PRIORITY PEAT 2014

An assessment of peatland in the West Pennine Moors and the Rossendale 'gap' in need of restoration work

Final report, April 2014

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FOREST OF BOWLAND
Area of Outstanding Natural Beauty

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Appendices:

This work has been funded by:

Introduction

This work continues on from two pieces of work: "Moorland and Fells: Lancashire's Upland Peat Restoration Plan – A Report to Lancashire's Upland peat Partnership", which was produced by Tim Graham and the Lancashire Wildlife Trust on behalf of the Lancashire Upland Peat Partnership in 2012; and Priority Peat 2013, which detailed the specific peat restoration works still to be completed within the Forest of Bowland AONB. This report has been funded by the Environment Agency and the research was managed by the Forest of Bowland Area of Outstanding Natural Beauty.

Priority Peat 2014 aims to detail the specific peat restoration works still to be completed within the West Pennine Moors (WPM) area and the so-called Rossendale 'gap' area in order to have the information available to take advantage of any future funding opportunities which may occur.

The West Pennine Moors cover the 230 sq km (90 sq miles) between the M66 in the east and M61 in the west, as a western outlier of the Pennine chain, south of Blackburn and north of Bolton. The Rossendale 'gap' covers the 180 sq km (70 sq miles) and sits between the West Pennine Moors and the South Pennines SAC. A location map showing both areas can be found at Appendix 1.

Methodology

The approach taken was matrix-based, where specific attribute cells are populated with information for a pre-determined set of sites. This means that decisions relating to the prioritisation of sites within the set are not made at this point but can be made in the future, depending on the drivers at that time. For example, by including information such as site location, scale of work to be completed, type of work to be completed, attitude of owner/tenant conservation status, the set of sites can be prioritised against any number of different drivers – such as biodiversity gain, visitor gain, carbon management, project cost or timescale needed for completion. The aim of the approach is to make information available to aid prioritisation in the future, not to make decisions on priorities before the specifics of any future drivers are known.

In the Priority Peat 2013 work within the Forest of Bowland AONB, the Bowland Fells SSSI units were used as the initial spatial framework. As

this was not available for either of these areas, the fell names were used instead, and then these were spatially overlain with:

- ownership and tenant details where known
- agri-environmental scheme information
- mapped grips and gullies
- areas of deep peat
- aerial photos

The resulting GIS mapping was then used to start the construction of the information matrix.

The next stage was to verify this information and ensure its accuracy, through consultation with a wide range of stakeholders and colleagues.

Additional information was then gathered and added to the matrix:

- details of works completed under the agri-environment schemes Countryside Stewardship (CS) and Higher Level Stewardship (HLS)
- works completed as part of United Utilities Sustainable Catchment Management programme (SCaMP2)
- details of further work scheduled into SCaMP2 plans and agri-environment agreements for completion in the future as part of those agreements
- details of work still to be done, but not currently part of any agreements
- details of conversations with land owners about their plans for and attitudes to peat restoration
- details of any works planned via other funding mechanisms, for example through the Scout Moor Windfarm fund or as part of HLF bids

Once all this information had been collated and verified and the matrix updated, it was then used to prioritise site visits for those areas where work had not occurred. As there was not enough time available to visit every site where there was restoration work to be completed, the site visits were designed as a ground-truthing exercise to enable better interpretation of the aerial photos of the sites.

Following the completion of the scheduled site visits, an assessment of bare peat, grips and gullies was made using aerial photos and the grip GIS dataset, in which area and percentage cover data were digitised.

These datasets were then used to populate an estimate of costs, based on costings from the Yorkshire Peat Partnership (YPP) and from recent peat restoration projects in Bowland.

Results

The Priority Peat Information Matrix for both areas is shown at Appendix 2.

The matrix includes information on ownership, tenants, initial general notes from consultations, grip and gully details from GIS mapping, aerial photos and consultation, bare peat areas from GIS mapping, aerial photos and consultation, details of sites to be visited and post visit notes, notes on additional factors, and scheme status.

