

**Forest Enterprise Scotland**

**Deer Management on the National Forest Estate  
Current Practice and Future Directions**

**1 April 2013 to 31 March 2016**

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## INTRODUCTION

Forestry Commission Scotland (FCS) serves as part of the Scottish Government's Environment and Forestry Directorate and is responsible to Scottish Ministers. Forest Enterprise Scotland (FES) is an agency of Forestry Commission Scotland charged with managing the National Forest Estate (NFE).

FES manages about 9 per cent of Scotland's land area in line with the Scottish Government's 'Land Use Strategy' to deliver a wide range of public benefits, including those outlined in the Scottish Government's 'Scottish Forestry Strategy'. The 'Role of the National Forest Estate and Strategic Directions' lays out our priorities and approaches around six themes, each of which has a connection with deer management:

- **Treasured:** Deer are part of what our stakeholders treasure about the NFE.
- **Healthy:** Managing deer as a keystone species is of fundamental importance to the environmental health of the NFE.
- **Productive:** Deer are also an important economic resource in their own right and deer impacts need to be managed to safeguard the productive potential of the NFE.
- **Accessible:** We recognise that in increasing the accessibility of the estate, we must manage the interface between deer and forest users.
- **Cared for:** We want to harness the value of deer in ecosystem management and continue to ensure high standards of deer welfare and management.
- **Good value:** We aim to manage deer impacts efficiently and effectively and recognise that recreational stalking and venison are important income streams.

Management of deer is an underpinning activity essential for the delivery of benefits from the NFE. We aim to play a full part in contributing to and delivering the Scottish Government's 'Scotland's Wild Deer a National Approach' and the 'Code of Practice on Deer Management'.

Our aim is to maintain healthy wild deer populations and manage deer impacts across the NFE consistent with the carrying capacity of the land and the successful delivery of our management objectives.

This document sets out the approach of FES to wild deer management.

### **The significance of deer on the National Forest Estate**

This section summarises the value and impacts of deer on the NFE.

We manage the NFE as a multi-benefit resource to deliver a range of environmental, social and economic benefits in a diversity of situations. Where possible we set management strategies at a landscape scale to determine how best to integrate management objectives and maximise benefit delivery.

We value and manage deer as an iconic and natural resource which contributes to our biodiversity, climate change, social, cultural and silvicultural objectives.

## **Protecting and enhancing the environment**

Native deer species are an important component of Scotland's biodiversity. This is not just because they are iconic, but also because they are keystone species. What this means is that they have a major shaping effect on habitats, and their actions fundamentally determine the suitability of ecosystems for other species.

The NFE supports a wide range of habitats from mountains, open hill ground, montane shrub, peat bogs through a range of native woodland types to lowland grasslands, coastal dunes and riparian networks, not to mention natural areas in and around towns. This includes 5,400 sites designated for conservation.

We are also responsible for some 12,000 historic environment features. The best examples of habitats and ancient monuments are subject to a high level of statutory designations. Furthermore, we aspire to increase the environmental value of our planted forests through restructuring and diversification – helping natural processes to turn plantations into fully functioning forests.

We want to achieve favourable environmental conditions across the NFE, most importantly on designated sites, but also more widely as this is consistent with Scottish Ministers' land management objectives as laid out in Scotland's 'Land Use Strategy'. Achieving favourable conditions and ecosystem health helps meet the aims of the 'Scottish Biodiversity Strategy' and is usually aided by a degree of deer activity which can help maintain vegetation species and structural diversity and influence succession processes. However, high deer impacts can be detrimental, most obviously to woodland regeneration but also to highly palatable ground layer species; to habitat structural diversity; to dependent insect, bird and animal species; and to fragile ecosystems like peat bogs.

As indicated in the FCS Biodiversity Programme 'Woods for Nature', we will focus our deer management effort to be as effective as possible in reducing negative biodiversity impacts from deer. Our efforts will be directed at protecting designated sites, priority habitats and encouraging overall woodland diversity and broad ecosystem health across the NFE.

Ascertaining the optimum deer impacts to achieve favourable environmental condition, and the appropriate deer densities to support this, is therefore complex and we are still developing our skills in this area. By using a combination of habitat impact surveys, dung counting and population data we aim to establish management strategies appropriate to the unique circumstances of each locality. These strategies also take into account the positive and negative impacts of deer fencing, for example on woodland grouse, vegetation management and recreation access.

Sika and Fallow deer have been introduced into Scotland. Fallow have been part of the Scottish landscape for many centuries and tend to have a low propensity to spread and colonise new areas, and hence are managed to sustain and contain them within their current range. On the other hand, Sika deer continue to spread rapidly and can hybridise with Red deer. We aim to support Scotland's wild deer strategy by helping to limit the spread and population build up of this species.

The NFE is certified and recognised internationally as sustainably managed through Forestry Stewardship Council certification via the UK Woodland Assurance Scheme (UKWAS). Our approach to deer management is considered as part of this certification process.

