

Peat Restoration Historic Environment Survey and
Palaeoenvironmental Assessment: Park Fell, Ingleborough

Final Report



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View south-east along Park Fell towards Pen-y-Ghent

Peat Restoration Historic Environment Survey and Palaeoenvironmental Assessment: Park Fell, Ingleborough

Final Report

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EXECUTIVE SUMMARY

This report documents the results of historic environment survey and palaeoenvironmental assessment by Solstice Heritage and commissioned by the Ribble Rivers Trust (RRT) in advance of peat restoration works at Park Fell, Ingleborough in the Yorkshire Dales National Park (YDNP). The work was monitored by the Historic Environment Team at the Yorkshire Dales National Park Authority (YDNPA) and was undertaken to ensure risk to the historic environment was assessed in advance of the commencement of works.

The survey area comprised c.33.4 hectares of open grassland within the Ingleborough National Nature Reserve and ranged in height above sea level from c.380-470m within a relatively small area. Initial data was provided by the YDNPA Historic Environment Record (HER) detailing known heritage assets within the survey area and by the RRT detailing areas of modern grips to be targeted during restoration work. The survey comprised walkover and GPS survey of any historic environment features identified with information about the feature entered directly into an attached data table. Following processing to an agreed format this digital data has been supplied to the RRT and YDNPA, along with mapping of constraint areas abstracted from the survey data.

Only one historic environment feature was positively identified and mapped within the survey area: an area of likely post-medieval scooped quarrying cut into one of the limestone terraces of the hillside. A second feature - a linear ditch and bank - is recorded within the HER for the survey area but could not be identified on the ground.

Based upon the surveyed features, a 'traffic light' system of constraint areas has been produced. All constraint areas relating directly to mapped features comprise a 10m buffer around the surveyed extent. No features were considered to meet the following criteria for a 'red' constraint area where complete avoidance would be recommended:

- *A potential or known significance that could be classified as at least 'regional importance'.*
- *Remains which are fragile and therefore particularly at risk from the proposed restoration activities.*
- *Remains that are not immediately visually obvious and therefore could be impacted upon by the proposed restoration works unnoticed.*

All remains have been assigned an 'amber' constraint area where avoidance is recommended but, where unavoidable, necessary measures should be taken to avoid damage to extant earthworks. Green constraint areas include all other parts of the survey area outside red and amber constraint areas. Whilst care should be taken to ensure minimal impact from plant there are no restrictions on access in relation to known archaeological features.

From the observed areas of thin and irregular peat exposure across the survey area it is considered that the overall palaeoenvironmental and archaeological potential of the peat is generally low, though with a few areas of slightly better developed and actively eroding peat units, particularly within the gullies. Although no artefacts or ecofacts were recovered from the peat during this survey, the deposits have some low potential to contain palaeoenvironmental remains and archaeological deposits and artefacts within buried horizons. Caution should be exercised during the restoration work and, where possible, excavations should always aim to have a minimal impact on the peat in all parts of the survey area.

1. INTRODUCTION

1.1 PROJECT OUTLINE

This report documents the results of historic environment survey and palaeoenvironmental assessment in advance of peat restoration works in an area of Park Fell on the north flanks of Ingleborough in the Yorkshire Dales National Park (YDNP), to be carried out under the management of the Ribble Rivers Trust (RRT). The peat restoration will primarily take the form of blocking of 20th century grips using cut plugs. The survey work was undertaken by Jim Brightman on 4th February 2015.

1.2 AIMS AND OBJECTIVES

The overarching aim of the project is:

- To provide a pre-intervention record of archaeological and palaeoenvironmental remains in order to inform the moorland restoration process.

Feeding into the successful delivery of the project aim are these specific objectives:

- To identify, locate, and provide a detailed record of the historic environment, and to assess the significance of historic features within the survey area
- To assess the palaeoenvironmental potential of the blanket peat within the survey area
- To indicate those archaeological and palaeoenvironmental remains which are vulnerable to damage through machine access, re-profiling or the cutting of peat plugs
- To provide an accurate, useable summary of this information in both report form (this document) and also in a digital form that can be integrated with the Yorkshire Dales Historic Environment Record (YDHER).

1.3 PREVIOUS WORK

The survey area represents a small part of a wider landscape, around which much historic research and field-work has been focused. For the survey area itself there was one previously known heritage asset recorded in the YDHER: a fragmentary field boundary in the south-east corner, derived from mid 19th century Ordnance Survey (OS) mapping and not visible on the ground. No previous survey or excavation had specifically targeted the area under consideration for this project.

