

# Deer Management

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Deer, especially native species, play an important ecological role, regulating vegetation, controlling ferocious plant species and, at the right densities, helping to create a mosaic of habitats. Some species also distribute plant seeds in their droppings. Their dung and carcasses provide food for a range of detritivores and carrion eaters. Wild venison is a healthy and sustainable source of food for humans.

Until the early 20th century, deer numbers across the UK were far lower due to habitat destruction and overhunting. Woodland expansion, a reduction in hunting, warmer winters and other changes in human behaviour such as sporting estate management have all contributed to a rise in the number of deer in Scotland. Scotland is now estimated to have over 1 million deer. This is approaching the number of deer that would have roamed Scotland 10,000 years ago - but with a fraction of the woodland cover, a lack of natural predators and fragmented habitats.

The Scottish Government is addressing this through the introduction of a range of measures intended to help tackle high deer numbers in Scotland. While these measures are currently necessary, the long-term goal should be to ensure nature can take care of itself. By working with nature, we can ensure that deer populations reach a level the land can naturally support - while still producing benefits for people in terms of sustainable jobs, healthy meat production and ecosystem services.

## Impact of high deer densities

High deer densities suppress the natural regeneration of trees from seeds and regrowth from coppice. As mature trees die, they are not replaced. Browsing animals in high numbers convert woodland ecosystems into isolated trees and grassland with no long-term future for the trees, as they are unable to reproduce. High deer densities can also radically change the structure and species profile of woodlands, stripping out the understory and leaving less palatable species.



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Deer can also have severe impacts on other flora and fauna, particularly in woodlands. High deer densities appear to reduce the presence of small rodents in woodlands, which is likely to have further impacts on the food chain, affecting predators such as mustelids, foxes and birds of prey. High deer densities also appear to have significant impacts on woodland birds that favour a dense understory or complex woodland structures, as well as vertebrate species.

Browsing damage can reduce the value of timber crops through damage. In some cases, bark stripping by deer can kill even large mature trees. High deer densities significantly reduce the capacity of woodlands to sequester carbon and retain water. Water quality is also negatively impacted by the presence of high deer numbers.

As ruminants, deer are also a source of methane. Trampling and compaction can cause soil damage. Deer are often involved in motor vehicle collisions, leading to injury and fatalities. The high numbers of deer present in Scotland is potentially linked to the increasing incidence of Lyme disease.

## Managing high deer densities

### Exclusion

Physical barriers, electric fencing and repellants can exclude deer from an area. No known repellent has a lasting effect. Electric fencing requires constant strimming and maintenance. Physical barriers such as fencing work to an extent, but are expensive and can only be used for relatively small areas. Fencing off one area raises the density of deer elsewhere, concentrating the damage they cause. Fencing can also restrict public access and impact on low-flying birds.

### Fertility control

Firing contraceptive darts into deer requires physical proximity to the animal. Difficult in any circumstances, and almost impossible in those areas where control is needed most - where the understorey or entire woodlands have already vanished. Suppressing fertility across a population is difficult.

## Culling

For decades, government commissions have recognised the impact of high deer densities and tried to implement solutions, including encouraging culls. In parts of Scotland, deer are managed on a voluntary basis through collaborative deer management groups. Intensive culling on one landholding can impact on neighbouring estates, which can cause issues when some estates are managed for sport and some for other purposes. When, how and which deer are culled can have significant animal welfare implications. The wellbeing of those engaged in culling is also a concern.

## Wild venison

Wild venison is lean, healthy and generally carbon negative, particularly when food miles are kept low. New national supply chains for venison could significantly increase the quantity of this meat entering the food chain. In turn, this would create jobs and contribute to rural economies. Scotland already leads on venison production within the UK.

## Rewilding

Rewilding is an approach to land management that seeks to work with natural processes to restore ecosystems and reconnect society with the natural world. We believe rewilding has a crucial role to play in our efforts to reduce flood risk and adapt to the impacts of the climate emergency. Rewilding projects are long lasting, involve communities in decision-making and improve the area for wildlife as well as people.

