

Establishing a Long Term Monitoring Network for Peatlands

Peatland Programme

The IUCN UK Peatland Programme was set up in 2009 to promote peatland restoration in the UK. The Programme advocates the multiple benefits of peatlands through partnerships, strong science, sound policy and effective practice.

Background

The IUCN UK Peatland Programme (IUCN UK PP) has highlighted major gaps in basic peatland monitoring, particularly in relation to erosion of degraded peatlands, subsidence (which influences commonly deployed monitoring such as dipwells) and the recovery of peatland vegetation post-restoration. Current funding for this type of 'routine' or 'traditional' monitoring is limited and often short term. There is also a lack of coordination and coherence among different peatland projects where data is gathered.

Often the most useful data is simple to collect, using low tech equipment that can be installed without specialist input, e.g. cranked wires to measure *Sphagnum* growth; copper rods to look at water table depth fluctuations; peat anchors to provide a baseline for peat loss/accumulation. This simple monitoring data could have direct application in informing management interventions, refining metrics for the Peatland Code and helping to test long term climate predictions.

Engaging existing peatland partnerships and restoration sites to collect data can provide valuable long term data sets that are currently lacking. Even where projects are short term, having a coordinated, standardised set of data with some baseline plots left in place will be useful in allowing future measurements and informing assumptions about the condition and function of UK peatlands.

Proposal for the installation of a UK-wide simple monitoring network

The IUCN UK PP is proposing to 'pump prime' the development of a long term monitoring network by supporting the rollout of a minimum of 100 monitoring points across the UK in 2008.

This equipment can be deployed by Peatland Programme partners. Existing monitoring plots can also be included in the initiative and whilst the IUCN UK PP has a small grant for buying equipment there may be scope for additional sponsorship opportunities, e.g. with local businesses 'adopting' a plot.

Information relating to the installation and subsequent data collection from these monitoring locations will be reported to the IUCN UK PP manager. Data will be made available through individual monitoring site descriptions displayed on the online IUCN UK PP Peatland Project Map and collated data will be made accessible for download on our website.



The Peatland Project Map has the capability to hold data sheets about a particular monitoring point and these can be collated to hold UK-wide data.

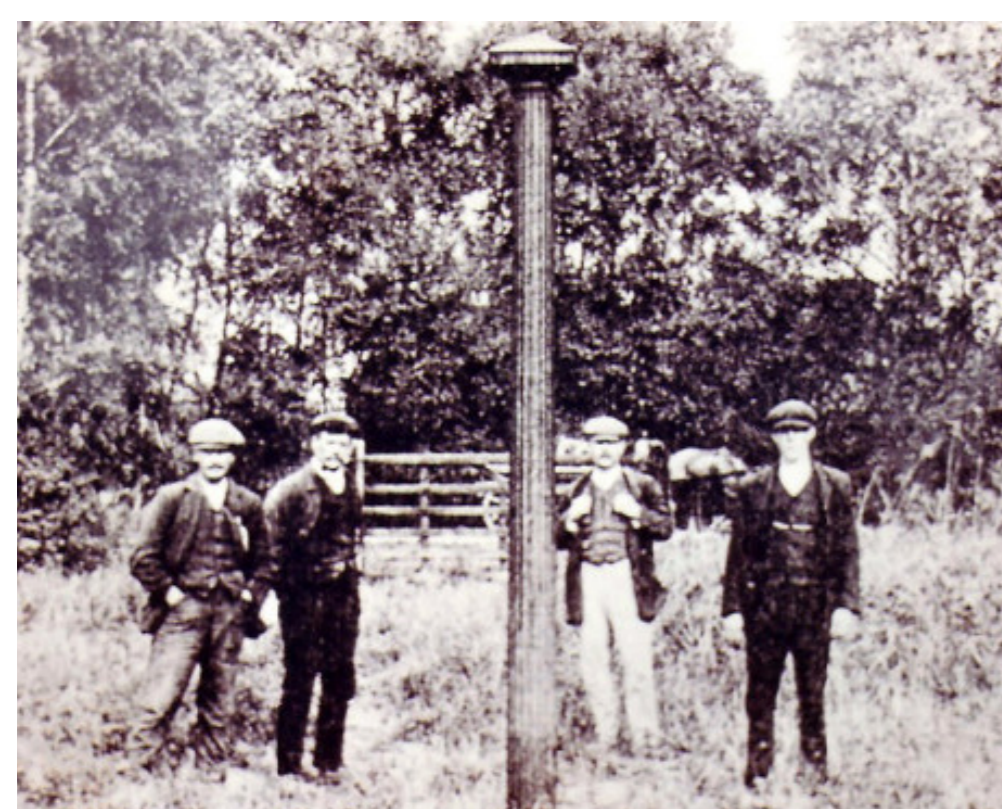
The monitoring plots

A protocol for installation and monitoring of plots will be provided to ensure consistency, prevent any detrimental activities around plots that could confound results and ensure that plots are geo-referenced so that they are easy to locate. The initiative seeks to provide data on simple metrics including:

Changes in vegetation Cranked wires to look at rates of *Sphagnum* growth or fixed point photos to demonstrate long term changes in vegetation. *Sphagnum* growth rates (vertical growth as well as horizontal spread) can be used to estimate changes in carbon stocks of surface vegetation or efficacy and rate of revegetation on restored sites.

Changes in peat depth Can be achieved through the installation of peat anchors or larger posts akin to the Holme Fen post. These posts could:

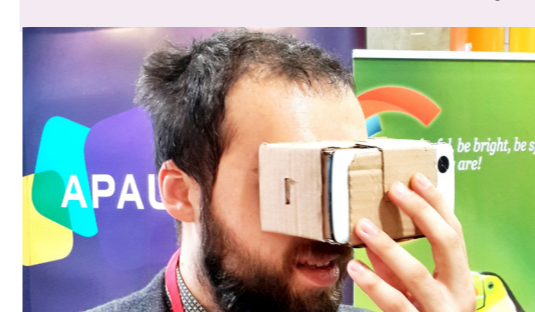
- Be a single installation within a peatland to track large scale subsidence and changes in ground level
- Installed in a transect to monitor the effects of localised subsidence around drains or tracks
- Be used to monitor erosion and peat loss from the surface or peat rebound following re-wetting.



Are Holme Fen post and the Black Hill trig-point the only documented peat loss reference points in the UK?
© sawtry.ccan.co.uk © Clifton Bain



Cranked wires © Emma Goodyer



Accessible VR technology © Sergey Galyonkin



Monitoring *Sphagnum* reintroduction © Penny Anderson

Giving the initiative identity

Creating a network of monitoring plots through a collaborative project has the potential for improving communication between partners and raising awareness of peatland issues amongst a wider audience. The measurement of some variables will require areas with limited disturbance e.g. subsidence measurements impacted by compaction. For other, there might be scope to include collaboration with artists in the design of the approach or encouraging citizen science data collection through activities like geocaching. **We want to hear your ideas!**