Williamston

Long Term Management Plan for Williamston Estate

1 January 2017 – 31st December 2046

August sunrise – 5.30am - over the Cott at Williamston

Produced jointly by [redacted] (Owner) and [redacted] (Natural England)

Contents

Deed of Agreement under Sections 7 and 13 of the Natural Environment and Rural Communities Act 2006

THIS DEED OF AGREEMENT is made on the day of 2017

PARTIES

(1) **Natural England** of 4th Floor, Foss House, Kings Pool, 1-2 Peasholme Green, York YO1 7PX ('**Natural England**'); and

(2) [redacted] Williamston, [redacted] ("the Land Owner").

Section 1 - Introduction

Williamston Estate is located south of the River Tyne in Northumberland, with the South Tyne River forming a mile of its western boundary, close to the village of Slaggyford. It is owned by Mr[redacted] and is 432 hectares in extent. It comprises approximately 310 hectares of moorland, 86 hectares of rough grazing, 16 hectares of fairly good grazing pasture and 20 hectares of broadleaved and conifer woodland.

This long-term plan will focus on the moorland(as shown on Map 1), referred to as Williamston Common that is split between two farms: Williamston and The Bog. Williamston is the southern side of the Common and The Bog Farm is the northern side, owned by a different landowner. Williamston is designated as part of the Whitfield Moor, Plenmeller and Ashholme Commons Site of Special Scientific Interest (SSSI). The land is also designated as part of the North Pennine Moors Special Area of Conservation and Special Protection Area. This plan provides consent from Natural England for the management agreed herein.

The plan sets out the following:

- a history and overview of the management that has occurred on Williamston Estate;
- a long term vision and joint outcomes for Williamston Estate;
- a list of agreed and consented management principles that will be required to deliver the vision and joint outcomes;
- restoration management techniques for the blanket bog and dry heath;
- a baseline of the current condition of the habitats and species and predicted milestones to ensure delivery of the joint outcomes;
- a list of damaging operations that would require separate consent from Natural England, outwith this plan.

Section 2 - Historical context

Williamston Estate dates back to 1215 when it was known as Williams Town. The land at that time was split into four farms each with its own farmstead dwelling: Stokeld Green, Williams Town, Shawhead and Blackley. Most of the original buildings can still be seen today on the Estate, although a couple are just a pile of stones.

Over time the four farms became two and in around 1712 the 2 larger farms became one farm to be called Williamston. This was owned by [redacted] The farm has stayed in the same family ever since and was passed on to the 11th generation of [redacted] in 1988, to [redacted]

Changes in agricultural management

The agricultural interest on the land has been managed under long term tenancies for over 100 years but is now managed by [redacted] since 2014, when the farm was taken back in-hand.

The upland farming system intensified post WWII through a combination of factors: the Common Agricultural Policy (CAP) providing headage payments for stock; technological intensification and grant-aid by the Ministry of Agriculture Fisheries and Food (MAFF) to drain significant areas of the blanket bogs. All of these changes helped to improve the profitability and productivity of farming in the uplands. On Williamston, these changes had a significant effect on the habitats and species, in particular there was a marked decline in the extent of dry heath on the moorland, which receded up the Benty band hill and was replaced with acid grassland.

In 1998, [redacted] (tenant farmer) and [redacted] entered into their first agri-environment scheme: the English Nature Wildlife Enhancement Scheme (WES). The intention of this scheme was to encourage positive conservation management on the moor. Changes to the agricultural practice included cessation of foddering, to try to halt the loss and deterioration of the dry heath and blanket bog vegetation; planting 500 trees for black grouse in Blackley Sike Gill and undertaking a small programme of grip blocking works. The WES was renewed again in 2002 under the same terms.

In 1992, the eastern end of the moor was fenced off from the rest of the common and entered into the Countryside Stewardship Scheme. The intention was to encourage heather restoration (under UM2 prescriptions) by agreeing only a low level of summer grazing and undertaking bracken spraying to improve the habitat. The management was later amended to UM3, to allow winter grazing. Whilst there was evidence that there had been some recovery in the vegetation, it was clear in 2007 that the current management, in terms of stock numbers, the continuation of foddering and the presence of active grips was preventing any further recovery of the dry heath and blanket bog in this area.

In 2007 the tenant and [redacted] entered into a joint HLS scheme. This involved further stock reductions, re-vegetating severely eroded sections on the steep slopes of Benty band, agreeing a moorland management plan and a grip blocking programme.

In 2014, [redacted] undertook the difficult decision of taking the farm back in-hand and it is now managed directly by [redacted] who employs a local headkeeper/farm manager. The intention is now to manage the Estate for farming, sporting, conservation and holiday lets following the conversion of several of the farmstead building. The new business opened in 2015 – www.williamstonbarns.com .

Grouse moor management

The moorland has been managed as a traditional grouse moor since the early 1850s. It is a small scale, non-commercial shoot run as a syndicate by [redacted] for the last 30 years.

There are 3.5 lines of historic grouse butts, all built primarily with stone. There is an old back line with 3 butts in it on the very top, which was built in the 1880s. The most striking butt is shown in photograph 1 below and is named 'Spy n Cop'. There has been some restoration and general up-keep of the old stone butts and recently the wooden butts. These have been restored sympathetically and have had very little impact on the surrounding blanket bog and dry heath habitats. There are no future plans to increase the lines of grouse butts on Williamston.

There is one main vehicle access route, as shown on Map 2. This is part-surfaced with stone; the remainder crosses acid grassland with localised areas of wetter ground. There is no intention to create an entirely surfaced access route, as the route can be used by all 4 wheel drive vehicles. Small scale use of sleepers and plastic matting may be required in areas where rutting is becoming an issue, particularly towards the cot lunch hut. All of the guns walk from this route and the lunch hut to the butt lines.

In 1998, the land sustained 4 shoot days per year and the aspiration was to increase the grouse productivity to enable 5 shoot days per year. This aspiration was achieved in 2016, which was the best performing year, with 367 brace shot. This could be attributed to no shooting occurring in 2015 as there was no shootable surplus and thus leaving a good stock together with sensible moorland management and an excellent breeding season in the spring of 2016.

