



Future Nature

Herbivore Position Statement 2025

Executive Summary

- The 2025 Herbivore Position Statement sets out the Loch Lomond & The Trossachs National Park Authority's policy on herbivore management in the National Park and lays down the approach for our Herbivore Delivery Plan.
- The National Park has been designated as a [Deer Management Priority Area](#) by NatureScot. Priority areas have been selected where landscape scale opportunities exist for reducing deer impacts.
- There are several large mammalian herbivore species resident in the National Park, including deer, sheep, cattle, and goats. These can be classified as wild, domesticated, and feral.
- These herbivores play a key role in the rural economy and ecosystems and are an important part of the National Park's cultural and natural heritage.
- At the same time, unsustainable herbivore levels in upland, woodland and wetland areas damage sensitive habitats through grazing, browsing, and trampling.
- Herbivore impacts are highly specific to each site, management aim, and habitat. It is the collective impact of all herbivore species that is the ultimate factor affecting both natural regeneration and sustainable land management.
- Achieving sustainable herbivore impacts is vital to meet our climate and biodiversity goals, alongside supporting sustainable food production and a vibrant rural economy.
- A collaborative, evidence-based partnership approach will be required to achieve the overall aim of the right herbivores, in the right places to meet our combined land management aims.

Introduction

This Herbivore Position Statement sets out the Loch Lomond & The Trossachs National Park Authority's policy on herbivore management in the National Park.

Wild and domesticated herbivores play a key role in the rural economy and ecosystems, and are an important part of the National Park's cultural and natural heritage. Achieving sustainable herbivore impacts is vital to meet our climate and biodiversity goals, alongside supporting sustainable food production and a vibrant rural economy.

Purpose

The Herbivore Position Statement is an internally approved document for communicating Loch Lomond & The Trossachs National Park Authority's policy for supporting sustainable herbivore management in the National Park. It has been produced in response to 1) the status of some designated sites in the National Park, which are being adversely affected by grazing impacts of herbivores, and 2) the recommendations of the [Deer Working Group report](#) and the subsequent [response by Scottish Government](#) indicating the need for higher levels of deer management to reduce negative impacts on sensitive habitats. This Statement supersedes information in [A Deer Management Strategy for the Loch Lomond and The Trossachs National Park \(2005\)](#).

The Herbivore Position Statement will set the approach for a rolling five-year Herbivore Delivery Plan. Written in collaboration with delivery partners and external stakeholders, the Delivery Plan will detail how sustainable herbivore management will be delivered in the National Park. The Delivery Plan will also fulfil the function of the Priority Area Action Plan, originally proposed by the Operational Delivery Workstream (ODW) of the [Strategic Deer Management Board](#).

Aims

The National Park Authority's position is to reduce detrimental herbivore pressure in the National Park where current levels are unsustainable. The aims are to allow widespread natural recovery and expansion of native woodland habitats, and the protection of fragile peat soils, wetlands, as well as agricultural land and productive forests.

The Herbivore Position Statement will help facilitate this aim by:

- Providing background information and guidance on the National Park Authority's herbivore policy to our staff, to support decision making in aligned work areas, such as trees and woodland, peatland, and wetland restoration, and the awarding of grant funding.
- Informing delivery partners and external stakeholders about the National Park Authority's position on herbivores in the National Park.
- Align and support the implementation of strategic outcomes and national policy, including the documents listed below.

Wider Strategy & Policy Context

This document supports:

- [Deer Working Group report \(2020\)](#), and the subsequent [Scottish Government's response \(2021\)](#)
- [Scottish Biodiversity Strategy \(2022\)](#)
- [National Park Partnership Plan 2024-2029](#) (NPPP)
- [Future Nature Route Map](#)
- [Trees and Woodland Strategy 2019 - 2039](#)
- Peatland Strategy

