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Summary

Red deer populations normally range freely over estate boundaries, meaning problems can arise when adjacent estates have divergent management objectives. Estates wishing to manage primarily for biodiversity by regenerating native woodland or conserving peatland with minimal use of fencing often reduce deer populations through enhanced culling, which can negatively impact on the interests and business of adjacent traditional deer stalking estates. Issues between neighbours can hamper the ability of estates to carry out their management aims. The issues can be contentious; this study seeks to shed light not heat on the topic.

West Highland case study estates were sought by word of mouth. We looked for case study pairs where issues between neighbours had been resolved or were on-going. Five case studies were carried out: two pairs of estates and one unpaired estate. Information was collected to allow characterisation of the estates, the nature of the issue with the neighbour, along with supporting information on the Habitat Impact Assessment (HIA) process, Deer Management Groups (DMGs), the participants' views on fencing, and the key challenges faced by participants in relation to deer management.

We found the deer management issues were only partially resolved, or were unresolved, with participants resigned to the problem. HIAs were being carried out in-house on the three 'non-traditional' estates and by contract surveyors on the two 'traditional stalking' estates. Participants from the 'traditional stalking' estates felt positive about the use of deer fencing, while those from the 'non-traditional' estates held a variety of different views on fencing, from pragmatic support to being 'anti-fence'. Participants from 'traditional stalking' estates felt the key challenge facing them was government interference, while those from 'non-traditional' estates were concerned by getting trees to regenerate, maintaining fences, and maintaining high levels of deer culling.

The sample size of this study is very small so only limited inferences can be drawn.

Introduction

Deer range freely over estate boundaries, so where estates have differing deer management objectives, issues can occur. The issues are commonly a result of damage done to young trees or other biodiversity, and impacts of deer culling rates on deer numbers. In this study, case-studies comprising desk-based information gathering and a structured interview with the deer- or land-manager were conducted on two pairs of estates in the West Highlands. One other case study was done on an unpaired West Highland estate. The case studies characterised the estates, the nature of the issues and actual or potential solutions to them. Issues between estates hamper land management efforts, so finding effective solutions is important to allow estates to meet their biodiversity conservation and Carbon sequestration targets and to run their businesses effectively, which has benefits including rural employment and food security.

Methods

Estates were sought through word of mouth, ideally pairs of neighbouring estates for whom an issue in deer management had been resolved but including neighbouring estates where the issue was ongoing. Participants who were interested in taking part read the GDPR statement and signed consent forms; they were free to withdraw consent at any point in the process. A questionnaire was developed to collate information on the estates such as the ownership type, size, land management objectives and motivations for objectives, topography, habitats present, biodiversity designations, herbivores present, agricultural activity, deer densities[1], how cull targets are set, numbers of deer culled, numbers of stalkers employed/contracted in, who carried out Habitat Impact Assessments (HIAs), views on HIAs and views on fencing etc. Questions were focussed on the five-year period 2017-2021, though if information from periods before or after this was relevant it was also collected. Some of this information could be gleaned in a desk-based exercise from existing estate management plans and core objective statements. A second part of the questionnaire asked participants about their views on the issue, why it had occurred and what had happened (or could happen) for the issue to be resolved; this was carried out by telephone. The questionnaire template is available on request.

In this Policy Briefing, estates are characterised, the nature of the issue between neighbours is described, and the participants views on: fencing; the HIA process; and the key challenges to deer management in the future are reported.

[1] The deer density information provided is based on averages from approximately annual deer counts. These counts are snap-shots, and particularly for smaller estates do not necessarily provide robust information, since deer are very mobile and can easily move on and off estates.

Results

Background information and a description of the deer issue is presented for Case Study Pairs 1 and 2 and sole Estate 3. Within each pair, Estate 'a' is a 'Non-Traditional' Estate, and Estate 'b' is a 'Traditional Stalking' Estate.

