AfterLIFE Plan

MoorLIFE (LIFE08 NAT/UK/00202)

September 2015

Contents

1. SECTION 1 – Project History

1.1. Introduction

1.1.1. *Conservation status/designation*

The MoorLIFE project sites (Figure 1) sit within the South Pennine Moors Special Area of Conservation (SAC) UK0030280, a European level protected area designation. The SAC has been designated, largely for its importance for Active Blanket Bog, a recognised priority habitat for nature conservation action under the EC Habitats Directive.

In Europe, active blanket bog is restricted to just the United Kingdom, Ireland, southwest Iceland and western Norway and these bogs are the most south-easterly occurrence of the habitat in Europe. Between 1.9 and 2.7 million hectares (ha) of blanket bog occurs in Britain, of which 215,000 ha (8–11%) is in England (Jackson & McLeod 2000). The South Pennine Moors SAC contains over a quarter (25.6%) of the active blanket bog represented within English SACs and 7.6% of the active blanket bog within Britain's SACs. Active blanket bog habitat represents 42.1% (27,423 ha) of the area of the South Pennine Moors SAC. The 'global grade' of this blanket bog being grade B - excellent examples that are significantly above the threshold for Site of Special Scientific Interest (SSSI)/Areas of Special Scientific Interest (ASSI) notification.

The sites also overlap with the South Pennine Moors Phase 1 (Peak District Moors; UK9007021) and South Pennine Moors Phase 2 (UK9007022) Special Protection Areas (SPAs).

Qualifying features for Phase 1 are as follows (Natural England, 2014):

- A098 *Falco columbarius*; Merlin (Breeding).
- A140 *Pluvialis apricaria*; European golden plover (Breeding).
- A222 *Asio flammeus*; Short-eared owl (Breeding).

Qualifying features for Phase 2 are as follows (Natural England, 2015):

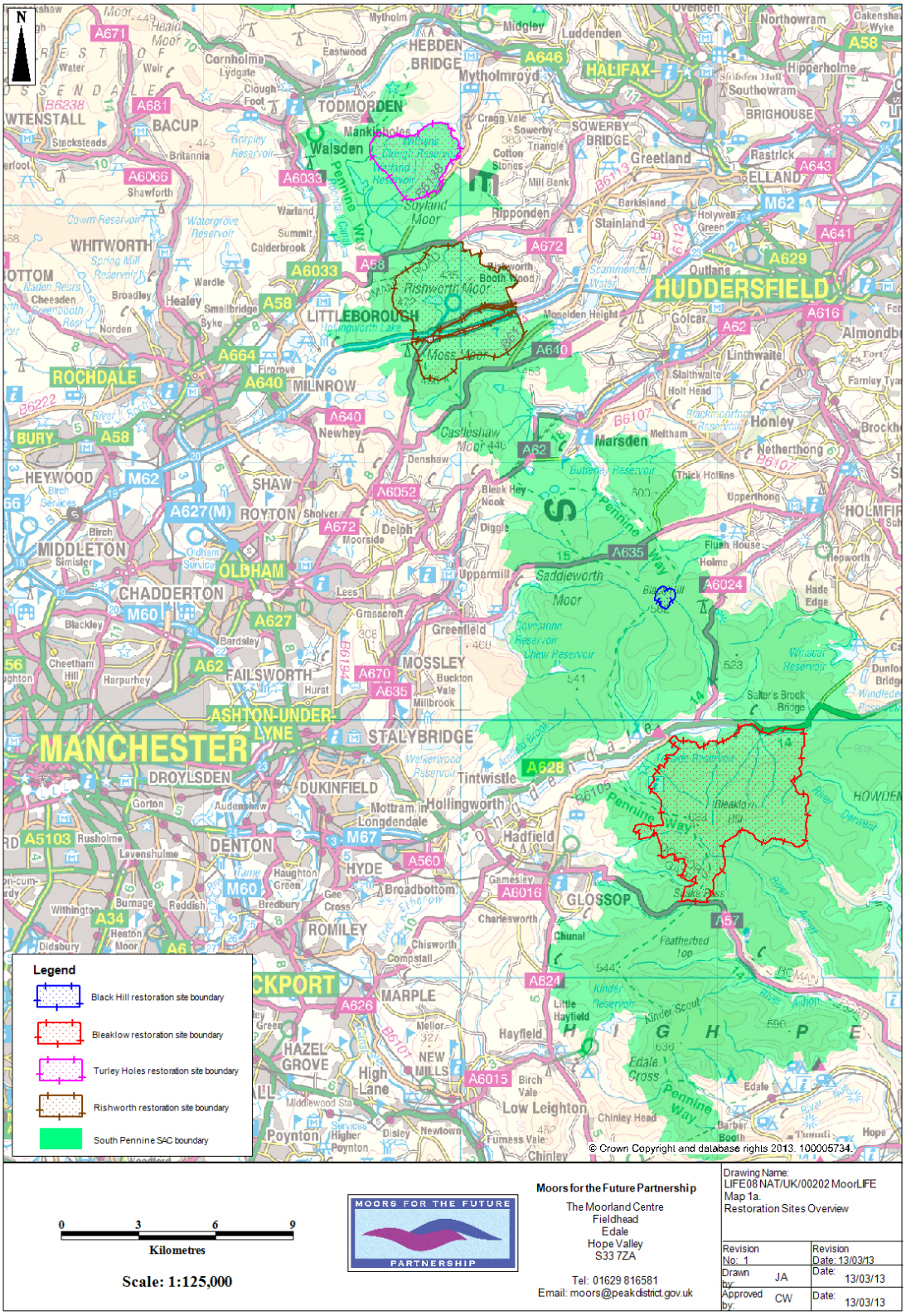
- A098 *Falco columbarius*; Merlin (Breeding).
- A140 *Pluvialis apricaria*; European golden plover (Breeding).