Herbivores in the National Park

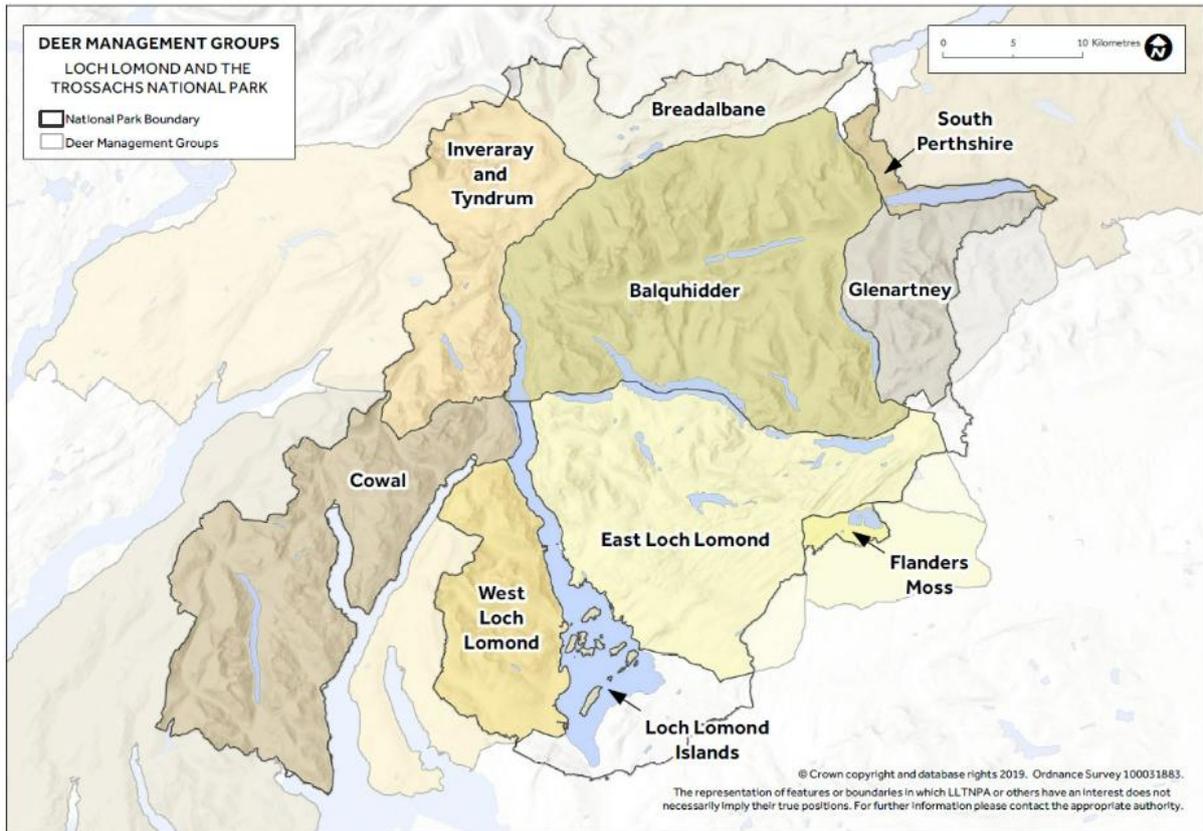
There are several large mammalian herbivore species resident in the National Park, including deer, sheep, cattle, and goats. These can be classified as wild, domesticated, and feral. Their impact is specific to each site and habitat. It is the collective impact of all herbivore species that is the ultimate factor affecting both natural regeneration and sustainable land management.

Wild Herbivores

Wild deer are important ecologically, culturally and economically, to Scotland and the National Park. There are four species of deer in the National Park: red, roe, fallow and sika. Red and roe are the only native species. Fallow deer are naturalised following introductions by the Normans in the 10th century, although it is possible that they were introduced by the Romans. Sika were introduced to Brownsea Island off the Dorset coast in 1860, as well as into parks and collections across the UK, from where many escaped.

Red deer	Most abundant deer species in the National Park. They mainly inhabit upland areas but can also be found in woodlands and on agricultural land in the lowlands.
Roe deer	Population is widespread but generally confined to the lowlands and urban areas. Numbers are thought to be increasing, but they are rarely counted.
Fallow deer	Currently only present in two places in the National Park: the Loch Lomond islands and the associated mainland shore around the Endrick Mouth, and the Lochearnhead area.
Sika deer	Present in the west and north of the National Park but thought to be in relatively low numbers, and mostly in woodland. Sika are secretive making it difficult to determine their population density. They hybridise with red deer, which is a major threat to the integrity of red deer.

