Habitats Regulations Assessment (HRA)

Regulation 21 of the Habitats Regulations 2010

Casework Tracker Ref. (where applicable)	XXXX	**EU Site Code Ref.**	UK0030280 UK9007021
Case name	Midhope Moor HLS Agreement & MMP		
Assessment made by	Richard Pollitt	**Date:**	21st August 2013

Application/Project: Midhope HLS Agreement

European Site(s): South Pennine Moors Special Area of Conservation (SAC)

Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA)

Component SSSI(s): The Dark Peak and Eastern Peak District Moors SSSI's

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Assessment summary

This Habitats Regulations Assessment of the Moorland Management Plan for Midhope Moor HLS Agreement and Moorland Management Plan under Regulation 21 of The Conservation of Habitats and Species Regulations 2010 has concluded that it cannot be ascertained that the proposed operations **will** adversely affect the integrity of the site or its notified features and that the proposed notice will not have a beneficial effect on the European Site.

PART A – Introduction and Information about the project

A1. Introduction

This is a record of the Habitats Regulations Assessment undertaken by Natural England of this application which affects the South Pennine Moors Special Area of Conservation (SAC) and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA).

The application constitutes a request to Natural England for permission to carry out, cause or permit to be carried out an operation(s) listed by a SSSI notification by way of a management agreement (hereby referred to as 'the project').

Where such a proposal also affects a European Site, Regulation 21 of the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") requires an assessment to be made of such proposals to secure compliance with the EC Habitats Directive (Council Directive 92/43/EEC).

Natural England may only give consent to the proposal where it is able to ascertain that the proposal will have no adverse effect on the integrity of the South Pennine Moors Special Area of Conservation (SAC) and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) European Sites.

A2. Details of the project

Type(s) of project:	HLS Moorland Agreement
Location of project:	Midhope Moor, Langsett, Sheffield
Applicant:	Wakefield Farms Ltd
National Grid Reference:	SK215985
Summary of the project and its constituent elements:	Improvements to consented burning (reduction in the area of blanket bog under burning management and increase in the rotation period), grip blocking, and re-vegetation of bare and damaged peat, and bracken control.

PART B: Information about the European Site(s)

B1. Description of the SAC/SPA and their Qualifying Features

South Pennine Moors Special Area of Conservation SAC

Annex I habitats that are a primary reason for selection of this site

- Blanket bogs* (*priority habitat type).
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

- Northern Atlantic w
- Acid fens

Peak District Moors (South Pennine Moors) Special Protection Area SPA

Article 4.1 Qualification

- Golden Plover *Pluvialis apricaria*, 752 pairs representing at least 3.3% of the breeding population in Great Britain (Count as at 1990)
- Merlin *Falco columbarius*, 77 pairs representing at least 1.9% of the breeding population in Great Britain
- Short-eared Owl *Asio flammeus*, 25 pairs representing at least 2.5% of the breeding population in Great Britain

Subsequent to a JNCC Review of Special Protection Areas (published 2001), it was indicated by UK Government that the following species should be treated as qualifying species for this SPA and are therefore thought as such for the purposes of this assessment.

- Peregrine *Falco peregrinus*, 16 pairs representing at least 1.4% of the breeding population in Great Britain
- Dunlin *Calidris alpina schinzii*, 140 pairs representing at least 1.3% of the breeding Baltic/UK/Ireland population

PART C: Screening of the project

There are two screening stage tests required under Regulation 21 (transposing Article 6(3) of the Habitats Directive):

C1. Test: Necessary to management (of the European site)

