Cairngorms National Park Partnership Plan 2017 – 2022

ISSUES REPORT

June 2016

DEER AND MOORLAND MANAGEMENT ISSUES REPORT

1. POLICY CONTEXT

1.1 Scottish Biodiversity Strategy

The 2020 Challenge for Scotland's Biodiversity updates and complements the *Scottish Biodiversity Strategy 2004.* Together they set out Scotland's response to the Aichi Targets set by the UN Convention on Biological Diversity. Public agencies, Local Authorities and NGO's have each set out their commitments in *Scottish Biodiversity Strategy 2020 Challenge Delivery Agreements*.

Scotland's Biodiversity a route map to 2020 identifies six 'Big Steps for Nature' and a number of priority projects through which outcomes and key steps in *The 2020 Challenge* will be met. Those most relevant to CNP are:

SBS 2020 Challenge Outcome	1. Scotland's ecosystems are restored to good ecological health so that they provide robust ecosystem services and build our natural capital 2. Natural resources contribute to stronger sustainable economic growth in Scotland and we increase our natural capital to pass onto the next generation.
Big Steps for Nature	1. Ecosystem restoration – to reverse historical losses of habitats and ecosystems, to meet the Aichi target of restoring 15% of degraded ecosystems 2. Investment in Natural Capital – to ensure the benefits which nature provides are better understood and appreciated, leading to better management of our renewable and non-renewable natural assets. 5. Sustainable management of land and freshwater – to ensure that environmental, social and economic elements are well balanced
Priority Projects	1. Restoration of peatlands 2. Restoration of native woodland 3. Restoration of freshwaters 4. Securing economic benefits from, and investments in, natural capital 10. Improving ecological connection 11. Support sustainable land management via CAP

1.2 Climate Change

Moorland will be a major contributor towards meeting the targets resulting from the Climate Change (Scotland) Act 2009:

- Reduce greenhouse gasses by 80% by 2050
- Woodland expansion: 10,000 ha per year

It is estimated that 70% of our blanket bog and 90% of our raised bog area has been damaged to some degree. Damaged bogs are a source of climate-warming greenhouse gases, reduced water quality and deliver a diminished range of other services. Scotland's National Peatland Plan aims to reverse this trend, and to restore and improve our peatlands:

- By 2020 we expect to see improvements in the protection and condition of peatlands
- By 2030 we want to see peatlands in a healthy state and widely regarded as resilient
- By 2050 and beyond the rewards of restoration effort undertaken in previous decades should now be evident.

1.3 Cairngorms Nature Action Plan (CNAP)

Cairngorms Nature is a wide and open partnership of agencies, individuals and organisations with an interest in conservation in the National Park. *The Cairngorms Nature Action Plan 2013 – 2018* describes the priorities for action over the next five years and is the primary mechanism for focussing and coordinating partners' activities.

The four aims of the Cairngorms Nature Action Plan are to:

1. Improve the quality and connectivity of woodlands and wetlands for biodiversity
2. Implement priority actions for other habitats (e.g. peatlands restoration)
3. Conserve and enhance key species through focused conservation action
4. Encourage, support and provide opportunities for people to realise the benefits from and help to look after nature

The Cairngorms Nature Action Plan includes targets for

- 5,000ha new native woodland
- 2,000ha peatland restoration
- 100km river restoration
- 25ha new wetland and natural flood management
- 300ha developing mountain woodland

Cairngorms Nature Action Plan 2013-2018 includes enhancing the quality of moorland and montane habitats through:

- Promoting peatland restoration
- Promoting the adoption of, and adherence to, the Muirburn Code
- Showcasing examples of best practice moorland management

- Promoting and supporting the creation and restoration of montane scrub in suitable areas
- Trialling innovative techniques to increase raptor populations
- Supporting collaboration to reduce conflicts in species and wildlife management
- Providing advice and guidance on favourable grazing and burning regimes on important sites for montane, moorland and grassland biodiversity.