The South Pennine Moors also supports a rich upland breeding bird assemblage and in summer support a diverse assemblage of breeding migratory birds of moorland and moorland fringe habitats. Furthermore, the South Pennine Moors support the southernmost assemblage in Britain of breeding merlin *Falco columbarius*, red grouse *Lagopus lagopus scotica,* golden plover *Pluvialis apricaria*, dunlin *Calidris alpin*a, short-eared owl Asio *flammeus* and twite *Carduelis flavirostris*. The species are either extremely local, rare, or

absent further south. Together with scattered populations of merlin, golden plover, dunlin and twite in Ireland these are the most southwestern breeding populations in the world. The South Pennine Moors therefore have an important role in maintaining the breeding range of these species.

At a national level, the project area is designated as two Sites of Special Scientific Interest (SSSI) under the Wildlife & Countryside Act 1981; the Dark Peak SSSI and the South Pennines Moor SSSI. These SSSIs are notified due to their features of biological and geological interest.

Figure 1 - Location of the MoorLIFE sites



1.1.2. *Current condition of South Pennine Moors SAC*

Due to historic damage to the moorlands, through atmospheric pollution, wildfires, overgrazing and high visitor pressure, the bog vegetation communities are botanically poor. Hare's-tail cottongrass Eriophorum *vaginatum* is often overwhelmingly dominant and the usual bog-building *Sphagnum* mosses are scarce. Where the blanket peats are slightly drier, heather *Calluna vulgaris*, crowberry *Empetrum nigrum* and bilberry *Vaccinium myrtillus* become more prominent. The uncommon cloudberry *Rubus chamaemorus* is locally abundant in bog vegetation. Bog pools provide diversity and are often characterised by common cottongrass *Eriophorum angustifolium*.

Substantial areas of the bog surface are eroding, and there are extensive areas of bare peat. In some areas erosion may be a natural process reflecting the great age (9,000 years) of the south Pennine peats. The active blanket bog, for which it is considered to be one of the best areas in the United Kingdom, is one of the three primary reasons for the selection of the site as a SAC.

The Condition Status of the SSSIs is shown in Table 1. Currently, only 4.3% of the Dark Peak SSSI and 1.2% of the South Pennine Moors SSSI are in Favourable Condition. Furthermore, the protected area is classified as water dependent and is currently in Unfavourable Condition due to failing hydrology and morphology attributable to the condition of the site.

Table 1 - The Condition Status of Dark Peak and South Pennine Moors SSSIs (Compiled by Natural England, August 2014)

Condition Status	Dark Peak	South Pennine Moors
Area (ha)	31,853	20,939
No. units	246	164
% Area favourable	4.33	1.16
% Area unfavourable recovering	93.90	94.63
% Area unfavourable no change	1.77	4.21
% Area unfavourable declining	0.00	0.00
% Area destroyed / part destroyed	0.00	0.00

Protecting Active Blanket Bog by halting the erosion of the areas of bare peat is therefore the principle objective of the MoorLIFE project and in doing so will protect and enhance the vegetation and bird communities that have given the area its protected status. In addition, in implementing this work the project will seek to demonstrate the contribution that active blanket bogs can make to the delivery of wider ecosystem services. These ecosystem services include:

- sustaining the rural economy by restoring vegetation to areas supporting upland livestock and shooting industries;
- the potential for health benefits by providing open countryside for people to visit;
- contributing to flood management by attenuating the speed at which water moves off of the moors;
- improving water quality and associated clean-up costs of removing dissolved organic carbon from water running off of peat;
- carbon storage.