For SAC habitat features

It is considered that **blanket bogs** can be generally regarded as a near-natural or climax habitat, which means that the nutrient poor and waterlogged vegetation has reached a steady natural state and a naturally diverse structure and can sustain itself without grazing, burning or any other interventions. Where previous damage has occurred, some areas of blanket bog may require restoration of natural hydrology (i.e. rewetting) to restore its naturally peat-forming ability. Additional measures may also be required to reduce the dominance of species such as heather and purple moor-grass. Blanket bog habitats should not be re-classified as dry or wet heath despite having a vegetation type more characteristic of these habitats unless peat depth is less than 50 cm. It might be possible that a single, one-off and highly-controlled burn can contribute to the restoration of blanket bog habitat (for example, as an initial treatment) in order to revert degraded bog vegetation now dominated by heather or purple moor-grass to bog or wet heath habitat. Therefore, in these very specific circumstances, where the operation has the necessary safeguards built in and forms part of an agreed restoration plan (that includes other necessary restoration or conservation measures) it may be considered as being directly connected with or necessary to the management of the site. Burning regimes are known to affect bog/mire habitats, leading to reductions in or loss of key species (both plants and animals), reduced structural diversity and a greater dominance of species which are less typically associated with the habitat in question (i.e. areas of deeper peat becoming dominated by *Calluna*, cotton sedge or grasses such as *Molinia*). When blanket bog is damaged, carbon sequestration is likely to be halted or reduced and carbon can be released through oxidation, particulate and solute erosion. Grazing affects vegetation composition and structure, depending on stocking density and the timing and duration of grazing. At high stocking densities, grazing action favours vigorous grasses which are able to out-compete the characteristic species which form the respective vegetation communities. Localised nutrient enrichment and excessive poaching or trampling of the ground may result. Blanket bog is particularly sensitive to grazing, being very unproductive and being a habitat which is only partly, under certain circumstances, dependent on grazing to maintain its special scientific interest. Grazing can either maintain or reduce the cover of dwarf shrubs and other plants. Winter grazing regimes often result in the need

for supplementary feeding of livestock, such as the use of mineral licks which if kept in the same location over long periods can cause localised but significant damage to upland vegetation, further promoting changes to a grass-dominated vegetation community. Natural England considers that the appropriate stocking density for the restoration of blanket bog is 0.018 LU/ha and that that the appropriate stocking density for its maintenance 0.035 LU/ha.

It is considered that **North Atlantic wet heaths with *Erica tetralix*** on shallow peat is a plagio-climax community which requires light grazing to maintain its state and prevent its ecological succession to woodland. Burning, as this favours more competitive species over more characteristic species, should be avoided. Natural England considers that the appropriate stocking density for the restoration of wet heath is 0.022 LU/ha and that that the appropriate stocking density for its maintenance 0.044 LU/ha.

It is considered that **European dry heaths** are a plagio-climax community that can require some form of management intervention, either light grazing with livestock or careful burning, to maintain its open state and prevent ecological succession to woodland in local circumstances. Natural England considers that the appropriate stocking density for the restoration of dry heath is 0.051 LU/ha and that that the appropriate stocking density for its maintenance 0.101 LU/ha.

Natural England has considered Midhope Moor HLS & Moorland Management Plan under Regulation 21 (1)(b) of The Conservation of Habitats and Species Regulations 2010 and has decided that it is necessary for the management of the South Pennine Moors Special Area of Conservation SAC for the following features;

- Blanket Bog* (*priority habitat type).
- Upland dry dwarf shrub heath

For SPA features

Burning practices can affect the vegetation composition and structure of nesting and feeding habitat; can kill/injure or disturb birds and their nests, eggs and young if undertaken in spring and research has shown that when coupled with predator control, may benefit some breeding waders such as golden plover. Upland habitats support internationally and nationally important numbers of birds. It is generally regarded however that no upland bird species have a specific requirement for intensively managed moorland managed by burning. Burning on blanket bog may be considered necessary when it can be clearly demonstrated that the activity is an essential component of habitat management for a particular bird species that is a SPA feature. It must be clearly demonstrated that there are no other suitable habitats that the species

