Origins of the Soil Survey of Scotland 50 cm threshold to define a Peat soil

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Executive summary

The Soil Survey of Scotland, who were responsible for the systematic survey, classification, mapping, and characterisation of Scotland's soils, is unique in defining a Peat soil as one where the surface organic layer has more than 35% organic carbon and is at least 50 cm in thickness and have used this definition to classify Peat soils since 1970. Where mapped, peat soils were subdivided into two depth categories: Shallow peat (organic layers between 50 and 100 cm thick) and Deep peat (organic layers >100 cm thick).

A review of historical documentation suggests that the origins of the 50 cm threshold comes from work in the 1940s and 50s by the Scottish Peat Committee, a government body that evaluated peat deposits for commercial use; for example, burning in power stations to generate electricity. In general, the peat at depths shallower than 50 cm was likely to be too fibrous and of a lower calorific value than the peat below 50 cm. The Scottish Peat committee also recommended that if the land was to be used for agriculture following peat extraction, a minimum depth of 50 cm of organic material was to be left.

As well as the Soil Survey mapping, there was continued mapping of Peat deposits by the Peat Survey and by the early 1970s these two Surveys had harmonised the depth threshold of 50 cm to define Peat soils. They also recognised that there was a relationship between Peat soils and specific vegetation communities. Although Peat is also found under woodland, improved grassland, semi-natural grassland and moorland vegetation communities, around 90% of the area in Scotland with a Bog vegetation type has formed on Peat soil. This relationship between Peat soils and distinctive Bog vegetation patterns was identified by both the Soil Survey of Scotland and by the Peat Survey as key in mapping the distribution of Peat soils and Peat deposits using aerial photographs supported by ground-truth survey.