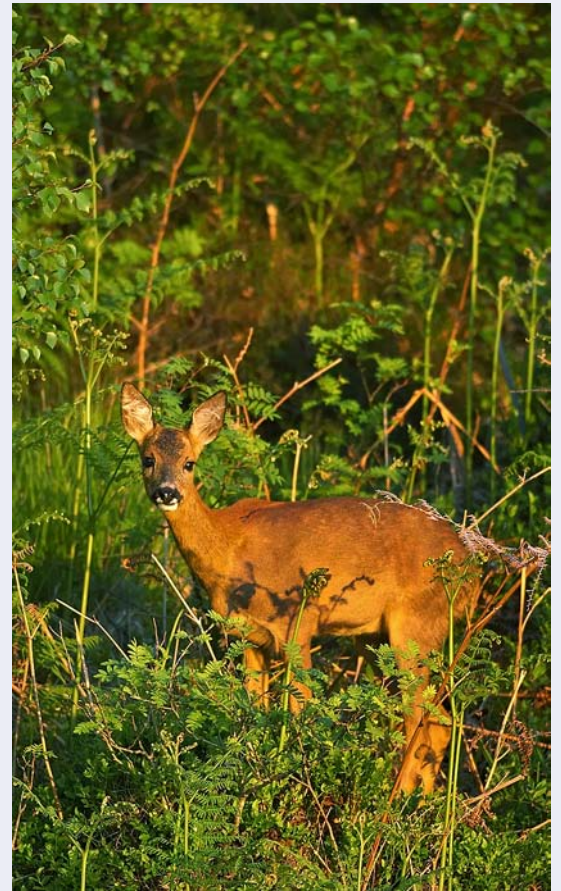


The management of roe deer in peri-urban Scotland

The expansion of peri-urban areas has significantly increased the number and range of interactions between people and wildlife, including wild deer. Impacts include road-traffic accidents, garden damage and the potential transmission of disease. Concerns have also increased over the welfare of wildlife increasingly exposed to risks from deliberate acts of cruelty. On the other hand, opportunities for positive interaction have increased and these have the potential to offset negative impacts. People enjoy seeing wildlife around their homes and sharing their environment with them. These interactions can bring 'new' stakeholders into the arena of wildlife management, perhaps most prominently Local Authorities and the peri-urban public. Understanding the human dimensions of wildlife in these areas is vital if these interactions are to be effectively managed. This project has clarified the range and scale of these interactions, along with their importance and relevance to local community members and land managers.

Key to this project was the acknowledgement of the complex nature of ecological resource governance and the associated recognition of the diverse management opportunities that this complexity brings. For example, in this specific case it is important to identify that the deer–people issues arising in peri-urban Scotland are not caused only by the increasing presence of deer. Consequently, management strategies exist beyond simply reducing their presence.



"...it is nice to know that they are around. It just makes people feel more natural, a more natural environment."

Community member, Linlithgow

Background

This research project, which ran from December 2007 to May 2009, was conducted within the 'Central Belt' of Scotland, between Edinburgh and Glasgow. Available secondary data relevant to this whole area were collected, along with primary research filling knowledge gaps focusing on two smaller case-study areas. These were around the former Ravenscraig steel works in the west and around Linlithgow in the east. The 'Central Belt' was selected as both representative of the wider peri-urban environment in Scotland and as an area of particular specific concern and interest. The project highlights issues and strategies relevant across peri-urban Scotland.

Objectives

This research aimed to:

- provide an evidence base for understanding the relationship between people and deer in peri-urban areas

- identify, scale and map the distribution of 'drivers' of people–deer interactions in peri-urban areas
- provide clear guidance, in the form of a Decision Support Framework, on procedures to manage the interaction of people and deer in peri-urban areas

Methods

The research used an overarching methodological framework, known as a DPSIR framework, as it facilitates the identification of the breadth and complexity of relationships between initial Drivers, the Pressures they create, the resultant State of the environment, the Impact on this and the range of

Responses available. Analysis of secondary data and GIS mapping was used to provide an overall picture of the situation in the 'Central Belt' area, with a range of methods being employed at the case-study level, including focus groups, questionnaire survey, thermal imaging for deer census counts, site visits and informal meetings.

Findings

Deer–people interactions in this environment are many, varied, complex and widely distributed. They can be both positive ('values') and negative ('impacts'). Having said this, interactions are not strong – that is, they are not a prominent feature of most people's everyday lives.

Seeing deer and sharing the environment with deer are highly valued by community members in peri-urban Scotland, particularly as they provide a link to a 'natural' world. However, the elusive nature of deer and their perceived rarity limit opportunities for people to enjoy these experiences. Other positive interactions, particularly economic and ecological ones, are considered far less important and relevant to peri-urban communities.

The peri-urban communities of the 'Central Belt' register very little negative impact upon themselves by wild deer. Considered of far greater significance are the potential negative impacts upon the welfare of deer living in the peri-urban environment, and there exists a strong demand for management action to address this when it occurs.

The combination of limited opportunity for positive interactions with deer and minimal impacts felt leads community members to question strongly any general need for management in the peri-urban environment. Thus, if reasons for management do exist they must be clearly and effectively articulated to all stakeholders. When necessary, fencing and 'scarers' are widely perceived as the most preferred option by local communities, along with changing human activities (such as driving practices or urbanisation). Culling is generally considered a legitimate 'last resort' in response to serious impacts and deer overabundance, so long as alternative management strategies have been considered and stringent conditions are met. Spatial analysis has allowed an exploration of the complex nature of people–deer interactions and has highlighted that management decisions are likely to be site-specific.

Recommendations

We suggest that wildlife managers and advisors consider the following:

- **Future debate regarding issues related to wild deer and their management in the peri-urban environment should be framed in broad terms**, as presented by this research. With the increasing interaction of people and deer in the peri-urban environment and the associated risk of increased conflict between stakeholders with contrasting perspectives, there is a pressing need to encompass both positive and negative interactions between people and deer. This should facilitate input from all stakeholders and allow interested parties to reach a more balanced view of the costs and benefits associated with the presence of wild deer in this environment.
- **Future effort should be directed towards 'managing people–deer interactions'** rather than 'deer management' *per se*. Such an approach should facilitate broad partnerships where responsibility for action is shared, and enable innovative management solutions to be implemented, including, where necessary, affecting changes in the behaviour of people and communities.
- **New approaches to the management of the issues relating to wild deer should be explored** through the Decision Support Framework developed from this research. Pilot studies would facilitate further clarification of which stakeholders may assume responsibility for management actions in a variety of settings. Pilot studies would also provide the opportunity to move further towards a fully spatially integrated Decision Support Framework.

Partners

Forest Research

Funding / Support

This project is funded by the Scottish Government and administered by the Deer Commission for Scotland.

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Reports and publications

Dandy, N., Ballantyne, S., Moseley, D., Gill, R. and Quine, C. (2009). *The management of roe deer in peri-urban Scotland: Final Report*. Forest Research.

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