

Demonstration Moorland Project:
Moorland Management Plan for Blairfindy Moor:

The Cairngorms National Park Authority

19 July 2004

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PROPERTY CONSULTANTS

Blairfindy Moor
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1 Introduction

This management plan sets out proposals for the management of Blairfindy moor, part of the Glenlivet Estate, one of two moors on which the Cairngorms Demonstration Moors Group is seeking to demonstrate best practice. The management plan aims to deliver benefits to grouse productivity, wider biodiversity and the socio-economic benefits associated with moorland management. The management plan should be read in conjunction with the Interpretive Plan, which has been developed by the Demonstration Moors Group in order to communicate the management practices and their effects to a range of audiences.

The Glenlivet Estate, lying on the eastern side of the Cairngorms, is owned by The Crown Estate and managed by Smiths Gore. The sporting rights over the moor are let to Mr Diks, who leases the sportings over the majority of the Glenlivet Estate.

2 Methodology

This management plan has been developed in conjunction with the owners and tenants (sporting and agricultural) of the moor at Blairfindy, and through discussion with the Cairngorms Demonstration Moors Group.

A literature review of relevant documents was undertaken in order to set this management plan within the wider policy and demonstration context. A number of these documents have been referenced in the management plan and are listed at the end.

Initial meetings were undertaken with Smiths Gore, managing agents of Glenlivet Estate, and with the keeper, in order to establish their objectives for the moor, and to obtain information on the past and current management. In addition, an initial survey of the moor was undertaken to gain an overview of the habitats and their condition, which is supported by the detailed ecological survey data from Ecological Research Associates (ERA).

The initial meetings provided an understanding of the current status of the moor and established the strategic aims. Following this, a series of management options were prepared for consideration. Through discussions with the agent and tenants, these options have been developed into the management proposals that are presented in this plan.

3 Key Interests

The key economic uses of the moor are the sporting lease for grouse shooting and the agricultural tenancies. In addition, the moor is relatively heavily used for public access, as a part of the Speyside Way runs through the centre of the ground. There are also forest tracks that give access to the edge of the moor and proposals to create a circular route linking to other paths on the estate (Cairngorms Partnership

2002). A way-marked walk beginning at Clash Wood to the east also intersects the moor from east to west, connecting with the Speyside Way. The Glenlivet Estate as a whole encourages and welcomes walkers and tourists. The footpaths are managed by the estate ranger service.

There are also a number of isolated, and small groups of Scots pine trees, across the moor and particularly around watercourses. These are an important landscape feature and resource.

4 Management Aims

The Crown Estate wishes to encourage environmental improvement and promote tourism and rural development, whilst ensuring that the objectives of the sporting and agricultural tenants can be met. They wish to see the management of the moor following best practice guidance.

The sporting tenant wishes to optimise grouse numbers, while taking account of other users of the moor and encouraging environmental improvement.

The following strategic aims will guide the management plan:

- To establish a viable and sustainable interaction of stock grazing and grouse management;
- To enhance the landscape amenity and recreational interest;
- To enhance the biodiversity. In the context of this plan, the word 'biodiversity' is used to include a range of habitats and species that fully reflect the potential of the site.

5 Site Description & Current Status

If the impacts of changes in management practice are to be effectively demonstrated, it is important to establish a baseline from which variations can be measured. The baseline ecological survey has been undertaken by ERA and their results feed into this management plan. This section also sets out the current status of management, including burning and grazing regimes, shooting patterns, keeping, deer and other key management aspects that contribute to the baseline.

The moor is surrounded by land within the Glenlivet Estate, including some non-native woodland, which forms a part of the sporting lease. Part of the moor falls within an Environmentally Sensitive Area scheme, but there are no other conservation designations, and the moor lies outside the proposed national park boundary.

Heather condition & burning

Most of this moor comprises dry heath dominated by heather (*Calluna vulgaris*). Burning has been carried out in the past for grouse management, but not for stock purposes. However, heather burning was stopped until 2001, pending management

advice, which may have protected many of the dense heather stands from heavy sheep grazing.

On the southern tenancy (Slochd), the tenant, Colin Fraser is not restricted to a maximum number of grazing animals. A large part of the southern area of this tenancy supports old dense stands of heather.

