.1 The Blanket bog states

State 2: Bare peat was prevalent on the Bleaklow plateau in 2013 but has since undergone successive restoration treatments. To a large degree this is now stabilised but requires monitoring and may require re-application of lime seed and fertiliser allow long term recovery. **State 3**: largely inactive, dwarf shrub dominated dry bog is found in a large swathe across the moor from north to south and is the predominant habitat present. Potentially active **state 4** – cotton grass dominated bog, is found to the south west on ground above the Westend valley and also in smaller isolated areas above Moseley Bank and Upper Small Clough. **State 5**: Modified but more diverse, non-heather dominated dry bog can be found mainly on the Bleaklow plateau inside the exclusion area. *Sphagnum* frequency is generally low, present in pools and gully edges.

2.1.2 Dry heath

Dry heath is limited on Ronksley to the edges of the blanket bog and within cloughs. Where present it is mainly heather dominant (for example within Barrow clough in particular) with small areas of non-heather dominant dry heath within Linch clough, but species diversity is generally low.

2.1.3 Acid flushes

Acid flushes on Ronksley are generally unfavourable in condition, lacking in typical bog mosses and with too much soft rush / reed cover. Further surveys are required to build up a full species record for these features, to help guide their management.

2.1.4 Upland Oak and Birch woodland

Upland Oak and Birch woodland and scrub can be found in the bottoms of cloughs, naturally occurring in limited patches within Lower Small clough, Barrow clough and at lower eastern slopes of Ox Hey. These habitats are being extended by our Clough Woodlands Project, supported by eWGS funding, within Upper and Lower Misden clough and Deerholes. Elsewhere, further up cloughs towards the heath and moorland habitats on HLS agreement areas, there are few scattered trees. Dwarf shrub diversity is generally low within cloughs, with species poor grassland and dense bracken stands common features: a product of historical overgrazing. However, the condition is improving with increases in dwarf shrubs and vegetation structure seen from previous condition assessments, leggy heather present on inaccessible slopes and spreading birch, rowan and scrub in places. Misden and Linch clough contain the rare Oak and Beech fern.

2.1.5 Species poor acid grassland

Areas of mat grass (*Nardus)* dominated grassland is largely restricted to the southern end of Ronksley moor where grazing has been heavier: there are extensive mat grass dominated areas across Moseley Bank, Ox Hey, Cow Hey and Ridge Nether Moor, often associated with old drainage features and slopes. This habitat is of value for grazing, but of low wildlife value due to its low species diversity and structure. The aspiration is to manage acid grassland by grazing and shepherding actions in order to restore where possible to heath mosaic or species rich grassland swards.

2.1.6 Invasive species

Bracken is not considered a problem on the blanket bog but forms dense beds within cloughs, typically associated with species poor acid grassland as a result of historical overgrazing. Control by aerial spraying has been carried out preceding clough woodland tree planting in Upper Misden clough, and leading edges treated on moorland where stands were spreading onto heath areas. Dense bracken stands are present within Grinah Grain and the south-facing side of Lynch clough, but treatment has been limited by the risk of erosion within these very steep sided cloughs: encroachment from these areas onto heath habitats will need to be monitored. Stands of conifer and rhododendron can be found on adjacent Severn Trent land fringing the reservoir, representing a seed source and an ongoing need to hand-pull these to prevent establishment on other habitats.

2.1.7 Important species

A search of local biological records centres found records for 16 BAP species or other species of conservation concern within the Ronksley boundary, including Mountain hare, Water vole, Common lizard, Labrador tea, Cloudberry, Bog asphodel, Bearberry, Brown hare, Common toad, Violet oil beetle, Small heath and Slow worm.

2.2 LON theme: Healthy

2.2.1 Soils & Geology

Acidic, poorly draining moorland peat soils of varying depths, typical of the Dark Peak moors underlay Ronksley Moor. There are no features of special geological interest or visible gritstone outcrops.