## **Supporting social wellbeing**

The NFE is one of Scotland's greatest recreation resources, hosting some nine million visits a year. The sighting of deer is a highlight of many visits to the NFE. We aim to manage deer in a way that sustains these wildlife viewing opportunities and accommodates the way people want to access and use the NFE. In the Galloway Forest Park our Red Deer Range provides Ranger-led guided walks and close encounters with Red deer.

We welcome community involvement in planning and land management on the NFE. Over the last 10 years we have been involved with over 100 community partnerships. Through our land management planning consultation, all local communities have the opportunity to comment on local deer management and other aspects of our land management.

With the expansion of our 'Woods In and Around Towns' (WIAT) programme, we are increasingly managing deer in urban and peri-urban areas in order to facilitate and protect the creation and maintenance of green space and woodland environments. We have been at the forefront of developing working methods for the management of urban deer, working with local authorities, the police and other urban stakeholders and taking into account safety of the public, welfare of deer and the impact of deer on road safety and residential properties.

Concern has been growing over the role of deer in road traffic accidents. As we are increasing the presence of the NFE in Scotland's urban area, this is growing as a priority for us. We are proactive in working with partners to find the best strategies to manage this problem. We are also working with the police Wildlife Liaison Officers and local authorities to reduce anti-social activities against deer.

We recognise that neighbouring landowners and householders may have different views and management objectives in relation to deer. In many areas our neighbours have deer stalking interests, and for some this is an important business activity. Local residents are often keen to see deer, although some have issues about deer impacts in gardens. Wherever possible, we aim to take account of our neighbours' interests and views in formulating our deer management approach.

## **Supporting sustainable economic development**

We are committed to managing the NFE as a productive resource. We recognise that deer are a valuable resource that can be sustainably harvested to provide economic activity through high quality wild venison, and, where appropriate, stalking opportunities. Our recreational and accompanied stalking operations contribute directly to the Scottish tourist industry through client spend in local catering and accommodation.

Deer are also an iconic contribution to Scotland's wider tourism offering, and an important component of Scotland's rapidly growing eco-tourism market. We are actively seeking ways to increase the opportunities for the public to enjoy deer at first hand. FES has developed the NFE into a major tourism resource, adding some £230m<sup>1</sup> (2011/12 prices) to the Scottish economy each year. Our Community, Recreation and Tourism teams are working with VisitScotland and local partners on how we can further harness the NFEs natural and cultural heritage to boost tourism, including ecotourism. At key locations we will work to provide quality, low key facilities that significantly enhance the visitor experience such as wildlife viewing hides and informative on-site interpretation such as the Galloway Red Deer Range.

We will work to better understand the local socio-economic impacts of deer and deer management activities on the NFE and on neighbouring properties.

An important aspect of productivity on the NFE is the growing and production of timber – the NFE currently supplies over three million tonnes of timber annually to Scotland's economically important timber industries, accounting for 40 per cent of all timber produced in Scotland. Red deer and Sika at high densities, can impact on the mature timber resource by bark stripping, which damages trees and allows access for tree diseases.

The most significant impact of deer however is on the establishment of young trees. Some 85 million young trees, representing many millions of pounds worth of investment, are in the vulnerable establishment phase on the NFE at any one time. Our woodland creation programme is around 1,000 ha/annum and our restocking programme is rising to around 6,000 ha/annum, with naturally regenerating trees developing within many of our native woodland and continuous cover areas.

As we increase tree planting programmes and seek to diversify the range of timber producing tree species on the NFE, managing deer impacts is becoming an ever greater challenge. This is further accentuated as we move increasingly to continuous cover forestry systems and increased reliance on the natural regeneration of a wide range of tree species.

Between 2009 and 2012, annually between 15 and 20 per cent of the leading shoots of young trees have suffered damage. We need to reduce this to below 10 per cent in order to achieve successful establishment.

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<sup>1</sup> A Valuation of the Economic and Social Contribution of Forestry for People in Scotland. Research Report for Forestry Commission Scotland. Forest Research. Edinburgh. Available at: <http://www.forestry.gov.uk/fr/forestryforpeople>

## DISTRIBUTION OF DEER ON THE NATIONAL FOREST ESTATE

The Scottish deer population comprises two native species, Red and Roe, and two introduced species, Sika and Fallow.

In 2005 the Deer Commission for Scotland/Mammal Tracing Partnership estimated the Scottish deer population to be around 667,000 (350,000 Red, 300,000 Roe, 9,000 Sika and 8,000 Fallow)<sup>2</sup>.

In 2011 Scottish Natural Heritage estimated the Scottish deer population to be around 783,000 (400,000 Red, 350,000 Roe, 25,000 Sika [and 8,000 Fallow]).<sup>3</sup>

Deer are resident on almost all land managed by FES and we host all four species found in Scotland:

**Roe:** widespread and found in significant numbers in all 10 Forest Districts, predominantly in the lower-lying areas but increasingly on higher elevation ground.

**Red:** widespread across the Highlands but also found in other upland areas such as the Ochils, Campsie, Dumfries and Galloway. Red deer are found in all 10 Districts.

**Sika:** found mostly in the Borders, Fife, Argyll, Ross-shire, Inverness-shire and Sutherland, but are present in all 10 Forest Districts.