Approximate costs for bare peat restoration work required within each unit are also included, based on area assessments made from aerial photos and costings produced by YPP. Each fell was then coded as follows:

WPM	Ross	
9	6	No work needed
5	1	All work to do completed
1	0	All work needed already scheduled into HLS/SCaMP2/other funding
5	0	Some work completed, more to do but not scheduled into HLS/SCaMP2/other funding
8	18	Work to do, none done so far and none scheduled into HLS/SCaMP2/other funding

Of the 53 identifiable units analysed, 15 had no work needed, 6 were considered to have all work completed, 1 had all necessary work scheduled into HLS, 5 had some work completed with more to do and 26 had work to do with none done so far. Much more work has been completed with the WPM as compared with the Rossendale 'gap' area, no doubt as a direct result of the SCaMP2 project running on United Utilities owned catchment land.

A total of 10 of the units were visited between November 1013 and April 2014. Visit selection was based on a variety of criteria. In some cases it

was to see work which was known to have been completed, in others to see how much more work was needed within units where some work had been undertaken. It was also interesting and informative to visit sites where bare peat restoration work had been undertaken as part of the SCaMP2 project. Details of the sites visited can be found in within the matrix in Appendix 2. The approximate cost of undertaken the remaining works is around £0.75 mill.

The combination of consultation, site visits and aerial photograph interpretation proved to be a powerful tool in gaining an overall view of the current condition of the peat within and around the study areas, as set out below. Photographs from the individual site visits can be found in Appendix 3.

The current condition has been affected by a series of factors, all of which are still evident within the landscape. The proximity of the moorland areas to large centres of population and industry have left a legacy of issues relating to both. The underlying coal measures have been mined in the past, and this history of energy production from the area continues now with the development of wind farms, as seen at Scout Moor and Oswaldtwistle. Access to the moorland areas has always been a very important part of their history, and many of the areas are visited frequently. There is, however, damage evident as a result of use by local populations and visitors alike, with vehicular trespass, fence damage and arson all of particular note within the area.

The networks of drainage ditches (grips) superimposed onto the moorland during the 1950s and onwards have also contributed to the peat drying with resultant erosion causing further peat and habitat loss. It is this more recent man-made change to the fells which has been tackled first in terms of restoration work.

The system of common shared grazing operates over virtually all of the area. Outside of the UU estate, however, it has been very difficult to ascertain ownership and grazier details.

The Priority Peat Information Matrix presented at Appendix 2 will enable the prioritisation of projects involving peat reprofiling, gully blocking and revegetation as well as grip blocking over the area as a whole. Both the WPM and the Rossendale 'gap' areas.

Next Steps

The production of the information matrix proved to be an iterative process. The information produced was the best available within the timescales of the contract. The matrix has been version controlled in order to allow further information to be added over time. Further work would allow the matrix to form the basis of a fully functional GIS product, for example:

- developing the grip data layer to show the current status of each of the grips, whether they are vegetated or eroding, and inputting a colour change to show when they have been restored;
- Digitising all the gullies and setting up a similar coding system as that set out above;
- Coding the digitised areas of bare peat in the same way;
- Further development of the attribute table to transfer the matrix data;
- Continued development of the ownership details

Conclusions

The production of the information matrix in each of the areas has clarified the current situation in terms of completed and planned restoration activity. It has also given an overall assessment of current condition for each of the fells across the study areas.

The work will enable potential projects to be identified quickly if funding becomes available, and will also help in the development of strategic funding bids. Currently the Pennine Peat Partnership is developing an EU LIFE funding bid under the climate strand, and this work has informed the decisions as to which sites are selected for inclusion into the project list for that bid. In the future, it is also hoped that this work will be used to inform decisions as to the prioritisation of work supported from the Habitat Enhancement Funds associated with the current and any potential future wind farm developments.