1.4 Scottish Land Use Strategy

The *Scottish Land Use Strategy* is a strategic framework bringing together proposals for getting the best from Scotland's land resources. Public sector bodies are expected to take a leading role by utilising its principles for sustainable land use. Those most relevant to landscape scale habitat restoration in CNP are:

c) Where land is highly suitable for a primary use (for example food production, flood management, water catchment management and carbon storage) this value should be recognised in decision-making

d) Land use decisions should be informed by an understanding of the functioning of the ecosystems which they affect in order to maintain the benefits of the ecosystem services which they provide.

1.5 Scottish Forestry Strategy

The vision of the *Scottish Forestry Strategy* is that, by the second half of the 21st century, woodlands will have expanded to around 25% of Scotland's land area. This will mean the creation between 10000 and 15000ha of new woodland per year including 2000ha on the national forest estate. It is also intended that at least 4500ha of native woodland will be created - or restored from woodland planted with non-native species - per year, to help develop habitat networks.

1.6 Scotland's Wild Deer: a National Approach (WDNA)

Scotland's Wild Deer: A National Approach (WDNA) is a 20 year vision for wild deer management launched in 2008 and developed by private and public bodies working together. WDNA was reviewed in 2014, priorities developed for 2015-2020 and an Action Plan published covering 2015-2018. Based on WDNA, SNH produced details of 14 actions to be included in DMPs in order to deliver public interest.

The impacts of deer can have a major influence on habitat restoration: trampling and grazing are two of the biggest pressures on the condition of uplands and the successful establishment and regeneration of woodlands. Deer Management Plans must now ensure that deer management delivers public benefit, as set out in 14 prescribed actions. The Scottish Government agreed that the end of 2016 would be a suitable juncture to consider progress and to look to take action if the current voluntary system has not produced a step change in the delivery of effective deer management.

The Wildlife and Natural Environment (Scotland) Act 2011included The Code of Practice on Deer Management (Deer Code) which allocates responsibilities and recognises the public interest in deer management. The Scottish Government have called for a 'step change' in the way that deer management groups operate and deliver the public interest. SNH are reviewing evidence from DMGs across Scotland and will be reporting to ministers this Autumn. The results of the review may have significant implications for the way that deer are managed in the future.

1.7 Natura 2000

The National Park is of extremely high importance for nature conservation. Almost half of the Park is designated under Europe's nature conservation legislation: the *Habitats Directive* and the *Birds Directive*; which together form the *Natura 2000* network of Special Areas of Conservation (SAC) and Special Protection Areas (SPA). The National target is to bring 80% of designated sites into favourable condition by 2016.

2. OTHER DRIVERS OF CHANGE

Red grouse productivity on moorland managed for grouse has been increased in many areas through the a) reduction in the burden of ticks, particularly on young grouse, by using sheep as 'tick mops' and b) control of strongylosis through use of medicated grit. The presence of louping ill, a viral disease transmitted between host animals by ticks, causes reduced levels of chick survival, with up to 80% of infected chicks dying. As a consequence, chick survival rates average 50% lower on moors with louping ill (GWCT).

The nematode worm *Trichostrongylus tenuis*, the causative agent of the disease strongylosis, is widespread in red grouse and high levels of infection can cause significant reductions in both breeding success and direct mortality. Research has shown that this parasite is largely responsible for the cyclical fluctuations in grouse numbers. (GWCT).

There has been a significant increase in the use of fencing in some moorland areas to keep deer off the moor and sheep (for tick mopping) on the moor. This has implications for access, landscape and habitat. Increased control of grazing through fencing can assist habitat restoration and regeneration.

Whilst it is well documented that grouse suffer from ticks, it is less well known whether or not the increases in grouse populations and consequent 'bags' on driven grouse moors may be exacerbating the problem. Grouse populations naturally fluctuate, keeping them artificially high for the long term through medication, control of other species and concentrated habitat management will lead to increased susceptibility to disease and transfer of parasites.

3. TRENDS AND DATA

3.1 Land management objectives

Since the late 1990's, there has been a significant shift in the focus of land management objectives in some areas of the National Park. Some estates have made the restoration of native woodlands their primary objective when previously they had been for sporting deer management. As noted above, some estates or sporting tenants/partners have put a greater emphasis on management for driven grouse then previously. The motives are different, but both cases have resulted in significant deer reductions in specific locations. . In the Cairngorms Speyside DMG area some 73% of the range is now primarily focused on habitat restoration management and grouse production. In much of the Angus Glens deer are virtually excluded by fencing in favour of management for grouse.