1.4 CHRONOLOGY

Where chronological and archaeological periods are referred to in the text, the relevant date ranges are broadly defined as follows:

- Palaeolithic (Old Stone Age): 1 million – 12,000 BP (Before present)
- Mesolithic (Middle Stone Age): 10000 – 4000 BC
- Neolithic (New Stone Age): 4000 – 2400 BC
- Chalcolithic/Beaker Period: 2400 - 1800 BC
- Bronze Age: 1800 – 700 BC
- Iron Age: 700 BC – AD 43
- Roman/Romano-British/Roman Iron Age: AD 43 – 410
- Anglo-Saxon/Anglo-Scandinavian: AD 410 – 1066
- Medieval: AD 1066 – 1485
- Post-medieval: AD 1485 – 1750
- Industrial: AD 1750 - AD1900
- Modern: AD 1900 – Present

1.5 ASSUMPTIONS AND LIMITATIONS

Data and information obtained and consulted in the compilation of this report has been derived from a number

of secondary sources. Where it has not been practicable to verify the accuracy of secondary information, its accuracy has been assumed in good faith. The information accessed from the YDHER represents a record of known assets and their discovery and further investigation. Such information is not complete and does not preclude the future discovery of additional assets and the amendment of information about known assets which may affect their significance and/or sensitivity to development effects. All statements and opinions arising from the works undertaken are provided in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

1.6 COPYRIGHT

Solstice Heritage will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).



2. METHODOLOGY AND SOURCES

2.1 PRE-FIELDWORK

Prior to commencement of field survey, contact was made with the Yorkshire Dales National Park Authority (YD-NPA) Historic Environment Team with the following aims:

- To obtain digital HER data in a suitable format for integration into the project GIS and upload to the GPS unit for field survey
- Examine additional datasets held within the HER for the survey area
- Discussion of any specific archaeological, palaeoenvironmental or logistical issues
- Agreement of fields for data collection to allow ease of data concordance at post-fieldwork stage
- Final confirmation of working methodology.

2.2 GPS SURVEY

The walkover survey involved surface identification of surviving features followed by recording as lines, polygons and points using a mapping-grade GPS. Recording also included high-resolution digital photography of surviving remains, along with notes on nature and extent of survival, dimensions, interpretation, setting and additional environmental information where relevant. As per the specification and tender, the survey followed the standards and guidance given in *Understanding the Archaeology of Landscapes - A Guide to Good Recording Practice* (Ainsworth *et al.* 2007).

Information about each heritage asset or area of palaeoenvironmental interest was recorded directly onto the GPS equipment as an attached data table, using categories and data-types that allowed easy integration into the YDHER. This also allowed for direct daily download of field data into the project GIS as UID-linked files without an extensive data entry exercise in the office. The GIS files and accompanying database recorded sites in accordance with the Thesaurus of Monument Types and core fields comprised (as a minimum) those necessary for records to be compliant with MIDAS Heritage to level 1 (Basic).

To allow for an estimate of feature visibility, the level of peat and vegetation cover was recorded for each archaeological feature identified. The assessment of visibility is a score for each feature between 1-4 and the criteria used are outlined in the table below, though these were used as a guide and each feature was assessed on an individual basis. It should be noted that this score is not the equivalent of percentage of survival or monument condition.

Score	Criteria
1	No surface expression. Feature inferred from other sources or surrounding features.
2	Barely visible. Little surface expression and/or significant peat or plant cover.
3	Moderately visible. Some surface expression and/or only light peat or plant cover.
4	Prominently visible. Good surface expression/standing structure and or little to no peat or plant cover.

Table 1 Scoring and criteria for assessment of feature visibility.

In addition an estimated percentage of different levels of peat and vegetation cover was made per square kilometre surveyed. For each km grid square which the survey area covered, a percentage was assigned to each of four 'scores' or criteria, as set out in the table below (closely related to the individual feature criteria above). This percentage could then be turned into an estimate of real hectareage within the project GIS, and overall estimates made about the relative visibility of monuments across the survey area. This is a subjective system and is intended as an illustrative guide only.

Score	Criteria
1	Poor visibility – plant cover over 1m in height and/or deep peat units.
2	Low visibility – plant cover 0.5-1m in height and/or small-moderate peat units.
3	Moderate visibility – plant cover less than 0.5m in height and/or very shallow peat units.
4	Good visibility – little or no plant cover and/or peat.

Table 2 Scoring and criteria for peat and vegetation cover.

The handheld DGPS unit offered real-time accuracy of at least 2-3m as specified in the project specification. The GPS also had the capacity to contain relevant additional datasets, such as historic Ordnance Survey mapping and ortho-rectified aerial photography, all of which can be used in the field to aid location and interpretation of archaeological features.

A digital photographic record was compiled to augment the survey record. This included digital photography of all historic environment and palaeoenvironmental features surveyed as well as any small finds. Digital photography was undertaken using a camera of at least 10 megapixel resolution and all image files have been archived as unedited TIFF files with embedded metadata and a full image catalogue/register.