Photograph 1: The most striking stone butt on Williamston, 'Spy n Cop'

The previous shepherd undertook burning on the moorland and there were issues in 2005 and 2007 with large scale individual burns, over 10 hectares in size occurring on the front face of the moor (the location of the front face is shown on Map 1). In 2008 burning management was taken back in-hand and since then, small burns of 30m x 30m or 20m x 50m in extent have been undertaken across the moor. Burning management has focused primarily on the dry heath front face of Williamston to provide a more varied age structure. The heather grows very quickly in this location and requires burning at least every 8 years. Burning on the dry heath is to meet the objectives of the grouse moor management and to promote a more even distribution of sheep grazing across the common.

The estate is still playing catch up with burning on the whole of the moor where a predominant amount of heather is over 30 to 40cm high and is in the mature/degenerate growth phase. It will take between 3 to 5 years to properly break up the heather on the dry heath and create a diverse range of heather heights favourable to sheep and wildlife. It will still be important to retain at least 10% of the dry heath in the late mature growth phase, as the older heather is vital for nesting merlin and short-eared owl.

Burning where possible, is the preferred option on the dry heath rather than cutting, this is due to a large proportion of the ground having protruding rocks that could damage cutting equipment.

Photograph 2: Dry heath: heather flowering on Williamston

Changes in the condition of the moorland habitats and species

Prior to the commencement of the HLS in 2007, there were four main issues that needed to be addressed:

- localised heavy grazing pressure, particularly during the winter and associated foddering;
- severe soil erosion occurring along the steep slopes of Benty Band, east of Blackley Sike;
- active drains across the blanket bog;
- large accidental burns occurring along the front face of Williamston.

The stocking levels were amended under the HLS, however the levels were not reduced sufficiently to encourage recovery of the dry heath areas, particularly to the east of the common and on the lower ground where foddering occurred. Since the farm was taken back in-hand, [redacted] has changed the farming management. Foddering no longer occurs on the fell and light grazing occurs during the summer only. This has led to some improvements in the condition of the dry heath along the periphery of the slopes. The blanket bog vegetation remains in good condition and shows limited signs of browsing.

Photograph 3: One of the areas of erosion that had occurred following bracken spraying and grazing by sheep and rabbits.

Photograph 4: The eroded areas were rabbit fenced under HLS and have now fully recovered.

Photograph 3 shows the severity of the soil erosion on the steep slope of Benty Band. The erosion had been caused initially by bracken spraying and the damage was further exacerbated by rabbit and sheep grazing. Gullying was starting to occur and the shallow soil was being washed away. Under HLS, several rabbit exclosures were erected. Photograph 4 was taken in 2012 and demonstrates how quickly the areas were restored. This has been one of the main successes of the HLS and demonstrates how working together to find a solution can provide positive results. These exclosures will be removed during the course of this long term plan and the materials will be recycled to create a series of small exclosures lower down Benty Band to establish tree cover for black grouse.

Photograph 5: Woodland planting along Blackley Sike Gill for Black grouse. This was funded under the WES agreement and has been extremely effective.

The majority of active drains on the blanket bog have been blocked and these have been very successful, although it has caused areas to become wetter and reduced the viability of the land for sheep productivity. On the last inspection, several additional active drains were noted. All grip blocking works will need to be assessed to verify whether they are blocking successfully or if further works are required. This will need to be addressed in any forthcoming agri-environment schemes. On the eastern end of the moor (above Childerman's burn), the dry heath is still fragmented with areas of acid grassland.

Photograph 6: Grip blocking being undertaken on Williamston as part of the HLS agreement.

The Game Conservancy and Wildlife Trust regularly monitor the black grouse on Williamston. Records date back to 1998 and the results are shown below:

Date	Number of Blackgame
1998	10
2002	5
2006	1
2014	5
2015	26 seen by NG
2016	10 seen by NG on at least 10 separate occasions
2017 Jan 13	10 seen by NG, photograph 9

Photograph 7: Black grouse flying over the inbye

Photograph 8: 10 Black grouse seen on the moorland edge, 1st October 2016

Photograph 9: 10 Black grouse seen on the moorland by NG, 13th January 2017

Curlew – nationally in decline but in the North Pennines these birds thrive along with other moorland waders and in particular at Williamston with over 10 birds spotted during the bird survey undertaken by [redacted] in May 2016. Later in June, the Curlew chick below was seen in the rushes and pastures close to Blackley House. [redacted]

Photograph 10: Young curlew chick learning to fly, June 2016

Section 3 – What is special about the moorland on Williamston?

Conservation and Wildlife Designations

The moorland was designated as part of the Whitfield Moor, Plenmeller and Ashholme Commons SSSI in 1998, as it supports an extensive area of blanket bog on the flat plateau and dry heath and acid grassland along the steep sided slopes. The blanket bog is largely dominated by heather *(Calluna vulgaris),* hare's tail cotton grass *(Eriophorum vaginatum)* and feather mosses. The species diversity of the bog improves considerably around Wardley Law, where there is a noticeable increase in the abundance of Sphagnum spp, cross leaved heath *(Erica tetralix),* cranberry (*Vaccinium oxycoccus*), crowberry (*Empetrum nigrum*), bog asphodel (*Narthecium ossifragum*) and cladonia lichens.

The steep slopes grade into dry heath vegetation. This area is dominated by heather *(Calluna vulgaris*) with occasional patches of bilberry *(Vaccinium myrtillus).* Along the steep slopes to the east of the site, below the cot, the ground consists of a mosaic of degraded dry heath and acid grassland. Heavy grazing pressure both by sheep and rabbits (on the lower ground) has fragmented the heather stands which have historically shown signs of topiary and carpet growth forms.

The diverse range of habitats on Williamston supports a diverse assemblage of upland breeding birds, including significant populations of merlin on the moorland, a number of black grouse, curlew, snipe, golden plover, buzzards, short eared owls and peregrines.

Photograph 11: Golden plover close to the Cott.

International Designations

The considerable importance of the area is emphasised by international designations; Whitfield Moor, Plenmeller and Ashholme Commons SSSI also comprises a significant part of both the North Pennine Moors Special Area of Conservation (SAC) which recognises the blanket bog and dry heath habitats; and the North Pennine Moors Special Protection Area (SPA) designated for the upland breeding bird assemblage which includes, most notably, peregrine, hen harrier, merlin, golden plover.

