

1 Environmentally and Economically Sustainable Grazing on Heather Moorland – an overview

What is it?

Sustainable moorland grazing is:

- Adopting different stock types and varieties at a level that do not compromise the quality of the vegetation for future grazing use
- Adopting a grazing system that is economically viable
- Supporting a typical range of plants, especially dwarf shrubs, in appropriate quantities
- Providing habitat for good populations of locally characteristic birds
- Supporting other animals such as invertebrates that also provide food for birds and other animals

Sustainable Grazing

Moorlands often support:

- a wide diversity of plant species which can offer the extremes of digestibility
- variation in the spatial distribution of these species
- seasonal differences in digestibility of plants

all of which can limit nutrient intake and result in uneven grazing pressure within and between plant communities.

Understanding these factors and how they interact with each other, and with the vegetation dynamics, birds and other animals forms the key platform for these fact sheets.

The Research Project

The research project, conducted between 2002 and 2007, was a multidisciplinary investigation into sustainable moorland grazing in order to maintain or enhance heather moorland. The project objectives were:

- Identification and definition of the range of habitats, grazing practices and intervention techniques to be considered
- Evaluation of existing grazing operations and intervention techniques for maintaining and restoring heather moorland habitats, to determine the factors influencing their success, and their impacts on biodiversity and their economic viability
- Develop through modelling, single and mixed grazing practices, and intervention techniques appropriate for restoring heather moorland, and assess the impacts of the resulting habitat changes on invertebrate and bird populations
- Assess the impact of selected grazing regimes and intervention techniques on livestock, vegetation and economic viability, as well as upland birds and invertebrate groups of conservation importance
- Develop practical guidelines for both farmers/landowners and advisers on environmentally sustainable grazing regimes, and where necessary, identify changes to scheme prescriptions and make recommendations

The project has investigated or developed:

- forage selection and preferences between different breeds of sheep and cattle, and at different pressures
- nutritional and productivity effects of the forage preferences of the different breeds
- the effects on the vegetation on two types of heather moorland of the different grazing pressures
- a model of vegetation change under different grazing scenarios over time
- a model of the effects of grazing on bird populations
- the relationship between invertebrates and the vegetation characteristics on heather moorlands
- methods for restoring heather where it has been lost

The results of the research, set within the available guidance elsewhere, have been translated into a family of fact sheets.

The Fact sheets available

Thirteen fact sheets as well as this overview provide advice on all aspects of sustainable management for maintaining or enhancing heather moorland:

2 Grazing regimes	3 Vegetation	4 Birds	5 Invertebrates
2.1 Overview	3.1 Overview	4.1 Overview	5 Overview
2.2 Sheep only grazing	3.2 Increasing dwarf shrub cover	4.2 Grouse (red and black)	
2.3 Cattle only grazing	3.3 Controlling purple-moor grass	4.3 Waders	
2.4 Mixed grazing	3.4 Controlling mat-grass	4.4 Other birds	

The **grazing** fact sheets (sheet 2.1 to 2.4) provide advice on grazing behaviour, the impacts of grazing on the vegetation, performance of different stock types, and the economics of the different systems.

The **vegetation** fact sheets (sheets 3.1 to 3.4) outline the vegetation types of interest, and describe how to diversify and control moorland grassland dominated by purple moor-grass and mat-grass.

The **birds** fact sheets (sheets 4.1 to 4.4) cover the range of birds of interest, and explain the biodiversity value, habitat requirements, and management options that provide sustainable populations of different groups of birds.

The **invertebrate** fact sheet (sheet 5) outlines the range of groups covered in the research study, and outlines the biodiversity value, the importance of each as food for different birds, and the habitat management options to optimise the populations of the main invertebrate groups on the moorlands.

A Project funded by Defra, English Nature and Countryside Council for Wales undertaken by ADAS, CEH, IGER, RSPB, Scottish Agricultural Colleges, University of Newcastle and Penny Anderson Associates Ltd.