will and can use instead, and that burning is a key element of maintaining a population that would otherwise be in unfavourable condition at the site level. Supporting evidence might include the regular and historic use of burned blanket bog by a viable population of the species, the need to create a link between two or more, currently isolated populations of the species, the use of the blanket bog by the species for a significant proportion of its lifecycle or where there are no opportunities for the creation or restoration of other suitable habitat. Grazing affects vegetation composition and structure of nesting and feeding habitat. Stock can disturb birds and/or trample nests depending on stocking density and the timing and duration of grazing. At high densities, vegetation can be over-grazed, favouring competitive grasses and resulting in localised nutrient enrichment and excessive poaching or trampling of the ground. Blanket bog is particularly sensitive to grazing being very unproductive and a habitat which is not dependent on grazing to be maintained. Grazing can either maintain or reduce the cover of dwarf shrubs and other plants. Winter grazing regimes often result in the need for livestock feeding such as the use of mineral licks which is kept in the same location over long periods can cause significant changes and damage to upland heathland vegetation, further promoting changes to grass-dominated vegetation. The presence of large numbers of livestock, and potential carrion, can encourage avian and mammalian predators, which also predate ground-nesting birds.

Natural England has considered the Midhope Moor HLS Agreement and Moorland Management Plan under Regulation 21 (1)(b) of The Conservation of Habitats and Species Regulations 2010 and has decided that the proposal is not necessary for the management of the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area SPA for the following features;

- Golden Plover *Pluvialis apricaria*, 752 pairs representing at least 3.3% of the breeding population in Great Britain (Count as at 1990)
- Merlin *Falco columbarius*, 77 pairs representing at least 5.9% of the breeding population in Great Britain
- Short-eared Owl *Asio flammeus*, 25 pairs representing at least 2.5% of the breeding population in Great Britain
- Peregrine *Falco peregrinus*, 16 pairs representing at least 1.4% of the breeding population in Great Britain
- Dunlin *Calidris alpina schinzii*, 140 pairs representing at least 1.3% of the breeding Baltic/UK/Ireland population

C2. Test: Likelihood of significant effects (LSE)

C2.1 Alone

This section details how the submitted project proposals may have a likely significant effect(s) alone, after each of the project elements are tested against each of the European site features and an assessment of their vulnerability to potential effects using best available evidence and information is made.

Measures that would avoid or reduce the likelihood of significant effects arising and are already integral to the project as submitted have been taken into account at this stage.

Interest feature	Potential effects	Mechanism	Measures which may mitigate the potential effects	Likely Significant Effect?
SAC Blanket bog	Burning 1) Promote the dominance of fire-tolerant species, including heather *Calluna vulgaris,* or graminoids such as purple moor grass, hare's tail cotton grass or deergrass. 2) Increase the quantity of bare ground vulnerable to erosion 3) Decreased abundance of key species, especially wetland species 4) Changes in vegetation structure, floristic composition and micro-topography	23 year	reduce the area of blanket bog under burning rotation, increase the burning rotation average.	Yes

	5) Damage and reduction in cover, variety and function of *Sphagnum* species to contribute to peat formation. 6) Drying out of peat surface and increases the likelihood of peat pipe formation 7) Hinders the recovery of vegetation damaged by historic activities and practices 8) Encouragement of dense *Cv* canopies may increase the risk of wildfire			
SAC Upland or subalpine dry dwarf shrub heath	<u>Burning</u> 1) Promote the dominance of a few species or switch dominance from Ericoids to graminoids 2) Increase the quantity of bare ground 3) Decreased abundance of key species 4) Changes in floristic composition 5) Encouragement of dense *Calluna* canopies may increase the risk of wildfire	12 years	buffer sensitive habitats and retain structural diversity	Yes

SPA Aggregations of breeding Annex I birds; Assemblage of breeding upland moorland birds Golden Plover Merlin Short-eared Owl Peregrine Dunlin	<u>Burning</u> 1) Burning may promote drying out of the peatland surface, reducing the abundance and availability of invertebrate prey for golden plover, curlew and dunlin 2) Burning in historically burned areas may provide shorter vegetation in closed canopy stands suitable for breeding golden plover 3) Burning can promote heather at the expense of bog vegetation, adversely affecting breeding habitat of dunlin . 4) Frequent burning cycles can reduce the extent of tall heather for nesting merlin and can reduce abundance of its prey, the meadow pipit. 5) Encouragement of dense *Calluna* canopies may increase the risk of wildfire which may result in mortality or nest destruction if fires occur within bird breeding season	23 year on blanket bog	avoid wet areas and take burning off more elevated areas	yes
SAC Blanket bog	<u>Grazing</u> 1) Increases likelihood of compaction and hydrological effects by trampling, poaching and regular walkways	0.1 LU/ha	maintain distribution of sheep across the unit	No