**Fallow:** found mostly around Loch Lomond, Dunkeld, Dumfries, Galloway and are present in 6 of the 10 Forest Districts.

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<sup>2</sup> Joint Agency Strategic Environmental Assessment, Draft Strategy for Wild Deer in Scotland, Oct 2007, Appendix 3, Environmental Baseline Information 2.3

<sup>3</sup> Woodland Expansion Advisory Group - Briefing Paper WEAG 8e – Sept 2011.

## **WORKING WITH OTHERS**

### **Deer Management Groups**

We support the work of the Association of Deer Management Groups (ADMG) in its efforts to represent the full range of interests involved in deer management and its work to encourage and deliver sustainable deer management across Scotland. FES is represented on the Executive Committee of the ADMG and supports its work to foster good communication and co-operation between the various parties involved in deer management in Scotland. Committee business includes collaboration, venison initiatives, deer welfare, supporting the work of Deer Management Groups, Lowland Deer Network Scotland and feedback to the Scottish Government regarding policies and legislation.

We support the work of local Deer Management Groups (DMGs) in their efforts to foster understanding, constructive and positive discussion, collaboration and co-operation between neighbours and their work to deliver sustainable deer management at local level.

Our deer management teams represent FES on over 40 individual DMGs. They attend and participate in meetings to support the work of the groups but also to discuss with them our:

- local deer management activities;
- proposed cull targets and achievements;
- proposed deer fencing programmes;
- results from habitat surveys and assessments;
- tree damage assessments; and
- use of contractors, out of season and night shooting

We also support the groups in:

- local best practice events;
- deer counts (helicopter or ground-based); and
- the funding, compilation and implementation of group Deer Management Plans.

We currently contribute over £16,000/annum to the work of Deer Management Groups through annual subscriptions.

FES is represented on the Lowland Deer Network Scotland Development and Executive Committee where we are sharing our increasing knowledge and experience of managing deer in the lowland setting.



## **Working with neighbours and stakeholders**

We will work with neighbours to try to establish common ground and resolve issues where we have differing objectives. Informed discussion based on the sharing of objective data, evidence and factual information such as deer counts and habitat assessment will form the basis of any solution. If there is evidence that deer are moving out of the NFE onto adjacent agricultural or crofting land, residential properties, green spaces or public roads and causing damage or issues for road safety, FES will exercise its duty of care and work with neighbours to help manage the situation.

We will continue to seek opportunities for co-operation and sharing of resources, where appropriate and practical, to further sustainable deer management, integrated land management and the safeguarding of Scotland's environment.

We support the Lowland Deer Network Scotland, established in 2011 to represent individuals, public bodies, representative bodies and commercial interests directly involved in the management of deer in the Scottish lowlands. FCS has contributed around £20,000 over two years to support the establishment of the Network.

We are open to supporting the work of other deer initiatives in the development and furtherance of sustainable deer management at national or regional level. We are represented on and support the work of initiatives such as the Deer Management Round Table, Cairngorms Deer Advisory Group, Wild Deer Best Practice Steering Group and Deer Management Qualification Board.

## **Leading by example**

Through an integrated approach we aim to be an exemplar of sustainable deer management, as part of wider land management and achieving ecological resilience in the face of climate change and other pressures and threats. As part of this we actively support research, development and training.

We aim to deliver high standards of deer management to meet our environmental and quality commitments within the UK Woodland Assurance Scheme (UKWAS), Scottish Quality Wild Venison (SQWV), and the 'Code of Practice on Deer Management'. Our teams apply industry best practice.

Our deer management activities are monitored and reviewed on a regular basis by our senior wildlife rangers and are subject to audit by the FES and FCS Internal Audit teams and externally through our UK Woodland Assurance Scheme accreditation.

## **OUR APPROACH TO PROFESSIONAL STANDARDS**

### **The FES deer management team**

FES employs 70 deer management staff (64 Full Time Equivalents), and provides direct work for 30-35 deer culling contractors. Their efforts in protecting the forest environment underpins the work of a large number of FES employees and contractors involved in managing the NFE and its woodlands across Scotland.

This includes a team of around 50 Wildlife Rangers who underpin practical deer management on the NFE. As well as direct deer management, they are closely involved in the forest design planning process and monitor/assist in the management of leases and permissions. Many also make an important contribution to our wider environmental objectives, and are valuable eyes and ears around the Estate.

Our 12 Wildlife Ranger Managers manage FES deer operations at District level, overseeing and supervising the work of Wildlife Rangers and contractors. They also manage the tendering of contracts and permissions, and our deer related monitoring activities.

Three Deer Management Officers manage FES deer activities at regional level covering three or four Districts each. They represent FES on regional and national committees and initiatives. They oversee the implementation of deer management policy and practice, and lead on programming and budgeting.

We have a small administrative team based in each of the regional deer hubs (admin centres), in Golspie, Dunkeld and West Calder who provide a professional administrative and customer care service to the deer management team, contractors, lease/ permission holders and accompanied stalking clients.

We also use the services of around 30-35 professional contractors on short-medium term contracts to support the work of the Wildlife Rangers in protecting the forest environment.

