Geophysical Research Abstracts, Vol. 7, 04323, 2005 SRef-ID: 1607-7962/gra/EGU05-A-04323 © European Geosciences Union 2005



Towards a complete carbon budget for a peat catchment – inclusion of in-stream processes

F. Worrall(1)

(1) Dept of Earth Sciences, University of Durham, UK.

Peats are the largest single terrestrial carbon in the UK and as such it is vital that we understand their carbon budget. Most studies of peat carbon budgets have been based either on carbon accumulation studies or fluxes of greenhouse gases. Neither of these methods takes account of the fluvial flux of carbon peat. This study uses detailed observations from a series of upland peat catchments in order to assess a complete carbon budget that includes: soil respiration of CH_4 and CO_2 ; primary productivity; excess dissolved CO_2 ; dissolved organic carbon and particulate organic carbon. The measurement of fluvial fluxes can never occur at the point at which the water leaves the peat profile but once the stream is entered both dissolved CO_2 and DOC begin to exsolve and degrade. Therefore in order to get an accurate fluvial flux these in-stream process must be accounted for. This study will detail the methods used to account for in-stream processes and show that the catchment is near neutral with regard to carbon accumulation.