Pair 1 (1a and 1b) Background

Estate 1a is a relatively small, mountainous estate with acid grassland, peatland, heather moorland and small pockets of native woodland. There are numerous designations and the estate is managed for biodiversity conservation and public access. Cull targets are set on the basis of habitat condition, informed by the results of the HIAs. The deer density in the period 2017-2021 was 8 per km^2 with about 100 deer culled per year by a single stalker with very occasional help from a contract deer stalker. Although the estate has a management aim of increasing woodland through natural regeneration, browsing impacts in unfenced woodlands are considerable. HIAs are carried out by the stalker. The estate would prefer not to need to use fencing to allow natural regeneration to take place but is currently resigned to the necessity of this.

Adjacent Estate 1b is a moderately large estate with mountainous, hilly and rolling topography. The vegetation is heather moorland, peatbog and acid grassland, and there are several designations. The estate is managed to maintain a healthy and sustainable deer herd and grouse population for sporting interest, to maintain conservation objectives of designated habitats and to maintain rural employment. Deer density was also 8 per km^2, with 145 deer culled per year by the estate owner, paying clients and the four full time stalkers. Cull targets are set in relation to the number of deer, with the estate maintaining a stable population of hinds, and culls are done selectively to leave the healthiest and strongest animals. HIAs are carried out by a contract surveyor. So far, Estate 1b has not had to adjust cull targets on the results of the HIA.

Pair 1 Issue

Estate 1a contains low-lying open ground where deer, especially stags, from Estates 1a and 1b have traditionally sheltered during winter storms.

The issue arose when, approximately 20 years ago, Estate 1a implemented a Forestry Commission Scotland grant funded, unfenced natural woodland regeneration scheme on the low ground and started to cull deer when they arrived there, without consulting with

neighbouring estates. This impacted the neighbouring estate's interest and business by reducing the numbers of stags available to be shot by the owners and clients.

Fencing was impractical in this instance due to amenity considerations and public access. At the time of the interview Estate 1a would like to deer fence a limited area to allow regeneration, but Nature Scot are currently not permitting this as it would increase impacts on unfenced areas of designated habitat.

The issue was resolved from participant 1b's perspective after face-to-face meetings where the head stalker from Estate 1b asked the Estate 1a staff to "stop shooting our stags", and the Estate 1a staff agreed to this. Estate 1a staff were resigned to the woodland regeneration scheme being un-workable in practice and stopped receiving the FCS grant. Estate 1a still has ambitions to allow tree regeneration on some of the low-lying ground in the future.

Participant 1b pointed out that Estate 1b is owned by a very wealthy family that spends money supporting the estate and the stalking business. If deer numbers are temporarily reduced, the estate would not immediately have to reduce the numbers of employees. On a small estate where the owner needs to make income from the estate, stalkers would be made redundant if income from paying guests dropped due to a reduction in deer numbers because of a neighbouring estate's land management policy.

Pair 2 (2a and 2b) Background

Estate 2a is a relatively small estate leased from the government by an agricultural tenant. The topography is hilly and mountainous and acid grasslands are the dominant habitat, with one biodiversity designation. The land use aims are researching and demonstrating novel and sustainable agriculture (primarily sheep meat) in West Highlands. Deer densities from annual deer counts across the estate were 2 per km^2 (with 45 sheep per km^2), with about 46 red deer, largely stags, culled annually. The estate planted a woodland in a high-altitude valley almost 25 years ago with an aim of creating a silvo-pastoral system protected with minimal fencing. As a result of slow tree establishment, the aim for this block of land is now biodiversity conservation, through establishment of a mountain woodland and associated vegetation. There are no shooting clients, a contract stalker is hired to cull deer to prevent damage to the woodlands across the estate. There is no culling on the open hill. The stalker visits the mountain woodland about four times a month and shoots any deer that are inside the fence. On occasions when it is not possible to shoot the deer inside the woodland, the stalker will attempt to chase them out of the woodland. Deer control is costly for Estate 2a; as well as paying the stalker (who takes the venison as part payment), the subscription fees to the DMG are costly as most of the deer shot are stags. HIAs are carried out by Participant

2a. Browsing impacts in parts of the mountain woodland remain moderately high despite the deer culling that is taking place.

