

Cefn Coch Peat Report

July 2015

Location:	Cefn Coch, Glaspwll, Ceredigion
Control Period:	
Commissioned by:	
Report Prepared by:	Sam Brown, UPM Tilhill



Introduction

The Woodlands for Wales¹ strategy sets out a vision that includes increased forest cover in Wales. Outcome 2.4 highlights the need for some afforestation to maintain the overall production potential of Welsh woodlands and deliver ecosystem services. Outcome 3.1 of the same strategy recognizes the importance of deep peat sites as high priority open habitats where management for woodland may not be appropriate. This is expanded upon in the UK Forest Standard (UKFS)² which sets the benchmark for sustainable forestry and advises against establishing new forests on soils with peat exceeding 50cm in depth in order to ensure soil organic matter is retained³, soil carbon stocks are maintained⁴ and biodiversity of priority peatland habitats is protected⁵.

Proposals for afforestation therefore require an investigation into the presence of peat, and, if present, its depth and extent. One such proposal is on land at Cefn Coch, where a peat assessment has been carried out.

Methods

The peat survey was undertaken in Cefn Coch in July 2015. The survey area was identified using the National Peat Map for Wales on the Forestry Commission Wales Map Viewer⁶ [Appendix]. The survey area is the plateau of an upland hill farm approximately 260-447m above sea level, centered around SN 734 954.

Plots were placed across the survey area, guided by the National Peat Map for Wales, aerial photography and interpretation of site conditions i.e. slope, ground conditions and vegetation type. At each point, a handheld GPS was used to capture the location and a 70cm auger was used to take a core from the soil. The depth of peat in each core was measured and recorded. Where the depth of peat was greater than the auger depth of 70cm it is shown as 70+ cm in the mapping and the figure of 70 was used in any calculations.

The field data was subsequently imported to GIS to display the spread of peat depths. These points were then used to digitize the extent of deep peat areas where peat depths of 50cm or more can be expected. This was done by hand in GIS by drawing polygons that encompassed all the plots where deep peat was found, bounded by records of shallower peaty soils or records with no soil. In order to ensure that all the deep peat was included in the polygons with an adequate buffer, these areas were digitized taking the shallower records as the boundary.

Results

A total of 246 cores were sampled throughout the survey area. Figure 1 shows some of the profiles seen. In many areas a shallow organic matter rich layer overlies clay and mineral layers. The soil, including the peaty layers, was fairly dry and aerobic apart from the larger wetter areas of deep peat. The results of the depth survey are presented in Figures 2 and 3 below. Figure 2 shows the distribution of peat depths recorded. The depth of peat ranged from 0 to 70+ cm, with a mean of 36 cm. Figure 3 shows the area of deep peat found, which amounts to 14.4ha.



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Figure 1 – Example cores of different depths showing varying soil profiles