1.2. The Moors for the Future Partnership's role:

The Moors for the Future Partnership (MFFP) was formed in 2003 supported by a grant from the Heritage Lottery Fund. Since then, it has undertaken conservation works on a wide range of moorland sites across the Peak District and South Pennine Moors. A monitoring programme is delivered alongside the conservation works to demonstrate the impact of works; this evidence-based approach to conservation is critical to ensuring that the work of MFFP is successful.

The MFFP is administered by the Peak District National Park Authority, but works are exclusively funded by grants and funding from external parties. In addition to MoorLIFE project staff there is an employed staff team, who have responsibility for delivering the works developed by MFFP team and its stakeholders. Critical to MFFP's strategy are its partners, who include water companies, statutory bodies, landowners and nature conservation charities. These organisations contribute funding to ensure that MFFP remains viable, and also provide a strategic steer on the work of MFFP. This way of working enables the organisation to deliver a works programme that links conservation with the wide range of ecosystem services provided by the moors, including carbon storage, flood management, water quality improvements and visitor experience.

Over the past five years, the MoorLIFE project has sat within a wide programme of conservation works and monitoring activities, as listed below. These works have

complemented each other by sharing best practice and by using monitoring across projects to inform work activities.

- Initiatives with Natural England to undertake bare peat stabilisation work through agri-environment schemes. Work has been undertaken on 13 holdings across the Peak District and South Pennines, predominantly undertaking bare peat restoration work.
- A Demonstration Multiple Benefit Catchment Project called 'Making Space for Water' and a Catchment Restoration Fund Project, both Defra-funded, Water Framework Directive supporting projects, to revegetate bare peat on Kinder Scout and Bleaklow. These projects have revegetated 254 ha of bare peat within a wider blanket bog matrix of 700 ha focussing on water quality and flood alleviation through bare peat restoration, blocking gullies and applying *Sphagnum* mosses. Empirical monitoring and modelling the impact of these actions has identified a significant impact of the stabilisation actions on flood risk through increased storm lag times and reduction in peak storm flows (Pilkington *et al* 2012).
- Various peatland restoration projects, on owned and non-owned catchments funded by Yorkshire Water. Currently, 660 ha of bare peat have been revegetated, within 12,000 ha of damaged active blanket bog.

1.3. How the MoorLIFE project has built on previous work:

Between 2003 and 2008, MFFP has been working to stabilise 120 ha of bare and eroding peat within 550 ha of functionally impaired blanket bog. Considerable expertise has been developed by the project team, who have devised and trialled new and successful techniques for revegetation of bare peat in order to protect active blanket bog at a landscape scale. This work formed, for example, the basis for United Utilities' SCaMP (Sustainable Catchment Management Programme) project and has also been used on small scale agri-environment schemes by the National Trust and Yorkshire Water.

In addition to monitoring restoration sites to inform best practice, MFFP has commissioned original and ground-breaking research to identify and inform best practice, and to provide an understanding of patterns and processes within moorland systems, for example:

> Evans, M., Allott, T., Holden, J. Flitcroft, C. and Bonn, A. (eds) (2005). *Understanding gully blocking in deep peat*. Moors for the Future Report No. 4.

MFFP also produced the Peat Compendium – an interactive and user updateable database and map of UK peatland restoration and management project to encourage communications

between peat projects and sharing information, experience and best practice (www.peatlands.org.uk). This site incorporates forums where peatland restoration practitioners and managers can ask questions and go to for advice.

There has been a previous LIFE project within the South Pennine Moors SAC north of the National Park. This project brought together statutory and voluntary bodies and the private sector in a wide-ranging partnership, now known as Pennine Prospects (with whom we are collaborating). The project tackled the issues of overgrazing by sheep, burning and inappropriate drainage by moor-gripping through the production of an integrated management strategy and conservation action programme.