2.3 PALAEOENVIRONMENTAL ASSESSMENT

Areas of exposed, hagged and bare peat were inspected (minimum 20% of those areas to be re-vegetated or improved) and all archaeological features, small finds and also ecofacts within the peat were to be recorded and photographed, and where necessary and practicable, collected. A representative 20% of all grip sections to be blocked were examined to the same standard. Ecofacts were to be targeted to ensure that samples are suitably diagnostic, from a secure and recordable context and substantial enough to be identified and provide a radiocarbon determination.

Any large areas of tree remains preserved and exposed within peat sections were to be photographed and recorded within the GPS, as were small finds. Large lithic scatters or other small find concentrations were to be delimited within the GPS survey and a representative sample of the artefactual material was also to be recorded.

At two suitable locations, an area of exposed peat face (up to 1.5m width) was cleaned with hand tools to provide a standing section through the peat horizons. These sections were drawn and photographed, and sampled where suitable, to provide a record of the peat stratigraphy, particularly in relation to the presence/absence of *grenzhorizonts*, archaeological and palaeoenvironmental features and deposits, and evidence of peat cutting or other intrusions.

2.4 ASSESSMENT OF VULNERABILITY

As part of the survey features were assessed for their vulnerability to the moorland restoration activities. This has been expressed as a simple ‘traffic light’ system relating to a 10m buffer area around the known heritage assets. Constraint areas have been assigned either ‘red’ for those sites that meet one or more of a set of criteria relating to significance and threat, or ‘amber’ for those sites of a lower vulnerability, but still of some archaeological significance. Those HER sites recorded as points that could not be located during the survey have been given a 10m buffer to offset any potential error in the original recording of their position, and any lithic scatters (whether identified during this survey or previously) were to have been given a 50m buffer for point data or a 20m buffer for polygon data in recognition of their specific characteristics.

Features requiring a ‘red’ constraint area were those assessed to meet one or more of the following criteria:

- A potential or known significance that could be classified as at least ‘regional importance’
- Remains which are fragile and therefore particularly at risk from the proposed restoration activities
- Remains that are not immediately visually obvious and therefore could be impacted upon by the proposed restoration works unnoticed.

2.5 HEALTH AND SAFETY

All archaeological work was undertaken in a safe manner in compliance with the *Health and Safety at Work Act 1974*. A full risk assessment was undertaken in advance of the commencement of work, a copy of which was carried for the duration of the fieldwork. Solstice Heritage has a full Safety, Health and Environment Policy.

Solstice Heritage also has a Lone Working Policy and best practice system which was employed on this project. The policy and the records relating to its implementation on this project have been maintained and can be supplied to the client on request.

2.6 SPECIALIST ASSESSMENT AND ANALYSIS

Where palaeoenvironmental sample were collected which required specialist assessment (particularly relating to species identification of wood samples), then this was to be undertaken by a suitably qualified specialist. Lists of all intended specialists were included in the initial Project Design and are not repeated here.

2.7 REPORTING

Following completion of fieldwork and any immediate assessment required, all information has been synthesised in a project report (this document), including as a minimum:

- Name of client
- A non-technical summary
- List of contents
- Project Outline
- Aims and Objectives of the project
- Plan(s) of the survey area(s) showing the position of all significant historic features and including the grips and hagged/bare peat areas supplied by YPP. All plans tied to OS grid at a suitable scale
- Themed constraint/risk plans in red/amber/green shades where there is an assessed vulnerability of historic features to the planned restoration work
- Descriptive gazetteer of all identified historic environment features
- Copies of any relevant documentary material
- Photographic catalogue and reproduced digital images of selected features, artefacts and ecofacts
- Catalogue of archive contents (where relevant)
- Notes and bibliography
- List and key to drawings and photographs
- List of staff involved in the survey work and dates of survey
- Assessment of significance of historic environment remains
- Palaeoenvironmental report, including an assessment of the significance of any palaeoecological remains and a characterisation of the palaeoenvironmental resource, with recommendations for any specialist analysis
- Acknowledgements

One bound paper copy and one digital copy has been supplied to the client and to the YDHER. A further bound copy has also been provided to the client for submission to the landowner/manager.

2.8 DATA TRANSFER

During the pre-fieldwork stage a final agreement was reached on the data fields to be recorded during survey. These related to existing HER data fields and MIDAS Heritage standards and information was recorded against these headings directly onto the GPS unit during field survey. This ensured that the downloaded information is fully concordant with the YDHER with minimal post-processing. The survey processing has been undertaken in Quantum GIS.