As wild deer are not owned by any one person and range freely across multiple landholdings there is a collective approach and responsibility for population management. Deer populations in the National Park are monitored and managed by NatureScot and local Deer Management Groups (DMGs), with objectives seeking a mosaic of deer densities allowing for different deer management objectives. There are some small areas in the National Park that are not covered by any formalised Deer Management Group.



Knowing how many deer use an area is important when deciding how best to manage a population. However, because deer are highly mobile, living on open hill ground and/or in woodland, gathering this information can be challenging. Across the uplands, deer are typically counted from the air using helicopters and from the ground by people on foot. Research has shown that estimates normally have an error margin between 5 and 16%. Thermal drone technology can provide a more accurate method of counting, but it is still a relatively new practise.

Red deer numbers in Scotland increased considerably in the latter half of the 20th century, but appear to have stabilised in certain areas over the last two decades due to increased culling levels. Roe deer populations are thought to be still increasing. This national trend likely reflects what is happening in the National Park. The majority of deer population estimates in the National Park are for red deer on the open hill and fallow on Loch Lomond Islands. Deer living in woodlands, such as sika and roe, are very difficult to count.

It is not just the number and density of deer in an area that matters though; the nature and scale of impacts that deer have on upland and woodland habitats, agricultural interests, and public safety is of greater significance.

There are other smaller wild herbivore species, such as brown hares, rabbits, voles, and beavers, that will also impact habitats. However, this statement is focused on the main larger herbivores, which have the greatest impact on habitats, and particularly on uplands and woodlands.

Domesticated Herbivores

Agriculture is the primary land use covering around 65% of the National Park, with livestock being the predominant form of farming. The remainder is split between forestry and woodland (27%), waterbodies (7%), and other (2%)¹.

The majority of landholdings within the National Park have sheep and/or beef cattle (there are a small number of dairy herds). There are also pigs, poultry, farmed red deer and horses but these only make up 2% of the overall livestock total².

Farming remains highly important to the rural areas and communities in the National Park. This is predominantly upland hill farms where sheep are kept on the open hill for much of the year. In some areas cattle are also given access to the open hill, although they tend to roam less widely than sheep. Approximately 95% of the total sheep population in the National Park are in the [Less Favoured Areas](#) (LFAs), which cover 75% of the National Park.

Domestic herbivores will have a combined impact with wild deer to create a high herbivore pressure in many areas. Farming in the National Park is changing and data currently available suggest the winter density of sheep in the National Park reduced from a mean of 30 sheep/km² in 2015 to 24 sheep/km² in 2020³. This is compared to an average of 48 sheep/km² across Scotland in 2020⁴. Livestock levels are estimated to have reduced by one-third in the first 20 years following designation of the National Park in 2002. In some areas this can result in key habitats becoming undergrazed, whilst in others the combined pressure of wild and domestic herbivores remains very high. Detailed, site-specific plans are therefore required to achieve the right balance for sustainable farming and nature restoration.

Feral Herbivores

There are relatively small populations of feral goats (approximately 400-500⁵) living in the area east of Loch Lomond, around the east side of Loch Lubnaig, in Glen Ogle and at the east end of Loch Earn. The species is of interest to the British Feral Goat Research Group due to historical interest but clearly adds to the impact on biodiversity and natural regeneration.

There is also a very small and isolated population of non-native Red-necked wallabies on Inchconnachan Island in Loch Lomond, which are believed to have been released there in the 1970s.

¹ [HLA dataset](#)

² SGRPID, 2019 June Agricultural Census

³ PARK AUTHORITY State of Nature Report (2023)

⁴ APHA

⁵ Goat Management Plan – East Loch Lomond Area (2020)