Estate 2b is a relatively small, privately owned estate with mountainous and hilly topography. The vegetation is predominantly acid grassland and calcareous grasslands, with small areas of peatbog and heather moorland. Significant areas of the estate were enclosed with deer fences after 2011 and large-scale plantings of native woodland carried out. There are several biodiversity designations. The estate is now managed for biodiversity conservation and Carbon sequestration. Formerly there were farming and deer stalking objectives. During the study period, there was an average deer density of 4 deer per km^2. Sheep numbers were reduced from nearly 80 per km^2 to 30 per km^2 and a large herd of cattle have been removed. Cull levels are set on the basis of a deer model, used by the DMG, and adjusted to local conditions if necessary. An average of 31 deer per year were culled by two stalkers and a small number of shooting clients paying to stalk. The stalkers are employed full-time but stalking is a relatively small part of their job. HIAs are carried out by a contract surveyor. Participant 2b felt positive about the use of deer fencing and its essential role in allowing multiple land use objectives. While Estate 2b is categorised here as a 'Traditional Stalking' Estate, it now has 'Non-Traditional' primary objectives (biodiversity conservation and Carbon sequestration), and is maintaining some deer stalking interest by the use of deer fencing.

Pair 2 Issue

For Estate 2a having the mountain woodland protected by minimal fencing (stock-fence with a single strand electric stand-off fence) was initially a tenable situation. This fence displaced sheep (which were off-wintered then removed entirely) but not deer, as deer had not previously used this ground due to the high numbers of sheep present. After Estate 2b planted significant areas of their estate with new woodlands enclosed by deer fences (displacing summer and winter deer populations), and sheep were removed from the ground around the mountain woodland, deer incursions to the mountain woodland became problematic and Estate 2a started having to cull relatively large numbers of deer within the woodland to protect the trees.

Although stalking with clients was a very small part of Estate 2b's business during the study period, Participant 2b was concerned about deer, especially stags, being culled in an unsecured area because of the impact on the capital value of Estate 2b (recent estimates of the capital value of the ability to shoot a stag range from £12k to £40k[2]). The wider DMG were also concerned about the impact of reduced stag numbers on the neighbouring estates' interest and business. Although visits to Estate 2a by the DMG members have taken

[2] Deer Working Group Report, 2019: https://www.gov.scot/publications/management-wild-deer-scotland/

place and the neighbouring estates now understand the rationale for the level of deer culling being carried out, the DMG remains concerned over the situation. Participant 2b is resigned to the culling within the woodland at Estate 2a and acknowledges that the overall impact is small compared with a new deer fence that is restricting deer movements from the West and heavy culling occurring on another adjacent estate. The newly installed fence is in an adjacent DMG and there was no consultation with Pair 2's DMG prior to the fence being put up.

Overall, communication between Estates 2a and 2b and neighbours within the DMG have largely been open and helpful.

Participant 2a felt that the key challenge in relation to deer management in the future is that the mountain woodland fence will need repaired or replaced soon. It will be hard to maintain the existing fence, or to increase deer control with a weak fence in future. The alternative to maintaining or replacing the fence would be to shoot the entire deer population out, which would cause a lot of conflict with neighbours.

Estate 3a Background

Estate 3a is a large, privately owned estate with rolling, hilly and mountainous topography. The vegetation is dominated by peatbog, heather moorland and acid grasslands, with some non-native woodland and relatively small areas of native woodland. It is managed primarily with the aim of bringing priority habitats (including native woodland) and species into favourable condition; secondary aims include Carbon sequestration, promoting dialogue, providing employment and ensuring financial security. There is a biodiversity designation on the estate. A herd of cows graze certain areas of hill in summer. During the study period all red deer on Estate 3a were culled when found. The deer density over the study period was reduced from 12 per km^2 to 1 per km^2. Culls in the study period averaged 1100, carried out by the four stalkers employed on the estate. At the start of the study period, some sport shooting took place but this has reduced to almost nothing during the study period, due to the very low deer densities achieved. Although some woodland regeneration areas are fenced, the estate policy is to avoid the use of fencing. Browsing impacts on young trees are low to moderate.