Over the last two years around 60 per cent of the cull was achieved by our Wildlife Rangers, about 25 per cent by contractors, around 15 per cent by lease or permission holders and a small number by accompanied stalkers.

### **Professional standards**

All Wildlife Rangers and contractors working on the NFE have 'Deer Stalking Certificate 2', are SNH registered as 'Fit and Competent' hold 'Trained Hunter' status, work to Scottish Quality Wild Venison (SQWV), assured standards and industry best practice. Contractors are selected by national competitive tender and must have the appropriate qualifications, firearms licence, equipment and Public Liability Insurance. The tender process is formally audited.

The operational standards of the Wildlife Rangers and contractors are monitored regularly by our Wildlife Ranger Managers and Deer Management Officers. This includes deer welfare, health and safety, shot placement, carcass recovery, presentation and quality. Cull targets for our Wildlife Rangers and contractors are set by the Wildlife Ranger Managers and agreed by the Deer Management Officers.

We are working to develop a programme for apprentices or trainees in wildlife management. We are currently in discussion with Scottish colleges and our Learning and Development colleagues to assess the future potential and possible mechanisms for Wildlife Ranger trainee development on the NFE and we hope this will lead to the creation of Wildlife Ranger apprentice or traineeships providing opportunities for new entrants to enter into the wildlife management sector.

We promote training and continual professional development for all our deer management staff. The FES Wildlife Ranger team undergoes continual assessment and update training in order to maintain a high level of competence. This includes:

- health and safety, risk assessment;
- 5-day firearms refresher training;
- carcass handling;
- marksmanship;
- dog training;
- manual handling;
- first aid;
- information technology; and
- ATV training

Development includes a visit to the game dealer premises to increase understanding of the venison processing industry, end-products and the need for high standards of food hygiene and quality presentation of deer carcasses. We will incorporate into our training regimes the guidance being developed by the Wild Deer Best Practice Steering Group and SNH to support delivery of the 'Code of Practice on Deer Management'.

Some of our Deer Management staff benefit from the Nature Exchange Programme to participate in fully funded study visits to organisations in other European countries, to exchange best practice and to establish new contacts and partnerships for future cooperation.

### **Operational guidance**

The Forestry Commission has produced three internal guides to inform and steer our deer management activities:

- OGB 5 Deer Management;
- OGB 5a Wild Venison Standard; and
- OGB 14 Using Firearms

A review, revision and updating of the guides which commenced during 2012/13, continuing through 13/14 will take into account recent changes such as the outcomes of the Wildlife and Natural Environment Act (Scotland) 2011. We will also develop guidance for others shooting on the NFE.

### **Forestry Commission Firearms Advisory Group**

The Forestry Commission has a Firearms Advisory Group on which there are senior deer management staff representatives from across the Forestry Commission, and members of our Health and Safety, and Learning and Development teams. The Group works to address FC-wide firearms and deer management issues including health and safety and the revision of operational guidance.

## **Industry best practice**

We support the deer industry in implementing and developing best practice, standards and competence. Managing all four species of deer across Scotland, over many years, across the Highlands, the lowlands and in the urban environment, we have accumulated a great deal of knowledge and experience which we offer in support of ongoing developments and initiatives.

Within operational limitations we offer the use of FES rifle ranges and deer larders to recognised DMQ Assessment Centres, for training and assessment purposes in the crofting areas where facilities and opportunities are otherwise limited.

FES actively participates in the Wild Deer Best Practice Steering Group, and currently contributes £25,000/annum to support the work of the Group. We will continue to help develop, promote and implement guidance from the Best Practice Group, and FES staff will also support related training or best practice events.

We have taken a lead role, in liaison with industry groups, in creating resources for professional development, for example DVDs on stalking deer in woodlands, humane despatch and urban deer management.

## **Deer Management Qualifications**

FES participates in the Deer Management Qualification Board. We also participate in the DMQ Technical Advisory Group. Two of our Deer Management Officers are DMQ Assessors whilst one is also the FES Internal Verifier. In addition, 30 of our Wildlife Ranger Managers and Wildlife Rangers are Approved Witnesses and they can train and assess stalkers to DSC 2 as part of their accompanied stalking work.

Our general requirement is that all personnel shooting unaccompanied on the NFE must have Deer Stalking Certificate 2. The exceptions to this are:

- recreational stalkers who can have DSC 1 but must attain DSC 2 within the year, until which time they must be accompanied by member of the syndicate who is a DSC 2 holder; and
- accompanied stalking clients (some of who may have an appropriate European qualification), who are accompanied by a Wildlife Ranger who has DSC 2.

## **Raising Awareness**

As a significant land and deer manager and provider of outdoor recreation, FES has a unique opportunity to raise awareness of the place and importance of deer in Scotland and on the NFE and the deer management activities necessary to protect the environment. We will use these opportunities to provide factual information about deer management, why it is important and how it is carried out.