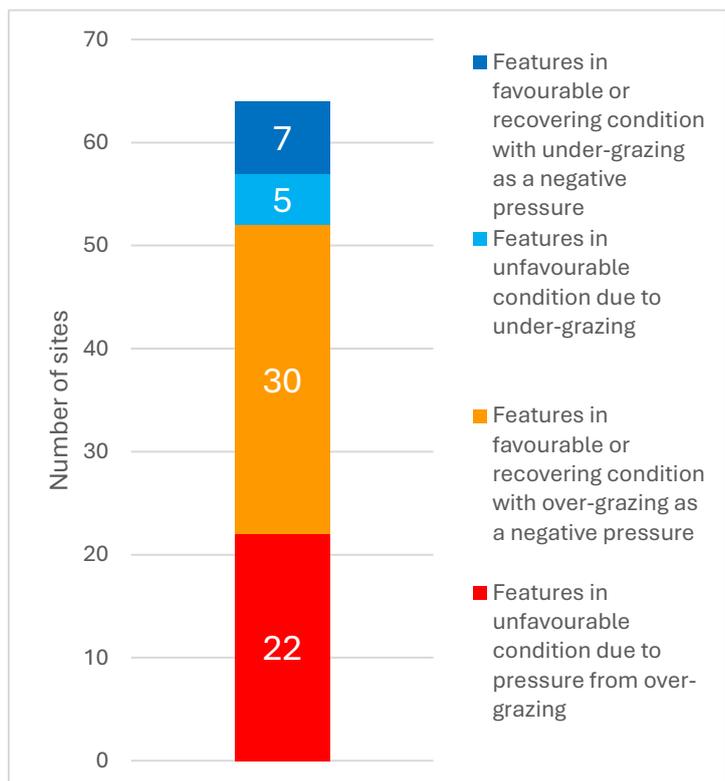
Why Manage Herbivores?

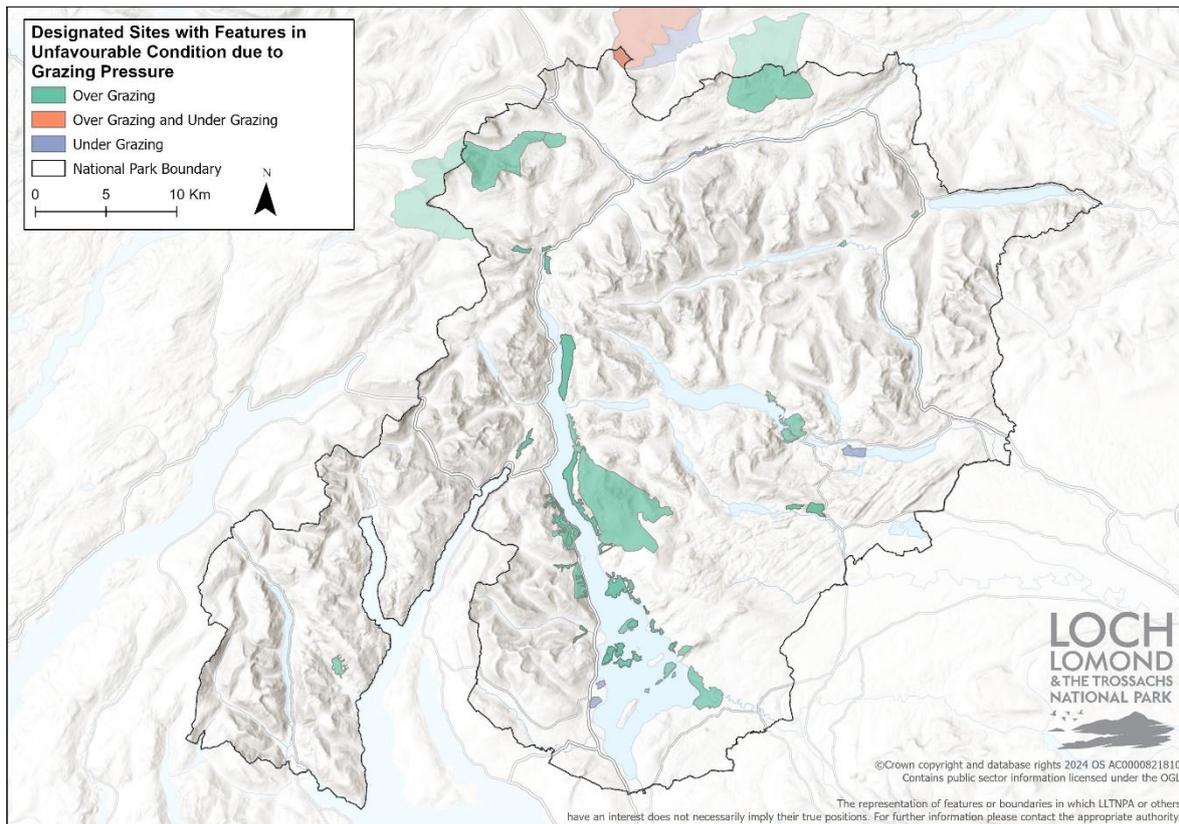
Wild and domesticated herbivores are central to the National Park’s rural economy, culture, landscapes, and natural heritage. Achieving sustainable herbivore impacts is also in the wider public interest, as it is vital to meet our climate and biodiversity goals. Unsustainable herbivore levels in upland, woodland and wetland areas damage sensitive habitats, through grazing, browsing, and trampling. Moreover, contemporary impacts often compound decades of over-browsing. Historic and ongoing pressures are preventing habitat recovery across some of the most nature depleted areas of Scotland. All habitats are adapted to a certain level of herbivory but finding the right level requires investigation and an evidence-based approach combined with local knowledge and insights. Herbivore population management is the primary method for achieving sustainable grazing impacts on sensitive habitats, but this can also be achieved to some different degree through fencing and other related measures. Further details on reasons to manage herbivores in the National Park are provided below.

