Peat Depth Survey Guidance

Scottish Natural Heritage
Dualchas Nàdair na h-Alba

Peatland ACTION

Why are we asking for a peat depth survey?

- The primary funding purpose of the Peatland Action Project is to reduce carbon release to the atmosphere and ensure carbon is stored in peatlands.
- Current mapping of peat depths in most areas is neither accurate nor detailed. The restoration project will allow better quantification of the stored peat resource where restoration is taking place. This in turn enables a partial estimation of the carbon stored.

What will we do with the information?

- The peat depth survey will be made publicly available to further our understanding of the total peat and carbon resource.

Survey Method

You will need;

1. SNH may be able to loan a peat probe upon request, but they are also available on the internet as Peat Probes. The length of the rods should be sufficient to measure the full depth of the peat. Bamboo canes are unsuitable as they will snap and could cause injury
2. A handheld GPS device. This is used to record the sampling locations.
3. A digital camera to take photographs at 10% of the sampling points.
4. Tape measure.
5. Gloves.

Before you start

1. Mark 100m x 100m grid on a map and aerial photograph
2. Check that there are no overhead cables or underground utilities that run across the peatland. Do not walk around site with an extended peat probe.
3. Plan your route to enable the crossing of ditches and other obstacles.
4. Measure the length of an individual rod to speed up the measuring process.
5. You may wish to mark graduations on the rods with tape.
6. Carry out a risk assessment. This link gives useful guidance on work around overhead lines: http://www.hse.gov.uk/pubns/gs6.pdf

Important Note: Do not probe peat near or under electricity powers lines and beware of very wet ground.

Peat depth can be measured relatively easily using a narrow rod pushed into the peat at regular intervals across the site. The depth to which the rod sinks reflects the local peat depth.

The survey is completed on an approximate 100m by 100m grid basis which provides information on peat depth variability and identifies areas where areas of deeper peat are present. The peat survey should cover the whole area that is restored.

At each intersection of the 100m x100m grid record the position by noting the grid reference using the GPS. Push the first rod into the peat. Initially this may be difficult to do particularly if the peat is dry and vegetation thick. Add further rods as necessary. When the rod comes to a halt or you feel additional resistance or note a change in progress of the rods, mark or note the surface level on the rod and remove the rods, unscrewing each section as it is removed. This reduces the risk of bending the rods. When pushing the rods into the ground the rod seems to get stuck at an unexpected level, this could indicate that there is wood in the peat. In this case try another probing a metre away from the original.

Points to note

1. The exact position of the probing point is more important than sticking to the 100m x 100m grid positions. Ground conditions or access may restrict access to the exact grid point. An accurate national grid reference of the actual probing point is our main aim.

2. Select a probing location that is representative of the immediate area. Tussocks and hummocks raise the surface level above the actual peat level. The peat surface near ditches is often lower due to erosion and degradation of the peat.
3. Peat deposits are a mantle which sits above rock, gravel or clays. When the rod reaches the mineral substrate below it will either stop suddenly, or get more increasingly more difficult to push in. When extracting the final rod check the tip which may have sand or clay at the point which indicates you have reached the substrate below the peat.
4. Tree roots, wood and trees buried in the moss may affect the depth at which the probe stops. Where the peat depth unexpectedly becomes shallower it is advisable to probe a metre away from the original probing.
5. On no account use peat probes near power lines or buried utilities.
6. Take care when pulling out the probe particularly if the depth is greater than 3 metres and always attach the T- piece handle when pulling. Refer to HSE Manual lifting http://www.hse.gov.uk/pubns/indg143.pdf and follow the manufacturer's instructions.

Information to include when reporting on the peat depth survey result

1. Information about the surveyed area

- Site name
- Grant number
- Contractor details
- Date(s) of survey (e.g. 10/02/2017 to 11/02/2017)
- Total number of points surveyed
- General weather conditions at time of survey

2. Data output

For each peat depth sampling point provide the following information in an excel table or as a GIS shape file format:

- Grid reference /(6-8 figure grid reference)
- Date of sampling (day/month/year) Please also include time of sampling when using electronic recording system.
- Sample point peat depth (in cm)
- Sample point identification reference
- Comment or observation (if appropriate)

Maps of areas surveyed and peat depth map can also be produced. Any additional information collected during the peat survey is also welcome.

For further information please contact PEATLANDACTION@snh.gov.uk