

COLLABORATIVE FRAMEWORKS IN LAND MANAGEMENT:

A Case Study on Integrated Deer Management

Project Newsletter Number 3.



RURAL ECONOMY
AND LAND USE

Editorial

www.macaulay.ac.uk/RELU

Welcome to the third newsletter for the RELU Deer Project. Rather than having a set timetable for these progress reports we will provide updates whenever we have any news to pass on. This issue contains an update on some specific aspects of the work. Information is also available on our website and the RELU website www.relu.ac.uk

We would like to thank everyone who has supported the project so far, and look forward to this continuing and productive dialogue throughout the project. If you know of others who would like a copy of the newsletter please let us know. If you no longer wish to receive this newsletter or have any comments on it please contact **Brenda Mayle, Ecology Division, Alice Holt Lodge, Wrecclesham, Farnham, Surrey GU10 4LH** brenda.mayle@forestry.gsi.gov.uk

Project aim

This project aims to produce a framework for the development of effective, informed, inclusive, collaborative and sustainable management of rural resources in Britain, by using wild deer as a case study.

An important aspect is to identify the 'processes' by which barriers and drivers for successful collaboration can be identified. Through working closely with stakeholders we hope to provide a better understanding of the issues influencing deer management at national, regional and local scales, and what processes can be used to identify and manage similar issues for other rural resources. We also hope to be able to provide methods to clarify some of the issues. One objective is to identify how and when collaborative management can be a benefit to rural resource management. We also hope to identify how best to provide new information to different stakeholder groups. One thing we do not expect to achieve is to solve all the issues around deer management.

Science and the perception of deer

Workshops are being organised to investigate stakeholder preferences for woodland habitats. These will investigate whether differences exist between stakeholder groups in terms of visual preferences. Information on the relationships between woodland flora and elements of biodiversity and the impact of deer on this woodland flora will then be presented to participants to allow us to investigate whether the provision of information changes stakeholder preferences. We will conduct these workshops in the Marches case-study area.



Kilwood in the Poole basin area, owned by Dorset Wildlife Trust and photographed by Norman on a recent visit.

Choice experiments: **What are they and why are they useful?**

'Choice experiments' are increasingly applied in the areas of economics and healthcare to determine the relative preferences of stakeholders for different benefits or costs, where the benefits and costs may be conflicting. For example, within healthcare, shorter waiting times, longer appointment times and faster referrals are all benefits, but it may not be possible to deliver them all simultaneously. A choice experiment could be used to quantify patients' relative preferences for each of these three factors. It is also possible to place a relative monetary value on changes in the different factors, which can be used to quantify benefits in monetary terms or to guide investment strategies. Choice experiments can therefore play an important role in informing management and policy decisions.

We will be using choice experiments to

- investigate stakeholder preferences for deer management in quantitative terms
- quantify the extent of potential gains through collaboration
- quantify trade-offs that stakeholders are willing to make between different outcomes
- quantify the extent to which stakeholder preferences and trade-offs are influenced by the need to collaborate
- quantify the extent to which incentive payments may influence this
- determine the extent to which preferences and trade-offs differ between stakeholder groups and across regions

Three of the principal impacts of wild deer are:

- the costs of deer-related road traffic accidents
- the costs to woodland conservation interests through grazing or browsing
- the benefits obtained through stalking

These impacts are defined as 'attributes' within the choice experiment. To examine trade-offs between attributes in a rigorous statistical manner, the choice experiments must deal with a simplified hypothetical world, but the choices involved must still be feasible in the eyes of the participants to ensure that the results are reliable.

We will use three levels for each of the attributes described above. For ease of description here we will refer to the levels within each of the attributes as low, medium and high. These terms will be quantified as far as possible for the choice experiments so that they are relevant and realistic in relation to specific locations and the associated stakeholders. This is an element of the design for which we are seeking expert stakeholder input prior to running the choice experiments. Thus, a number of possible choice scenarios (or 'bundles') may exist. Examples of these bundles are illustrated below:

Choice bundle	Level of deer-related road traffic accidents	Woodland conservation impact	Deer numbers
1	H	H	H
2	H	M	M
3	M	M	M
4	H	H	L

Of these four, the first three bundles are feasible, but the fourth one is less likely to occur. Unfeasible bundles such as this last one are removed from the choice set prior to running the experiment (again in consultation with stakeholders) to increase the statistical power.

Participants will be presented individually with a series of choices between several 'bundles' and asked to select their preferred choice bundle in each case. The results of this can be analysed to provide information on the absolute preferences of different stakeholders towards deer management. In the same meeting, we will conduct a second choice experiment with an additional attribute relating to the extent of collaboration. The final stage will be to introduce a payment attribute so that, for example, if deer were managed to increase public benefits, the landowners would receive a payment. Through the choice experiments, we will be able to determine the perceived 'cost' of collaboration and the levels of incentives that might be applied to encourage it.