Designated Sites

Many of the National Park’s habitats are of international conservation value and must be protected and enhanced. The condition and long-term persistence of many of these habitats are threatened by the impacts from herbivores. There are 65 designated sites in the National Park, including 57 Sites of Special Scientific Interest (SSSIs), 8 Special Areas of Conservation (SACs), and 2 Special Protected Areas (SPAs). A number of SSSI sites have overlapping SAC or SPA designations.

Of these 65 designated sites, 22 are in unfavourable condition due to pressure from overgrazing on their designated features. A further 30 sites are in favourable or recovering condition but still have overgrazing listed as a negative pressure on designated features. Five sites are in unfavourable status due to under-grazing of designated features, and seven sites are in favourable or recovering condition with under-grazing of designated features listed as a negative pressure.





Native Woodlands

The most widespread threat to native woodland condition is excessive herbivore impacts, largely from wild deer. The Native Woodland Survey of Scotland⁶ used Woodland Habitat Impact Assessments to evaluate the overall impact of herbivores on woodland. Herbivore impacts are rated on a scale of low to very high, with a low or medium impact required for sustainable woodland ecosystems and a low level necessary for natural regeneration of tree and shrub species. These data although dated provide an indication of areas in the National Park that have had high herbivore impacts or might be less likely to naturally regenerate.

Only 8% of the native and nearly-native woodland assessed in the National Park was in the low impact category, which is the ideal level for optimum long-term woodland condition⁷. This does not mean complete removal of herbivores by fencing or culling. Without some browsing, ground vegetation can become too dense, which can affect populations of some species, such as lichens or butterflies. Conversely where grazing and browsing levels are too high in woodlands there can be a loss of ground flora species, simplified woodland structure without shrubs or climbing species, and reduced tree and shrub regeneration. Overall, 30% of native and nearly-native woodland assessed in the National Park could be at these unsustainable levels of grazing (high and very high impact); similar to that in the rest of Scotland at 33%⁸.

⁶ NWSS, 2014

⁷ PARK AUTHORITY State of Nature Report (2023)

Uplands

The National Park's mountains and moorlands are largely managed for hill sheep and cattle grazing, with some sporting interest for deer. Habitats include blanket bog, upland heathland, upland wet flushes, montane heaths, and calcareous grassland, which all support a wide range of priority species. High levels of grazing in these habitats can cause changes in vegetation cover and structure, as well as reduced potential for tree and scrub cover. High herbivore pressure can also lead to trampling and erosion of fragile peat soils, which are important carbon stores. Very low levels of grazing can also have a detrimental impact on the health and diversity of some upland habitats, such as calcareous grassland. In upland areas, very low levels, or exclusion, of grazing may also lead to increased fuel loads and impact wildfire risk and severity.

Upland Habitat Impact Assessments quantifying herbivore impacts are undertaken by NatureScot in key sites in the National Park, and by some Deer Management Groups and individual land managers. These assessments provide baseline information to guide management decisions and can be undertaken periodically to check management effectiveness. NatureScot conducted Upland Habitat Impact Assessments for the National Park between 2006 and 2014. They found that snow-bed, tall-herb, and wind-clipped heath habitats are most susceptible to high herbivore grazing impacts, and wind-clipped heath was the most susceptible to high levels of trampling⁸.

Wetlands

Wetlands support a wide variety of biodiversity and help slow water flow and act as natural water storage zones helping to reduce the impacts of flooding downstream. There are many important wetland habitats in the National Park, including eight designated sites with wetland features.