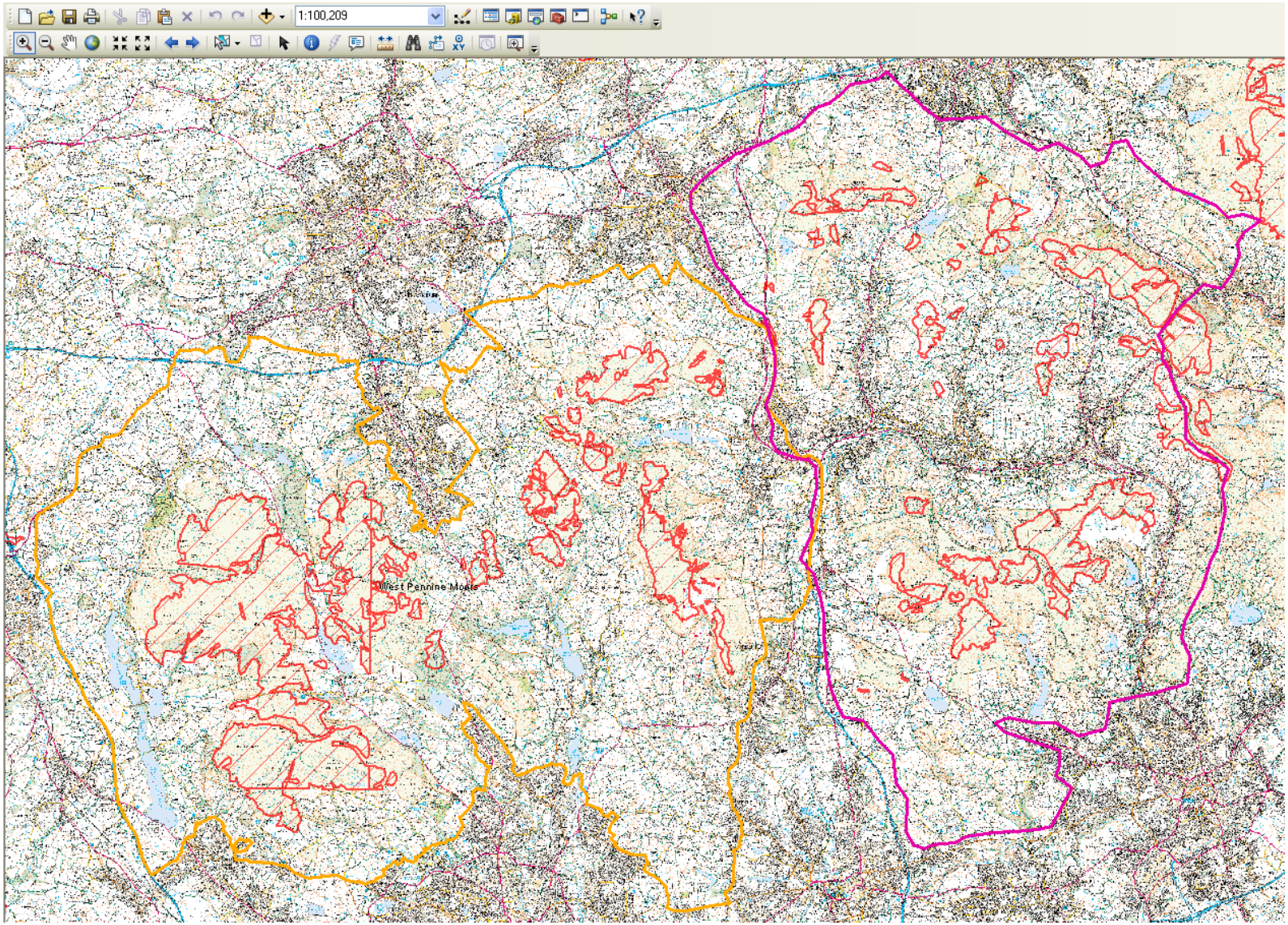
This work will only maintain its relevance if it is kept updated. It is recommended that annual updates are produced as part of the work of

the Lancashire Peat Partnership. These updates would include but not be limited to a review of restoration work undertaken during the previous 12 months; a review of costs, both unit and total; a review of ownership and tenant information; a review of current funding streams; a review of matrix information to make any necessary corrections, as the LPP sees fit.

S Robinson

May 2014

Appendix 1 Location map of the West Pennine Moors (edged in orange) and the Rossendale 'gap' (edged in pink)



Appendix 2 – Priority Peat Information Matrix – WPM

Fell	pre-visit notes	BHS	Grips	Gullies	Bare Peat	post visit notes	Scheme
Smithills Moor	In process of sale. Gullies present, areas of grips and bare peat. 33 ha at top end containing areas of bare peat, gullies & haggs.		yes	yes	yes	33 ha patch contains gullies which need work. Two main grips above the small reservoir need work. Bare peat patches a re small and are at the head of the gullies.	none
Higher Knoll	Grips and gully reprofiling done. Some bare peat associated with pressure around footpaths. Haggs between Douglas Springs and summit of Winter Hill have been reprofiled and will be reseeded.		yes	yes	yes	Areas of erosion due to be reseeded	HLS
Moses Cocker	tree planting done woodland revenue		none	not eroding	none? Small area on summit		ELS
Wilcocks	gullies not eroding		none	yes	none		ELS