Moorland management is a significant land use in the National Park, extending to approximately 44% of land cover, shaping much of the landscape. Much of it is managed for the primary aim of producing sufficient populations of red grouse and/or red deer for sport shooting. Its management for sporting purposes is a strong influence on landscape, wildness, habitat, species and other land management, for example hill livestock, peatland, woodland and water management.

Currently moorland management is a significant component of the total employment figures attributed to estates. A landowner survey conducted in 2013 indicated that estates comprise approximately 9% of total employment in the Park. The survey (which included 50% of landholdings, covering 66% of the National Park) records the dominant form of land use as managed moorland (189,552ha), followed by rough grazing (66,678ha), conservation (35,165ha) commercial forestry (28,390ha) and native woodlands (19,384ha).

The most prevalent objectives of 'high importance' were sporting land uses (27), agriculture (23), conservation (20) and forestry (19), followed by residential property (17), tourism and leisure (16) access and interpretation (10) and renewables (8).

3.2 Deer Management Groups

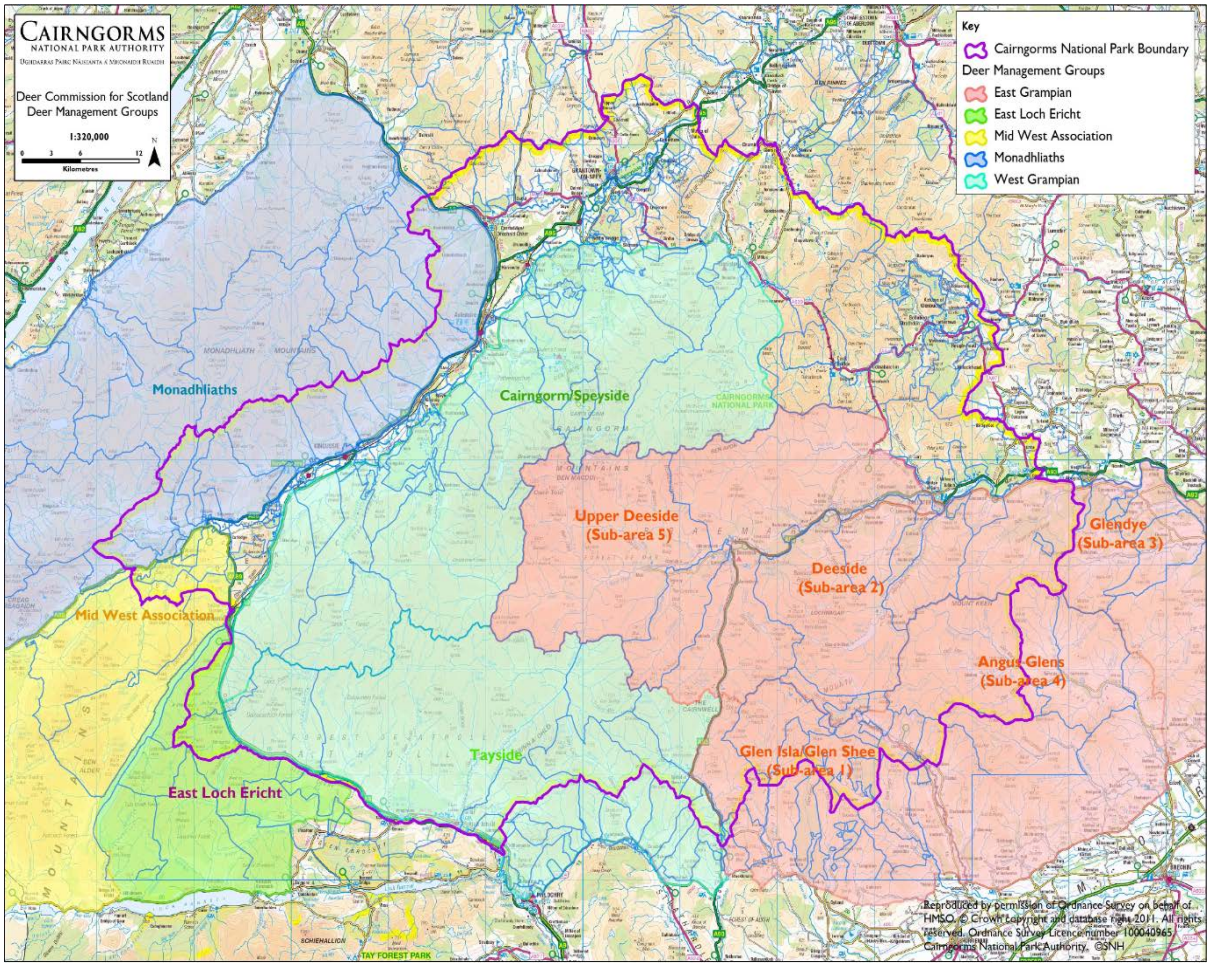


Figure 1 Deer management Groups (DMGs) in the Cairngorms National Park

Changing trends in land management, together with the high degree of designated land within the National Park (SSSI, SPA, SAC), result in conflicting management pressures across DMG boundaries and individual estates. Deer densities can vary greatly between DMG areas:

