



Recent reflections on science-policy communication in the context of deer management in Scotland

The brief in brief

This brief, as part of the SPIRAL project, identifies issues and insights for improving communication between science and policy in local-scale decision making. Reconciling public and private objectives for environmental, social and economic sustainability is complex, and requires information to be shared across different groups. This makes it crucial that communication between policy, science and practice is more effective. Here we discuss these links and ideas for encouraging them, in order to support wild deer management in Scotland, and for local-scale management of wildlife resources in general. These findings are based on interviews carried out as part of the “Collaborative Frameworks in Land Management: A Case Study on Integrated Deer Management” project¹, together with additional interviews carried out as part of SPIRAL.

Deer management in Scotland

Scottish deer management is an excellent example of an issue where management of certain species interacts with and affects the status of other natural resources, with implications for livelihoods. Deer species found in Scotland include Roe Deer (*Capreolus capreolus*) and Red Deer (*Cervus elaphus*) and both have expanded their range and population in recent decades, as sheep farming has become less profitable and deer no longer had any natural predators. Deer in Scotland are ‘owned’ by no one and the right to hunt them lies with the owner of the land they inhabit. Landowners take responsibility for the welfare of

deer and their habitat: this is usually achieved by managing deer numbers by regular culling.

Currently, deer are hunted across most of the Scottish uplands and are both culturally important and financially valuable. However, high deer numbers can result in damage to woodlands, heath and blanket bog, crop damage, and road traffic accidents. Balancing the range of actors and aims in the context of deer management means there is an increasing need to make communication between policy, science and practice more effective to help practitioners and policy reach their objectives.

Over 70 Deer Management Groups (DMGs) are found across Scotland. These groups take a broadly collaborative approach to managing deer:



they are voluntary and run by representatives of the neighbouring landholdings in the DMG area. DMGs were originally a mechanism to agree on stag shooting numbers and prevent one estate taking too many in relation to their landholding size and the ranging behaviour of the stags. DMGs also attempt to ensure that hinds are culled while ensuring enough fertile hinds remain to produce stags. They may also adjust culls if there is strong evidence that the habitat is deteriorating. Some DMGs have developed Deer Management Plans that attempt to address the complexities of integrating deer management with other land use (including conservation) objectives.

Science-policy communication for deer management

There are already a number of links and tools valued for aiding communication and decision-making about deer management. Key insights from interviewees on practical strategies for improving communication included:

- The use of **digital tools** was considered useful by gamekeepers (especially the young), particularly in terms of developing “*mapping software [in] which you can have layers*”. This was seen as a practical way of integrating local knowledge with scientific knowledge and methodologies to produce a useful decision-making tool. However, constraints include the labour-intensive nature of developing, and updating, such tools, the expense and wide availability of good quality mapping software, and potential

¹ The research was conducted as part of the Research Councils' Rural Economy and Land Use (RELU) Programme (Projects: RES 227-025-0014 and RES-811-25-0002).

lack of buy-in by older keepers. There were also concerns over the accuracy of such tools (particularly at the finer scale). These combined concerns led one interviewee to suggest that these tools could be considered in some cases to be more useful to national, rather than local-level, decision-makers.

- Building the capacity of deer/land-managers to utilise **monitoring methodologies**. Guidance on how to carry out deer counts and/or habitat assessments would improve ownership and value of such methods to practitioners and promote understanding and acceptance of the resulting data. For example, the organisation of training days on monitoring habitat change or best practice demonstration events (or DVDs) were considered useful in promoting knowledge exchange between local decision-makers.

- The DMG process has the potential to promote **open discussions between deer and/or land managers and scientists**.

The use of mapping software could help in promoting discussions in DMGs on deer management at the landscape scale.

“the whole Deer Management Group process has been really positive [...] it’s got people round the table talking, it’s got people having to appreciate other people’s view on landscape and natural resources, and if there are those differences of management well at least let’s be open about them and talk about them and agree to differ or agree to compromise and to come to a common view” – Dr V, scientist

There are also social science insights on deliberation, handling different values and decision-making. Interactions with researchers and DMG members can also be a useful adaptive process to determine what data or evidence is required to support decision making in relation to deer and other land-use objectives.

- DMGs have the potential to **widen membership** to allow for a broader range of views, beyond deer management related issues, to be represented.

- The perceived gap between local and national-level decision-making needs to be bridged by promoting **opportunities for local practitioners to inform** national policy-makers about the local level barriers and constraints in achieving wider public benefits. To address public misunderstanding or concerns over land management, it can be helpful to communicate to the public about the need for active land management, the responsibilities of land managers, the rationales for managing land in different ways, and the public benefits land management can provide.

- Better knowledge exchange is essential to promote the **uptake of scientific results and methodologies**. These need not only relate specifically to deer ecology. For example, some research may not focus on deer, but the results could be used in decisions relating to the management of deer. This could be achieved easily by

scientists explaining how such outputs are produced, or how tools could be useful to land/deer managers.

Broader implications

The above suggestions imply that it is not sufficient just to make available relevant data and tools, to aid decision-making over deer management and local-scale management of wildlife resources. Instead, for all groups to understand the key issues, it is necessary to engage with the existing thinking (or ‘mindsets’) of land managers, policy makers, researchers and the public. Scientists can better explain and adapt outputs in formats accessible to local decision-makers, explore how to integrate local knowledge in their scientific research, and learn to present the relevance of their research in terms of local management practices. Meanwhile, deer/land-managers can engage more with current methodologies for gathering data and communicate their roles and outlook to a wider range of actors, including younger generations, the wider public and the media. National decision-makers also have a role to play, by understanding and responding to the roles and constraints of local-decision-makers and of scientists involved at the local scale.

“We as gamekeepers and stalkers think that we are such true professionals in what we’re doing and that we need to be involved [...] we’re trying to educate MPs, we invite MPs out on the hill to see [...] actually how it happens, or why it happens” – Mr M, land manager

“as a gamekeeper or a stalker, people that don’t know what we do think we’re out there with a tweed suit on, killing things 24/7” – Mr P, gamekeeper

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This brief is a result of research and interactions within and around the SPIRAL project. This brief was written by Kerry Waylen (JHI) and Juliette Young (CEH).

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