Manor House	Grips will be done. Big reductions in stock numbers (2200 ewes on 1200 ha in CSS now all off in the winter) Areas of bare peat along side hatch Brook are re-vegetating with stock reduction. Can walk up to grips from cricket ground at White Coppice. SCaMP plan shows grip blocking, reprofiling and reveg inc geojute. Grip blocking has a second phase to reprofile the ends of the grips where they drop into Dean Black Brook - not sure if this is funded.		yes	yes	none	Widely spaced grips on Wheelton Moor still to do, damaged by fire 2 yrs ago, so vegetation sparse, some heather regen with cotton grass. Might be a good site for sphagnum seeding. Measured 1000m grips and 8.5 ha for the sphagnum seeding project. Gully work to do along Dean Black Brook digitised to 2.42 ha, due to be done Autumn 2014. Gully work at Spitlers edge 1.3 ha and bare peat 0.78 ha. Length of path work still to flag - 1.8 km.	HLS
Baron's Fold	Intensively gripped area with grips blocked under HLS, but some have pipes beneath the blocks, still gullies and some grips to do.		yes - not all done as yet	yes	yes - fire damage 2011	Large intense area of grips done on Withnell Moor in 2013. Wheelton Moor project may come across onto this tenancy, so keep in.	HLS
Land at Piccadilly	SCaMP plan shows grip blocking in one 14ha field on the east of the road just on the edge of the peat		Done	none	none		
Land at Ward's Cote (part of Manor House)	nothing to do		none	none	none		

Higher Pasture House	SCaMP plan shows grip blocking, need to check if all done - also some gullies - need to check if eroding		yes	yes	none	10.1 ha area digitised containing gullies and horizontal grips between them - grips done, Glynn checking gullies.	HLS
New Barn Farm	nothing to do - not on the peat		none	none	none		
Higher Wenshead			yes	none	none		
Darwen Hill & Darwen Moor	Jubilee Tower - Darwen Hill & Darwen Moor - some grips south of Dunkershaw Clough appear to be blocked		yes	none	none		
Cadshaw	SCaMP plan shows grip blocking to do, need to check if this has been done as yet		Done	yes	none	Grip blocking completed 2 yrs ago. One or two gullies seen which have steep sides, but not seen as significant enough for work. BUT on **Cranberry Moss** across the road, 2.42 ha of deep gullying. Grips already done.	
Buffs	not on the peat, no SCaMP plan		none	none	none		
Land at Hill Top			yes	yes	yes - lenses and hagg edges		ELS
Land at Pickup Bank A	not on the peat		none	none	none		

Oswaldtwistle Moor	peat gripped, but not known yet if blocked as part of the windfarm development. Turbines completed Jan 13.		yes	none	none	Some areas intensively gripped but small grips vegetated. Larger grips (+1 m wide) running but many blocked with peat dams. Sphagnum filling pools behind dams.	
Haslingden Moor	peat, grass moor, some heather. No grips to be seen but may be some eroding gully sides to Deep Clough		none	yes	none	Footpath to Oswardtwistle Moor eroding, wide (+10m) in places. Some stepping stones but would benefit from more flagging. Plateau has many pools, those on slope eroding. Would benefit from sphagnum seeding. Main watercourse running down into Deep Clough has some erosion associated with shelter sites. 0.28 ha erosion associated with footpath. 1.1 ha associated with bare peat - sphagnum seeding project?	
Thirteen Stone Hill	some areas of peat, looks like all grass moor		none	none	none		
Leys End	ELS only - some grips on large enclosed grass moor fields not all on the peat		yes	none	none		ELS
Land at Far Pike Low	Large enclosed grass moor with intensive grips - ELS only		yes	none	none		ELS
Musbury	Grips blocked, eroding gullies being tackled		yes	yes	none		HLS