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 the middle heft, from ancient trackways, quarry sites, sheepfolds, peat cuttings and shooting butts. The remains of several ruined buildings – shelters, a barn and the footings of an old cabin are remnants of historical farming and shooting activity in the area. 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 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 their management.

2.4 LON theme: Beautiful and Enjoyed

The landscape character of Ronksley is synonymous with the Dark Peak; a spirit of place instilling the wildness and foreboding of the open moors. Few footpaths cross Ronksley moor, although there is a route running along the eastern boundary following the route of the river Derwent. 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, Birchinlee moor is of great value to visitors for the freedom offered by the vast tracts of open access countryside and stunning views.

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	See tables and numbered actions below	*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).

Grazing units	HLS Grazed Area (ha)	Maximum Sheep numbers and timing
SK 1595 0150 SK 1694 7348 SK 1694 8132 SK 1694 9048	1000.55ha	534 ewes (0.08 LU per ewe) plus 130 hoggs (0.06 LU per hogg) over summer. 500 ewes over winter

Month	Maximum	Minimum
January – April 14th	500 ewes	0
April 15th – April 30th	0	0
May - June	350 ewes plus 130 hoggs	175 ewes plus 65 hoggs
July - August	534 ewes plus 130 hoggs	282 ewes plus 65 hoggs
September	534 ewes plus 130 hoggs	0
October 1st – 15th	0	0
Oct 16th – Nov 14th	500 ewes plus 130 hoggs	0
Nov 15th – Dec 31st	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.
3. Tenants' stocking records to be made available on a quarterly basis, including gathering numbers.
4. Stocking records to be made available to Natural England as per HLS agreement*.
5. Maintain Bleaklow exclosure fence to prevent grazing on bare peat restoration areas*.

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* HLS

3.1.2 Factor: Grazing – Shepherding	6. Tenant to make regular weekly (minimum) shepherding visits to heft sheep to the moor top and away from cloughs to avoid over grazing of clough vegetation Fig 3.1 7. Tenants to keep all records of shepherding activities and make these available on a quarterly basis 8. Shepherding records to be made available to Natural England as per HLS agreement* 9. NT vegetation condition survey protocol will be used to assess grazing impacts eg, levels of flowering bilberry and heather consumption.	*Attribute:* Shepherding records Lower limit: At least one shepherding visit per week to each grazing unit. *Attribute:* Under/Over grazing 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). 11. Tracks shown on Fig 1.1a will be maintained as per the Guiding Principles. 12. Low ground pressure vehicles may operate away from consented routes providing no damage occurs to the SSSI or archaeological features. 13. New track consents and significant repairs will require separate planning permission.	*Attribute:* Impacts from vehicle use Upper Limit: Any negative impacts to SSSI must recover within 12 months. 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. 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. 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 *Attribute:* Record all illegal open access use
3.1.5 Factor: Access and Recreation – managing events & organised groups	17. The Trust will maintain its part in the Events Notification Procedure as part of the LAF with the PDNPA. 18. The Trust will vet all applications for events. 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. No damage to archaeology.	*Attribute:* Record all organised group applications *Attribute:* Monthly monitoring of footpath and boundary condition
	20. Control bracken within eWGS tree planting areas to aid tree establishment and prevent spread: Upper and Lower Misden clough, following Guiding Principles (fig.	*Attribute:* Bracken cover

