PEATLAND CODE

Compilation of Evidence for Validation

Version 1.1, March 2017

Project Name:	Hartley Common
Registry ID:	N/A
Location:	North Pennines AONB
Grid Reference:	NY 82554 05884
Gross Area (ha):	25.81ha
Project Developer:	North Pennines AONB Partnership
PDD Completed by:	Lee Rankin, Field Officer
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All statements made in this document are correct to the best of my knowledge at the time of completion. ***I agree***

NOTE:

1. When completing each section of this document please refer to the requirements set out in the relevant section of the Peatland Code. Boxes for text can be expanded if not large enough.
2. Your Project Design Document will be made available on the publically available Peatland Code Registry upon achievement of validation.

3. Additional evidence to support the statements made within this document will be required by the certification body.

Contents

1. Eligibility and Governance

1.1 Eligible Activities

1) Please provide a short summary of the project including as a minimum reference to peatland type, peatland condition and restoration and management activities which shall be implemented.

The restoration site is composed of actively eroding gullies and hags with flat bare peat and dendritically eroded areas. The project will utilise well-established peatland restoration techniques including reprofiling and revegetating of gullies and hags; blocking eroding gullies using stone dams, coir rolls to slow the flow in shallower gullies and on bare peat; revegetating all bare peat areas (including reprofiled gully and hag sides) using heather brash, a moorland seed mix, lime, phosphate based fertiliser and cotton grass plugs. There will be a comprehensive management and maintenance plan to ensure the restoration is effective.

2) Is a minimum peat depth of 50cm present within the project area? ***Yes***

2) Please provide details of any current land management agreements, including any statutory designations, in existence within the project area .

Entry and Higher Level Stewardship (not including capital works on peatland restoration)
SPA, SAC and SSSI
Natura 2000 site
Within area of North Pennines AONB

3) Please state any identified conflicts between planned restoration and management activities and existing land management agreements and how these shall be mitigated.

none

1.2 Project Duration

1) Please state the project duration (years).

30

2) If the project duration exceeds 55 years please state the peat depth within the project area.

1.3 Eligible Land

1a) Please state the owner(s) and if applicable, the tenant(s), of the land within the project area

Owner: Chris Harrison-Beck

1b) Please state the land registry number, if known

N/A Shadow site

2) Has any new activity to drain and/or remove vegetation taken place on the peatland within the project area since November 2015? *No*

1.4 Consultation

1) Please state all identified stakeholders (or their representatives), the consultation method and the consultation period.

Stakeholder	Consultation Method	Consultation Period

3) Please state all negative impacts of the project identified by stakeholder(s) and the action taken to mitigate, where feasible and/or relevant

Negative Impact Identified	Action taken to mitigate? (Yes/No - *If No, provide details)*
No negative impacts identified from any stakeholders	

1.5 Additionality

1) Is there a legal requirement specifying that peatland within the project area must be restored? *No*

2) Please state the proportion of the project restoration and management costs that Carbon Finance will be required to fund.

N/A

3) Please describe the economic alternatives for the peatland within the project area and describe the influence of Carbon Finance on the project's economic viability over its duration (Internal Rate of Return (IRR) or Net Present Value (NPV) should be used to demonstrate comparison).

As most of this restoration site is actively draining and eroding, there are no possible economic alternatives for the land other than the small benefits currently obtained from grouse shooting and occasional sheep grazing. However, post peatland restoration, the site would perform significant ecosystem services over the 30-year duration of the project. In addition to the carbon saved from the current intense erosion, restoration will reduce the amount of sediment and help slow the flow of water into the area's catchments. Biodiversity will also benefit as will the protection of the site's archaeological records.

The site is dominated by actively eroding and degraded peat soils which support a reduced vegetation structure. In the present condition there are no economic alternatives other than grouse shooting and some sheep grazing. However, these activities are severely limited on this area due to the poor condition of the soils and vegetation.

Post-restoration the site's peat soils and vegetation will be in recovering condition and will begin to perform significant ecosystem services that will last for the 30-year duration of the project. The carbon benefits of this project are relatively simple to quantify and monetise yet there are further benefits from this project. These include a reduction in particulate organic carbon and sediment delivery to watercourses, a reduction in water colour (Dissolved Organic Carbon), enhanced water storage reducing flood risk, and improvements in plant biodiversity with a subsequent enhancement to animal bio-diversity.

4) If applicable, please describe how barriers that prevent the implementation of the project (legal, practical, social, economic or environmental) have been overcome.

There are no known barriers.

1.6 Avoidance of Double Counting

1) Please state all parties with a legal right to make statements about the emissions reduction benefits of the project (the 'owner(s)') and the amount/proportion of units (tCO_2e) for which they have a right.