Excessive impacts from herbivores (particularly livestock) in wetland habitats can cause poaching and waterlogged conditions, while under-grazing can result in tall and dense swards leading to impoverished plant communities. There are four designated sites with wetland features in unfavourable condition due to under-grazing, and two sites with wetland features in unfavourable condition due to overgrazing.

Livestock can also negatively impact water quality in areas where water courses are not fenced off with increased levels of poaching, bank erosion and soil loss.

Productive Forestry, Agriculture, and Public Safety

Forestry and livestock farming form a significant part of the National Park's landscape and are crucial to the rural economy. In addition to affecting native habitats, high deer pressure can also be a threat to commercial forestry and agriculture. Browsing and grazing can have significant impacts on tree regrowth and crops, and the ability to establish and regenerate woodlands. Livestock management can also have significant impacts on the landscape and access due to the need for fencing and associated infrastructure. In addition, deer vehicle collisions on rural roads represent an important risk to public safety.

Hunting-Sporting Interests

For some land managers, deer represent a hunting (often referred to as 'sporting') asset. One of the main aims of deer management in this case is to ensure that there are both enough adult males to meet sporting needs, and that these deer are healthy as clients want to hunt good quality animals. Income generated from sporting activities contributes to the economics of deer management and supports employment in the sector.

National Park Authority Position Statement

Objectives

The National Park Partnership Plan (NPPP) and Future Nature Route Map both set out clear ambitions for strategic landscape-scale herbivore management to significantly reduce unsustainable grazing and browsing pressures in woodland and upland habitats.

The National Park Authority seeks to work collaboratively with land managers to ensure sustainable local businesses thrive whilst reducing overall herbivore pressure where required, allowing widespread natural recovery and expansion of native woodlands, and the protection of fragile peat soils, wetlands and other land use interests.

Targets

The overall target is to achieve natural regeneration, protection of precious habitats and thriving rural businesses. This cannot be easily described by a single numerical target. The right grazing and browsing level is highly dependent on species, habitat, and management objective. Nonetheless, the overall combined herbivore pressure is currently too high in the National Park, and targets will help collective effort and monitoring to reduce those pressures.

Herbivore impact

On a site-by-site basis, working with land managers we need to build our understanding of herbivore impacts on upland and woodland habitats, agricultural interests, and public safety. We will therefore work with land managers to:

- Build our monitoring effort to understand the spatial impacts for key sites.
- Develop a rolling delivery plan to work collaboratively with land managers on targeted sites that reduce pressures preventing natural regeneration and recovery of peatland and wetlands, as well as supporting interventions on sites showing evidence of undergrazing.

Deer densities and distribution

Because of the collective and collaborative nature of deer management, area wide deer density targets are useful for informing population management. The NPPP sets the following targets for deer densities:

- Achieve national target levels of average red deer densities in each Deer Management Group by 2030. These are currently set at:
 - maximum of 5 deer per km² in woodland,
 - maximum of 10 deer per km² on the open hill.
- Non-native sika and fallow deer will be contained within their current (2024) distribution in the National Park

Monitoring

The Future Nature Route Map includes a long-term monitoring plan, which utilises a range of monitoring indicators. These are presented in a dashboard that will be reviewed and updated every five years. There are three indicators used to gauge herbivore pressure in the National Park:

- Average sheep density (per km²).
- Average deer density (per km²).
- Percentage of woodland with unsustainable grazing pressure (high and very high impact on woodland).

In addition, the Park Authority will:

- Monitor uptake of Woodland and Upland Herbivore Impact Assessments by land managers (i.e. % land covered by HIAs / land holdings).

A suitable monitoring framework will be further developed through the Herbivore Delivery Plan, which supports the delivery of these objectives and targets.

Approach

The National Park Authority will apply the following principles when setting its approach to herbivore management in the National Park:

- We will use any relevant existing and emerging data and insights to regularly review and inform our understanding of herbivore densities, impacts, and management.
- We will engage and consult with partners and stakeholders when setting new herbivore policy and delivery plans for the National Park.
- We will aim to support delivery of effective herbivore management, primarily through bringing additional resources and incentives for local land managers.
- We support the judicious use of regulatory powers by NatureScot in relation to deer management when these are considered essential to address unsustainable deer impacts.