Geophysical Research Abstracts,
Vol. 11, EGU2009-3455-1, 2009
EGU General Assembly 2009

Impacts of peatland management on stream ecosystems

S.J. Ramchunder, J. Holden, and L.E. Brown
University of Leeds, School of Geography, Leeds LS2 9JT, United Kingdom (geosjr@leeds.ac.uk, +44 113 343-3308)

Scientists have long recognised that human-induced landscape modifications have altered stream systems by changing the hydrology, geomorphology, water quality and biota. Peatlands are important global systems for carbon storage, water resources and biodiversity. Many UK blanket peats are intensively managed through artificial drainage, rotational heather burning and remedial drain blocking. This presentation discusses the impacts of these management types on stream benthic macroinvertebrates across northern England compared with intact peatland systems. At the community level there were no significant differences in total abundance or species richness between management types. However, results for individual species suggest some compensatory effects. For example, drainage and burning had a deleterious effect on Ecdyonurus dispar, Isoperla grammatica and Perlodes microcephala. Conversely, Simuliidae abundance was higher in these catchments, perhaps due to higher concentrations of suspended particulate organic matter serving as a food source. Species abundance and richness in drain-blocked catchments were typically similar to levels in intact systems. This catchment-scale rehabilitation method appears to be a useful method for aiding the rehabilitation of stream ecosystems in UK moorlands.