Owner	Contact Email	Units (tCO_2e or %)
Chris Harrison-Beck		100%

1.7 GHG Statements

1) If applicable, please state where any statements about the predicted emission reduction benefits of the project have been made to date.

Signage onsite	No
Websites	No
Publicity leaflets etc.	No
Other media (*provide details*)	No

2) Please state how buyers were/will be informed of Peatland Code requirements regarding GHG statements

Buyers will be made aware of Peatland Code requirement 1.7 (V1.1) at the time of sale with a clause within the sales contract committing the buyer to compliance.

2. Project Design

2.1 Management Plan

1) Does the project have a restoration management plan for the duration of the project? *Yes*

2) Please provide a short overview of the project objectives and activities to be implemented.

The restoration objectives for Hartley Common are:

1. To improve the **2.25Ha** of *Actively Eroding Flat Bare peat* (AU1) to a *Drained Revegetated* status by:-

- Brashing, reseeding, planting of cotton grass plugs, and spreading sphagnum pellets over bare peat areas.

2. To improve the **7ha** of *Actively Eroding Hagg/Gully* (AU2) to a *Drained Revegetated* status by:-

- Reprofiling & revegetating (as above) the eroding sides of **1173m** of gullies amounting to **2,340m** of reprofiling
- Blocking eroding gullies with **20** stone sediment traps (22 tonnes)
- Using **109** coir rolls to dam extensive dendritic gullied areas
- Revegetating dendritic gullied areas as above
- Planting **7013** common cotton grass plug plants on suitably wet bare peat, in the base of gullies and dendritic areas
- Brashing **2.5ha** of bare peat with **465** bags of heather brash (206 bags per hectare), stabilising eroding bare peat and acting as a mulch layer and seed source to stimulate revegetation.

3. To ensure the elevated status in each category is achieved, and potential for the whole site to realise a *Modified/Near natural* is maximised, a follow-up management programme will supplement seed, cotton grass and sphagnum to areas still vulnerable to erosion; add geotextiles and baffles to areas still vulnerable to erosion; and continue work on the site's hydrology to optimise water retention and sediment capture enabling eroded gullies to refill to the level of the surrounding landscape.

3) Were legal compliance and best practice guidance considered in the preparation of the restoration management plan? ***Yes***

4) Please provide a short overview of the expected environmental and social impact of the project.

Environmental:

1. There will be substantial environmental and social benefits through the prevention of erosion through revegetation, dams and sediment traps. This will not only decrease the amount of carbon being released from the site, and its subsequent contribution to global warming, but is also expected to decrease the amount of sediment reaching watercourses further down the catchment.
2. Runoff from the site feeds into Faraday Gill and Rigg Beck before reaching the River Eden. The Eden catchment has been identified as having a contributory effect to environmental damage and flooding downstream. As it has been demonstrated that the revegetation of bare peat areas reduces the flood peak, it is expected that revegetation of the site in addition to the strategic positioning of dams, bunds and sediment traps will further serve to slow the flow of water into the wider catchment and be of benefit to the habitats within and surrounding the catchment, as well as to communities vulnerable to flooding. This project will complement and support the work being done on the Eden by the Eden Rivers Trust and EA to slow the flow and encourage water retention in the uplands.
3. The Eden catchment is a key spawning ground for salmonid species and will receive some benefit from the reduced quantity of DOC, sediment and flood water reaching its shores. In addition, the Eden catchment remains a stronghold for white-clawed crayfish. Other riverine habitats along these watercourses are also expected to receive some benefit as water quality improves and sediment load decreases. This will further support the Natural Flood Management and more engineered projects being carried out in the catchment by the EA and Eden Rivers Trust alongside Durham University.
4. Biodiversity on Hartley Common is also expected to benefit from the restoration as currently degraded and eroded land will be revegetated with cotton grasses, dwarf shrubs and sphagnums. Similarly, as erosion declines, and the restoration techniques initiate the process of rewetting the moor, the water retaining capabilities of the peat will improve as will the vegetation, amphibian species, insect life and the many species that depend on these invertebrates.
5. As a result of the above, the land will become much more valuable as a feeding and resting place for migrant birds and help in the creation of a corridor across the area to support these migrations which link to important sites including Moor House NNR. This will contribute to the overall aims of the North Pennines AONB, and the lower Eden Catchment, helping to retain and enrich all the unique and biodiverse qualities of the areas. Additionally, it benefits the Eden catchment and so the benefits from the project spread to locations outside of the AONB. The restoration work here will also improve habitat connectivity between the Yorkshire Dales National Park and the North Pennines AONB for species with good dispersal properties.
6. Rewetting the site and raising the water table will also help to make the site more resistant to climate change, helping to preserve the unique environmental characteristics of the area and the survival of all biodiversity dependent on this ecosystem.