The SPA Review identified Curlew *Numinaris arquata* and Dunlin *Calidris alpina* as species that also occur in numbers of international importance and Government has indicated that the SPA should be treated as including these two species.

Landscape Designations

The outstanding landscape of the Estate land is recognised in its inclusion within the North Pennines Area of Outstanding Natural Beauty (AONB).

Section 4 - Long Term Vision and Joint Outcomes

Joint Outcomes

The approximate areas of the joint outcomes are shown on Map 4.

- Extend the area of dry heath along the slopes of Benty Band and at the far eastern end towards Childerman's burn, through sustainable sheep grazing practices, permanent cessation of foddering on the moor and potentially trialling heather reseeding.

- Diversify the age structure and species diversity of the dry heath along the front face by burning or cutting. This is important following the recovery of the two areas affected by the large burns that occurred in 2005 and 2007.

- Restore the areas of dry modified blanket bog, currently dominated by heather and feather mosses, above and to the north of the Cott, to fully functioning blanket bog. This will be achieved by encouraging an increase in the cover of peat building species, including cotton grasses and *Sphagnum capillifollium*, *Sphagnum magellanicum and Sphagnum papiilosum* through a programme of restoration cutting or a single burn. Where restoration burning occurs, this will be followed by a programme of sphagnum inoculation.

- Maintain the areas of fully functioning blanket bog around Wardley Law by continuing a non-intervention approach to management. This area is mapped as a sensitive area, as shown on Map 5.

- Maintain and enhance the number of black grouse by undertaking a programme of broadleaved planting along Barhaugh Burn and Childerman's Burn and associated tributaries. This will be subject to available funding.

- Retain the diversity of habitats, with at least 10% of the area comprising degenerate heather. This is to provide sufficient nest sites for merlin and short-eared owl.

- Shoot 4 to 5 driven days per year subject to a shootable surplus of grouse along with two or three walked up days on the moor.

- Sheep are an essential tool for managing the areas of dry heath, as they act as effective "heather cutters" and also an essential part of farming at Williamston. Numbers all year round will be monitored closely and numbers will move up or down as required to restore the dry heath on the moor plus to assist with managing the flock. Note that sheep grazing is not essential for managing the blanket bog. The ideal management for this habitat is to have no grazing, particularly during the winter months.

Photograph 12: Fragmentation of dry heath moving eastwards along Benty Bank

Section 5 – Delivery of Joint Outcomes

Agreed/ consented management principles

The following management principles have been agreed and consented by Natural England to deliver the multiple outcomes detailed in section 4.

- Flexible summer grazing period and sheep numbers from 1st April – 31st October. The grazing period and number of stock should be amended annually to reflect the seasonal variations and changes in the condition of the vegetation. It is agreed that the summer grazing level will be ideally 150 ewes, however if sufficient recovery of the dry heath and blanket bog is evident, this grazing level may be increased to a maximum of 300 ewes. If a higher stocking level over the 300 ewes is required, this will be reviewed at the biannual meetings.

- No winter grazing or very light levels of grazing. Heather, *sphagnum spp* and particularly cladonia lichens can be susceptible to grazing during the winter period, however with the cessation of rotational burning on the blanket bog, light levels of grazing during the winter period may be required to reduce the dominance of heather, particularly on the areas of dry modified bog. The maximum grazing level during the winter period will be 100 ewes or hoggs (0.025LU/hectare). The effectiveness of the winter grazing will be reviewed at the biannual meetings.

- There will be no foddering on the moorland.

- **Immediate cessation of rotational burning on the blanket bog**.

- The dry heath, outside the sensitive no burn areas (detailed in Appendix 1) will continue to be managed by rotational burning and or cutting. The dry heath will be managed on a rotation of **no less than 8 - 10 years.** This equates to the average annual total of 10 hecatres of dry heath that may be burnt or cut each year. A shorter burning rotation is agreed for the area of dry heath. This is due to the growth rate of the heather, following the significant stock reductions that have been made.

- Within the burning / cutting rotation, at least 10% of the dry heath area will be left to grow to the mature to late mature growth stage. This is to provide sufficient nesting habitat for merlin and short-eared owl.

- Commencement of restoration management on the areas of dry modified bog, as shown on map 6. Further detail on the restoration techniques are provided in Section 6.

- Commencement of restoration management for extending the cover of dry heath along Benty Bank towards Childerman's Burn. Further detail on the restoration techniques are provided in Section 6.

- Infrastructure or construction works required on the moor will be undertaken outside the bird breeding season. The bird breeding season is from 1st April – 15th July.

- The exception to this is maintenance works to the existing stone track and heather burning. Heather burning will be in accordance with the Heather and Grass etc Regulations 1986 (as amended; MAFF 'Heather and Grass Burning Code'.) All burning will follow the Regulations and is to be in accordance with the Code (and any future revisions thereof) unless otherwise specified within this management plan. Note that maintenance works to the track does not include upgrade and extension to the width of the tracks, as this will require separate consent from Natural England.

- The existing track as shown on Map 2, will continue to be maintained and repaired. This may involve topping the stoned section with locally sourced sandstone. For the vegetated areas, works may involve installing sleepers, small wooden crossings/boardwalks or sections of plastic matting to allow passage across rutted areas. Where storage of materials is required, these will be stored on areas of acid grassland and off the dry heath and blanket bog areas.

- Grit is provided through a network of 120+ grit trays with 1kg of grit for both the red grouse and black grouse populations. The grit will be distributed following Good practice, as specified by GWCT i.e lidded grit boxes of steel or strong plastic will be used and they will not be raised more than 50cm of the surrounding vegetation. The grit stations will not be located where they could contaminate small bodies of standing water, watercourses or ground water. Medicated grit will be used after the shooting season has finished at Williamston to control / reduce the Strongyle worm burdens in grouse. The medicated grit is withdrawn around the end of June / early July – at least 30 days before any shooting commences. The grit is distributed to the trays by using either a quad bike or Argocat, 3 times a year. Care will be taken to ensure that where vehicles are used, this does not cause rutting damage or exposure to the bare peat.

