



The potential for carbon storage in UK peatlands

F. Worrall and J.G.Rowson

Dept. of Earth Sciences, University of Durham, Science Laboratories, South Road, Durham,
DH1 3LE. UK.

Peatlands are the UK's largest single terrestrial carbon store with carbon stored in UK peatlands than in forests of Britain and France combined, further this amount of carbon is equivalent to 35 years of total UK CO₂ output. Unlike most northern peatlands in the peat soils of the UK are heavily managed for recreation and agriculture and due to their proximity to major centres of population are under more anthropogenic pressure than most peatlands. However recent studies have shown several crucial pieces of evidence that may suggest that the carbon storage of these managed peatlands is not being realised:

1. A complete carbon budget of a pristine peat catchment over a 13 year period shows that on average it is a net carbon store of 60 Mg C/km²/yr, but that in some years this net sink of carbon could be close to neutral.
2. Complete carbon budgets of managed peat catchments shows that can be net sources of carbon of up to 100 Mg C/km²/yr

This means that if a managed peatland could be restored to the same condition as a "pristine" peatland there could be as much as 160 Mg C/km²/yr additional storage in this ecosystem. If this could be achieved for all the peatlands in the UK the amount of additional carbon storage would be equivalent to 2% of the UK road traffic. Further, at the current price of carbon on voluntary offsetting markets this would represent a profit over restoration costs of up to £1.5 billion over 20 years. This study has used field studies and regional models to explore the carbon potential of peatlands