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* HLS

3.1.6 Factor: Managing invasive species – bracken	3.2). – 6.2 ha 21. Annual walkover of treated areas to determine frequency and cover of vegetation and guide follow up control. 22. Ground truth bracken density maps (developed based on aerial imagery and FEP information), to prioritise further treatment of bracken according to Guiding Principles.	Upper Limit: <1% encroachment onto blanket bog in a SSSI unit. <10% cover on dry heath in a SSSI unit. *Attribute*: Bare ground (over grazing) Upper Limit: <10% disturbed bare ground in a SSSI unit
3.1.7 Factor: Managing invasive species – conifer and rhododendron	23. Continue to monitor non-native invasive species through NT vegetation condition monitoring 24. Continue to remove seedlings on ad hoc basis across all habitats. 25. ML2020 project to fund at least 1 day of organised pulling in 2020.	*Attribute:* Cover of Conifer & Rhododendron Upper Limit: <1% cover of vegetation
3.1.8 Factor: Managing encroachment outside cloughs by native trees and scrub	26. Monitor frequency and abundance of broadleaf tree regeneration through ongoing NT vegetation condition monitoring. 27. Heath, blanket bog and flushes: keep broadleaf tree regeneration within upper limits through the proposed grazing regime and cutting operations. 28. Individual tree removal if required should include spot treatment with Glyphosate to prevent coppicing. 29. No tree planting within 20m of flushes (ref. Clough Woodland guiding principles)	*Attribute:* Cover of Native Trees and Scrub 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

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.	*Attribute:* Variation in vegetation height across the moor

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* HLS

	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. 3. Under the HLS agreement cut a minimum of 2.3 ha annually OR 6.9 ha in a 3 year period to a height of approx. 10cm (fig. 3.3a)* 4. Record all cuts with GPS and maintain log of cutting operations.	Upper limit: Retain 20% heather uncut to allow heather layering and provide sufficient tall vegetation for ground nesting birds *Attribute:* Area and location of cuts Lower limit: Cutting 2.3 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. 6. Record area and location of all applications of seed and *Sphagnum*. 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 *Attribute*: Species composition Lower limit: Compliant with the milestones and trajectories for the different blanket bog states.
3.2.3 Factor: Revegetation of bare ground	8. Plan additional follow up revegetation treatments as necessary on treated bare ground within Bleaklow exclosure (M2020 work plan to be confirmed). See fig. 3.4b. 9. Monitor bare peat cover in 10% of treated areas annually and re-survey every 3 years.	*Attribute: Cover of Bare peat in treated areas* Lower limit: <10% bare ground in treated areas, refer to milestones and trajectories for timescale
3.2.4 Factor: Re-wetting	10. Gully blocking in Lower Small clough has been planned and awaiting confirmation in MFF M2020 work plans (2018-19). Fig. 3.4a 11. Additional M2020 Project gully blocking to be confirmed by Moors for the Future. 12. Assess gully block function in 10% of HLS gully blocks annually (rolling programme). 13. Maintain dams as required to achieve 90% success rate*	*Attribute: Gully block function* Lower Limit: Established gully blocks are functional and 90% hold water and/or silt behind them by year 10 of the agreement*.
3.2.5 Factor: Managing Wildfire	14. Fire risk will be managed through the cutting done under the HLS agreement. 15. Maintain public awareness of wildfire risk during high risk periods through use of signage and media campaigns with our partner organisations 16. Maintain close involvement with the Fire Operations Group (FOG) and local partners	*Attribute:* Wildfire risk *Attribute:* Incidence of wildfire Upper Limit: No catastrophic wildfire 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

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* HLS

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: Cutting & Burning	1. Areas of Dry Heath on Ronksley are very small (fig 1.2a) and burning or cutting is not considered necessary, therefore no burning is consented (fig 3.3b). Heather management will be primarily through grazing on Dry Heath. If burning or cutting is required then it will follow the Guiding Principles and will not be undertaken without prior written authorisation from the Trust.	*N/A*
3.3.2 Factor: Diversifying species composition	2. Species diversification will be implemented though grazing, of heather dominant vegetation. 3. Monitor cover and frequency of indicator species in 10% of annual cuts or burns and re-survey every 3 years. Use NT vegetation condition protocol – see Guiding Principles.	*Attribute: Species composition* Upper limit: 75% heather cover Lower limit: 2 dwarf shrub (+2 other) indicator species present
3.3.3 Factor: Managing Wildfire	4. Fire risk will be managed through grazing and potentially through burning/cutting to be done under HLS 5. Maintain public awareness of wildfire risk during high risk periods through use of signage and media campaigns with our partner organisations 6. Maintain close involvement with the Fire Operations Group (FOG) and local partners	*Attribute: Wildfire risk* *Attribute: Incidence of wildfire* Upper Limit: No catastrophic wildfire

3.4 Feature: Acid flush

What do we want?