## **Health and safety**

All of our deer management activities are undertaken within a comprehensive health and safety framework. We employ professional health and safety advisors and take a continuous improvement approach to assessment and mitigating risk. Health and safety considerations are a major factor in defining working methods, Wildlife Ranger training and development programmes, and provision of equipment for deer management. We operate comprehensive fail-to-safe lone working systems. Our Wildlife Rangers use the Guardian 24 lone working system which requires logging-in and logging-out, before and after deer management activities.

In most circumstances we safely carry out deer management activities whilst maintaining open access to the NFE. However, safety will always be the over-riding principle in all our management activities, and we take full account of patterns of woodland use by the public where we are determining our deer management plans for an area.

Prevention of Lymes disease forms a key part of health and safety management for all operatives working on the NFE. In addition we provide public information on tick avoidance and what to do if bitten.

## **Resources for deer management**

Each year we invest some £6 million in deer management and deer fencing; a significant input into the rural economy in itself, and equating to just under £7/ha of the NFE. This funds a wide range of activities including:

- contributions to the deer initiatives;
- representation on deer initiatives & working groups;
- damage and impact surveys;
- wildlife Ranger equipment, protective clothing, dogs etc;
- lone worker safety system;
- planning for deer management;
- ATV track construction and maintenance;
- maintenance of deer glades;
- larder maintenance/equipment & waste disposal;
- deer fencing (construct, inspect, maintain and dismantle);
- managing leases/permissions;
- culling activity; and
- buildings compliance.

## **HOW WE MANAGE DEER**

### **Planning deer management**

We are committed to maintaining sustainable, resident deer populations on the land managed by FES, taking into account the welfare of individual deer as well as the wider population. We do not take a single species or single site approach to management of deer but rather an ecosystem approach for delivery of multi-purpose benefits.

Objective setting for deer management is undertaken through our spatial planning process, focused on the forest plan and informed by national and Forest District strategies. For designated sites and priority habitats, deer management objectives are embedded in FDPs, based on surveys and condition monitoring work. Deer management aspects of planning are brought together in local deer management plans, usually in collaboration with other land owners.

We are currently reviewing our land management planning and strategic spatial planning systems to take forward the integrated management of woodland and open space using an ecosystem-based approach. This will achieve more joined-up delivery of a full range of ecosystem services, including deer management aspects, and help us better take account of uncertainties and pressures like climate change and invasive exotics.

We recognise that woodland creation and development happens over a long time-scale, and that ongoing and consistent deer management is important to avoid failure due to deer impacts.

We plan and manage land on the NFE taking into account the needs of deer management and deer welfare. Our design plans for woodland establishment across the NFE are developed to include appropriate areas of open ground for landscaping, conservation and amenity purposes but also to facilitate safe and effective deer management. Our deer management teams input to planning at the strategic and local level by providing information on deer species and impacts, ensuring the provision of open ground, ATV access tracks and fences where appropriate and commenting on tree species choice.

### **Evidence-based Management**

We use the best available evidence to determine the appropriate deer densities required to meet management objectives, and the cull targets necessary to achieve those densities. This ranges from formal habitat impact assessments, stocking density assessments, tree damage assessments, effective deer utilisation (dung counts), helicopter and ground-based deer counts (including thermal imaging), as well as making the most of what we see on the ground. Assessments include site condition monitoring such as fixed-point photography and quadrats, and collection of information on livestock and deer sightings, and distribution of ground vegetation. FES provides training for surveyors to recognise the various forms of damage.

When reviewing damage to ground vegetation, tree growth etc, we take into account local grazing/browsing impacts caused by other herbivores such as sheep, goats, cattle and rabbits.

We will continue to collect objective and evidence-based data to guide our deer culling operations. During 2013/14 we will commence a review of our monitoring, survey, assessment and decision-making processes with the purpose of rationalising and improving the analysis, consistency and use of existing and new data with the longer-term aim of:

- predicting likely damage impact levels;
- setting deer culls to prevent or reduce impacts; and
- ensuring clarity of objectives and approach in our management of open range habitat.

The Native Woodland survey of Scotland (NWSS) provides the first ever overall picture of deer and other herbivore impacts in native woods throughout Scotland alongside detailed information on woodland structure and composition. We will take into account the NWSS information together with our own data systems to help assess priorities for action to protect and conserve native and ancient woods working together with neighbouring land managers where possible.

### **Deciding the management approach**

Once deer management objectives have been set in support of our wider delivery intentions for the land area, the main decision on management approach is the balance between fencing and culling. When making that decision we broadly consider the costs and benefits of each, both financial and in relation to wider benefits and potential issues.

The UK Woodland Assurance Scheme requires that 'appropriate wildlife management and control shall be used in preference to fencing', and generally, management of deer populations by culling offers the most holistic basis for delivering our objectives across the NFE so this will tend to be our favoured approach where it is viable.

### **Fencing**

Fences are an important deer management tool but are rarely the complete or ideal solution. Fencing is costly to plan, erect, inspect, repair and dismantle. Fences have a limited life, and can be difficult to keep deer-proof. They are not effective during periods of deep snow, after storms when windblown trees flatten fences, in areas where vandalism is a problem, or when gates are left open. Furthermore, fences can affect the ranging behaviour of deer, impact on other wildlife like woodland grouse, and can be an impediment to recreation access. They can be visually intrusive and impact on landscapes, and protect only the parts of the forest enclosed leaving the remainder vulnerable to adverse impacts from deer. Fencing within semi-natural woodland to achieve natural regeneration can lead to a dense stand structure that casts heavy shade and threatens rare plants.