Rewilding asks us to think long term and recognise that we are one species amongst many. The current approach to deer management in Scotland is necessary because of human actions and land use choices. Shifting towards a rewilding approach could provide significant benefits for Scotland while ensuring that existing jobs are retained - and more created.

Ecosystems are incomplete and dysfunctional in the absence of top predators like lynx. Lynx would provide an effective and consistent agent of deer control in tandem with actions carried out by humans. Unlike humans, other animals would have unexpected positive effects on ecosystems as they restarted long-lost dynamic processes. There would also be other potential positive socioeconomic benefits.

**We should consider how to manage our deer populations, produce healthy food and provide sustainable jobs through working with nature - not against it.**

# Case studies

**Estate A** reduced deer densities from 15.8 per square kilometre to 6.8 per square kilometre. The estate has recorded an increase in average heather height and found more blanket bog heather and dwarf shrub heather unbrowsed. Tree seedling height of all species was found to have increased. The use of deer fences has been minimal. The landscape is greening and blossoming - and deer carcasses are heavier.

**Estate B** had an intensive programme of deer culling across the estate. The aim was to enable trees to grow again by reducing deer populations to a level the land could naturally support. Over 800 hectares of naturally regenerating woodland is now established. Montane woodland species such as juniper, dwarf birch and willows are beginning to flourish. Rare species have returned to the estate, and wildlife abundance overall has increased.

**Estate B** has significantly lowered deer numbers, particularly in certain areas. Ancient trees are now surrounded by new seedlings. The estate now supports around 60 mostly local employees.



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# References

[https://www.researchgate.net/profile/Paul-Dolman/publication/286292050\\_Escalating\\_ecological\\_impacts\\_Of\\_deer\\_in\\_lowland\\_woodland/links/5b914760299bf147391d6b48/Escalating-ecological-impacts-Of-deer-in-lowland-woodland.pdf](https://www.researchgate.net/profile/Paul-Dolman/publication/286292050_Escalating_ecological_impacts_Of_deer_in_lowland_woodland/links/5b914760299bf147391d6b48/Escalating-ecological-impacts-Of-deer-in-lowland-woodland.pdf)

<https://link.springer.com/article/10.1007/s00442-007-0812-1>

<https://www.sciencedirect.com/science/article/abs/pii/S037811270400547X>

<https://agris.fao.org/agris-search/search.do?recordID=GB9409244>

[https://eprints.whiterose.ac.uk/177071/1/Fletcher\\_2021\\_Environ.\\_Res.\\_Commun.\\_3\\_041003.pdf](https://eprints.whiterose.ac.uk/177071/1/Fletcher_2021_Environ._Res._Commun._3_041003.pdf)

<https://www.forestryresearch.gov.uk/publications/quantifying-the-sustainable-forestry-carbon-cycle-report-download-page/>

[https://consult.defra.gov.uk/team-trees/consultation-on-proposals-for-the-deer-management/supporting\\_documents/Deer%20management%20strategy%20consultation%20.pdf](https://consult.defra.gov.uk/team-trees/consultation-on-proposals-for-the-deer-management/supporting_documents/Deer%20management%20strategy%20consultation%20.pdf)

<https://www.johnmuirtrust.org/resources/943-deer-management-faq-july-2021>

<https://www.ecos.org.uk/ecos-32-1-spring-2011-deer-management-and-biodiversity-in-england-the-efficacy-and-ethics-of-culling-simon-leadbeater/>

<https://www.tandfonline.com/doi/abs/10.1080/00288230809510460>

<http://www.deercollisions.co.uk/ftp/LangbeinUrbanDeerVC1.pdf>

<https://ukhsa.blog.gov.uk/2022/04/13/what-is-lyme-disease-and-why-do-we-need-to-be-tick-aware/> <https://bds.org.uk/information-advice/out-about/lyme-disease-ticks/>

<https://www.nature.scot/doc/naturescot-research-report-1333-deer-management-skills-and-capacity-initial-scoping-report>