Both the tenancies of Altnaglander (Charlie Reid) to the north west and The Cairn (Bertie Mackintosh) to the north east, show signs of overgrazing in the context of grouse moor management. This overgrazing is particularly evident in the peripheral areas. On the north west-facing slope near Altnaglander Cottages heather has been largely replaced by grasses. A high density of juniper is above grazing height and is surviving. A similar situation occurs at The Cairn. It is unlikely that heather and juniper will regenerate faced with such high sheep densities and heather cover will almost certainly continue to decline.

A small area of muirburn was undertaken in 2002 in one area to the northern end of the Speyside Way, where crowberry (*Empetrum nigrum*), cross-leaved heath (*Erica tetralix*) and blaeberry (*Vaccinium myrtillus*) appear to be recovering from burning faster than the heather. The Management Plan for this moor must consider a reduction in grazing pressure before further burning is carried out. It will be necessary to examine each of the grazing tenancies to determine a way forward.

In 2003, an area of muirburn on Colin Fraser's tenancy was undertaken, and the fire extended beyond the intended limits, close to the forestry.

The recent study by ERA (ERA, 16.08.02), suggests that, with the exception of Allt na Ghlander, grazing impact at Blairfindy is light to moderate. Many of the grasslands on the lower slopes are relatively rich and sheep focus on these areas. However, reference is made to the heavy impact on some sites, notably the base-rich flushes near Carn Daimh and the woodland flora at Allt na Ghlander.

Grouse numbers

Bag records have been made available by Alistair Mitchell the Head Keeper. Anecdotal evidence suggests that this moor once presented 3-400 brace of high quality driven grouse shooting. By the 1980's driven shooting had declined and between 1985 and 1995 the annual bag from walked-up shooting was steady at between 25-30 brace. In 2000 only 7.5 brace were shot and all driven shooting was suspended in 2001. A count was undertaken in 2001 yielding 18 cocks, 18 hens and 54 chicks. No grouse are currently encountered on the lower slopes of the moor where heather loss has been extreme. Anecdotal information also suggests that roe deer have declined and black grouse are extinct here.

Assuming that grazing pressure can be influenced, there are certainly good opportunities to develop the management of some of the existing potential woodland areas, which will have a positive influence on all aspects of management including black grouse, roe deer, biodiversity in general and recreational benefits.

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Numbers of red grouse were counted in three blocks by ERA (ERA, 16.08.02). A total of 247 grouse were observed and 29 coveys averaging 7.8 birds per covey were recorded.

Current keeping

The moor has not been used for driven shooting for a number of years, and is currently used for walked-up days. Two keepers, one of which is exclusively focussed on Blairfindy, manage the moor.

Deer

Red deer are only occasionally observed and no management is required. Roe deer control should be maintained at a cull of 15-20 each year, a level undertaken by the keepers in recent years which maintains a manageable population.

Biodiversity

The semi-natural woodlands and juniper scrub on the periphery of the moor are important components of the biodiversity. In addition the lichen heath and wet flushes containing willow species, and the liverwort, *Scapania deganii*, are important. Snipe curlew and lapwing frequent the area. Full details of the habitats and species present are given in the ERA Baseline Survey.

Farming

The moor is split into 3 agricultural tenancies, operating as set out in the following table:

	Bertie Mackintosh	Colin Fraser	Charlie Reid
Type of Stock	Sheep only, Blackface	Sheep, Mules and Texel Cattle	Sheep only, Blackface
Area (Ha)	198.72	247.6	432.0
Numbers	160 ewes plus lambs 60 Gimmers	900 ewes plus lambs 80 cows plus calves	650 plus lambs
When used	All year	All year Cattle Oct - Feb	All year
Arable	Sheep allowed off hill at night to arable land (116ac)	Lamb on arable then back to hill. Cattle & sheep run between in-by and hill	Fields during day and Hill at night
Lambing %	140	160/170	140
Lambs	Lambs sold in Oct/Nov finished on arable	Lambs sold in Dec finished on arable	Lambs off in Sept and sold Oct
Clipping	July	July	Jul/Aug
Feeding regime	No feed	Cobs on hill Feb/April Some supplementary prior to tugging	Feeding in winter Feb-April
Minerals	Tubs prior to lambing	Tubs prior to lambing	Tubs prior to lambing
Health scheme	No	No	No