In many areas fencing forms a part of our approach to deer management. Where feasible, march fences are an important tool if we have different deer management objectives from our neighbours. We try to minimise the use of internal fences, but these can be essential in localised high risk situations, for example where we are establishing concentrations of particularly palatable tree species that can only tolerate very low deer numbers and need constant protection.

FES sustains major fencing commitments, currently extending to around 2,250 km of deer fences across the NFE. Each year we spend in the region of £0.5-£1.0 million on



deer fencing. Given limited resources, and potential negative impacts, fencing activities have to be carefully targeted for maximum effect. Where we do erect and maintain strategic or boundary fences this will be in agreement with the relevant neighbours, for mutual benefit and with cost sharing in accordance with the relevant legal agreements and titles.

Our fencing is planned and managed in accordance with the principles of the 'Joint Agency Statement on Deer Fencing – June 2004' and using the 'Practical/Technical Guidance for Deer Fencing (May 2012)' to assess impacts and mitigation.

We will continue to utilise deer fencing as a carefully targeted option for effective deer management taking into account environmental, access, shared-costs, benefits and budgetary constraints. Many of our new woodland creation sites will be deer fenced. As fencing is rarely a complete solution, we continue to monitor browsing impacts in fenced areas and undertake supplementary culling as necessary.

## **Culling**

### **Setting Cull Targets**

Our Wildlife Management teams work with their Operations and Environment colleagues and survey consultants to agree deer density targets based on the evidence available and our management objectives. Through ongoing consultation, for instance via Deer Management Groups, we also consider the deer management objectives of our neighbours when setting cull targets for the NFE.

Determining appropriate deer populations and hence cull targets is an iterative process. Habitat data, damage impact results and cull returns are monitored and assessed and, if necessary, adjustments made to subsequent cull targets. Where our focus is on woodland development and habitat management recommended deer densities are typically between 2-7 deer/km<sup>2</sup>.

### **Distribution of the cull**

FES cull data is summarised in the following table [note: maps showing the distribution of the cull by deer species will be provided in the published version of this document].

#### **Deer Culled on the NFE 2010/11 and 11/12**

	Red Deer	Roe Deer	Sika Deer	Fallow Deer	total
2010/11	11,157 (41%)	12,255 (45%)	3,196 (12%)	424 (2%)	27,032 (100%)
2011/12	10,633 (39%)	13,254 (48%)	3,247 (12%)	408 (1%)	27,553 (100%)

The FES cull represents around 28-30 per cent of the Scottish deer cull, and represents an estimated 3 per cent of the Scottish deer population (for reference the NFE extends to about 9 per cent of Scotland's land area).

The deer cull in 2013/14 and 14/15 will increase to an estimated 28,000-29,000 as we seek to reduce impacts on the NFE. The precise cull achieved in each year of the forecast will vary according to operational circumstances and decisions based on the results of ongoing deer impact monitoring.

### **Firearms and ammunition**

We restrict the type and calibre of firearm used on the NFE to those which are suitable for the safe, legal and effective culling of deer. The permitted categories of firearm for shooting deer on the NFE are centre-fire rifles, and shotguns for roadside Deer Vehicle Collision (DVC), deer casualties.

Because of concerns about lead in the environment, non-leaded ammunition is currently being trialled by some of the FES Wildlife Ranger teams. Results will be reviewed taking into account effectiveness of the ammunition and its potential benefits in helping safeguard the welfare of wildlife and the natural environment. Consideration will then be given to its wider use on the NFE but this process will include consultation with the relevant FES stakeholders.

### **Out of season and night shooting**

Deer can cause damaging impacts to trees and ground flora at any time of year. We therefore need to monitor this and ensure protection of the Estate's biological resources throughout the year. Out of season and night shooting are essential in helping us manage damage impacts across the NFE.

All FES out of season and night shooting activity is discussed with the statutory deer authority, SNH. All applications are based on an objective justification and require to be authorised by SNH. We adhere to any conditions set.

Approximately 80 per cent of the cull on the NFE is achieved between 1 October and 31 March. We do not cull female deer during the period from 1 April to the 30 September, except for Sika for which we might make applications from 15 September. Over the last two years about 7,200 deer/annum have been culled out of season.

Night shooting, using spotlights to illuminate animals, has been used for many years when necessary, for culling deer to reduce damage impacts on the NFE and to undertake deer management in heavily used forests where public safety is a major consideration. Over the last two years about 3,500 deer/annum have been culled at night. Local police are informed before carrying out night shooting activities.

Over the last two years a further 3,300 deer/annum have been culled both at night and out of season.