The success of the choice experiment and its usefulness depends on the design and use of appropriate attribute levels. We plan to conduct the first choice experiment in mid-November 2007, with two more before the end of the year. Therefore, over the next few months, we will be making contact

with stakeholders in different parts of the country. Through this process we hope to make the choice experiments relevant, and as realistic as possible, for the different areas. If you would like to get involved by suggesting study sites or by taking part in the choice experiment work please get in touch with Norman Dandy, tel. 01420 22255, norman.dandy@forestry.gsi.gov.uk

Work shadowing and Fellowships

These are opportunities provided by RELU. **Work shadowing** enables members of the project team to spend time with stakeholders to gain a better understanding of the practical issues. **Fellowships** enable stakeholders involved in policy implementation or practice to visit the research team and explore the implications of the research for their work. The focus of both is to encourage 'made to order' information transfer activities and materials. Both are for periods of between a week to a month and RELU will cover travelling and accommodation costs. Applications can be sent directly to RELU or through the project team. If you would like to be involved with either of these please contact Brenda brenda.mayle@forestry.gsi.gov.uk

Our first work Fellowship

Mark Lazzeri from the Assynt Foundation is taking advantage of the opportunity provided by the Fellowship scheme. The Foundation owns some 44500 acres of what was traditional deer forest, some 11000 acres of which fall within SSSI and/or SAC designations. The Foundation is developing a deer management programme, in conjunction with Deer Commission for Scotland and Scottish Natural Heritage. The aim is to reduce the resident deer population to allow regeneration of woodland and recovery of other degraded habitats.

Mark is particularly interested in; Participatory GIS, DeerMAP and ecological modelling, lessons from the past for the future of the uplands, interactions between deer and domestic livestock (cattle, pigs and sheep) and their impact on vegetation changes, the wild venison supply chain, and economic, cultural and culinary/dietary implications. We hope he will be able to join us during a part of the next project team meeting.

Work shadowing with the Royal Society for the Protection of Birds

An ecologist and a social scientist from the project team will be work shadowing with staff from the Abernethy and Inversnaid offices of the Royal Society for the Protection of Birds (RSPB) for up to 3 weeks between November and December 2007. The RSPB are involved in the management of deer to create or maintain habitat in favourable condition in line with specific targets. By shadowing staff at the two locations, we expect to encounter a broad range of issues related to the management of deer.

From an ecological perspective, we aim to better understand how target habitat states are being selected and defined and what monitoring is in

place to evaluate whether management aims are being fulfilled. At Inversnaid we will help analyse some of the longer-term monitoring data on bird populations and forest structure. At Abernethy, material from scientific trials including burning and grazer exclusion will be investigated, along with an evaluation of how such findings informs management on the ground. From the social science side, we aim to understand how the RSPB engages with neighbouring landowners, in particular with those working towards different objectives. Specifically we are interested in reconstructing the history of deer management at the two locations, through investigating written records (to allow discourse analysis) and speaking with staff.



Red deer hinds at Abernethy (Forestry Commission)

We will obtain invaluable insights into how the RSPB, as an important NGO with a high public profile, deals with setting and working towards land management objectives in both ecological and social terms, within its own properties and in relation to the objectives and pressures from its neighbours. NGOs are increasing in importance as landowners and managers so there is a need to understand their management objectives and analyse how these interact with the objectives articulated by public and private landowners. We expect that our presence at the two RSPB offices will generate fruitful discussion with mutual benefit. Our insights into RSPB's approach towards dealing with surrounding land managers may have future policy bearings, whilst evaluation of their monitoring and experimental data may be helpful for subsequent management on the ground.

Stakeholder feedback

We are looking forward to an increasing level of feedback from stakeholders as the project progresses. So far we have had few responses to the questionnaires published in the previous issues of this newsletter. The first concerns the development of a database of deer related reference material from academic, governmental and other organisational sources, and whether such a database would be useful for individuals and groups interested in deer management. This can be found at http://www.macaulay.ac.uk/RELU/dg_poster.html#Poster

We are also seeking feedback on the presentations we have given so far. Please see the questionnaire at www.macaulay.ac.uk/RELU/presentations_questionnaire_July2007.doc

Hard copies are available from **Stefano Fiorini, Socio-Economic Group, Macaulay Institute, Craigiebuckler, Aberdeen, AB15 8QH** s.fiorini@macaulay.ac.uk

The Project team

Our team of environmental, economic and social scientists have a broad range of experience in research and practical environmental management, particularly deer management. Contact details can be found at the individual university and institute websites or www.macaulay.ac.uk/RELU

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