In addition MFFP provided practical and logistical advice and support to a number of active blanket bog and moorland restoration projects including the LIFE project "Restoring active blanket bog in the Berwyn and Migneint SACs in Wales" (RSPB; LIFE06 NAT/UK/000134) and the Fylingdales Moors fire restoration project (North Yorkshire Moors National Park Authority) - a project that aimed to revegetate 2.4 km^2 of heather moorland that was devastated by wildfire in 2003.

Other blanket bog restoration projects/organisations, all of which we have either provided help and/or collaboration include:

- Peatscapes - restoration of the North Pennine Moors Area of Outstanding Natural Beauty (AONB) through grip blocking.
- The "Exmoor Mire Restoration Project" (Exmoor National Park Authority) – a project aiming to re-wet drained moorlands by grip blocking.
- Natural England wildfire site revegetation work in the Brecon Beacons.

1.4. Aims and objectives of the MoorLIFE project

The conservation and monitoring methodologies and techniques used in the MoorLIFE project utilised knowledge, skills and experience gained from projects that took place before the project was implemented, including those listed above. Many of the techniques used – including the use of lime, seed, fertiliser and brash to stabilise the peat – were examples of best practice that had been trialled previously and were shown to be successful.

Where the MoorLIFE project was unique was the scale of the works. At the beginning of the project works across the MoorLIFE sites represented the largest scaled operation of its kind in Europe. This was a fantastic opportunity to further develop conservation techniques as well as new methodologies, products and technology to ensure that the project was delivered. Some examples of the innovation include:

- Scaling-up best practice for landscape-scale delivery towards the development of a macro-landscape approach to bare peat restoration methodologies.
- Development of *Sphagnum* beads, hummocks and 'slime' to distribute *Sphagnum* propagules across large areas of moorland.
- Propagation of native moorland plug plants at the quantities required to deliver macro-landscape scale conservation works.
- Be Fire Aware live-fire risk tools that take live and historical weather data – as well as information about the likelihood of fires – and use scientific modelling developed by the University of Manchester to predict the fire risk for the day

The overall objectives of the project are listed below. A full list of actions can be found in Table 2.

- Protect 2,500 ha of active blanket bog by treating 866 ha of the most badly damaged active blanket bog, of which 186 ha was bare and eroding peat.
- Undertake a comprehensive monitoring programme, including surveys of vegetation, carbon flux and hydrology.
- Actively engage with a diverse range of stakeholders.
- Communicate the results and lessons learnt within the project to a wide variety of interested parties through new and traditional media.
- Ensure the future sustainability of the blanket bog through wildfire mitigation actions and by raising public awareness of wildfire risk and restoration.
- Develop knowledge and understanding and communicate this to practitioners and policy makers.

Table 2: Output targets for the MoorLIFE project

Project Action	Description	Quantity
Project set-up		
A1	Project Delivery Plan	1
A2	Monitoring Project Plan	1
A3	Conservation Actions Project Plan	1
A4	Dissemination Project Plan	1
Conservation actions		
C1a	Stabilise bare peat using nurse grass	615 ha
C1b	Apply heather brash and geo-textiles	186 ha
C2a	Increase stability by plug planting	110 ha
C2b	Increase stability by hydro-seeding	710 ha
C2c	Increase stability by sphagnum propagules	610 ha
C3	Block gullies to stop erosion	102 km
Communication actions		

D1a	Establish and maintain project website	1
D1b	Design and erect project info boards	2
D1c	Design and erect restoration works noticeboards	8
D1d	Undertake project launch event	1
D1e	Produce promotional video	1
D1f	Undertake media events	3
D1g	Produce promotional material	4 stands
D1h	Produce educational material (plus two high quality videos)	2
D1i	Produce Layman's Report	1
D2a	Produce audio and video podcasts	10
D2b	Produce electronic field guides	5
D3a	Produce 'fire-aware' interactive displays	2
D3b	Produce 'fire-aware' interactive games	2
D4a	Disseminate results via website (subscribers)	2000
D4b	Hold 2 seminars and one conference	3
Monitoring and dissemination actions		
E1	Manage project	n/a
E2	Monitor veg and succession (interim and final reports)	2
E3	Monitor water table and carbon budget (as above)	2
E4	Monitor knowledge transfer and dissemination (as above)	2
E5	Undertake carbon audit of the project (as above)	2
E6	Produce After LIFE Plan	1

2. SECTION 2 – AfterLIFE conservation needs

The AfterLIFE conservation needs have been broken up into two parts:

1. A local assessment of the continuing needs of the MoorLIFE sites.
2. A wider, national, assessment of how conservation works are approached within the UK.