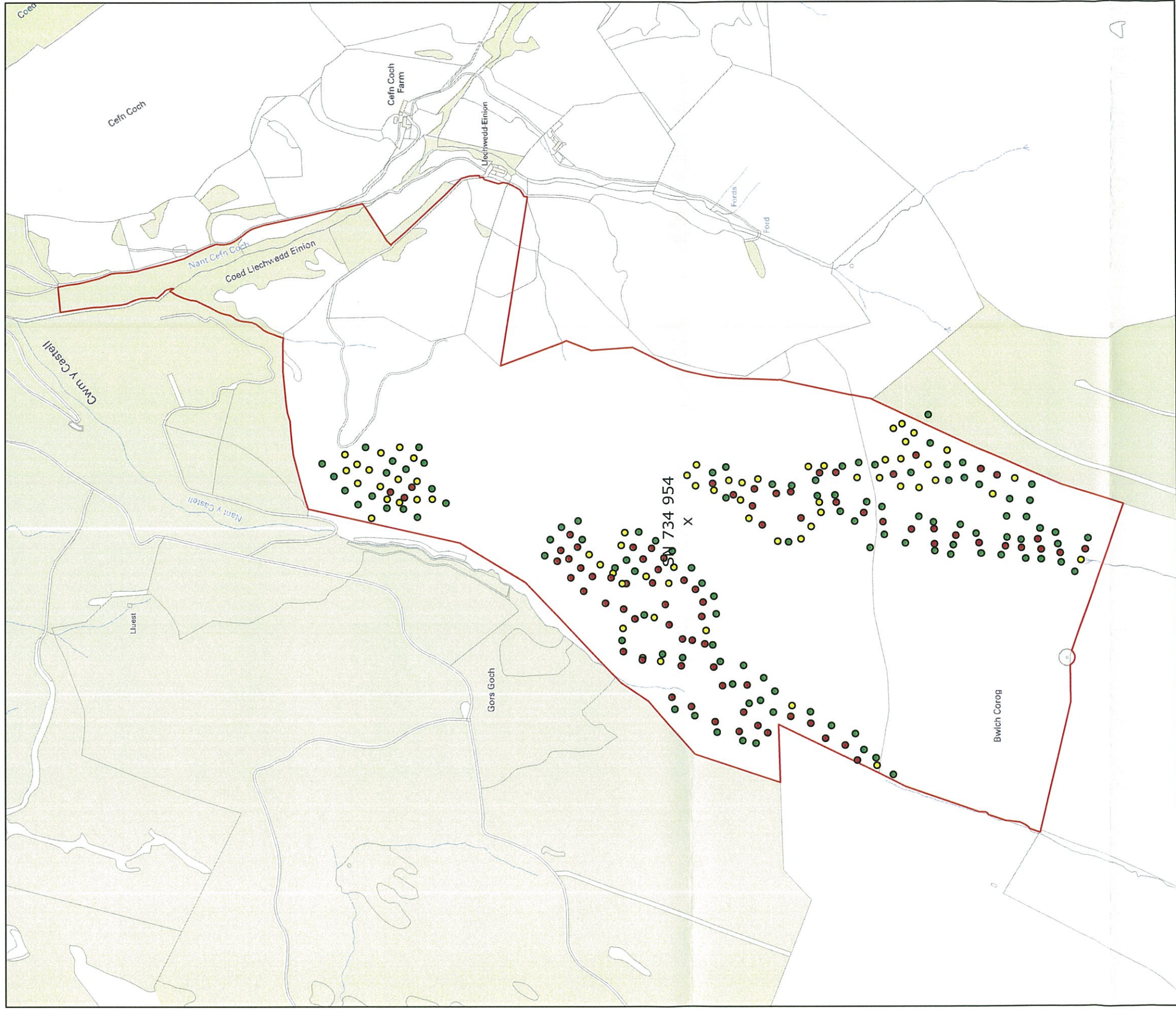


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Figure 2 – Location of plots with peat depths in Cefn Coch (inset)

Cefn Coch



Deep Peat

— Legal Bdy

PEAT_DEPTH

- 0-25cm
- 26-50cm
- 50cm +



Scale

1:8,660

08/05/2015



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OS sheets:
sn79nw
sn79nw contours