Issues Between Estate 3a and Neighbours (no neighbour interviewed)

Issues between Estate 3a and the neighbouring estates began in the early 2000s when the Estate 3a's owner decided to move Estate 3a towards biodiversity rather than traditional stalking objectives. The deer population then was fairly high and browsing on any tree seedlings present was preventing tree regeneration. Reductions in deer densities on Estate 3a meant that the neighbouring estates, which are all traditional stalking estates, experienced some reduction in the number of stags available for sport shooting. The

situation worsened after a high deer count at Estate 3a, which lead to an increased number of deer being culled.

Most of the neighbouring estates are large and can continue their sport stalking activities despite the somewhat lower deer population, but one small adjacent estate that was reliant on stalking clients for income has had to diversify in order to keep the stalker employed.

Approaches by the owner of Estate 3a to other estates, to try to convince them of the necessity of reducing the deer population to protect the environment, may have been interpreted as 'patronising'. Estate 3a's owner is sanguine about the impact of deer reductions on other estates' interests.

Outcomes of Deer Management Issues

None of the case study pairs had achieved an outcome that was satisfactory to both parties (Table 1). In all cases the individuals remained on good terms with one another.

Table 1. Summary of outcomes of deer management issues.

Pair	Estate a – Not a Traditional Stalking Estate	Estate b – Traditional Stalking Estate
1	Outcome unsatisfactory, unable to achieve tree regeneration ambitions	Outcome satisfactory
2	Outcome unsatisfactory, expensive deer control and on-going browsing on trees	Outcome unsatisfactory, loss of assumed capital value of estate due to reduced stag numbers
3	Outcome reasonably satisfactory, conditions now favourable for tree regeneration without fences but massive effort involved to achieve and maintain this	[Not interviewed – but described by Estate 3a as an unsatisfactory outcome - significant impact on the neighbour's stalking business requiring diversification in order to keep stalker employed]

Participant Views on HIA, DMGs, Fencing and Key Challenges faced

Table 2. Views of participants from 'Non-Traditional' Estates and 'Traditional Stalking' Estates on Habitat Impact Assessments, DMGs, fencing and the key challenge faced by deer managers.

	'Non-Traditional' Estates Three participants	'Traditional Stalking' Estates Two particpants
HIA process	HIAs carried out in-house on all three estates. Range of views on the HIA process, from 'too basic' through 'useful but traditional estates need to actually do them' to 'HIAs are the key to resolving issues'.	HIAs carried out by contracted surveyors on both estates. Qualified acceptance of HIA process; 'OK as long as sampling takes into account deer movements' and 'HIAs need to take into account impacts by other herbivores'
DMG	Two participants felt positive about the DMG process, one felt that they are not representative enough and that subscription model is unfair	Both participants positive about the DMG process
Fencing	Range of views about fencing from pragmatic acceptance to being 'anti-fence'	Both participants positive about the use of deer fencing to allow creation of woodlands
Key Challenge	Range of challenges described – achieving low deer densities, fence maintenance and tree establishment	Government interference in deer management

Participants had a range of views on the HIA process (Table 2). Participant 1a said "We are generally viewed with suspicion [in the DMG], see the 'tweed-wearers' looking at us. 'Tweed-wearers' versus 'fleece-wearers', you know? Even that has kind of died out as the Habitat Impact Assessments are…. they are starting to see what we are actually talking about". Participant 1b had no objection to the HIA process as long as sampling takes into account historical and present deer movements: "If across the estate one out of five HIA sample areas has high impacts, you need to look more closely at that area – is it in the base of a glen where deer have been sheltering? And take this into account when deciding if deer numbers are ok." Participant 1b has not (yet) had to adjust the cull target on the basis of the HIA results. Participant 2a said "The local group do not take sheep numbers into account when analysing the HIA info, so it's less helpful than it might otherwise be. The HIA process