Table 1 Deer densities 2005-2010 (Source: Scottish Natural Heritage)

Deer management Group	2005		2010	
	No.	Density	No.	Density
West Grampian Deer Management Group (Tayside)	17,860	22/sq km	18,936	25/sq km
West Grampian Deer Management Group (Cairngorms Speyside)	7,034	7/sq km	4,013	4/sq km
East Grampian Deer Management Group (Sub-area 5)	5,135	8/sq km	5,041	8/sq km

The Deer Code identifies deer management actions required to deliver the public interest (sustainable deer management). Actions are divided into four themes:

- Ensure that wild deer welfare is safeguarded
- Protect and enhance the environment
- Support sustainable economic development
- Support social well-being.

Recent red deer research (Pemberton, J.M. and Kruuk, L.E.B. (2015*). Red deer research on the Isle of Rum NNR: management implications.* SNH Battleby) suggests that reducing deer density, especially hind density, will:

- increase calving rates
- increase the proportion of stag calves born
- increase calf and yearling survival (especially in stags) and antler size
- reduce stag emigration.

Calculations based on the Rum data suggest in that population, the highest yield of venison would come from maintaining an intermediate hind density. The maximum yield of harvestable stags would be achieved by maintaining a hind cull of between 10% and 20%.

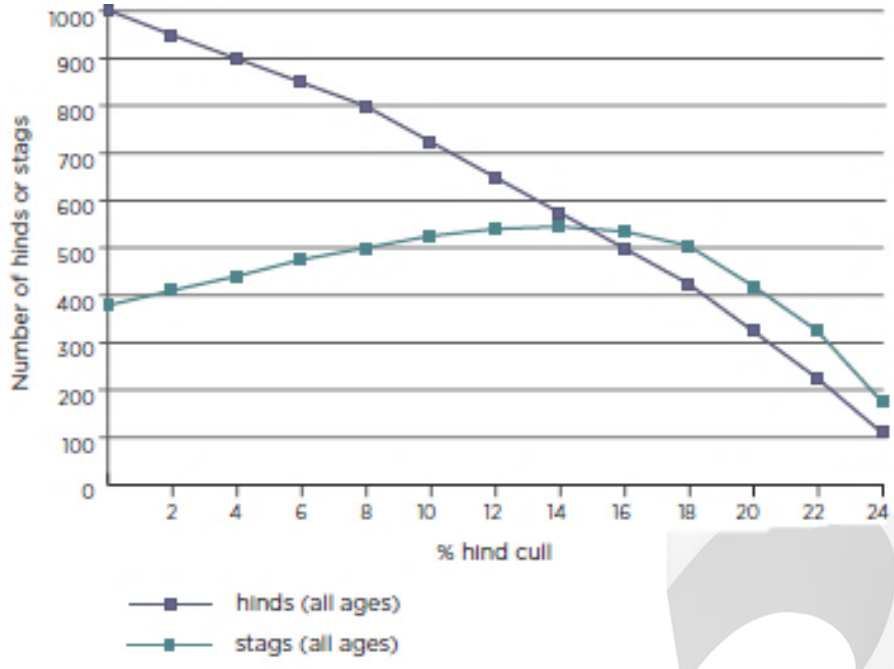


Figure 2 Stag numbers are maximised when hinds are culled at a rate of 10-20%. This plot shows equilibrium values from a model based on Rum data, scaled to a population of 1,000 hinds and accounting for the effects of hind density on reproduction and survival.