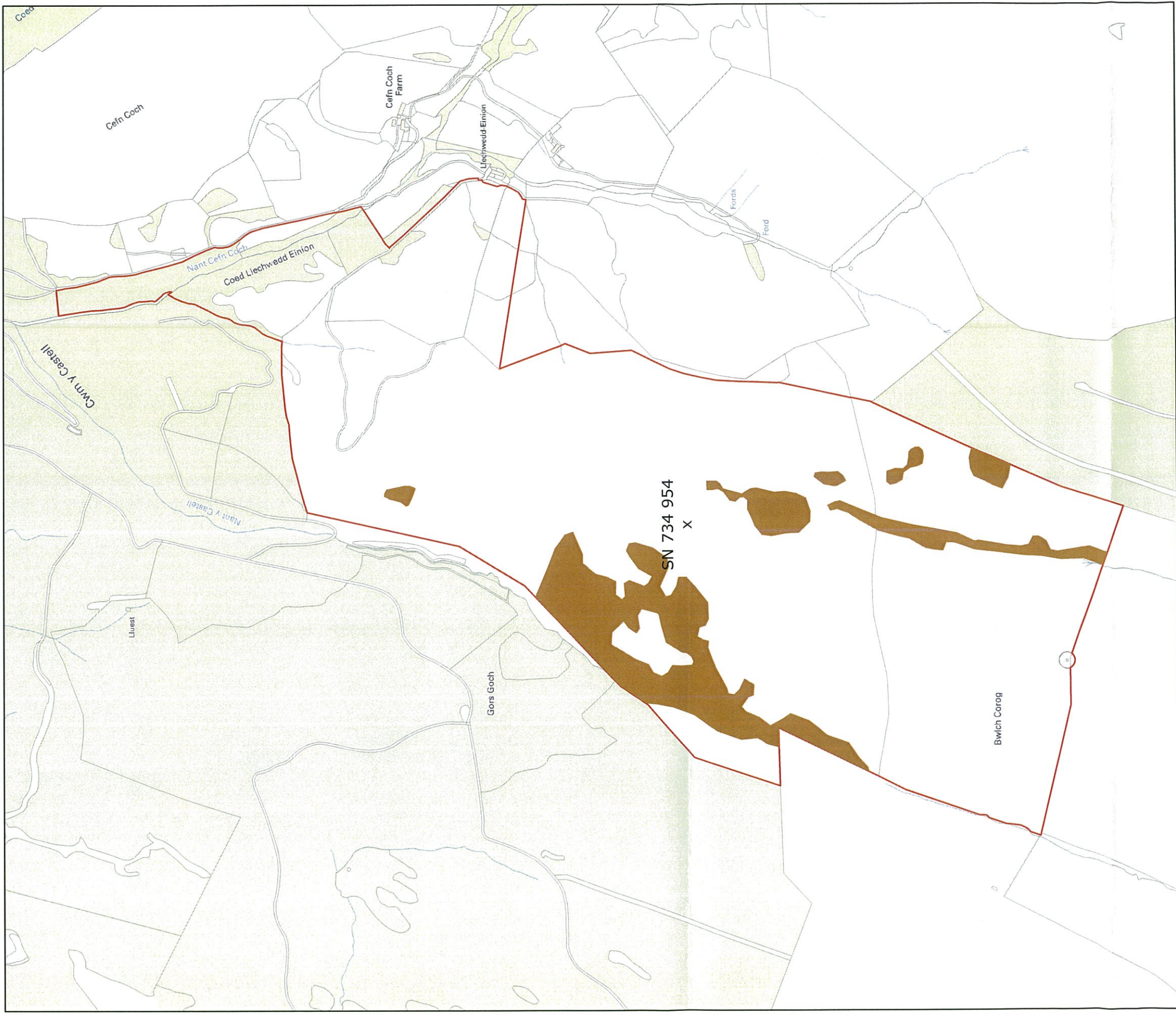


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Figure 3 - Deep peat area in Cefn Coch (inset), as identified by survey

Cefn Coch



Deep Peat

- Deep Peat
- Legal Bdy



Scale

1:8,660

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Conclusions

14.4ha of deep peat greater than 50cm was found during the survey of Cefn Coch. It is recommended that this is left unplanted during any afforestation program and maintained as permanent open ground to maximize the biodiversity benefits of the habitat and protect the soil organic matter and carbon stocks, in line with UKFS guidelines.

References

1. The Welsh Assembly Government. *Woodlands for Wales*. (The Welsh Assembly Government, 2009).
2. Forestry Commission. *The UK Forestry Standard*. (Forestry Commission, 2011).
3. Forestry Commission. *Forests and soil*. (Forestry Commission, 2011).
4. Forestry Commission. *Forests and Climate Change*. (Forestry Commission, 2011).
5. Forestry Commission. *Forests and Biodiversity*. (Forestry Commission, 2011).
6. Forestry Commission. Forestry Commission Web Viewer. at http://maps.forestry.gov.uk/imf/imf.jsp?site=fcwales_ext&
7. Forestry Commission. *Forests and water*. (2011).

Appendix

Figure 4 - Screen capture of peat layer from Forestry Commission Wales map Viewer, with survey area identified