## **SAFEGUARDING THE WELFARE OF DEER AND THE WIDER ENVIRONMENT**

### **Deer health**

Wild deer can potentially host, be affected by, or carry, a range of diseases such as Chronic Wasting Disease, Blue Tongue, Lyme disease, Johnes disease, TB and Foot and Mouth. We will work with SNH to manage and minimise the risk of deer disease outbreaks by sharing information and implementing agreed biosecurity measures.

We also collect samples from deer, such as tissue samples or ticks, to inform research projects relating to diseases affecting deer such as TSE (Transmissible Spongiform Encephalopathies). Given the extent and distribution of the NFE, this offers a significant and ongoing insight into the health of Scotland's deer.

### **Deer vehicle collisions**

Road traffic accidents involving deer can have a tragic human cost, through fatalities and injury. They can also be costly in terms of damage and disruption to traffic flow. Transport Scotland estimates 8,000-10,000 deer-related road accidents in Scotland each year, and these result in a significant number of injuries to people. The economic cost is estimated to be £5 million /annum. Deer vehicle collisions also represent a major deer welfare issue. Vehicle collisions involving deer often increase during April and May as roe deer territorial behaviour peaks and young deer venture out on their own. Parts of the Highlands experience a peak during the winter months particularly as red deer come down to lower elevations.

We work proactively to reduce the risk of road traffic accidents involving deer on and adjacent to the NFE. We co-operate with local police, Transport Scotland and local communities where there is a heightened potential for deer from the NFE to cause accidents on adjacent public roads. We take this into account when formulating deer management plans for the urban and peri-urban parts of the NFE, and indeed wherever there are busy roads nearby.

### **Despatch of wounded deer**

We are committed to the humane despatch of injured or dying deer such as may result from deer vehicle collisions or ineffective shot placement. Where appropriate we use trained deer dogs to follow-up wounded deer. As from 2013/14 our staff will receive enhanced training in the methods and options for humane despatch using rifle, knife or shotgun.

In tackling an injured deer our priority is to ensure the safety of the operator and the public; and to minimise the suffering of the injured or dying deer.

### **Managing significant incursions of deer**

During particularly severe winters large numbers of deer may move onto the NFE. This may even happen in fenced areas as snow builds up along the fence-line. The result can be rapid and severe impacts to young trees and important habitats, jeopardising the achievement of objectives, setting management progress back sometimes many years, and resulting in high remedial costs. It can also impact adversely on resident deer populations given that there is limited food and shelter within any given locality. In these conditions deer may be severely weakened and deer welfare becomes a major consideration.

In consultation with the deer management sector we have developed an agreed protocol for managing emergency situations resulting from major deer incursions. This involves a rapid assessment of the situation and immediate communication with neighbours to discuss each specific incursion, and rapid action to resolve the situation. In some cases moving deer out of vulnerable areas may be possible; in others an emergency cull may be necessary.

### **Sika deer**

Sika deer are an introduced species progressively expanding across Scotland. They can interbreed with Red deer and can cause particularly severe damage to trees. We are committed to the effort to reduce the expansion of Sika deer and to help reduce impacts on the genetic integrity of the Scottish Red deer population. Where they are present, Sika deer are a particular focus of our culling effort. During the past 15 years FES has cooperated with Edinburgh University in collecting DNA samples for their Red/Sika hybridisation research project.

### **Other non-native species**

We have a competent and knowledgeable deer management team with considerable experience in wildlife management across Scotland. We are therefore ideally placed to support SNH in applying the 'Invasive Non-native Species Code' to prevent establishment or further expansion of non-native species such as Muntjac, wild boar or grey squirrels

In order to fulfil our land management responsibilities we work in conjunction with SNH and other agencies regarding the prevention of the establishment of non-native species on the NFE.

### **Wildlife crime and disturbance**

We will report any suspected incidences of wildlife crime and help contribute to initiatives to tackle wildlife crime. We work in collaboration with the police in reporting and investigating incidences of poaching and other criminal activity on the NFE.

In keeping with the Wildlife and Natural Environment (Scotland) Act 2011 we are committed to managing disturbance to wildlife. We provide guidance to all relevant staff, contractors and recreational stalkers and make it clear that it is an offence to intentionally or recklessly kill or disturb wild birds.

## **DEER STALKING ON THE NFE**

### **Recreational stalking**

As part of our forest protection activities we provide suitably qualified members of the public with opportunity to participate in stalking on land managed by FES. In protecting the forest environment from adverse deer impacts we are currently able to provide that opportunity for around 550 recreational stalkers each year on approximately 144,400 ha (22per cent), of the NFE. This represents around 8,250 stalking trips per year. Stalking on the NFE contributes to the local economy. For example a BASC deer stalking lease on Arran is estimated to directly contribute around £45,000/annum to local businesses. Stalking also generates income for FES, which helps offset our deer management costs.

We continually review the balance between recreational stalking and in-house deer management. In each case we assess the deer management risks and challenges we face. In high risk situations we are less likely to offer recreational stalking. We also assess the suitability of the area for recreational stalking in terms of both geographical location and local issues like collaboration with neighbours and interaction with other uses of the area, for example by the public.