In addition to the reporting and digital data transfer, all accompanying digital images and any drawn and written field records have been compiled into an orderly site archive for deposition with the YDHER. The archive has

been compiled in accordance with the *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (ClfA 2014), the *UKIC Guidelines for the Preparation of Excavation Archives for Long Term Storage* (Walker 1990), and *The Management of Research Projects in the Historic Environment* (EH 2006a) and the *MoRPHE Technical Guide 1 Digital Archiving and Data Dissemination* (EH 2006b).

It is intended that the archive will include:

- A copy of this report
- Primary field illustrations (peat sections where able to be accessioned)
- Digital versions of: all project reporting, digital photography, GIS files, survey data and Illustrative material.

2.9 OASIS

Solstice Heritage is registered with the Online Access to Index of Archaeological Investigations (OASIS) Project and fully supports all project documentation and records being made available through the OASIS website. An OASIS record has been created for this project, and a copy of the project report will be uploaded. As per the project brief, the OASIS record will be accompanied by an index of sites in a readable format, characterising sites in terms of the current *Thesaurus of Monument Types* (<http://thesaurus.english-heritage.org.uk/>) and in a form compliant with MIDAS Heritage to Level 1 (see FISH 2012). The OASIS record number for this project is: **solstice1-202777**.

3. LANDSCAPE CHARACTER

3.1 SITE LOCATION

The Park Fell survey and peat restoration work is being undertaken within the Ingleborough Nature Reserve under the management of the Ribble Rivers Trust. The survey area comprises c.33.4ha on the north-east flanks of the Ingleborough massif overlooking Selside in the valley to the east. It lies within the Yorkshire Dales National Park (YDNP) and is centred at SD 7699 7696 (Fig. 1). The survey area comprises a single small block of grassland. In terms of topography, the survey area is a series of terraces in the steep flank of the fell, typical of Yoredale Series landscapes in other parts of the Yorkshire Dales and ranging in height from c.470m OD to 380m OD.

3.2 GEOLOGY

The distinctive form of Ingleborough and its outlying spurs, including Park Fell, derives from its unusual geology, which provides a cross-section of many of the dominant types of bedrock prevalent across other parts of the Yorkshire Dales. A base of Ordovician and Silurian rock in the valley bottom is overlain by Great Scar Limestone and the shale, sandstone and limestone cyclothem of the Yoredale Series (BGS 2015). Within the Park Fell survey area it is this combination which is responsible for the confluence of limestone grassland alongside localised development of a thin peat cover above the impermeable sandstones. The majority of peat deposits on the Ingleborough massif have accumulated on the impermeable and acid base of the Millstone Grit cap which gives the main summit its distinctive ‘table-top’ appearance.

3.3 LAND-USE

The survey area is part of the Ingleborough National Nature Reserve (NNR). The nature reserve is also designated as a Site of Special Scientific Interest (SSSI) and a Special Area of Conservation (SAC) in acknowledgement of the natural importance of this predominantly calcareous limestone grassland and moor. The survey area is in CROW access land but is not served with major footpaths and the majority of the area serves as grazing land.

3.4 SURVEY CONDITIONS

Given the fact that the survey area is not in general agricultural use and has few paths, there is a variability to the plant growth and cover of grass and peat which makes visibility of archaeological remains similarly variable. As noted above in the methodology, an estimate of vegetation and peat cover affecting potential visibility of archaeological remains was undertaken for each km². The results of this are shown in the table below:

Score	Criteria	Estimated % of survey area	Estimate area (ha)
1	Poor visibility – plant cover over 1m in height and/or deep peat units.	8.75	2.96
2	Low visibility – plant cover 0.5-1m in height and/or small-moderate peat units.	8.75	2.96
3	Moderate visibility – plant cover less than 0.5m in height and/or very shallow peat units.	53.75	18.22
4	Good visibility – little or no plant cover and/or peat.	28.75	9.25

Table 3 Estimate of feature visibility in relation to levels of peat and plant cover.

By weighting and averaging the estimated percentage, this provides a potential visibility index for the survey area as a whole of 3.03. This is above the average visibility suggested by other recent moorland survey, representing the lack of deep heather cover common to acid gritstone uplands, and the relatively thinly covered nature of limestone grassland. This visibility indicator, alongside the fact that the survey was undertaken in bright conditions with a slight covering of snow accentuating earthworks, suggests a high degree of confidence in the findings of the survey, particularly in terms of recognising upstanding monuments.

4. RESULTS – HISTORIC ENVIRONMENT SURVEY

4.1 CHRONOLOGICAL NOTE

With much upland survey there is little opportunity to refine the chronology of recorded sites until evaluation or excavation can provide diagnostic artefacts or material suitable for scientific dating. It is possible to assign rough periods to monuments by form, but further refinement without clear evidence is problematic at best and misleading at worst.