- Vermin control (in accordance with the appropriate legislation) will continue as this is essential to maintain a healthy birdlife population on Williamston with not only red grouse benefiting from this but also black grouse, curlew, barn owl, golden plover and wide range of other ground nesting birds and wader benefiting from this activity.

- Vehicle access during the bird breeding season. Care will be taken to minimise disturbance during the bird breeding season, 1st April – 15th July. 4 wheel drive vehicles will use the established access route on Map 2. A quad bike will be used occasionally, off the established track, when required for stock management.

- Bracken control will be undertaken when the fronds of the bracken are fully open (mid July onwards). The bracken will be treated with asulox. The aim is to limit the bracken beds to their current extent and prevent the bracken from encroaching further up the hill along the Benty Band and close to Childerman's Burn into areas of recovering dry heath. Due to the steepness of the slope and the rocky terrain, the only suitable method to apply the asolux is to use a lance on the back of an agrocat or alternatively for aerial spraying to be undertaken.

Section 6 – Restoration techniques

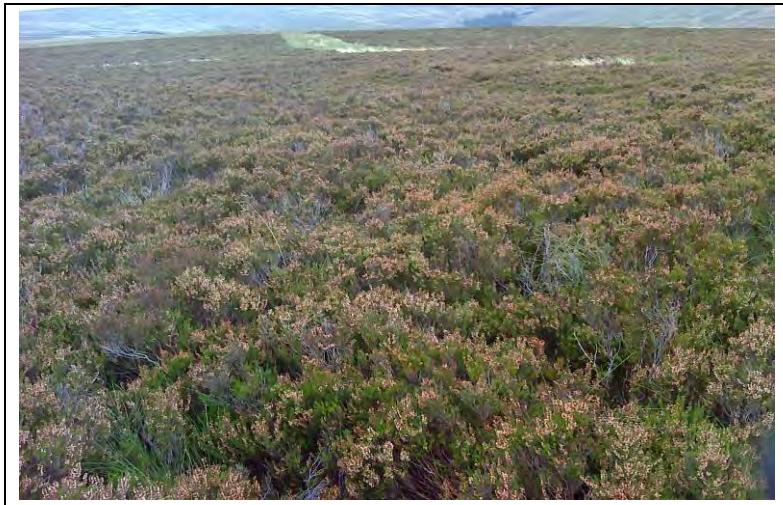
Pictorial Description of Dry Modified Blanket Bog

A significant area of the moorland, approximately 70 ha has been left unmanaged for many years and the extent of this area is shown on Map 6. The peat depth varies from 40cm to over 1m and the vegetation is dominated by heather. This type of habitat is referred to as dry modified/degraded blanket bog. The vegetation looks like dry heath, however as it occurs on deep peat, it is classified as degraded blanket bog. Table 1 below details photographic examples of this type of habitat and shows some of the feather mosses and the star moss, *Polytrichum commune* species that dominate the understorey.

This habitat is defined as having the following:

- The peat depth is 40cm or more.
- The vegetation is dominated by heather, with at least 80% cover of heather.
- The understorey is made up of feather mosses and or star moss and there is non or less than 10% sphagnum cover.
- Hare's tail and common cotton grasses are sparse with just a few plants occurring.

Table 1: Photographs detailing the appearance of dry modified bog, highlighting some of the main feather mosses that are present in the understorey.

	
Dry modified bog with over 80% cover of heather.	Dry modified bog dominated by heather with an understorey of feather mosses and very little mounds of Sphagnum spp.

Two main types of feather mosses found in the understorey of the dry modified bog. The red stem is *Pleurozium schreberi*, the golden one is *Hypnum jutlanticum*.

Star moss (*Polytrichum commune*) occurs in localised areas on the dry modified bog.

	
Dry modified bog with sparse /occasional shoots of hare's tail cotton grass. The understorey is dominated by feather mosses.	Dry modified bog, again the understorey is dominated by feather mosses. The cover of heather is over 80% here.

The aim for this habitat is to restore it back to fully functioning blanket bog. In the 2016 ISA survey, the majority of the blanket bog was dry modified bog with 3 – 5 positive indicator species recorded. Fully functioning blanket bog however occurs on Wardley hill, where at least 7 – 10 positive indicator species were recorded. Photographs 13 shows the diversity of blanket bog species in a fully functioning bog. Species should include; common and hare's tail cotton grass, *sphagnum capillifolium* and or *sphagnum magellanicum, sphagnum papillosum, Sphagnum palustre*, crowberry, cranberry, cross leaved heath, possibly cloudberry (at high altitude), cladonia lichens (where the bog has not been burnt for many years), bog asphodel, sundew, deer grass, feathermosses and a frequent cover (not dominant cover) of heather,

Photographs 13: Diverse, fully functioning blanket bog. Species above include, cranberry, crowberry, common cotton grass, hare's tail cotton grass, *Sphagnum capillifolium, Sphagnum papillosum*, heather, sundew

To achieve a fully functioning bog, the following restoration techniques will be undertaken:

Step 1: Hydrology

- **Ensure that the hydrological integrity of the bog is fully functioning.** Survey all of the grips/drains to ensure that they have been blocked successfully and that the blocks are correctly spaced and working effectively. Where grip or drain is still active, there will be no vegetation developing in the bottom and they will have flowing water along them. In some cases, vegetation such as heather will have grown over the grip /drain so that it appears to be naturally re-vegetating, however water will still be running underneath. All open grips or drains will be mapped and blocked by a qualified contractor.

Step 2: Promote peat building species

- **Reduce the dominance of the heather cover.** Heather can dry out the blanket bog and it is important to remove this cover to promote the spread of sphagnum and cotton grasses. [redacted] has trialled some small scale cutting above and to the west of the cot. This has been very effective, as there was a noticeable increase in the cover of peat building species, including *Sphagnum capillifolium*, hare's tail cotton grass (*Eriophorum vaginatum*) and common cotton grass (*Eriophorum angustifolium*), as shown below on photograph 14. The area mapped in blue on Map 6, is considered to be too wet for burning. Primarily small scale cutting will occur in this area, however if suitable weather conditions permit, a 'one off' cool burn will be undertaken. A 'one off' burn means that only one burn will be undertaken during the lifetime of this agreement.