Finally, the following questions will be addressed:

1. How will work from the MoorLIFE project help action these conservation needs?
2. How will continuing work from MFFP help these conservation needs? How will continuing work from others/partners/stakeholders action these conservation needs?
3. How will the political framework – local and national aid these conservation actions?

2.1. Local requirements of the MoorLIFE sites

Error! Reference source not found. outlines Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis for the specific strengths, weaknesses, threats and opportunities resulting from the MoorLIFE project. These have been used to identify the remaining conservation needs of the sites under four categories (Table 4):

1. Administration/management.
2. Practical conservation actions.
3. Monitoring actions.
4. Communication actions.

Administrative/management and communications actions have been included in the plan, as these are critical to the success of the conservation works – both in terms of proactive management, but also in terms of the continued protection of the landscape through the education of people using the moors.

Table 3: SWOT analysis

STRENGTHS – INTERNAL	WEAKNESSES – INTERNAL
Monitoring from the sites shows that the amount of bare peat has reduced by more than 90% Sites appear to be following a trajectory towards Unfavourable – Recovering status, showing that the conservation works methodologies are successful on this previously unprecedented scale.	Expertise on methods for monitoring and protecting Active Blanket Bog is closely linked to the project – this expertise could be lost if other funding is not available.
Additional evidence for impact of works on moorland.	Success of the concrete conservation actions delivered in the project cannot be seen as an end point – there is still work to be done on the sites to move them towards a Favourable status.
Monitoring site recovery for the MoorLIFE project has allowed the continuation of data collection from early restoration sites – providing a unique dataset of the long-term impact of landscape scale conservation actions.	
Knowledge and understanding of bare peat restoration techniques has been developed and refined throughout the project with the result of a solid knowledge base and experienced local personnel.	The communication tools need to continue to be promoted to ensure that the products (such as videos and field guide apps) are utilised into the future.
Knowledge and development of new and innovative communication tools has been developed and refined during the project with the result of a solid knowledge base and experienced local personnel.	The maintenance of funding to support a core team of people able to bid for further funding to deliver additional works.
Where possible, there has been cross-development of products so that they can be used by other teams after MoorLIFE project has finished.	

A strong online presence through social media demonstrates support for the work MFFP undertakes. Strong local support for the work being undertaken. Partners and stakeholders have a positive image of MFFP and the organisation's ability to deliver on works. Through the project MFFP has developed very strong partnerships with corporate stakeholders as well as private land managers.	
OPPORTUNITIES – EXTERNAL Works have provided opportunities for the development of techniques needed to restore areas of bare peat on a landscape scale. The success of the project and sharing of best practice has opened up avenues for other organisations to be able to complete works on bare peat to protect Active Blanket Bog. Increasing importance given to the wider benefits of ecosystem services – for example through climate change reduction and flood management. Legislation requiring the improvement of SSSIs and the Natura 2000 network could provide	THREATS – EXTERNAL If works do not continue on such a scale expertise and commercial viability is lost. Times of financial austerity increase the difficulty of obtaining funding to continue to deliver works required. Support of landowners to continue to allow works on sites – especially where there is a perceived disruption to livelihood, for example, grouse shooting and the disruption of birds.

opportunities for further conservation work on the MoorLIFE sites. Links with stakeholders, such as landowners, can continue to be built on and strengthened from the positive links formed through the project. Documents and best practice established through the project can act as a signpost to the work of MFFP – helping the organisation to continue to inform policy and contribute to the best practice for conservation works into the future. Strong links to a number of ecosystem services provides additional opportunities for funding.	Expansion of threats – for example from increased visitor pressure and changes in climate.

Table 4: AfterLIFE requirements of MoorLIFE sites and options for funding

Action required	**Degree of importance (critical, necessary, important)**	**Responsibility**	**Funding options**
Administrative/management			
Maintenance of core MFFP team to bid for additional funding	Critical	MFFP and its partners – Peak District National Park Authority, United Utilities, Yorkshire Water Services, Severn Trent, RSPB, National Trust, Environment Agency, Natural England.	Maintenance in core funding and developing alternative funding mechanisms.
Maintenance of MFFP team to retain expertise and knowledge base	Critical	MFFP and its partners – Peak District National Park Authority, United Utilities, Yorkshire Water Services, Severn Trent, RSPB, National Trust, Environment Agency, Natural England.	Increases in core funding and charging management fees for work carried out under other agreements.
Practical conservation actions			
Continuing assessment and work on sites to move them further towards Favourable status, especially given an expected increase in threats to sites from pressures such as increasing numbers of visitors and climate change	Necessary	Natural England as the Competent Authority under the Nature Directives Landowners	HLS (Higher Level Stewardship) schemes, some of which will be delivered by MFFP through another landscape-scale capital works project called the Private Lands Partnership Project. Where landowners are organisations such as the National Trust (some of the Bleaklow sites) any additional works or complementary works may be delivered through funding obtained through these organisations.