The research presented in Figure 2 is representative of hill deer living in the landscape and climate of western Scotland. Snow lie is an important determinant in the central highlands

and in the east large herds of deer are likely to range more widely. However, there is evidence that this research, particularly concerning density, is relevant across much of Scotland.

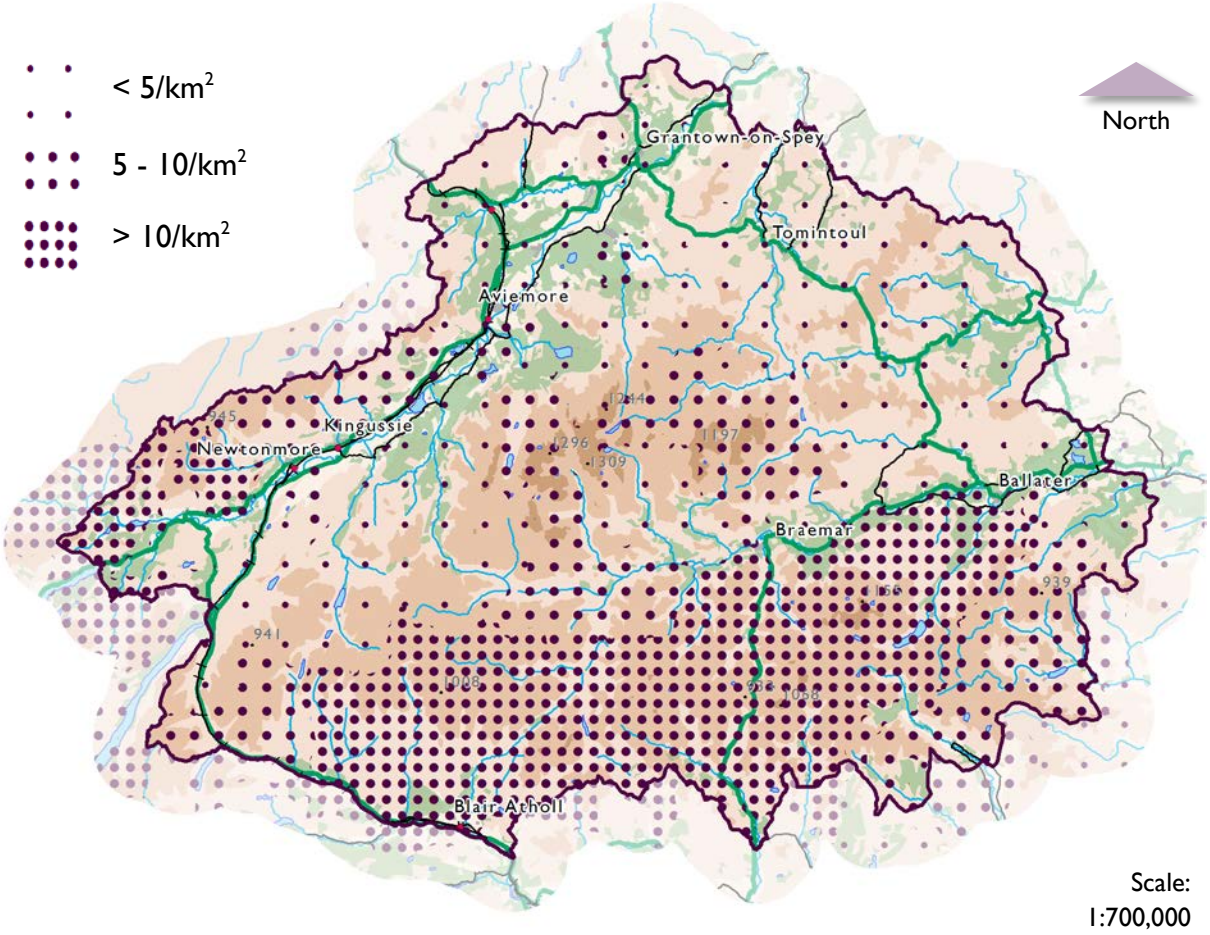


Figure 3 Aspirational Red Deer Densities in the Cairngorms National Park November 2015

The map of 'Aspirational Red Deer Densities' across the National Park (Figure 3) provides a crude indication of the approximate deer densities that individual estates across the national park wish to have on their land. They broadly reflect objectives for habitat restoration or grouse moor management (low densities), mixed estate objectives (medium) and deer management for sport (higher). This map, although crude does provide a visual indication of where some of the 'tensions' may lie between estates with contrasting deer management objectives.