- The area mapped in green on Map 6 has undulating ground. The dominance of the heather in this area will be reduced by undertaking a 'one off burn'. Where restoration burning occurs, this must be followed by a programme of Sphagnum inoculation.

- **Sphagnum inoculation.** There is an excellent cover of Sphagnum species on Wardley Law and there should be sufficient sphagnum propagules to colonise recent cut areas naturally. However, it is agreed that [redacted] will undertake sphagnum inoculation following a restoration burn. Sphagnum inoculation will occur utilising either 'Beadamoss' ®, Solumoss ®, harvested plant fragments, whole stems heeled in or as spores. The approximate location of this is shown in green on Map 6.

Step 3: Monitor effectiveness of the intervention

- [redacted] will monitor each cut or burn area on the blanket bog. If, after two years there are no signs of sphagnum mounds developing [redacted] will undertake further Sphagnum inoculation on the restoration burn sites or commence Sphagnum inoculation on the cutting areas.

- Where [redacted] has undertaken sphagnum inoculation works, this will be compared at the biannual meetings out of site, with the cutting areas that have been left to colonise naturally. This will help determine the effectiveness of sphagnum inoculation after a burn. Current evidence on site has shown that after cutting, the areas are naturally colonising with sphagnum and cotton grasses.

Photograph 14: Increase in Sphagnum capillifolium, cotton grasses following heather cutting on Willliamston

Dry Heath restoration techniques

The area of dry heath along Benty Bank and towards Childerman's Burn has receded over the years. This has occurred due to historic heavy grazing pressure. Photograph 15 shows the condition of the dry heath at the far eastern end of the Estate (taken in 2016).

Photograph 15: Fragmented dry heath with acid grassland on the eastern edge of the common.

Whilst there has been an improvement in the condition of the existing dwarf shrub stands, the cover of the heather is not increasing in extent. To accelerate the cover of dry heath, [redacted] may (subject to funding) undertake the following:

- Obtain a suitable heather seed mix, using native species only and of local provenance, where possible. Bilberry seed will be included within the mix, as this species is frequent across Williamston.
- Sow the heather seed, preferably into areas of star moss;
- The most appropriate time for sowing the seed is autumn/early winter, as this provides a period of cold over the winter to break the heather seed dormancy.
- Prior to sowing the heather mix, [redacted] will first check that the underlying substrate does not comprise peat over 40cm. The heather mix, should only be sown on shallow soils.
- [redacted] will monitor germination, if possible monthly for the first six months (May to September the year after sowing). This is to assess heather germination and establishment.

The effectiveness of this approach will be monitored and reviewed at the bi-annual meetings. [redacted] does not wish, at this point in time, to undertake mechanical interventions to increase the cover of dry heath across the site, however it may be considered in future years.

Section 7 - Baseline condition of Williamston Common and trajectory

Baseline condition: Blanket bog

An ISA was undertaken in November 2016. At this point, there were no signs of heavy grazing pressure on the areas of blanket bog. Blanket bog is defined as having a peat depth of at least 40cm, regardless of the vegetation type growing above.

The main issue was the number of positive indicator species recorded. The blanket bog around Wardley Law (as shown on Map 5 and on Photographs 16) was in excellent condition, supporting at least 7 indicator species including peat building sphagnum hummocks of *Sphagnum capillifolium, S.papillosum, S.magellanicum* and frequent bog pools. There were no signs of burning as this area, as it is mapped as a 'sensitive area'. There was evidence of a very recent cut on an area where there was a frequent cover of sphagnum. The main concern with the cutting was the height of the cutter and the location of the cut. Moving eastwards and down slope from Wardley Law, the species diversity declines and the blanket bog is dominated by mature stands of heather with feathermosses in the understorey. There were several active drains recorded on the blanket bog.

Photographs 16: fully functioning bog on Wardley Hill with at least 7 positive indicator species present

Restoring dry modified bog to fully functioning blanket bog

Simple indicators to determine whether the milestones are being met after the restoration intervention:

Five years: Where the vegetation has been burnt or cut should, it show signs of peat-building species colonising the area

- there should be an increase in the species diversity from around 4 species to at least 6 species;
- there should be a frequent cover of hare's tail and common cotton grasses;
- there should be sphagnum hummocks developing. In particular, *Sphagnum capillifolium* (red sphagnum) *S.papillosum, S.magellanicum, S.cuspidatum, S.fallax* developing. *S.fallax* should not be dominant and the only species occurring; The desired sphagnum species are shown in Appendix 2;
- grazing pressure should continue to be light i.e less than 33% of last season's shoot growth on the dwarf shrubs (heather) should show signs of being grazed;
- there should be no signs of frequent sheep dung;
- no signs of rutting and damage from vehicle use;
- all active grips should be blocking with vegetation colonising the bottom of the grips and there should be no signs of water flowing or water seepage around the grips that have been installed.

	
Sphagnum capillifolium (red species) is starting to develop. Heather is regenerating in a mosaic with frequent stands of hare's tail cotton grasses.	This shows how the vegetation should recover, with an increase in sphagnum mounds, frequent cover of cotton grasses, reduced dominance of heather and feather mosses. Feather mosses (golden colour) will still occur in a mosaic with the peat building species.

Ten years: after the intervention, where the vegetation has been cut or burnt it should show signs of:

- Sphagnum hummocks should be more established. Frequent cotton grass (hare's tail and or common cotton grass);
- heather will have recolonized but it will not form a dominant cover;

- grazing pressure should continue to be light i.e less than 33% of last season's shoot growth on the dwarf shrubs (heather) should show signs of being grazed. There should be no signs of frequent sheep dung;
- no signs of rutting and damage from vehicle use
- all grips should be blocking and showing signs of being colonised by *S.cuspidatum* and there should be no signs of water flowing or water seepage around the grips that have been installed.