is mixed within this DMG. There was a good training event some time ago, with general buy-in for doing the work in-house. However recently most estates have not been doing the HIA they said they would. In-house surveying by trained employees would be ideal, but estates need to actually DO it". Participant 2b had attempted to do some HIAs within areas formerly grazed by sheep and deer and now enclosed by a deer fence, but had been unable to do them because the vegetation was so tall "the growth rates inside the plantings were too big for my ruler". Participant 2b felt that the methods were OK for grazed areas, but felt that "the way it had been imposed, they were trying to drive it to get certain answers" [i.e. the impact by deer is too great]. "We need to look holistically [at the impact of all herbivores, including sheep] but when anyone pointed that out it was viewed as dissent". In spite of this, Participant 2b reports that a Section 7 agreement[3] that was in place in the DMG until a few years ago was very successful, estates had been able to achieve the impact they had been asked for, although this had resulted in Estate 2b and other local estates having to lay off stalkers. HIAs are carried out by Participant 3a, who questioned their value as they are "so basic". They also suggested that technology could be used to improve HIAs, with a smartphone app developed to allow the person doing the HIA to photograph the area being surveyed, fix a GPS location and facilitate data collection and entry. Participant 3a felt there was a lot of potential for observer variation in the current HIA.

DMGs

Both Pair 1 participants find the Deer Management Group (DMG) process to be helpful. Participant 1a considers the DMG to be moving "in the right direction" i.e. placing increasing importance on the role of HIA in determining cull targets. Participant 1b felt that it is better to avoid issues by having input from Nature Scot on the viability of woodland schemes before estates entered into them, and to look at woodland proposals with a sober mind, considering information on deer movements and historical grazing pressures, and the ability of trees to grow in environment in question. In relation to the deer cull targets set by the local DMG, Participant 2a said "We know how many hinds and stags they want us to cull. However, we normally exceed our stag cull by 300%, and are always having to justify why. We are always allocated more hinds to cull than we actually cull. We would only shoot hinds if they were inside the woodland, and they tend not to go in the woodland. The Nature Scot model that is used to set the cull targets does not work particularly well. The DMG is more interested in regions within the DMG, rather than individual estates." Participant 2a felt that a clear statement of what Nature Scot would like from the group, in terms of land management, would be helpful, and noted the strange situation that Nature Scot have the

[3] Section 7 'Control Schemes' provide Nature Scot the power to require land owners to carry out deer management to prevent damage to agriculture, forestry, public safety, the natural heritage and public interests of a social, economic or environmental nature. Deer Working Group Report 2019: https://www.gov.scot/publications/management-wild-deer-scotland/

power to make estates control deer, but none to make them change sheep management. Participant 2b is positive about the DMG: “We have quite a robust DMG group. There’s plenty to-and-fro, quite a lot of disagreement, quite a lot of agreement. But we usually manage to thrash everything through and come to compromises”. Participant 2b felt that involving third parties like Nature Scot in trying to help resolve issues would “just put people’s backs up”.

Fencing

Participant 1a said of fencing: “Ideally we would not need it, but we use it in various places to protect regenerating and planted woodlands from browsing by deer”. Participant 1b was happy to see fencing used to protect trees from deer as long as it was done appropriately. Participant 2a felt deer fencing was necessary if there was a requirement to keep deer out of a low-medium altitude area. The altitude of the mountain woodland on Estate 2a is too high to allow the use of deer fencing; snow would allow deer to walk over the fence and the snow would knock the fence down. Participant 2a feels offset electric fences are a deterrent with some value, but do not stop deer from entering the enclosure and are not an equivalent replacement for a deer fence. The electric single strand also requires a lot of maintenance to keep it working. However, deer fence height electric fences, with a reliable power source, work well. Participant 2a said “If we were starting again we would put our woodland further down the hill and deer fence it.” Although some woodland areas at Estate 3a are fenced, Participant 3a felt that fencing the boundary of Estate 3a was completely impractical. They acknowledged that fencing can get around some issues but that they can be problematic visually, a hazard for birds and lead to the development of a woodland that looks un-natural.