Action required	**Degree of importance (critical, necessary, important)**	**Responsibility**	**Funding options**
Maintenance of links with contractors and organisations able to deliver works on the scale required	Necessary	MFFP	This action will be dependent on the maintenance of the overall works programme of MFFP as a whole, as well as other organisations delivering similar conservation works such as the National Trust and RSPB.
Removal of fencing on Turley Holes	Necessary	Tenants on Turley Holes, Yorkshire Water Services, Natural England	The fence on Turley Holes was originally erected to protect the site from grazing. The fence has been designed to remain in place for ten years – it is currently the responsibility of Yorkshire Water and the landowners. In 2021, Natural England will assess the site and determine whether the fencing can be removed, or whether it needs to remain in place.
Monitoring Actions			
Continued monitoring on sites to maintain a database on the ongoing impact of conservation works	Critical	MFFP	Dependent on the agreement of landowners for equipment to be kept on sites, and funding for staff to continue to take and analyse the data. Currently, there are agreements for equipment to remain on Bleaklow and Turley Holes for the foreseeable future. Funding has been secured through United Utilities and Natural England for further measurements and

Action required	Degree of importance (critical, necessary, important)	Responsibility	Funding options
			monitoring on Woodhead, Bleaklow sites until March 2016. Negotiations are underway for funds and permissions to extend this into the future.
Communication Actions			
Continued communication with landowners, and work with landowners on the benefits of conservation works.	Critical	MFFP	Private landowners, The Moorland Association and the National Farmers' Union are part of MFFP's strategic management group. MFFP delivering works through the Private Lands Partnership Project.
Continuation of the MoorLIFE webpages and online presence	Critical	MFFP	The Peak District National Park and the MFFP management team will maintain the MoorLIFE pages as part of the MFFP website until 2020. Funding for hosting and maintenance of the pages has been ring-fenced in the core budget of MFFP.
Continued marketing of communication tools delivered through the MoorLIFE project	Necessary	MFFP	MFFP's management team has a communications strategy which is funded through the core funding received by the organisation. MFFP's management team will continue to take responsibility for promoting the MoorLIFE deliverables.
Maintenance of the Be Fire Aware Displays	Critical	MFFP, Wide Sky Design	A maintenance agreement has been set up with the contractor who delivered the

Action required	Degree of importance (critical, necessary, important)	Responsibility	Funding options
			'Be Fire Aware' product. The maintenance agreement runs for five years. Funding for this agreement has been ring-fenced as part of the core MFFP budget.
Presence of field guide apps on the relevant Apple and Android stores	Critical	MFFP, Natural Apptitude	An agreement has been set up with the contractor who delivered the field guide apps. The agreement runs for five years.
Upkeep and removal of works and information boards at the project sites	Critical	MFFP	MFFP's management team will maintain the MoorLIFE works and information boards until 2020. Funding for maintenance has been ring-fenced in the core budget of MFFP.

2.2. National assessment of conservation works in the UK

The MoorLIFE sites are all protected as a priority habitat under the Council Directive 92/43/EEC (the Habitats Directive) and the role they play in supporting the species of the South Pennine Moors (Phases 1 &2) SPA under Directive 2009/147/EC (the Birds Directive).

At a national level, the project area is designated as two Sites of Special Scientific Interest under the Wildlife & Countryside Act 1981. At a local area, much of it lies within the Peak District National Park boundary.

This status will afford the sites protection into the future as Natural England has a statutory responsibility to monitor the condition of the SSSIs and to protect those sites from damage. The sites are currently in Unfavourable or Unfavourable – Recovering condition (see Table 1)

The UK Government's Biodiversity 2020 Strategy outlines how the UK will meet its national and European international and European commitments to nature and biodiversity. Blanket bogs have been identified as a habitat that will make a contribution to Outcome 1A within

this strategy by ensuring that the UK maintains 90% (by area) of priority habitats in favourable or recovering condition, and at least 50% of SSSIs in Favourable Condition while maintaining at least 95% in favourable or recovering condition.