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<td> 
Heather is in the building growth phase and it occurs in a mosaic with the peat building species of cotton grasses and sphagnum.</td>
<td> 
Sphagnum mounds increasing and developing into a hummock structure. Common and hare's tail cotton grass is frequent amongst the developing heather.</td>
</tr>
</table>

Twenty years: after the intervention**, w**here the vegetation has been cut or burnt is should show signs of:

- there should be a good diversity of blanket bog species, with at least 7 positive indicator species present including cotton grasses, cloudberry (if high enough), crowberry, heather, cross leaved heath, cladonia lichens (starting to develop) and occasional feather mosses;
- sphagnum hummocks should be frequent in the understory and heather will be growing on the drier tussocks;
- feathermosses will occur but these will not be dominant, they should occur in a mosaic with the sphagnum. The feathermosses will occur on the drier ground or within the heather stands;
- heather cover should not be forming a dominant and closed canopy. It will be developing a mature growth form and should remain in a mosaic with the cotton grasses and sphagnum hummocks. The cover should be less than 80%, as shown in table 2 below;
- there should be new shoots of heather and crowberry pushing through some of the drier sphagnum and feather moss tussocks;
- grazing pressure should continue to be light i.e less than 33% of last season's shoot growth on the dwarf shrubs (heather) should show signs of being grazed. There should be no signs of frequent sheep dung;
- no signs of rutting and damage from vehicle use;
- all grips should be blocked and showing signs of being colonised by *S.cuspidatum* and there should be no signs of water flowing or water seepage around the grips that have been installed.

Table 2:Photographs detailing what a fully functioning blanket bog should look like.

	
Fully functioning blanket bog – heather cover has re-established with an abundant cover of Sphagnum, frequent stands of cotton grasses	Diverse fully functioning bog. *Sphagnum capillifolium* occurs here with common and hare's tail cotton grass, cloudberry, crowberry and occasional feather mosses. <u>This is the long term aspiration for the dry modified bog on Williamston</u>

	
Degenerate open stands of heather with *Sphagnum capillifolium* and frequent cover of cotton grasses.	Fully functioning blanket bog. Heather cover is less than 80%. It occurs in a mosaic with cotton grasses, sphagnum, crowberry, cross leaved heath.

Baseline condition: Dry Heath

An ISA was undertaken in November 2016. Dry heath occurs on the front face and along the steeper slopes of Benty Band and towards Childerman's Burn (as shown on Map 1). It is primarily dominated by heather with frequent stands of bilberry. There is a good understorey of pleurocarpus mosses. There has been substantial changes to the stock management on the common, particularly the cessation of foddering and total offwintering is leading to an improvement in the vegetation.

Around the steep western slope (front face), there was a fairly light grazing pressure in the dense, mature stands. However, where there has been a recent burn, there are signs of high levels of sheep and rabbit grazing pressure and frequent dung, causing the recovery of the dwarf shrubs to be slow and patchy. In some cases, bare ground is frequent and the areas are becoming dominated by grasses and heath rush. Moving eastwards across the common, along Benty Band, there were signs of localised grazing pressure, particularly below the access route and close to Blackley Sike. In this area, there was evidence of frequent sheep dung and localised grazing pressure on the dwarf shrub shoots. Along this area, the dry heath is fragmented and it occurs in a mosaic with acid grassland, wet heath and rush dominated flushes. There are signs of new heather and bilberry shoots starting to push through the dense *polytrichum commune* hummocks. This is occurring as a result of the changes to the grazing management. The long term aspiration, is to enhance the area of dry heath, connecting the fragmented stands. The grazing pressure reduced, moving further east. Cutting is also being used as an alternative to burning, however care should be taken to ensure that this does not result in the heather brash being piled in one area.

Photograph 17: taken of dry heath in 2016

Aim: to improve the condition of the dry heath along the front face and Benty Band. Increase the cover and connect the areas of fragmented dry heath

Simple indicators to determine whether the milestones are being met.

Five years:

- on recent burn or cut areas, there should be no signs of sheep grazing. The new heather shoots should be flourishing. There should be infrequent signs of sheep or rabbit dung;
- elsewhere on the dry heath, there should be no signs of localised grazing pressure. Photograph 18 shows an area of heather heavily grazed. If this is occurring, the sheep numbers and the grazing period will be reduced.
- varied age structure in the heather, to distribute stock more evenly. At least 10% of the mature / degenerate dry heath is retained for nesting merlin and short-eared owl;
- new heather or bilberry shoots will be developing through the dense star moss hummocks and grassy swards;
- no signs of bracken expansion into the areas of dry heath.

Photograph 18: Heavily grazed heather with the majority of the heather shoots being grazed

Ten years:

- expansion of the dry heath areas, particularly where the stands had been fragmented to the east of the common and just above the access route on Benty Band;
- frequent signs of new heather or bilberry shoots developing through the dense star moss hummocks and grassy swards;

- varied age structure in the heather, to distribute stock more evenly. At least 10% of the mature / degenerate dry heath is retained for nesting merlin and short-eared owl.

Breeding bird assemblage, including black grouse

Aim: continue to manage the mosaic of acid grassland, dry heath, wet heath and rush dominated flushes along the steep slopes of Benty Band for breeding birds

Simple indicators to determine whether the milestones are being met.

Ten – Twenty years:

The exclosures (if no longer required) may be removed and re-established elsewhere along Benty Band.

- scattered broad-leaved tree planting may occur within the exclosures (subject to funding). The species mix will be for black grouse;
- there will be no signs of erosion occurring as a result of concentrated rabbit or sheep grazing and or bracken control.
- there are signs of dwarf shrubs developing within the dense star moss (*Polytrichum commune*) hummocks.
- bracken cover should not be expanding. Annual bracken control management will be undertaken (subject to funding);
- rushes will be controlled and will not show signs of spreading outside the natural watercourses and wet flush areas;
- a viable black grouse population will be at least maintained;
- at least 10% of the dry heath will be retained across the common for the populations of merlin and short-eared owl.

Twenty – Thirty years:

- there will be a good cover of scattered trees along the burn;
- there is a stable population of black grouse, merlin, golden plover and short-eared owl;
- bracken cover should not be expanding. Annual bracken control management will be undertaken (subject to funding);

- there is an increase in the cover of dry and wet heath along the slopes. This occurs in a mosaic with the acid grassland, bracken and rush dominated flushes;
- rushes will be controlled and will not show signs of spreading outside the natural watercourses and wet flush areas.

Grouse moor management

This plan will benefit the red grouse and black grouse populations, which are important for the grouse moor management of the site.