4.2 MAPPED FEATURES (FIG. 2)

4.2.1 MEDIEVAL

The line of the early ditch and bank boundary noted in the HER could not be identified on the ground, and it is possible that the line has been incorporated into a later drainage grip. The line of the boundary has been included in the mapping and as an amber constraint. The feature is recorded as being one of a series of ditch and bank boundaries around the flanks of Park Fell.

4.2.2 POST-MEDIEVAL

Only one anthropogenic feature was mapped during the walkover survey: a series of shallow scoops along the line of the hillside in an area of natural shakeholes/solution hollows recorded on modern OS mapping. There were several areas of natural erosion and hollowing examined during the survey, but only this small section of scooped macula had any characteristics of being anthropogenic in origin. The feature comprised four to five semi-discrete scoops in a row along the hillside. Each scoop measured c.9m in diameter and these features most likely represent small-scale post-medieval quarrying exploiting a naturally exposed limestone face.

5. RESULTS – PALAEOENVIRONMENTAL ASSESSMENT

5.1 GENERAL PEAT COVER

As is illustrated below by the peat sections chosen for illustration the peat cover is generally very thin within the survey area. In the majority of exposed sections examined, predominantly within modern grips, there was only a thin peaty soil visible, occasionally with a leached B horizon above a clay-heavy substrate. There were no areas of significant blanket peat observed within the survey area, though around the deeper gully exposures some localised development of peat with a diplotelmic structure was noted (see Section B below).

5.2 PEAT SECTIONS (FIG. 3)

As per the specification, two sections of standing stratigraphy including peat were recorded and photographed prior to being cleaned and drawn.

5.2.1 SECTION A

Section A was recorded in a relatively small area of erosion on the south bank of a small gill marked on the OS mapping as Washfold Gill, presumably in reference to a former fold visible on mid-19th century mapping further upstream. This section was typical of the majority of exposures examined across the survey area. The visible strata comprise a relatively well-developed peaty soil with less-humic B horizon and a clay-heavy substrate, presumably a form of glacial till.

5.2.2 SECTION B

Section B was one of the few exposed sections in which an apparently diplotelmic peat structure was visible. The section was recorded on the north side of a deeply cut grip close to a gill in the south-east of the survey area. A relatively well-developed peaty soil with a firm and stable turf and root mat overlay the peaty horizons. The acrotelm contains visible degrading plant material and averages c.0.15m in thickness. Beneath this the catotelm is more uniform but still darkly humic and averages c.0.12m in thickness. This then overlies a clay-heavy substrate, again likely to derive from the local glacial till, and also partially responsible for the locally waterlogged conditions that have produced pockets of peat formation.

6. CONCLUSIONS

6.1 CONSTRAINT AREAS

Based upon the presence/absence and potential significance of historic environment features identified during the survey, a series of constraint areas have been abstracted (see Fig. 2 below). The different levels of constraint area are detailed below.

6.1.1 RED CONSTRAINT AREAS

Red constraint areas comprise a buffer around all those historic environment features that are considered to meet at least one of the following criteria:

- A potential or known significance that could be classified as at least 'regional importance'.
- Remains which are fragile and therefore particularly at risk from the proposed restoration activities.
- Remains that are not immediately visually obvious and therefore could be impacted upon by the proposed restoration works unnoticed.

No features have been assigned a red constraint area within the surveyed area.

6.1.2 AMBER

Amber constraint areas comprise a 10m buffer around all other historic environment features that do not meet any of the 'red constraint' criteria outlined above. It therefore follows that features that are bounded by an amber constraint area have the following characteristics:

- Are of a likely lower level of significance, typically 'local importance'.
- Are relatively robust.
- Are visually obvious.

Amber constraint areas are also used to delimit those sites which are recorded within the HER but could not be identified on the ground. Whilst such monuments meet the 'visibility' criteria for a red constraint area, they are considered to be of a lower significance and, in some cases, may have been removed or truncated by previous work. It is advised that, where possible, amber constraint areas are avoided, and where unavoidable, necessary measures should be taken to avoid damage to extant earthworks or features. Potential mitigation may include bridging or sandbagging around or across features to prevent damage to extant earthworks.

6.1.3 GREEN

Green constraint areas include all other parts of the survey area outside red and amber constraint areas. Whilst care should be taken to ensure minimal impact from plant there are no specific restrictions on access in relation to known archaeological features.

6.2 PALAEOENVIRONMENTAL RECOMMENDATIONS

There is demonstrated variability in peat depth, and therefore potential, across the survey area, though in general peat development is very slight and the majority of the survey area appears to have only a thin cover of peaty soil. The greatest potential would appear to be in the gills and gullies where there is a damper environment, but across the entire survey area the extensive cutting of modern grips has clearly impacted on the resource.