To recognise the role that blanket bogs play within the aims of Biodiversity 2020, Natural England has produced a strategy for the restoration of blanket bog in England: *Natural England (2015) A Strategy for the Restoration of Blanket Bog in England*.

The document recognises the need to:

- maintain or restore blanket bog to its characteristic flora and fauna to Favourable Conservation
- engage landowners and managers
- restore or enhance the ecosystem benefits
- support sustainable business in the uplands that work in harmony with a well-functioning blanket bog.

To provide clear management guidance for the sites locally, Natural England have undertaken the LIFE-funded Improvement Programme for England's Natura 2000 sites (IPENS) project (LIFE11 NAT/UK/000384), which has identified the threats and proposed actions for all of England's SACs. This piece of work produced a Site Improvement Plan for the South Pennine Moors SAC, which aims to address the following priority issues:

- Restoring hydrological integrity
- Researching and implementing alternative management practices to burning
- Increase bird population studies
- Produce and implement landscape-scale, habitat and species management plans
- Reduce atmospheric air pollution
- Produce and implement wildfire plans.

Furthermore, Natural England is working on Favourable Condition reports that identify what individual sites need in order to ensure that sites are on the right trajectory.

3. SECTION 3 – Summary of how ongoing work will help meet conservation needs

The sites all sit within the frameworks described in Section 2, and as such are critical in helping the UK meet its obligations towards the protection of priority habitats, species, and also its targets for improving nature and biodiversity.

3.1. How will work from the project help action these conservation needs?

Monitoring work from the project has shown that across the sites the amount of bare peat has reduced by between 90% and 99%. The resulting stabilisation of the peat surface has enabled increases in several blanket bog indicator species such as common heather, cottongrass sedges and feather mosses; these increases continue to stabilise the peat soils as the facultative nurse grass crops die off, and move the areas of bare peat towards a functioning blanket bog with more typical blanket bog communities and towards achieving Favorable Condition status. The work undertaken by the project has therefore been essential to improve the conservation status of the sites and stop the sites from degrading. In addition, by stabilising areas of bare peat, areas of Active Blanket Bog are protected from further erosion.

On Turley Holes, the fence around the conservation sites will remain in place for a minimum of a further six years, ensuring that the improvements on the site are not undone by overgrazing. All sites have Higher Level Stewardship Agreements in place, with appropriate reductions in grazing levels (for Bleaklow and Black Hill this is a total stock exclusion) and will therefore be managed appropriately and with sensitivity towards the works that have already been done.

All of these outcomes will ensure that sites are maintained in Unfavourable – Recovering condition.

The work on MoorLIFE will also help protect the MoorLIFE sites and the wider landscape in the following ways.

- Best practice developed through the project is being used in similar scenarios across the South Pennines to conserve areas of Active Blanket Bog adjacent to the MoorLIFE sites.
- Relationships built with stakeholders, landowners and other partners will be critical in influencing and managing the sites into the future now that work has been completed.
- Work through MoorLIFE has helped cement the importance – and success – of the conservation work completed, encouraging further work on the sites under other agreements and funding.

- The Be Fire Aware displays will continue to be used in visitor centres and by members of the Peak District Fire Operations Group helping to educate visitors to the area and helping to safeguard against the risk of wildfire.
- The field guide apps and audio guides will be available on the website, educating members of the public and helping to build an awareness of these unique landscapes.
- The carbon audit will help illustrate the benefit of the works in terms of carbon cost and saving to a wider audience, helping to further support the benefits of the work.

3.2. How will continuing work from MFFP help these conservation needs?

The future works requirements of the South Pennine Moors SAC were identified by Natural England in the IPENS project, funded by the LIFE+ Programme (LIFE11 NAT/ UK/000384 IPENS). Using these requirements, MFFP will continue to work towards the conservation needs of the South Pennines Moors and the MoorLIFE sites in the following ways:

3.2.1. *MoorLIFE 2020*

The MoorLIFE project has been very successful at protecting areas of Active Blanket Bog and a new project has been developed which will deliver similar works to other areas of the South Pennine Moors SAC. In addition, there is considerably more work involved in reducing the risk of wildfires across the SAC, by increasing the heterogeneity of the vegetation as well as through the vital communications work that aims to change behaviour by educating and nurturing an appreciation of the moors. This project has been funded by the EU LIFE 2014 Programme and is due to start in October 2015 (LIFE14 NAT/UK/000070).