	2) Increased likelihood of eutrophication through animal droppings 3) Increased likelihood of selective grazing of dwarf shrub species and flowering forbs.			
SAC Upland or subalpine dry dwarf shrub heath	Grazing 1) Increases likelihood of compaction and hydrological effects by trampling, poaching and regular walkways 2) Increased likelihood of eutrophication through animal droppings 3) Increased likelihood of selective grazing of dwarf shrub species and flowering forbs.	0.1 LU/ha		No
SPA Aggregations of breeding Annex I birds; Assemblage of breeding upland moorland birds: Golden Plover, Merlin Short-eared Owl, Peregrine, Dunlin	Grazing 1) Increases likelihood disturbance by trampling, poaching and regular walkways 2) Increased likelihood of damage to nest sites through trampling, poaching and regular walkways	0.1 LU/ha		No

SAC & SPA	Other proposals, e.g. Grip blocking	reduce erosion and maintain water table	use appropriate techniques to protect habitat	No

C2.2 In-combination with other plans and projects (only where applicable): N/A

From the table above those elements not deemed to have an impact alone must now be considered for in-combination impacts. Effects not considered to be significant alone in section C2.1 have been considered with the details of other live plans and projects and their effects to make an assessment of likely significant effect 'in-combination'. The results of this assessment are as follows:

Conclusions: Natural England has considered the project under Regulation 21 (1)(a) of The Conservation of Habitats and Species Regulations 2010 and has decided that it **is** likely to have a significant effect, either alone or in combination with other plans or projects, for the following reasons:

C3. Screening Decision

On the basis of the details submitted, Natural England has concluded that as the project **is** likely to have significant effects either alone or in combination with other plans or projects, or such effects cannot be ruled out, on some or all of the Qualifying Features, consent may not be given and further appropriate assessment is required.

PART D: Appropriate assessment and Site Integrity test

D1. Appropriate Assessment

Having considered that the project is not directly connected with or necessary to the management of the South Pennine Moors Special Area of Conservation (SAC) and The Peak District Moors Dark Peak (South Pennine Moors Phase 1) Special Protection Area (SPA) and is likely to have a significant effect on some or all of the features of the SAC (either alone or in combination with other plans or projects), this section contains the appropriate assessment of the implications of the project in view of the conservation objectives for the European Site (as required by Regulation 21 of the Habitats Regulations).

The Qualifying Features, on which significant effects are likely or cannot be ruled out, and which are integral to this appropriate assessment are;

- *Blanket bogs* (*priority habitat type).*
- *Upland dry dwarf shrub heath*
- *Golden plover*
- *Dunlin*
- *Merlin*
- *Short-eared owl*

D1.1 European Site Conservation Objectives

The South Pennine Moors Special Area of Conservation (SAC)
http://www.naturalengland.org.uk/Images/UK0030280-South-Pennine-Moors-SAC_tcm6-31771.pdf

D1.2 Contextual statement on the current status, influences, management and condition of the site and those Qualifying features affected by the project

Currently the blanket bog habitat present on this moor does not meet favourable condition standards for vegetation composition reasons. The deficiency in number and diversity of species of these habitats will not be restored by continuing to burn them.

The burning plan prescribes various burning rotations on the habitats within the permitted burn area. This permitted burn area has been drawn up by excluding areas of less than 50% Calluna vulgaris, steep slopes, gullies, flush and areas that have not seen historical rotational burning or areas that CSM finds a particularly diverse or developing suite of species.

Generally this follows the guidance within the H&GBC with the exception that areas of peat bog or wet heathland are permitted to be burned in line with this plan. This is to limit burning to existing areas that have experienced historical burning and to prevent its expansion. Whilst this approach will secure a limitation to burning management, it does allow an Operation that was Likely to Damage to proceed with the justification that there will be a conservation gain by lengthening the burning rotations from those that were previously consented.