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Dipping regime	Early July Mid Oct Fly pour on as required	Early July Oct OGPhos (detomax)	August and Jan
Worming	April/Oct	No	No
Disease	No	Abortion - All sheep inoculated against this	
Open/closed herd	Closed accept rams	Closed herd	Closed herd
Muirburn	No	No	No
Vermin control	Keepers	Keepers	Keepers
Schemes on hill	None	ESA	ESA
Tenancy Notes	Partnership some flexibility	Full agricultural tenancy	Full agricultural tenancy
Comments		Last year 70/80 cows and calves on hill	Tried cows but lost 2 calves with Tick fever. Tried to get into scheme to reduce livestock (£35/ewe) to reduce grazing but failed

The current grazing densities are as follows:

Tenancy	Sheep	Cattle	LU	Area	Density
A	650	-	97.5	432	0.23
B	200	-	33	198	0.17
C	900	80	195	247	0.79

6 Management Approach

Heavy impact on heather moorland is currently being prevented by not burning the heather. On re-instatement of muirburn, the principle barrier to the regeneration of heather for red grouse and other species is likely to be stock grazing on freshly regenerating heather on burned areas. However, if sheep densities can be maintained at a low level, it will be possible to improve this area considerably for red grouse. In summary, without control of the density and seasonality of grazing animals it will be impossible to plan for, or execute best practice in grouse moor management. The management plan therefore focuses on these issues.

The key will be to establish an appropriate grazing regime before considering the reinstatement of a burning plan across the moor. Given that the moor is divided into 3 agricultural tenancies, there are opportunities to progress these plans at different rates in different parts of the moor. As a reduction of the stock numbers will have an economic impact on the farm businesses, it will be necessary to offer a financial incentive to offset losses incurred. The provision of incentives for the reduction in stock numbers is therefore central to achieving the objectives of this management plan.

It is well known that high numbers of red grouse (as a basis for economic driven shooting) can be sustained by a traditional burning regime. However, in the absence of the high numbers of grouse moor keepers that was commonplace in the earlier part of the last century, coupled with the more recent desire to pursue multiple objectives, including nature conservation, there is a natural tendency for moorlands to support higher densities of predatory animals. Bearing this in mind, we believe that modifications of the muirburn regime, especially by leaving more areas of unburned heather, can provide important additional cover to red grouse and other prey species. However, it is accepted that such a regime over a large area would not support the same high grouse numbers as a traditional burning regime. In addition, a smaller scale of patch burning can be helpful in this regard. These principles are embodied in the approach to management contained in this plan.

7 Muirburn & Grazing Plans

We do not believe that the current management is sustainable against the stated objectives, nor do we believe that the complete withdrawal of sheep is likely to be acceptable. Muirburn and grazing is based on the assessments of vegetation and range condition provided by ERA and follow the guidance provided in, 'A Muirburn Code' published by Scottish Natural Heritage (SNH) and 'Good Practice for Grouse Moor Management' published by the Moorland Working Group.

The Muirburn and Grazing Management Plan that follows takes into account the conservation of wind clipped summit heath, juniper scrub, Scots pine and rich flushes, especially the areas of willows and the liverwort, *Scapania deganii* in Coire na h-Airnich.

In the light of the issues raised above, a number of management options were considered (Appendix 1). The relative ease with which the moor can be divided into three parts by upgrading fences will facilitate the application of separate management regimes.

Map 1 illustrates the primary habitats and tenancies on the Blairfindy moor:

- A: Charlie Reid
- B: Bertie Mackintosh
- C: Colin Fraser.

All of the coloured areas, plus the area marked as Scots pine /lichen heath, are habitats that will be damaged by burning and should therefore be excluded from any burning. In addition, the areas shown as within the ESA for reasons of interest in bird feeding and breeding (snipe, curlew and lapwing) and the flushed area in the lower reaches of Coire na h-Airnich should be excluded from burning. We have assumed that the Gathering Areas owned by the distillery are also excluded from burning.

The grazing management proposed is as follows:

Area A: Charlie Reid

We initially proposed fencing sheep out of the northern area of tenancy A to protect the semi-natural woodland, juniper, rush pasture and bog. However, due to the importance of this area for stock shelter in particular, it has been agreed with the tenant that this will not be excluded from grazing. Instead, the overall number of stock on the hill will be reduced by 250 ewes, to reduce the grazing pressure. Small exclosures around some of the most sensitive areas of juniper are proposed. This northern area of the tenancy will not be burned. Throughout the remaining area we propose to reinstate a rotational burning regime. This will allow monitoring of the impacts associated with reduced grazing levels coupled with burning and no burning.