We are currently phasing out deer management leases and introducing deer management permissions, which are a more flexible basis for offering recreational stalking in a fair and open way, and with lower costs of administration. We require recreational stalkers to have DCS 2 (or have DSC 1 and attain DSC 2 within year one). They must hold a valid British firearms certificate including authorisation to hold or purchase a legal calibre of firearm for shooting deer and must hold sufficient public liability insurance.

Recreational stalkers enter into an agreement with FES to cull an agreed number of deer in order to help reduce deer impacts on the NFE. They are required to work to agreed procedures and health and safety management. Deer shot by recreational stalkers are usually retained by the stalker. Where carcasses are to be sold-on, FES will encourage the use of SQWV approved venison dealers. FES retains concurrent rights to manage the cull where it is falling behind, in order to protect our wider land management objectives.

### **Accompanied stalking**

FES provides members of the public some opportunities to stalk deer, accompanied by an FES Wildlife Ranger. Clients must have a firearms certificate and appropriate insurance.

Our accompanied stalking offer attracts clients from Europe and the UK to shoot deer in-season. In 2011/12 FCS offered 27 stag weeks, seven Roe buck weeks and six doe/hind weeks. This has spin-off benefits for local businesses such as accommodation and catering.

During 2013/14 we will be reviewing accompanied stalking, and looking at opportunities to develop the associated wildlife viewing and field-craft aspects of the experience. However, availability will always be somewhat limited given our land management and protection priorities.

## **VENISON**

### **Venison Supply**

Whilst we do not cull deer for the purpose of venison production, we do provide the Scottish venison industry with a regular supply of quality deer carcasses to support the marketing of healthy venison products to the consumer. All carcasses shot by our Wildlife Rangers and contractors are supplied under Chain of Custody and are FSC 100 per cent approved. We meet our Chain of Custody responsibilities as part of our UK Woodland Assurance Scheme commitments.

As Scotland's single largest producer we supply in the region of 23-24,000 quality deer carcasses per year directly to the venison industry. This is mainly via a long-term contract and partnership arrangement with a major game dealer, but also via local sales. We collaborate with the contracted game dealer to promote Scottish wild venison, through branded packaging - around 1.2 million items per year. We will work with the game dealer to promote the direct link between sustainably managed forests, the sustainable culling of deer to protect the forest environment and the supply of quality assured venison to the consumer. We will work with them to promote the marketing of all four species of deer.

We provide a small number of deer carcasses for local sale to individual members of the public, small local businesses and niche markets. FES has the appropriate Venison Dealers Licence granted by Local Authorities.

### **Quality Assurance**

We support the work of the Scottish venison initiatives and their work to enhance the quality and marketing of wild deer venison as a healthy and sustainable high quality product. FES participates in the Scottish Venison Partnership (SVP), and the Scottish Quality Wild Venison (SQWV) committee.

We currently contribute £18,000 annually to support the work of the venison initiatives (SVP and SQWV).

We have an ongoing programme of investing in equipment, larders, vehicles, systems, training and development in accordance with the requirements of the SQWV assurance scheme standards, which is endorsed by the Food Standards Agency. This helps ensure that well-presented, quality carcasses are made available to customers at FES deer larders in accordance with food hygiene standards such as the Food Hygiene Regulations 2006.

We will continue to invest appropriately in the best practice and quality assurance aspects of our deer management work and we will encourage permission holders to apply SQWV standards and to sell venison to SQWV accredited game dealers.

### **Deer Larders**

We maintain a modern fit-for-purpose infrastructure of 41 deer larders and associated carcass management systems. We have installed scanners, computer hardware, software and internet connection in all our deer larders in order to facilitate provision of up to date information to our Wildlife Management System and the game dealer. This ensures traceability and informs the game dealer's scheduling of carcass uplift.

## **SUMMARY OF KEY COMMITMENTS**

We will manage the NFE as a multi-benefit resource to deliver a range of environmental, social and economic benefits in a diversity of situations.

We will manage deer at densities which will allow the sustainable management of a diverse, productive and resilient NFE which produces quality timber, vibrant ecosystems, attractive landscapes and quality venison.

We will manage deer in a way that contributes to the rural economy as far as this is compatible with our other management principles.

We will value deer as an iconic asset and keystone species.

We will use the NFE as an exemplar of best practice for deer management.

We will place health and safety and deer welfare at the heart of our deer management activities.

We will work closely with neighbours and relevant organisations to promote sustainable deer management through an ongoing process of collaboration seeking to recognise and understand the interests of all parties.

We will support the work of SNH and the deer initiatives.

We will use a combination of deer culling and deer fencing to manage deer impacts and densities to acceptable levels.

We will carry out deer culling operations using Wildlife Rangers, Deer Management Contractors, Leases (being phased out), Permissions and Accompanied Stalking to achieve the best balance of effectiveness and efficiency.

We will apply FC Operational Guidance and industry best practice.

The NFE is vulnerable to negative deer impacts throughout the year and we will use authorised and responsible out of season and night shooting to help manage these impacts.

We will review our monitoring, survey, assessment and decision-making processes to improve the predictive quality and focus of our deer management activities.

We will align our deer management practices to 'Scotland's Deer a National Approach' and the 'Code of Practice on Deer Management'.