The proposed peat restoration will, by necessity, impact on the peat resource, principally through cutting of plugs for grip blocking and damage associated with works vehicles tracking between areas of restoration. Whilst impact should be minimised (taking into account the specific recommendations above) it is considered that minor impact in the course of the works is justified against the long-term benefits to the historic environment inherent in the preservation of a palaeoenvironmental resource (see Gearey *et al.* 2010, 32).

Although no artefacts or ecofacts were recovered during this survey, the peat deposits do have a low potential to contain palaeoenvironmental remains and archaeological deposits and artefacts within buried horizons. Caution should be exercised during the restoration work and, where possible, excavations should always aim to have a minimal impact on the peat in all parts of the survey area.



7. SOURCES

7.1 BIBLIOGRAPHY

Ainsworth, S., Bowden, M., McOmish, D. and Pearson, T. 2007. *Understanding the Archaeology of Landscapes – A Guide to Good Recording Practice*. Swindon, English Heritage.

Chartered Institute for Archaeologists (CIfA). 2014. *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. Reading, Institute for Archaeologists.

English Heritage (EH). 2006a. *Management of Research Projects in the Historic Environment (MoRPHE)*. London, English Heritage.

English Heritage (EH). 2006b. *Management of Research Projects in the Historic Environment (MoRPHE) Technical Guide 1 Digital Archiving and Digital Dissemination*. London, English Heritage.

Forum on Information Standards in Heritage (FISH). 2012. *MIDAS Heritage- The UK Historic Environment Data Standard v. 1.1*. London, English Heritage.

Gearey, B., Bermingham, N., Chapman, H., Charman, D., Fletcher, W., Fyfe, R., Quartermaine, J. and Van de Noort, R. 2010. *Peatlands and the Historic Environment*. Unpublished review commissioned by the IUCN UK Peatland Programme's Commission of Inquiry on Peatlands.

Walker, K. 1990. *Guidelines for the Preparation of Excavation Archives for Long-Term Storage*. London, UKIC Archaeology Section.