3.2.2. *Private Lands Partnership Project*

The Private Lands Project will contribute towards the protection of sites by creating a network of restored habitats on adjacent sites through work on Higher Level Stewardship Agreements. This will mean that the MoorLIFE sites will increasingly sit within a network of restored sites and enjoy greater ecological connectivity. All of the MoorLIFE sites have a requirement for additional works. However, in accordance with the original MoorLIFE agreement, these are not included within the MoorLIFE 2020 project but are in receipt of funding from the Rural Development Plan for England (RDPE) Higher Level Stewardship Scheme (HLS). On Bleaklow the HLS scheme will directly improve sites as the HLS restoration plans in place are directly aimed at following on from the benefits achieved

through MoorLIFE in terms of improving diversity and hydrological integrity. In addition, there are other sites which are also in receipt of funds from HLS schemes, which MFFP is delivering through the Private Lands Partnership. This is complementary to the LIFE scheme and uses tools and techniques developed further through MoorLIFE.

3.2.3. *Additional moorland restoration works*

Significant areas of the South Pennine Moors SAC are also protected as Drinking Water Safeguard Zones (DWSZ) through the Water Framework Directive (WFD) and have potential to reduce the risk of flooding. Therefore, management is desirable in accordance with the Flooding Directive. We have had preliminary discussions with three water companies (United Utilities, Severn Trent Water and Yorkshire Water) to deliver moorland conservation works which are outside of the scope of the LIFE Nature programme. These will tie into the other projects that we are delivering, ensuring efficient use of resources.

3.2.4. *Clough Woodland Project*

In addition to the works on Active Blanket Bog, we have a project which is developing schemes, also through the RDPE, to fund the creation of new native woodland within cloughs (steep sided valleys which run off the moors). These formerly wooded valleys have become denuded due to historic clearances and more recent levels of sheep grazing and are an important feature of the southern portion of the SAC (Dark Peak SSSI). Again, these are also beneficial for improving water quality under the WFD and may also be beneficial to the Floods Directive.

3.2.5. *Community Science Project*

The Community Science project is designed to inspire and encourage members of the public to get involved with monitoring wildlife on the moors. In doing so, the long term impact of works and the status of wildlife on our moors can be monitored, and there is a greater understanding of these important habitats.

3.3. How will continuing work from others/partners/stakeholders action these conservation needs?

As discussed in Section 2, Natural England have put in place a strategy for the restoration of Blanket Bog in England, as well as the IPENS project (funded through the LIFE+ programme). These documents create a framework to enable the MoorLIFE sites to remain on a trajectory that takes them towards Favourable Condition.

The Department for Environment, Food and Rural Affairs also has in place Higher Level Stewardship schemes, and the new Environmental Stewardship agreements to support farmers and landowners in protecting their areas of moorland.

Furthermore, partners of MFFP (including the National Trust, RSPB, Natural England, Environment Agency, United Utilities and Yorkshire Water Services) are all signed up to delivering further capital works in the areas surrounding the MoorLIFE sites.

3.4. How will political framework – local and national – aid these conservation actions?

There are five main pieces of UK and EU legislation that will aid the conservation needs of the site, as follows:

- Council Directive 92/43/EEC (Habitats Directive): Blanket Bogs are defined as a Priority Habitat under this Directive, and as such are afforded protection so that they are able to move towards Favourable Condition.
- Directive 2009/147/EC (Birds Directive): The sites fall under the Birds Directive, and as such are priority habitats for restoration and protection.
- Directive 2000/60/EC (Water Framework Directive): Under the Water Framework Directive, Protected Areas as defined within River Basin Management Plans are required to meet certain environmental objectives. These objectives apply in addition to the requirement to maintain or restore favourable conservation (under the Habitats & Birds Directives).
- Climate Change Act: Under the UK's adaptation policy, blanket bogs are important habitats that require protection as they store water and carbon. Although there are no specific targets for the protection of blanket bog under this legislation, work on protecting blanket bog will contribute to the requirement.
- Biodiversity 2020: In order to meet its international requirements, the UK has implemented its Biodiversity 2020 strategy. The continuing protection of blanket bog will be critical if the UK is to meet the targets set under the EU Biodiversity Strategy 2020.

4. References

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