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.

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* HLS

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. 2. Determine high priority flushes in need of restoration 3. Maintain low intensity grazing and good shepherding	*Attribute:* Maintain extent of good quality flushes *Attribute:* Cover & Frequency of indicator species *Attribute:* Frequency of bog mosses, 'brown mosses' and sedges *Attribute:* Cover & Frequency of rank species Upper limit: <10% 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 composition	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.

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

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* HLS

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 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 a. Following the Clough woodland project guiding principles and eWGS 2013-23 grant, establish woodland in eWGS plots (Fig 3.5). 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. 2. Candidate sites a. Determine the suitability of remaining candidate sites for woodland development (fig 3.5)	*eWGS* *Attribute: Area of woodland establishment* 36.5ha *Candidate sites* *Attribute: Area of woodland establishment* To be confirmed in 2018
3.6.2 Factor: Structure	3. eWGS 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. b. All trees will be suitably protected against herbivores for the duration of the grant period. c. Thinning of trees to be determined after 15-20 years by the site manager. 4. Candidate sites a. On suitable sites establish average 5% cover scattered trees and scrub by 15-20 years after planting 5. Protect trees against herbivores	eWGS *Attribute: Open ground* Lower limit 40% *Attribute: Tree density* Lower limit 1600 trees/ha (960/ha accounting for 40% open ground) *Candidate sites* *Attribute: Sparse trees* Upper limit: 20% scattered trees

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	6. Encourage establishment of self-set native trees using guards	Lower limit: average 5% cover
3.6.3 Factor: Species diversity	7. eWGS a. Monitor and beat up where necessary to maintain established species mix 8. Candidate sites a. Follow recommended species mix (Clough Woodlands Guiding Principles) for planted sites b. Monitor self-set trees and maintain and avoid single species dominance by thinning and planting where necessary 9. Maintain low intensity grazing and good shepherding practises (Whole Moor Factors). 10. Monitor cover and frequency of ground flora indicator species and re-survey every 3 years.	Candidate sites *Attribute: Presence of scattered trees and scrub* Upper limit: 20% scattered trees *Attribute: Frequency and structure of dwarf shrub species* Upper limit: 75% heather cover Lower limit: 2 dwarf shrub (+2 other) indicator species present

3.7 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
3.7.1 Factor: Access and Recreation – managing footpath erosion	1. 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. 2. Encourage the use of surfaced routes. 3. Maintain footpaths and routes with appropriate materials to minimise impact of footfall and water drainage to prevent erosion of soil (following Guiding Principles). 4. Prioritise footpaths and routes requiring repairs and maintenance Fig. 3.7	*Attribute:* Condition of footpaths, bridleways and other routes
3.7.2 Soil hydrology	5. Work with partners (MFF & Universities) to maintain hydrological monitoring equipment (dipwells, vegetation quadrats and catchment discharge weirs).	*Attribute:* Soil water table *Attribute*: vegetation condition *Attribute*: catchment discharge

3.8 Feature: Archaeology

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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
3.8.1 Factor: Disturbance	1. No disturbance of archaeology by vehicles – see whole moor factors (Factor 3.1.3). 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
3.8.2 Factor: Access and recreation	3. No disturbance of archaeology by access and recreation – see whole moor factors (Factor 3.1.4). 4. Grouse butts to be maintained according to Guiding Principles. 5. Continued bi-annual HART monitoring of archaeology.	*Attribute:* condition of grouse butts *Attribute:* Condition of archaeological features along access routes
3.8.3 Factor: Encroachment of trees, scrub or bracken	6. Maintain visibility of archaeological features as set out in option UD13* (fig 3.8). 7. Bi-annual monitoring of all archaeological features by HART team.	*Attribute: Maintain visibility of listed features**

Project obligations

* HLS