Area B: Bertie Mackintosh

We propose that the grazing pressure should be reduced significantly from the eastern part of tenancy B surrounding The Cairn, with the exception of a 200m wide pass to allow stock movement between the in-bye fields and the moor. This area will therefore be fenced to allow a division in the stock management. Sheep will continue to have access to this area at a reduced density, subject to monitoring of the vegetation condition, to be agreed with the project officer.

The eastern boundary of this area, containing juniper, will also be fenced from the pass. Grazing in this section should also be reduced at a density to be agreed with the project officer subject to the condition of the juniper. Although it would be desirable to exclude stock permanently from juniper, this provision helps to ensure the continued viability of the stock grazing, while being able to manage the stocking levels separately from the adjoining land. Area B will not be subject to burning, with the exception of the count area. This will allow the monitoring of impacts of grazing and not grazing in the absence of burning.

In order to deliver the altered grazing regime with significant reductions of stock in the two key areas above, while avoiding over-grazing elsewhere, the overall number of stock on this part of the hill should be reduced by 40 ewes.

Area C: Colin Fraser

Area C will not be subdivided, but the overall stocking density will be reduced to lessen the impact of grazing on newly burned areas. In early discussions the intention was to divide the area and exclude stock from either the north or south ends. However, the most fertile ground at the northern end is important to the stock business, and its continued grazing will reduce pressure on the rest of the moor, where there is more likelihood of heather recovery. The southern end of the moor requires continued grazing by cattle, to ensure the continued receipt of the Single Farm Payment, vital to the business, and to continue the beneficial effects of cattle grazing. Given the need for both sheep and cattle to cross from the inbye fields to the moor, it is impractical to divide the moor and remove sheep while maintaining cattle.

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Off-wintering of sheep was also considered, but the uncertainties of finding suitable ground and the management implications and costs were judged to be relatively high. The proposal is therefore to allow continued grazing over the whole area, but at a reduced level which will encourage the regeneration of heather. Grazing is likely to be heaviest on the better quality ground at the northern end of the area, with less impact on the more sensitive habitats to the south. The total number of stock grazing this part of the hill should therefore be reduced by 250 ewes.

In order to monitor the effects of burning and grazing, small control enclosures are proposed in Area C, to be burned but not grazed. These would be established after burning has taken place, subject to the agreement of the tenant.

The proposed grazing densities are therefore as follows:

Tenancy	Sheep	Cattle	LU	Area	Density
A	650	-	97.5	432	0.23
B	180	-	27	198	0.14
C	650	80	157.5	247	0.68

Stock fences separating the three tenancies should be upgraded where necessary to prevent sheep trespass. These will permit the range of burning and grazing regimes to be adopted. In summary we propose the following matrix of grazing and burning regimes on the areas of heath (white on Map 1) which will permit demonstration of the results of different combinations of grazing and burning management.

	Burn	No Burn
Graze	Area A south of proposed stock fence	Area B sheep pass
Reduced Grazing	Area C (incl. ungrazed controls)	Area B cairn & juniper areas (excl. count area)

Woodland Enhancement:

The forestry neighbours (largely Crown Estate ownership) should be approached with a view to restructuring the forestry boundary with native trees and open moorland to benefit black grouse. Native woodland will enhance the biodiversity of the area and improve conditions for many woodland species. It will also enhance the landscape as seen from the Spey Way and Clash Wood footpaths. On the scale proposed, it is not expected to be detrimental to moorland or red grouse interests.

Parasites and Predators:

Worm burdens in grouse should continue to be assessed to inform the possible need to initiate the use of anti-helminthics through medicated grit. Blood samples should be taken from sheep in each tenancy area in order that consideration may be given to the vaccination of sheep against louping ill.

The control of foxes and crows should be maintained at current levels throughout the moor.

Burning Regime

On the remaining areas of dry heath demarcated for burning, a rotational burning programme should be introduced. This should be based on Good Practice for Grouse Moor Management (SNH, 1998) and A Muirburn Code (SNH, 1993). We propose an 18 year burning rotation during which all dry heath demarcated for burning will be burned. The programme for this should be focused on small areas (c. 0.5ha), burning approximately 1/18th of the area of dry heath (white on map) each year. The use of a swiipe (as used effectively at Balnaboth Moor) or the use of foam, should be used to demarcate burned areas and to safeguard adjacent forest land.