Social:

1. The landowner is expected to benefit from an increased capacity of the land to support healthy grouse populations while the graziers will have improved land to traverse when bringing the stock.
2. As the land lies within the North Pennines AONB it will be contributing to the AONBs aesthetic qualities and biodiversity targets, helping to maintain its status and be of financial benefit to the wider community through tourism.
3. Wainwright's Coast to Coast, one of the UKs premier long-distance walking routes, passes over the site and so walkers will be able to benefit from the enhanced biodiversity and aesthetics of the area.
4. The project will also contribute to the lowering of DOC and POC content of the water which will influence the colour and quality of water. This will ultimately be of benefit to the water company (namely United Utilities) extracting from this catchment, particularly in times of peak flow when particulate matter and DOC is normally high.
5. The site restoration will contribute to the increased lag time of runoff during periods of high rainfall and rapid run-off due to the water travelling slower over vegetated, rougher ground. The dams will also work to hold more water up on the moors. Ultimately this will benefit communities living within the catchment who are subject to flooding under these conditions, allowing them greater preparation time to prevent damage to their properties and evacuate the area.
6. The higher water table and lower fuel load will also increase the site's ability to resist wildfire, avoiding the terrible social and environmental costs that fire across the site could bring. This has been shown on RSPB and National Trust land in the Southern Pennines.

2.2 Monitoring Plan

1) Does the project have a monitoring plan for the duration of the project? *Yes*

2.3 Management of risks and permanence

1) Has a Risk Assessment been undertaken to identify potential risks to the maintenance of improved condition category and appropriate mitigation strategies? *Yes*

3. GHG emission reduction

3.1 Establishment of Baseline Emissions

1) Please insert a completed *Table 2* from the *Peatland Code Emissions Calculator*.

Assessment Unit	Area (ha)	Pre-Restoration (Baseline) Condition Category	Post-Restoration Condition Category
AU1	3.89	Actively Eroding: Flat Bare	Drained: Re-Vegetated AE
AU2		Actively Eroding: Hagg/Gully	Drained: Re-Vegetated AE
AU3	12.16	Drained: Hagg/Gully	Modified
AU4	9.26	Modified	Modified
AU5		Non-Peatland	Non-Peatland
AU6			
AU7			
AU8			
AU9			
AU10			
Total	**25.31**		

1a) Please state the current land use or management and describe how it will be affected by the project.

Hartley Common has summer sheep grazing and the wider estate is managed for grouse shooting. This will not be affected by restoration which will take place through the winter months. Through the summer, post-restoration, the sheep will not be excluded from revegetated areas however, historically the sheep have not favoured these areas and alternative grazing is available. As such, this is not considered a problem by the landowner or grazier.
In the long term it is desirable that the restored land should be free from any management which involves burning as this will be detrimental to the restoration and to the health of the peat. This is in accordance with recent Natural England policies and is in negotiation with the landowner. The Land management plan will take these issues into account and have all been agreed by the landowner and grazier.

1b) Will the project lead to change of land use or management elsewhere within the same agricultural/land holding (e.g. peatland degradation or intensification of land use in another area)? ***No***

1c*) If Yes*, Is the change in land use or management significant (i.e. will GHG emissions ≥ 5% of project emissions reductions over the duration)? ***N/A***

2) *If significant*, please state the emissions (tCO_2e) of the displaced activity for the duration of the project. *(If no leakage or not significant*, leakage =0).

0

3.3 Net Project GHG emission reduction

2) Please insert a completed *Table 5* from the *Peatland Code Emissions Calculator*.

Cumulative Emissions Reduction over project duration (tCo2e)					
Period (Year)	Gross Emissions Reduction (tCO2e)	Emissions Reduction less 10% model precision (tCO2e)	Net Emissions Reduction adjusted for Leakage (tCO2e)	Cumulative Risk Buffer Contribution (tCO2e)	Cumulative Claimable Emissions Reduction (tCO2e)
0-5	497	447	447	67	**380**
5-10	994	895	895	134	**760**
10-15	1491	1342	1342	201	**1141**
15-20	1988	1789	1789	268	**1521**
20-25	2485	2236	2236	335	**1901**
25-30	2982	2684	2684	403	**2281**
30-35	0	0	0	0	**0**
35-40	0	0	0	0	**0**
40-45	0	0	0	0	**0**
45-50	0	0	0	0	**0**
50-55	0	0	0	0	**0**
55-60	0	0	0	0	**0**

60-65	0	0	0	0	**0**
65-70	0	0	0	0	**0**
70-75	0	0	0	0	**0**
75-80	0	0	0	0	**0**
80-85	0	0	0	0	**0**
85-90	0	0	0	0	**0**
90-95	0	0	0	0	**0**
95-100	0	0	0	0	**0**

3) If necessary, use this space to clarify any details of your calculation