

PEATLAND CODE



FIELD PROTOCOL:

**Assessing Eligibility, Determining Baseline
Condition Category and Monitoring Change**

**Version 1.1
March 2017**



Peatland Programme

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Baseline Condition Category**

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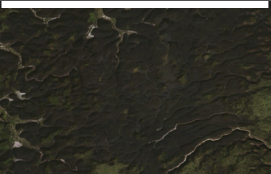


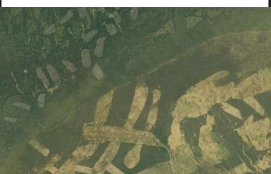

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ASSESSING ELIGIBILITY AND DETERMINING BASELINE CONDITION CATEGORY

Pre-restoration (Baseline) Condition Categories

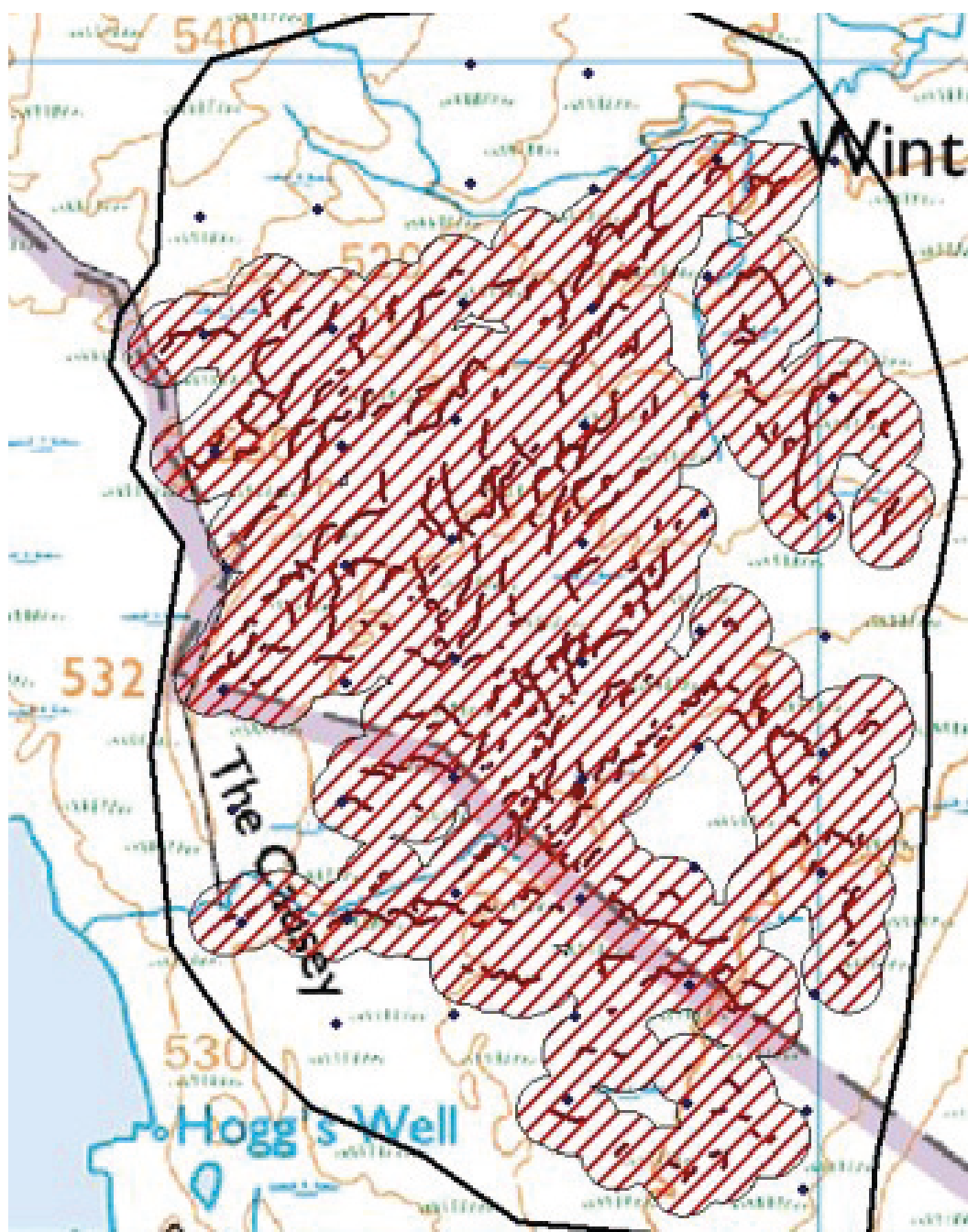
Pre-restoration Condition Category	Image	Description	Emission Factor (tCO ₂ e/ha/yr)
Actively Eroding: Hagg/Gully		<ul style="list-style-type: none"> Extensive bare peat within hagg/gully system e.g. steep bare peat cliffs and/or bare gully bottoms. 	23.84
Actively Eroding: Flat bare		<ul style="list-style-type: none"> Extensive continuous bare peat e.g. peat pan or former cutting site. 	23.84
Drained: Artificial		<ul style="list-style-type: none"> Within 30 m of an active artificial drain (grip). 	4.54
Drained: Hagg/Gully		<ul style="list-style-type: none"> Within 30 m of hagg/gully drainage system. 	4.54
Modified*		<p>Highly degraded:</p> <ul style="list-style-type: none"> No/little <i>Sphagnum</i> spp. <i>Calluna vulgaris</i> extensive Small discrete patches of bare peat frequent (micro-erosion). <p>Moderately degraded:</p> <ul style="list-style-type: none"> <i>Sphagnum</i> in parts Scattered patches of <i>Calluna vulgaris</i> Extent of bare peat limited to small patches. 	2.54
Near Natural*		<ul style="list-style-type: none"> <i>Sphagnum</i> dominated <i>Calluna vulgaris</i> absent or scarce Little or no bare peat. 	1.08