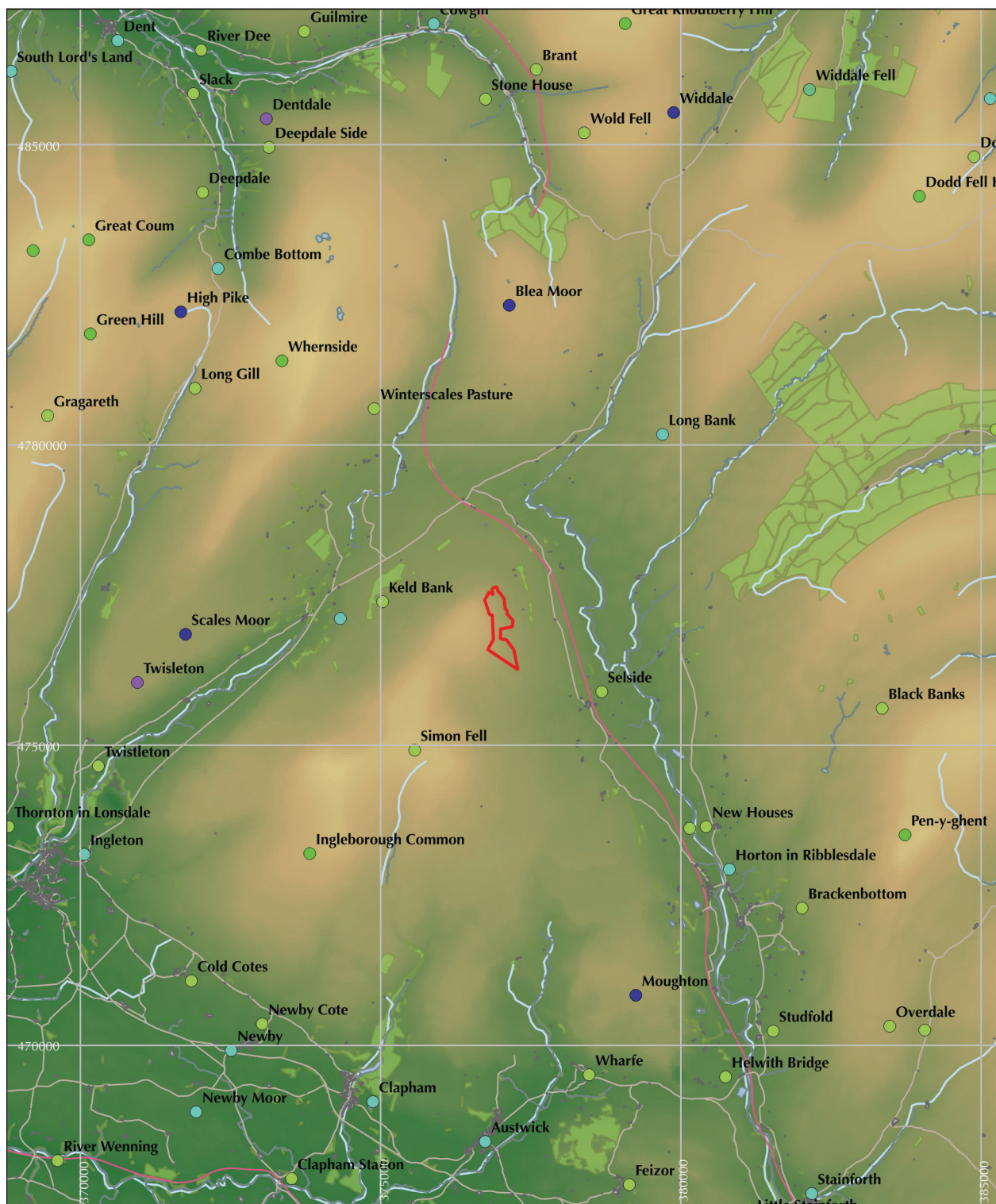
7.2 WEBSITES




English Heritage Thesaurus of Monument Types - <http://thesaurus.english-heritage.org.uk/>