Key Challenge

Participant 1a felt that the key challenges relating to deer management in the future were winter deer incursions and the impact of this on tree regeneration and added that there can be challenges working with private estates who have their own agendas. A change of ownership of another neighbouring estate has improved the situation, as the new owners of this third estate are looking to reduce deer numbers. Participant 1a felt that where a new generation takes on management of a privately owned estate, traditional stalking enterprises are likely to be continued. Participant 1a felt that the continued involvement of Nature Scot in the DMG, pushing HIAs and the publication of HIA findings would help with resolving the issues.

Participant 1b felt that the key challenge relating to deer management in the future was “vote seeking politicians. It’s scary to be honest… I’ve loved my career, absolutely loved it.

But I wonder… if there is a future as we know it. I am open to a concept of change and if it's realistic I am willing to embrace it. But it concerns me how some politicians are suggesting things just to get votes – this is the Highland Clearances about to start all over again and it's concerning… Where will we be in 100 years' time? Is the old knowledge, if we decide this was the wrong way to go, is the old knowledge going to be lost? That's my concern". Participant 2a feels that the DMG is not representative, and that meetings are only attended by a small number of powerful landowners. Estates with a greater emphasis on farming do not join the DMG due to the high cost of joining [and the extra admin required – MP]. The DMG membership fee varies depending on the number of stags and hinds shot: "The rate for stags is much higher than rate for hinds, so since we are culling many stags, we pay much more than the neighbouring estates, which mostly cull hinds."

Participant 2b feels that the key challenge in relation to deer management in the future is "interference by the government in things they don't know and don't understand". This participant is concerned about assumptions being made about the number of deer on an individual estate, based on one-off counts.

Participant 3a felt that the key challenge to deer management in the future would be the task of continuing to cull deer and maintain their numbers at a very low level, and the practicalities of doing this.

Conclusion

Only limited conclusions can be drawn due to the very small sample size.

Incursions by deer, often stags, onto ground where the owner wishes to grow or establish trees can be costly and problematic. Conversely, high rates of culling by properties that wish to grow or establish trees, or conserve habitats like peatbog, can significantly impact the business interests of neighbouring estates, potentially impacting rural employment. Where adjacent neighbours have opposing deer management objectives, particularly in cases where one estate is committed to tree regeneration without fencing and the other is a conventional stalking estate, solutions are not easily found. In this study, one or both estates in a pair were more likely to be resigned to the problem than to have found a solution that was satisfactory to both parties. Where individuals are able to meet to freely discuss issues and listen to each other's perspective, there is greater likelihood of an outcome that is satisfactory for both parties. This can sometimes be facilitated by the DMG. On-hill meetings can be helpful.

In some cases, DMGs promote open communication and resolution of issues, in others they are dominated by conventional stalking interests. The DMG process has value but the subscription model for members (payment per stag culled much greater payment than per hind culled) is likely to discourage estates that are not stalking estates from becoming members. More equitable methods for funding DMGs should be considered.

Where fencing is practical and accepted by estates wishing to allow tree establishment, it can allow stalking businesses to continue. However, as well as having conservation impacts, deer fences are expensive and require large amounts of maintenance. It is important that before fences are erected, the impacts on deer displaced by the fence are considered and compensatory culls carried out if necessary, and that deer movement corridors are not blocked.

When changes to land management are proposed, communication and negotiation between neighbours, facilitated by DMGs and Nature Scot, should occur during the planning stage, rather than after schemes are implemented.

Where deer managers themselves are trained in carrying out vegetation surveys and actively involved in regular monitoring of vegetation, there is a likely to be a greater chance of open communication and resolution of issues.

Development of a smartphone app, perhaps allowing a GPS tagged photograph to be uploaded, to improve and facilitate HIAs would help estates to demonstrate that HIAs are being carried out rigorously.

Nature Scot have a pivotal role to play. Collaborative upland land management, rather than just deer management, is required – all herbivores, wild and domestic, need to be taken into account when managing land.

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