Holcombe Moor	in UELS - mosaic of bare peat and veg		no	yes	yes	Mainly pools in a mosaic with cotton grass. Occ sphagnum & heath spp. Major area (36.1 ha digitised) of gullying at Alden Breaks with peat lenses, wide gullies & erosion to mineral level at Alden Ratchers. Some erosion on the N slopes of Bull Hill where the sheep shelter.	UELS
Holcombe Moor	mosaic of bare peat and veg to the W of Black Moss Spring - ? FIRE		no	yes	yes		UELS
Edgerton Moss	in HLS some areas of intense gripping, few patches of bare peat and hagg edges		yes	yes	yes	No significant work to be done, grips vegetated - more to do?	HLS
Hoddlesden Moss			few	yes - ?eroding?	none	Viewed from Edgerton Moss. One large drainage feature.	HLS
Orrell Moss	intense area of gripping		yes	none	none	9.9 ha of 6m spaced grips. Not all on deep peat. Viewed from the road 7/2/14	
Aushaw Moss	intense area of gripping		yes	none	none	grip blocking completed	

Appendix 2 - Priority Peat Information Matrix – Rossendale 'gap'

Fell	notes	BHS	Grips	Gullies	Bare Peat	Scheme
Hameldon Common	lots of vehicle tracks,bare peat at summit		no	no	0.2ha	
Hameldon Hill	hagg edges in enclosure east of radar mast		no	no	500m - hagg edges	
Great Hill			no	no	no	
Nutshaw Hill			no	no	no	
Meadow Head			no	no	no	
Dunnockshaw Community Woodland	two long natural gullies, lots of vehicle tracks		no	1000m	no	
Red Moss	vehicle tracks	82NW06	blocked	no	no	
Deer Play Moor	no bare peat, but intensely gripped area north of Theiveley Pike, running into one gully	82NW01	9000m	240m	no	ELS
Heald Moor	One area of intense parallel gullies running north, another area of gullies and a patch of grips	82NW01	3500m	11ha with 50x50m gullies radiating down slope. 300 mgullies further west	no	HLS
Cribden Moor	grass moor - hagg edges in each of the two large enclosures	72SE10	no	no	500 m hagg edges	none
Swinshaw Moor	small grass moor	82NW04	no	no	no	
Smallshaw Height	some heather one long gully		no	500m	no	ELS
Mean Hey	small grass moor		no	no	no	
Tooter Hill	small grass moor		no	no	no	
Reaps Moss	small grass moor one long gully	82SE06	no	500m	no	none
Holden Moor	some heather - also bike circuit		no	no	1ha	

Brandwood	grass moor with two grips and a few gullies		250m	250m	no	
Lee Moss	some heather one hagg		no	no	450m	
Walstead Clough	grass moor with one 20ha area of intense gripping with around 5000m grips, 8-10m spacing		5000	no	no	HLS
Top of Leach	heather and grass moor with area of 13 ha of dendritic hagging	81NW05	no	no	13 ha hagging	
Coupe Moss	125 ha peat mass of dendritic hagging and with hagg edges all around perimeter (4500m), also lenses of bare peat and small mineral edges & lenses.	81NW05	no	no	20	
Cheeseden	200 ha of heath and grass moor with large amounts of vehicle damage through the middle and hagg edges on the perimeter (5000m)		no	no	5000m	
Higher Hill	scout moor wind farm - 3 ha dendritic hagging		no	3 ha	no	
Scout Moor	1200 m grips south of whittle hill	81NW04	1200m	no	no	none
Cowpe Lowe	hagg edges round peat mass		no	no	700m	

Appendix 3 – Photographs taken during site visits

Haslingden Moor – footpath showing braiding and erosion (7 Feb 2014)

Haslingden Moor – showing bare peat on summit (7 Feb 2014)

Oswaldtwistle Moor showing grip blocks (7 Feb 2014)

Oswaldtwistle Moor – grip work still to complete (7 Feb 2014)

Holcombe Moor tops of eroding gullies (4 Feb 2014)

Holcombe Moor – slumping erosion at the top of gullies (4 Feb 2014)

Holcombe Moor – drip edges to gullies eroded to mineral (4 Feb 2014)

Holcombe Moor – peat lenses between gullies (4 Feb 2014)

Wheelton Moor – sparse vegetation and grips (16 Dec 2013)

Wheelton Moor – sparse vegetation following fire (16 Dec 2013)

Cranberry Moss showing gullies in deep peat (17 March 2014)

Cranberry Moss showing wide vegetated gullies (17 March 2014)

Smithalls Moor with erosion near the summit (26 March 2014)

Summit of Smithalls Moor showing sparse vegetation with Sphagnum missing (26 March 2014)

Gullying alongside footpath, Smithalls Moor (26 March 2014)

Damage to vegetation caused by one missing flag in the footpath, summit of Winter Hill (26 March 2014)