British Geological Survey - <http://www.bgs.ac.uk> accessed February 2015

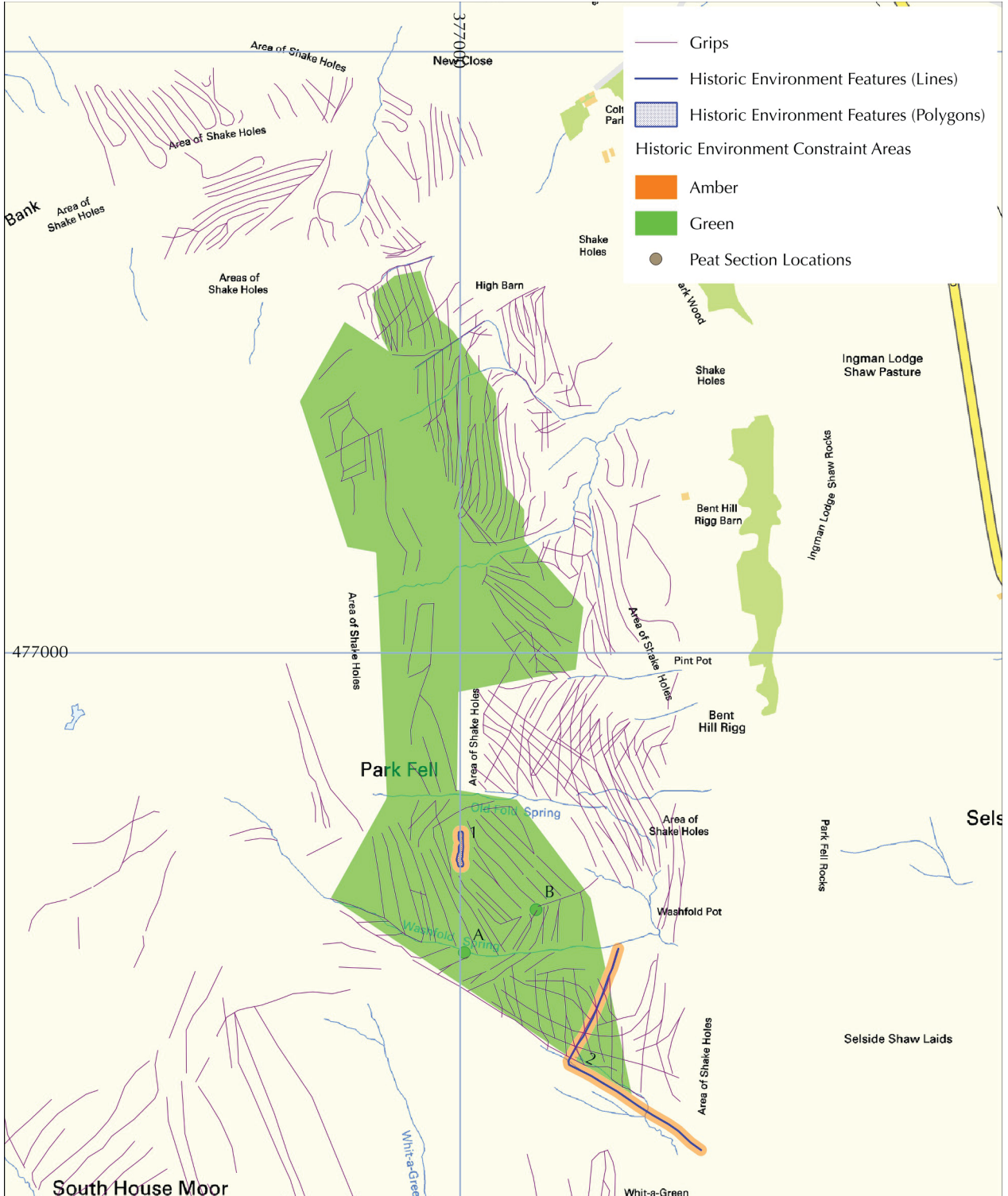
APPENDIX 1 – FIGURES





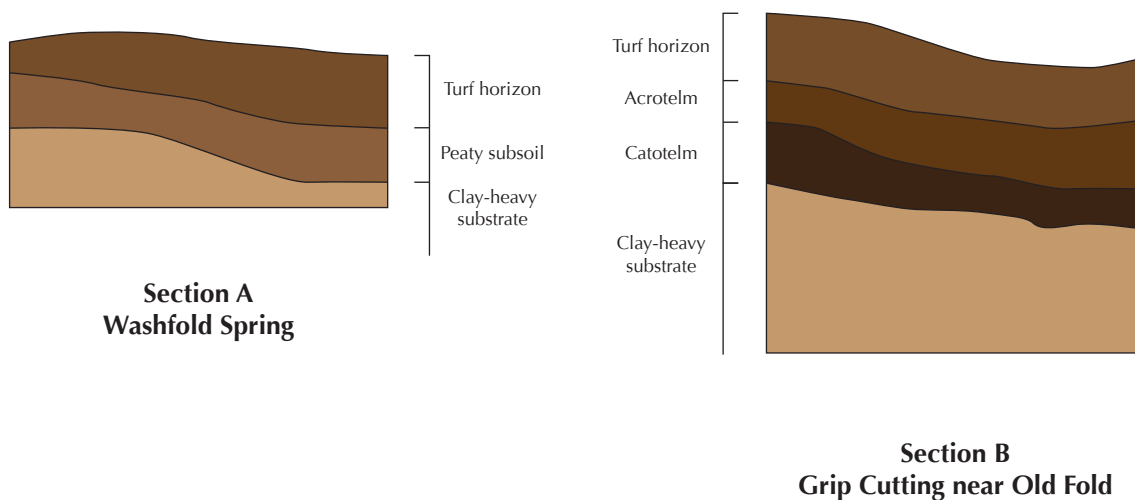


<p>Project</p> <p>Park Fell, Ingleborough</p> <p>Historic Environment Survey and Palaeoenvironmental Assessment</p>	<p>Legend</p> <p> Survey Area</p>	<p>Solstice Heritage Crabtree Hall Business Centre Little Holtby Northallerton North Yorkshire DL7 9NY www.solsticeheritage.co.uk</p> 	
<p>Drawn</p> <p>Fig. 1 Survey Area Location</p>	<p>0 1 2 3 4 5 km</p>  <p>Ordnance Survey data © Crown copyright and database right 2014.</p>	<p>Drawn</p> <p>JB</p>	<p>Date</p> <p>Feb 2015</p>





<p>Project Park Fell, Ingleborough</p> <p>Historic Environment Survey and Palaeoenvironmental Assessment</p>	<p>Legend</p>	<p>Solstice Heritage Crabtree Hall Business Centre Little Holtby Northallerton North Yorkshire DL7 9NY www.solsticeheritage.co.uk</p> 
<p>Drawn Fig. 2 Mapped features and constraint areas</p>	<p>0 100 200 300 400 500 m</p>  <p>Ordnance Survey data © Crown copyright and database right 2014.</p>	<p>Drawn JB</p> <p>Date Feb 2015</p>



Project
 Park Fell, Ingleborough
 Historic Environment Survey and
 Palaeoenvironmental Assessment

Legend

Solstice Heritage
 Crabtree Hall Business Centre
 Little Holby
 Northallerton
 North Yorkshire
 DL7 9NY
 www.solsticeheritage.co.uk



Drawing
 Figure 3 Peat Sections



Drawn By
 JB

Date
 Feb 2015



APPENDIX 2 – GAZETTEER OF SITES

Project UID(s)	1
HER No.	-
Site Name	Possible Quarrying
Site Type	Monument
Monument Type	Macula
Period	Post-medieval
Summary	Area of scoops/macula along the line of natural hollows/shakeholes. Of all features observed the only that appeared potentially anthropogenic.



Project UID(s)	2
HER No.	MYD39683
Site Name	Boundary
Site Type	Monument
Monument Type	Field Boundary
Period	Medieval to post-medieval
Summary	A substantive ditch and bank of possible medieval/early post-medieval date seen as an earthwork.

No images taken

APPENDIX 3 - PHOTOGRAPHIC REGISTER

No.	Feature UID	Facing	Scale	Description
1	1	S	1m	Series of small quarry scoops/macula along the line of a natural limestone terrace on the hillside.
2	-	SE	1m	Section A.
3	-	N	1m	Section B.