Section 8 – Long term monitoring

To determine whether the milestones and trajectories are being met, a series of fixed points will be agreed at the first meeting. These will be marked using stakes and fixed point quadrats will be monitored, taking photographs and assessing the vegetation. The photographs and data will be taken and appended to this plan.

The aim will be to focus on the following areas:

1. Degraded blanket bog that has been cut and left for Sphagnum to develop naturally;
2. Degraded blanket bog that has been burnt followed by Sphagnum inoculation;
3. Areas of previously overgrazed dry heath along the Benty Band.

Section 9: Terms and Conditions

1. Management of the Land

1.1 The Land Owner must obtain any necessary consents and/or permissions needed in order for its obligations to be carried out under the Agreement, and ensure that such consents and/or permissions are maintained and complied with as necessary; and

1.2 Natural England and the Land Owner agree to collaborate with each other for the benefit of the Land, and provide each other with regular information and communication on all aspects of the management of the Land.

1.3 For the avoidance of doubt, no funding is being provided under the terms of this Agreement, for any of the works described in it.

2. Disposals

If you want to make a Disposal of all or part of the land you must notify Natural England in writing as soon as possible, and at least one month before the proposed Disposal is to take place, giving full details of the proposed Disposal

3. Management Reviews

3.1 The Land Owner and Natural England must consult each other regularly about the management of the Land and will have bi-annual review meetings.

3.2 At any meeting, the Land Owner and Natural England must:

3.2.1 review this Agreement and its operation;

3.2.2 consider the future management of the Land;

3.2.3 consider whether, in the light of the proposed future management of the Land, the Shared Outcomes could more appropriately and/or effectively be achieved, without them being compromised in any way, by the continuation of this Agreement and or any modification of it

3.3 If either the Land Owner or Natural England considers it is no longer possible or desirable to achieve the Shared Outcomes, and subject to clause 5.3.2, both parties will use their best endeavors to agree modifications of the Agreement, as appropriate.

4. Duration of Agreement

This agreement shall remain in existence until the expiry of 30 years from its date or until terminated in accordance with the provisions of clause 5

5. Events of Default and Termination of the Agreement

5.1 The Agreement shall terminate immediately on disposal of the land or any part of it by the Land Owner

5.2 If there is an event of default as described in clause 5.3, either party may end the Agreement early by giving written notice. Such notice shall state the date that the Agreement will end, which may be immediate.

5.3 An 'event of default' occurs for the purposes of clause 5.2 in any of the following circumstances:

5.3.1 if either party is in breach of any of its obligations under the Agreement. If the breach can be put right, each party will allow the other a reasonable time to do so before ending the Agreement, but if it cannot be put right either party may end the Agreement immediately;

5.3.2 if, in either party's opinion, it proves impossible, impractical or undesirable to achieve the Shared Outcomes;

6 Land Owner's Confirmations

6.1 By signing this Agreement, the Land Owner confirms to Natural England that it has full power to enter into the Agreement on the terms set out in it and without needing to obtain anyone else's consent.

6.2 The Land Owner further confirms that it has taken and will continue to take all necessary steps to ensure that all persons who have any right of management control in relation to the Land and/or any rights (including rights of access) to the Land and/or any interest in the Land will not breach the provisions of the Agreement over the entire period of the Agreement.

7. Information

7.1 The Land Owner consents to the disclosure by Natural England to the public of any information about the Agreement to the extent necessary to enable Natural England to comply with its statutory obligations under the Freedom of Information Act 2000 and/or the Environmental Information Regulations 2004. Details disclosed on request or proactively on the internet or in publications may include, but are not limited to, applications, agreements, the Land Owner's name and address, the name and address of the farm or business, grid references, the location of parcels, details of the environmental features and details of inspections and/or monitoring.

8. Disputes

8.1 The Land Owner and Natural England commit to resolving any disputes or differences between them in relation to the Agreement or the ending of the Agreement by amicable means.

8.2 Any dispute that cannot be resolved in the manner described in paragraph 8.1 shall be referred to and determined by an independent solicitor or barrister of at least ten years standing acting as an expert and who is experienced in drafting, negotiating and advising upon agreements similar to this agreement, such independent person to be agreed between the Parties or failing such agreement to be nominated by the President or Vice-President or other duly qualified officer of the Law Society on the application of either party.

9. Meaning of certain words

9.1 'the **Land**' means the SSSI moorland, the boundary of which is shown on Map 1 (including all buildings, fixtures and fittings on the Land and all water on or covering the Land, whether now or at any time after the date of the Agreement);

9.2 '**Disposal**' means the disposal of the Land or any part of it by way of sale, exchange or lease, or by way of the creation of any easement, right or privilege, or by giving someone other than the Land Owner the right to use the Land, or in any other way, except by way of mortgage or charge; However, 'Disposal' excludes any arrangement by which the Land Owner retains the possession and/or control of the Land or by which the Land remains at its disposal: for example, most contract farming agreements and seasonal grazing and mowing licences will not amount to a 'Disposal';

9.3 '**Map**' means the map or maps attached to the Agreement

10. Interpretation

10.1 In the Agreement:

10.1.1 the headings are used for guidance only;

10.1.2 words suggesting the singular include the plural and vice versa;

10.1.3 words suggesting any gender include both other genders;

10.1.4 save where stated to the contrary, any reference to the Agreement or to any other document includes any permitted variation, amendment or supplement to such document;

10.1.5 words preceding 'include', 'includes', 'including' and 'included' shall be construed without limitation by the words which follow those words;

10.1.6 any reference to any enactment, order, regulation or other similar instrument shall be construed as a reference to the enactment, order, regulation or instrument as amended, replaced, consolidated or re-enacted; and

10.1.7 a reference to a person includes firms, partnerships and corporations and their successors and permitted assignees or transferees.

10.2 It is not intended that any third party should have the right to enforce a provision of the Agreement by virtue of the Contracts (Rights of Third Parties) Act 1999.

10.3 The Agreement shall be governed by and construed in all respects in accordance with the laws of England and Wales. Subject to clause 8 (Disputes), the English courts have exclusive jurisdiction to settle any disputes which may arise out of or in connection with the Agreement.

