A Landscape-scale Analysis of the Sustainability of the Hill Farming Economy and Impact of Farm Production Decisions on Upland Landscapes and Biodiversity

Investigators
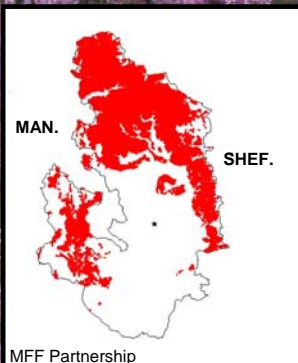**Paul Armsworth, Nick Hanley**

Kevin Gaston, Martin Seabrook

The University Of Sheffield.

UNIVERSITY OF STIRLING

The University of Nottingham

MOORS FOR THE FUTURE PARTNERSHIP

Partner
Moors for the Future

Further Information
Contact *p.armsworth@sheffield.ac.uk*

Case Study Area: Peak District National Park
Farms with >50% of holdings inside moorland line.

MAN.

SHEF.

MFF Partnership

Project Launch

2-5pm, 27th February 2006.

Losehill Hall,
Peak District National Park Study Centre,
Castleton.

We will:

predict how hill farms will respond to changing socioeconomic conditions and what impacts this will have on moorland landscapes and biodiversity.

design modelling techniques that account for economic and ecological interactions among farms.

estimate public understanding of and preferences for contrasting moorland futures.

assess whether alternative policy interventions can deliver a sustainable hill farming economy compatible with moorland conservation.

Stage 1: Drivers of Change
Integrate existing datasets to examine: how farm businesses responded to the changing rural economic climate? how well that explains changes in habitat distributions? how important are environmental factors in constraining production choices?

Stage 2: Farm-Scale
Socioeconomic surveys of hill farmers used to parameterise production models of representative farm businesses. The models will predict land uses and stocking densities in response to environmental constraints, input and output prices, subsidy payments, etc.

We will survey bird abundance, distribution and behaviour on moorland and moorland fringe habitats. We will couple the farm production models with statistical models predicting bird distribution based on biotic and abiotic variables and land management practices within survey sites (grazing densities, off-wintering dates, improvement of in-bye, etc).

Stage 3: Landscape-scale
Economic Spillovers
We will examine interactions among farms at both the intensive and extensive margins to account for sheep trespass, leasing of grazing rights, farm consolidation, dereliction, etc.
Ecological Spillovers
We will account for broader landscape context and connectivity (e.g., distance of quality in-bye land from the moorland edge, permeability of intervening habitats, surrounding habitat diversity, etc.) into our biodiversity models.

Stage 4: Policy Design
Valuation Workshops
We will estimate "social benefits" of contrasting moorland futures and examine the heterogeneity of preferences across stakeholder groups in Valuation Workshops.
Design of Policy Interventions
We will examine the ability of farm-scale policy interventions (SFP, ELS/HLS, HFA) to deliver landscape-scale objectives in a cost-effective manner. We will then examine the performance of alternative policy instruments that specifically aim to incentivise collective action.

Recruiting Now!