The HRA must reach a conclusion that;

- the management is necessary for the management of the European site.
- that the management will not have a significant adverse effect.
- it can be ascertained that the management will not have an adverse impact upon the integrity of the European site.

Current scientific understanding **is insufficient** to demonstrate that burning of peatlands on **any rotation** will;

- lead to favourable condition.
- not hinder recovery (alone or in combination with other restoration projects).
- not lead to biodiversity decline.

The current scientific evidence base suggests burning of peatlands is damaging and has other negative effects for ecosystem services and it should be considered that with respect to burning on blanket bogs and wet heaths that;

The Heather and Grass Burning Code says;

> ***There should be a strong presumption against burning sensitive areas.* (Of which peat bog and wet heathland are types)**

The Natural England Summary of burning and other moorland management guidance says about blanket bog;

> ***Presumption of no burning (unless 'special circumstances', e.g. initial restoration treatment)***

and The Upland Management Handbook says;

> ***The question often raised in relation to blanket mire and wet heath is whether or not it should be burnt. Fire cycles on mires are not fully understood (Lindsay 1995), but burning these habitats in the same manner as dry heaths is thought to reduce their conservation value (Usher & Thompson 1993). Burning***

on blanket mire and wet heath is not required to maintain their nature conservation interest (Mowforth & Sydes 1989; Rawes & Hobbs 1979) and for this reason it should be minimised and where possible eliminated.

The current scientific evidence base suggests burning of peatlands is damaging and has other negative effects for ecosystem services and is not necessary to achieve conservation objectives.

There is no conservation need to burn dry heath habitats for their enhancement as they have no ecological successional pressure that requires intervention on this site.
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D1.3 Assessment of likely effects without mitigation measures (project as proposed)

Project element	Likely impact	Extent	Likelihood of adverse effect and	Uncertainty
Burning **on blanket bog** on The maximum area of vegetation to be burnt in the 5 year consent period will be **47.5** hectares. This equates to an average annual total of **9.5 hectares** (based on an average rotation of 23 years).	1) Promotion of fire-tolerant species, including *Calluna vulgaris,* or graminoids such as purple moor grass, hare's tail cotton grass or deergrass 2) Increase of bare ground vulnerable to erosion 3) Decreased species diversity, especially wetland species 4) Changes in vegetation structure, floristic composition and micro-topography 5) Damage and reduction in cover, variety and the function of *Sphagnum* species to contribute to peat formation. 6) Drying out of peat surface and increases the likelihood of peat pipe formation 7) Hinders the recovery of vegetation damaged	220 ha	Continued rotational burning of bog may create conditions that will favour species such as *Calluna vulgaris* cool burning will avoid conditions that allow *Campylopus pyriformis* to exist at unfavourable frequencies. The area of blanket bog under a rotational burning management has been reduced by 10% and the rotation period has been extended from 18 year average to 23 year average. Continued burning will hinder the recovery of this habitat including more typical, fire sensitive species, such as *Sphagnum* mosses, and can lead to drying out of the peat surface.	**Uncertain** that this will have an adverse effect

	by historic activities and practices 8) Encouragement of dense heather canopies may increase the risk of wildfire			
Burning on **dry heath** on a rotation of Burn appropriate vegetation in a rotation of 9-15 years (or longer) to create a mosaic of vegetation structure across the site, including heather in the mature and degenerate phases of growth. The maximum area of vegetation to be burnt in the 5 year consent period will be **130** hectares (which equates to	1) Promote the dominance of a few species or switch dominance from Ericoids to graminoids 2) Increase the quantity of bare ground 3) Decreased abundance of key species 4) Changes in floristic composition *5) Encouragement of dense Calluna canopies may increase the risk of wildfire*	312ha		**Uncertain** that this will have an adverse effect

8% of the total area per year). This equates to an average annual total of **26 hectares.**				

D1.4 Assessment of likely effects taking account of mitigation measures

This table examines potential avoidance/mitigation measures that might be applied to relevant elements of the proposal in order to avoid adverse effects on the integrity of the site.