*Ineligible for Peatland Code restoration – these condition categories may be present within the project site and can be included within the restoration plan, but any claims of emissions reduction as a result of their restoration cannot be validated/verified under the Peatland Code.

Assessment Unit Mapping

The purpose of desk-based mapping using aerial photography and other data sources is to start to identify the peatland condition categories present at a potential project site. This section describes the steps to take, in sequential order, to produce a map of assessment units on which to base the field survey.

- | | |
|---|---|
| 1. Using Google Earth or other digital imagery, produce a base map | Assume minimum mapping unit for the restoration site; 0.01ha (10m x 10m resolution). |
| 2. Define project area(s) | Map as a polygon(s) and calculate gross project area. |
| 3. Map non-peatland features | Map features that are clearly non-peatland such as rock, forest, water courses etc. Calculate area of non-peatland and subtract from Gross Area to calculate Net Project Area. |
| 4. Map 'Actively Eroding: Hagg/Gully' peatland | Trace the crest of any visible hagg/gully or peatbank. Repeat the traced line every two metres down slope until the bare peat area is covered. Measure length and width, and calculate the area. If the extent of bare peat cannot be determined from aerials, e.g. if bare peat is restricted to the steep bare cliffs, then use a default width of two metres. |
| 5. Map 'Actively Eroding: Flat Bare' peatland | Map visible peat pans as polygons if big enough (otherwise map as per Actively Eroding: Hagg/Gully). |
| 6. Map 'Drained: Artificial' peatland | Trace the lines of any visible drains. Map drained area as 30 m from outer drain (or where applicable stop at fence, boundary of restoration site, break of slope or a natural water course, or for raised bogs the ring-ditch if it is before this). For wandering drains across otherwise undrained land, map 30 m each side of the drain, creating a 60 m strip. |
| 7. Map 'Drained: Hagg/Gully' peatland | Trace the crest of any visible hagg/gully or peatbank. Map drained area as 30 m from outer gully (or where applicable stop at a fence, boundary of restoration site, break of slope or a natural water course, or for raised bogs the ring-ditch if it is before this). For wandering drains across otherwise undrained land, map 30 m each side of the drain, creating a 60 m strip. |
| 8. Map 'Modified' peatland | Map as all remaining peatland within project site. |
| 9. Identify Assessment Units | Map the boundary of each Assessment Unit. Each Assessment Unit should reflect one condition category only. The number of Assessment Units should be the minimum achievable (join Assessment Units of the same condition categories where possible and spatially appropriate). Calculate the area of each Assessment Unit (the sum of each Assessment Unit should be equal to the Net Project Area). |





- Survey Points
- Peat Hags
-  Drained Area
-  Surveyed Area

Figure 1: An example Project Site mapped into three separate assessment units: Actively Eroding: Hagg/Gully; Drained: Hagg/Gully and Modified. Survey points have also been identified for use in the field survey as per the requirements overleaf.

Field Survey

A project site will always have to be surveyed in the field to ensure the peatland present is of eligible depth and to confirm the pre-restoration (baseline) peatland condition categories present. The Assessment Unit map, described in the previous section, provides the structure for the field survey.