10.4 Except where expressly provided in the Agreement, the Agreement constitutes the entire agreement between the parties in connection with its subject matter and supersedes all prior representations, communications, negotiations and understandings concerning the subject matter of the Agreement.

IN WITNESS of which this agreement is executed as a Deed.

Signed as a deed by [redacted] .....

[SIGNATURE OF PARTY]

in the presence of:

.....

[SIGNATURE OF WITNESS]

NAME OF WITNESS:

ADDRESS OF WITNESS:

OCCUPATION OF WITNESS:

EXECUTED as a Deed by)

affixing the Common Seal of)

Natural England

in the presence of)

Date)

Appendix 1: Cutting and burning methodology

Cutting methodology:

- Cutting will be undertaken using a quad bike with flail mower or where the heather is too thick and the ground is dry enough so as not to result in rutting damage, a tractor with twin wheels will be used. This will follow the RSPB's Geltsdale Moorland Reserve cutting techniques that have been used extensively on this reserve.
- Each cut will be approximately 20metres wide and 50metres long and 0.01hectares in extent.
- Heather will be cut when it is at least 30cm in height. On Williamston, the majority of heather is in the mature phase and is at least 40cm in height.
- Heather brash should be evenly distributed across the site. Where the heather is in a mature state and there is excess brash, this should be removed from the site. There should be no signs of the brash forming piles, as this will out shade any potential regeneration of bog building species.

Photograph 19: Tractor with twin wheels

Photograph 20: Tractor with cutting machinery on Williamston

Photograph 21: Heather cutting on the dry heath on Williamston

Burning methodology:

- Heather and Grass etc Regulations 1986 (as amended; MAFF 'Heather and Grass Burning Code'.) All burning will follow the Regulations and is to be in accordance with the Code (and any future revisions thereof) unless otherwise specified within this management plan. The Heather and Grass Burning Code and Regulations can be found on the DEFRA website www.defra.gov.uk

- Burning is only allowed between 1 October and 15 April. Caution is to be followed during periods of dry weather and burning is not to be undertaken even within this period where bird nesting activity has been noted in proposed burn areas

- Burning will be carried out only with quick, cool burns and when conditions allow for this. A cool burn is one which removes the dwarf-shrub canopy yet leaves behind a proportion of 'stick' and does not cause damage to the moss layer or expose the peat surface. [Hotter, slower burns can kill the moss and lichen layer and plants like cowberry and bilberry and if severe it can burn into the peat surface causing erosion and affecting the integrity of the sensitive habitat.] Any moss or lichen or litter layer should not be damaged by burning. When conditions do not to allow for this, fires will not be started.

- Heather will be burnt when it is at least 30cm in height. On Williamston, the majority of heather on the dry modified bog is in the mature phase and is at least 40cm in height.

- Burn size will be managed with the objective of restricting individual burns to ideally less than 30 metres wide, however the maximum width will be 55 metres. This is consistent with guidance from the Game Conservancy Trust. The maximum area of each burn will be no more than 2.5 acres (one hectare).

- sufficient personnel and equipment will be available to control burning for example to extinguish any fires that prove to be too hot or that are in danger of getting out of control. A risk assessment should be carried out prior to burning to identify risks and strategies to alleviate them. This is particularly important on this site as there have been several incidents in the past where the burns have got out of control. An example of the equipment used on Williamston is shown in Photograph 21.

Photograph 22: Water bowser and sprayer being used on Williamston

Appendix 2: Peat building sphagnum mosses that should be found on areas of restoring bog. When squeezed Sphagnum will always release water, whereas feathermosses will not.

S.Papillosum

S.magellanicum

S.capillifolium

S.cuspidatum (found in bog pools)

Appendix 3 – Sensitive Areas

Sensitive areas that do not require any intervention management and are not part of the rotational burning or cutting within the dry heath areas. These are not part of the restoration areas for the blanket bog.

Wet flushes including areas around springs, pools, wet hollows and those rich in bog mosses with abundant and or almost continuous cover of Sphagnum species, other mosses, liverworts and or lichens, where burning is likely to damage the interest. Such areas contain species which are sensitive to burning and often occur only at a small scale.	

View of a small wet flush area to the east of Low Bradshaw Hill. There is an almost continuous cover of sphagnum.	
Area of blanket bog rich in bog mosses. This area occurs around Wardley Hill. This area consists of blanket bog with a diverse range of bog species, including bog asphodel, crowberry, cranberry, common cotton grass, hare's tail cotton grass, cross leaved heath, heather and a frequent cover of *sphagnum spp*.	

Close up of the area shown above. This area has a frequent cover of *Sphagnum capillifolium* (red moss) with common cotton grass, hare's tail cotton grass, cloudberry, heather.	
This is an area rich in cladonia lichens. This occurs around Wardley Hill. There is also a rich cover of sphagnum mounds beneath the heather here.	

Areas where soils are less than five centimetres deep or ground made up of scree or where there is high incidence of exposed rock. There is a localised area of shallow soils on the slopes of Howly Winter.	
There is to be no burning within 10 metres either side of a watercourse. This is to deliver the following: • to protect those that have a well developed bankside structure/cover; • to protect those areas where bankside erosion is an issue; • to protect those areas, including active grips, that have a significant hydrological function taking water off the moor.	
Bracken: There will be no burning within 15metres of bracken beds. Burning can accelerate the spread of this species.	

Appendix 4: Operations Likely to damage the special interest

Site name: Whitfield Moor, Plenmeller and Ashholme Commons, Northumberland OLD2000165
Ref. No. Type of Operation

1 Cultivation and other ground disturbance (including repeated vehicle rutting of open land).

2 Grazing, including changes in the grazing regime.

3 Stock feeding.

4 The cutting or burning of vegetation.

5 Application of manure, slurry, fertilisers, lime and pesticides, including herbicides (weedkillers).

10 The killing or removal of any wild animal **except** those game and pest species which may be legally controlled.

12 Tree and woodland planting or management.

13a Drainage (including moor-gripping) and any modification of the water table.

20 Extraction of minerals, including peat and spoil.

21 Construction of any structure (including tracks, fences) but **excluding** the maintenance of existing structures.

27 Recreational events within the bird breeding season (March-July inclusive).

Appendix 5 – Documented information following commencement of the plan.