Project element	Likely impact	Avoidance and reduction measures (Mitigation) to be applied as Conditions and modifications	Justification	Who will implement	Checks/ Controls	Will conditions allow Natural England to conclude no impact on site integrity
Burning	See table 1.3 above	Amend the terms of the Plan to stipulate *reduction of the area of blanket bog habitat where there is burning management, increase in the rotation period.*	So that it can be ascertained that that there will be no adverse impact on the integrity of the site or its notified features.	Land manager	NE ISA visits RPA compliance HLS mapping	Yes

D1.5 Assessment of likely effects taking into account Restrictions and Conditions

See comments above

D1.6 Assessment of residual effects

None

D2. Conclusions on site Integrity

Because the project is not wholly directly connected with or necessary to the management of the South Pennine Moors Special Area of Conservation (SAC) and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) and is likely to have a significant effect on the SAC (either alone or in combination with other plans or projects), Natural England carried out an Appropriate Assessment as required under Regulation 21 of the Conservation of Habitats and Species Regulations 2010 to ascertain whether or not there would be an adverse effect on the integrity of the South Pennine Moors Special Area of Conservation (SAC) and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA).

Natural England has concluded that:

With respect to the SAC;

It cannot be ascertained that the project will not have an adverse effect on the integrity of the South Pennine Moors Special Area of Conservation SAC.

PART E: Consent/Permission decision with respect to the European Site(s)

As the relevant competent authority, Natural England has carried out a Habitats Regulations assessment of the project as required by Regulation 21 of the Conservation of Habitats and Species Regulations 2010 and has decided that, with regard to the European Sites and its qualifying features;

Permission for the operations contained in the project can be given

The reasons for this decision are as follows:

It can be ascertained that the proposed HLS agreement will result in a reduced impact compared to previously consented/agreed management and this will have a less adverse impact on site integrity. These measures are likely to reduce the impact of management and assist in recovery of habitat condition on the SAC and to encourage habitat to support SPA bird species. In addition the positive restoration work will assist recovery of blanket bog and wet grassland.

The Habitats Regulations assessment of the implications of this project on the European Site has been completed. Following a Habitats Regulations Assessment of the plan/project regarding the European Site features, further separate consideration is required of the compatibility of the project with the notified features of special interest of the SSSI before any final written consent or permission can be given.

Appendices

None.

References

- The South Pennine Moors Special Area of Conservation (SAC) and the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA)Conservation Objectives.
- Common Standards Monitoring Guidance for Upland Habitats 2009.
- Ward, S.E., Bardgett, R.D., McNamara, N.P., Adamson, J.K., Ostle, N.J. (2007) Long-Term Consequences of Grazing and Burning on Northern Peatland Carbon Dynamics. Ecosystems, 10: 1069-1083
- J.H. Tallis, R. Meade and P.D. Hulme (eds.) Blanket Mire Degradation – Causes, Consequences and Challenges, Proceedings, University of Manchester, 9-11 April 1997, pp 7-15. Aberdeen: Macaulay Land Use Research Institute
- IUCN UK Peatland Programme (2011) Commission of Inquiry on Peatlands: Summary of Findings (http://www.iucn-uk-peatlandprogramme.org/commission/findings)
- The uplands management handbook 2001 (http://naturalengland.etraderstores.com/NaturalEnglandShop/SC26)
- British Plant Communities. Volume 2: Mires and heaths. Rodwell, J.S. 1991
- Heather and Grass Burning Code (http://www.naturalengland.org.uk/images/heather-and-grass-burning-code_tcm6-7795.pdf)
- Proofs of Evidence submitted for Walshaw Moor Public Inquiry into Appeal against Consent Modification (all proofs in support of Natural England's case as well as those proofs in support of Walshaw Moor Estates Ltd. case), January 2012.

Document control

HRA prepared for Land management	Richard Pollitt	Lead Adviser	V1	22nd August 2013
HRA comments from Regulation				[Date]
HRA comments from Specialist				[Date]
HRA approved for Land management				[Date]
Agreement/ Consent approved	[Name]	[Role]	Agreement Number / Document Reference	[Date]

Appendix 1

[Insert proposal of Agreement/ Consent]