This section describes the steps to take, in sequential order, to produce a map of Assessment Units on which to base the field survey.

1. Establish location of survey points

Place a 100m x 100m grid overlay on the assessment unit map. Each intersection of the grid represents a survey point. Peat depth and condition category assessment to be made at each survey point. Each survey point to be waymarked using GPS/Grid Reference to allow return for monitoring purposes.

2. Peat depth assessment

At each survey point measure depth using a rod and record (additional depth measurement may be required to accurately establish depth of bare peat cliffs for use in 'Actively Eroding: Hagg/Gully' area calculation or to determine the boundary of the project site). A minimum of 75% of the peat depths recorded within each Assessment Unit must be greater than or equal to 50 cm for the site to meet Peatland Code eligibility requirements. Assessment Unit boundaries may be redrawn to exclude areas of shallower peat and meet the required threshold.

3. Peatland condition assessments

At each survey point determine and record the condition category present using the pre-restoration (baseline) condition category definitions. Fixed point photos may also be taken. If condition assessments recorded within each Assessment Unit do not match the expected condition, further field survey is required to establish the cause. Assessment Unit boundaries shall be redrawn to reflect the condition in the field.

4. Confirm Assessment Units

Re-map the boundary(s) of each Assessment Unit, if necessary, and calculate the area of each (for use within the Peatland Code Emissions Calculator).

MONITORING CONDITION CATEGORY CHANGE

Post-restoration Condition Categories

Post-restoration Condition Category	Description	Emission Factor (tCO ₂ e/ha/yr)
Actively Eroding: Hagg/Gully	<ul style="list-style-type: none"> Extensive bare peat within hagg/gully system e.g. steep bare peat cliffs and bare gully bottoms. 	23.84
Actively Eroding: Flat bare	<ul style="list-style-type: none"> Extensive continuous bare peat e.g. peat pan or former cutting site. 	23.84
Drained: Artificial	<ul style="list-style-type: none"> Within 30 m of an active artificial drain (grip). 	4.54
Drained: Hagg/Gully	<ul style="list-style-type: none"> Within 30 m of hagg/gully drainage system. 	4.54
Drained: Revegetated Actively Eroding	<ul style="list-style-type: none"> Within 30 m of a revegetated hagg/gully system (bare peat no longer extensive and continuous). 	4.54
Modified	<ul style="list-style-type: none"> Within 30 m of a re-wetted artificial drainage system (active flow interrupted by restoration activities) <p>OR</p> <p>Highly degraded:</p> <ul style="list-style-type: none"> No/little <i>Sphagnum</i> spp. <i>Calluna vulgaris</i> extensive Small discrete patches of bare peat frequent (micro-erosion). <p>Moderately degraded:</p> <ul style="list-style-type: none"> <i>Sphagnum</i> in parts Scattered patches of <i>Calluna vulgaris</i> Extent of bare peat limited to small patches. 	2.54
Near Natural	<ul style="list-style-type: none"> <i>Sphagnum</i> dominated <i>Calluna vulgaris</i> absent or scarce Little or no bare peat. 	1.08

Field Survey

This section describes the steps to take, in sequential order, to produce a condition change monitoring report, required for the purposes of ongoing verification (Year Five and every 10 years thereafter for project duration).

1. Locate survey points

Using GPS/Grid References recorded at each survey point when establishing eligibility and determining baseline condition category, locate the same survey points.

2. Peat condition assessment

At each survey point determine and record the condition category present using the post-restoration condition category definitions. Fixed point photos may also be taken. A minimum of 75% of the condition categories recorded within each Assessment Unit must correspond for the Assessment Unit to achieve said condition category.

3. Condition category change

Compare condition category present to condition category predicted at validation. If predicted condition category has not been achieved further field survey is required to establish the cause and identify remedial action required.

REFERENCES

Crichton Carbon Centre (2015) Annex 1 Field Protocol and Guidance, *Developing Peatland Carbon Metrics and Financial Modelling to Inform the Pilot Phase UK Peatland Code* Report to Defra for Project NR0165. Available at: <http://randd.defra.gov.uk> (search 'peatlands').

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The Peatland Code and associated material can be downloaded from www.iucn-uk-peatlandprogramme.org.



The International Union for the Conservation of Nature (IUCN) UK Peatland Programme exists to promote peatland restoration in the UK and advocates the multiple benefits of peatlands through partnerships, strong science, sound policy and effective practice.

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