8 Implementation

Stock reduction:

In order to manage the proposed grazing regime, it is necessary to undertake fence renewal and repair work in year 1. Given the division of the hill into grazing and non-grazing areas, it is impossible to secure stock management without effective fences. The reduction of stock on the areas proposed above will require the agricultural tenants to reduce their overall stock numbers, in order to prevent overgrazing elsewhere. Taking into account the stocking density, and the fact that some stock can be moved to the lower sections of the hill, we propose the following stock reductions:

Area A: Reduction of 250 ewes

Area B: Reduction of 40 ewes

Area C: Reduction of 250 ewes

Additional Labour:

In order to implement the proposed burning regime it will be necessary to bring in an additional person to assist the keeper. The cost, based on 10 days of labour is given in section 11. This labour will be sourced locally.

Equipment Required:

In order to demonstrate best practice in muirburn adjacent to woodlands, the purchase of fire equipment and a swiipe is necessary. The boundaries of the

muirburn areas will be swiped in order to demonstrate good control of the fires on a moor near woodland

9 Long-term Maintenance Work

The duration of the project subject to the current application to the Heritage Lottery Fund is 3 years. However, as the management recommendations above indicate, the management approach necessarily operates over a considerably longer timescale. In order to ensure that the benefits of the management regime continue beyond the 3 year horizon, it will be necessary to plan to continue the following work:

1. Maintenance of stock fences.
2. Adherence to the planned burning regime.
3. Monitoring as proposed below.

10 Recommendations for Monitoring Programme

We recommend the following monitoring programme:

1. Continue monitoring in line with baseline methodology.
2. Use aerial photography every three years following assessment in year 1, to monitor sheep grazing and burning patterns and heather recovery.
3. Annual monitoring of grouse bags.
4. Annual monitoring of predator control.
5. Annual recording of worm burdens and anti-helminth measures.

11 Summary

There are clear opportunities to develop a management regime that modifies the current impacts of stock grazing and allows a muirburn programme to be reinstated. The development of such a regime, which also takes account of significant public access, would provide valuable opportunities for demonstration, readily transferable to other moors.

In particular, the management plan offers demonstration in the following areas:

- The use of a burning and grazing matrix to regenerate and maintain heather;

- The appropriate burning practices close to forestry;
- The integration of grouse moor management with biodiversity, access and agricultural objectives.

12 References

The information about the moor has been provided through meetings with Smiths Gore, Alastair Mitchell (Head Keeper) and the agricultural tenants. Specific references are detailed below:

Cairngorms Demonstration Moors Programme, Baseline Surveys. Draft Report, ERA, 16.08.2002.

Cairngorms Partnership 2002: Interpretive Plan

Cairngorms Partnership: Cairngorms Forest and Woodland Framework

ERA 2002: Tender- Baseline Monitoring Survey

FWAG 2000: Countryside Premium Scheme application

Scottish Natural Heritage 1993: A Muirburn Code

Scottish Executive Moorland Working Group 1998: Good Practice for Grouse Moor Management

13 Appendices

Appendix 1: Management Options

In developing this moorland management plan, the following options were considered:

1. Continue the current regime.
2. Remove sheep entirely from one or more of the tenancies.
3. Construct new fences separating the lower grasslands from the heather moor and manage these to benefit grouse production on the moor.
4. Cease burning until agreements have been reached with agricultural tenants. Follow this by re-commencing burning and grazing in accordance with an agreed Moorland Management Plan based on the ERA vegetation study (ERA, 16.08.02).
5. Upgrade fences separating the tenancies, which creates three areas where grazing can be managed separately. A valuable option from the demonstration viewpoint, might be to cease burning and grazing for a longer period in one tenancy area.
6. Develop an agreed Moorland Management Plan based on the ERA vegetation study (ERA, 16.08.02). This should pay particular attention to areas that will continue to receive high pressure from sheep such as the lower grasslands, juniper scrub, Scots pine and the Allt na Ghlander woodlands. Burning should be avoided on sensitive plant communities such as wind clipped summit heath, lichen rich heath and base-rich flushes.
7. Consider approaching the forestry neighbours (largely Crown Estate ownership) with a view to restructuring the forestry boundary with native trees and open moorland to benefit black grouse. Native woodland will enhance the biodiversity of the area and improve conditions for many woodland species. It will also enhance the landscape as seen from the Spey Way and Clash Wood footpaths. On the scale proposed, it is not expected to be detrimental to moorland or red grouse interests.
8. Consider the use of anti-helminthics through medicated grit.
9. Consider vaccination of sheep against louping ill.
10. Maintain control of foxes and crows.