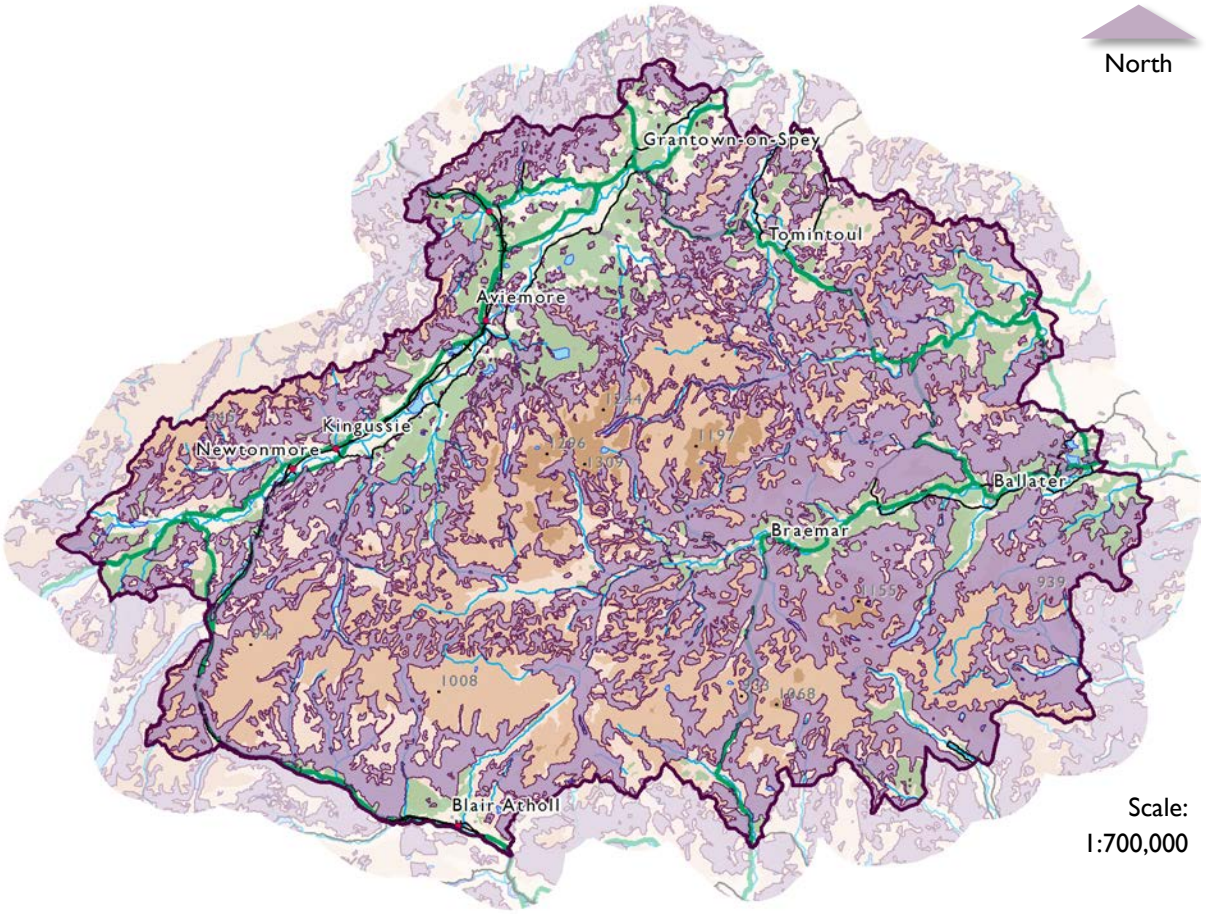
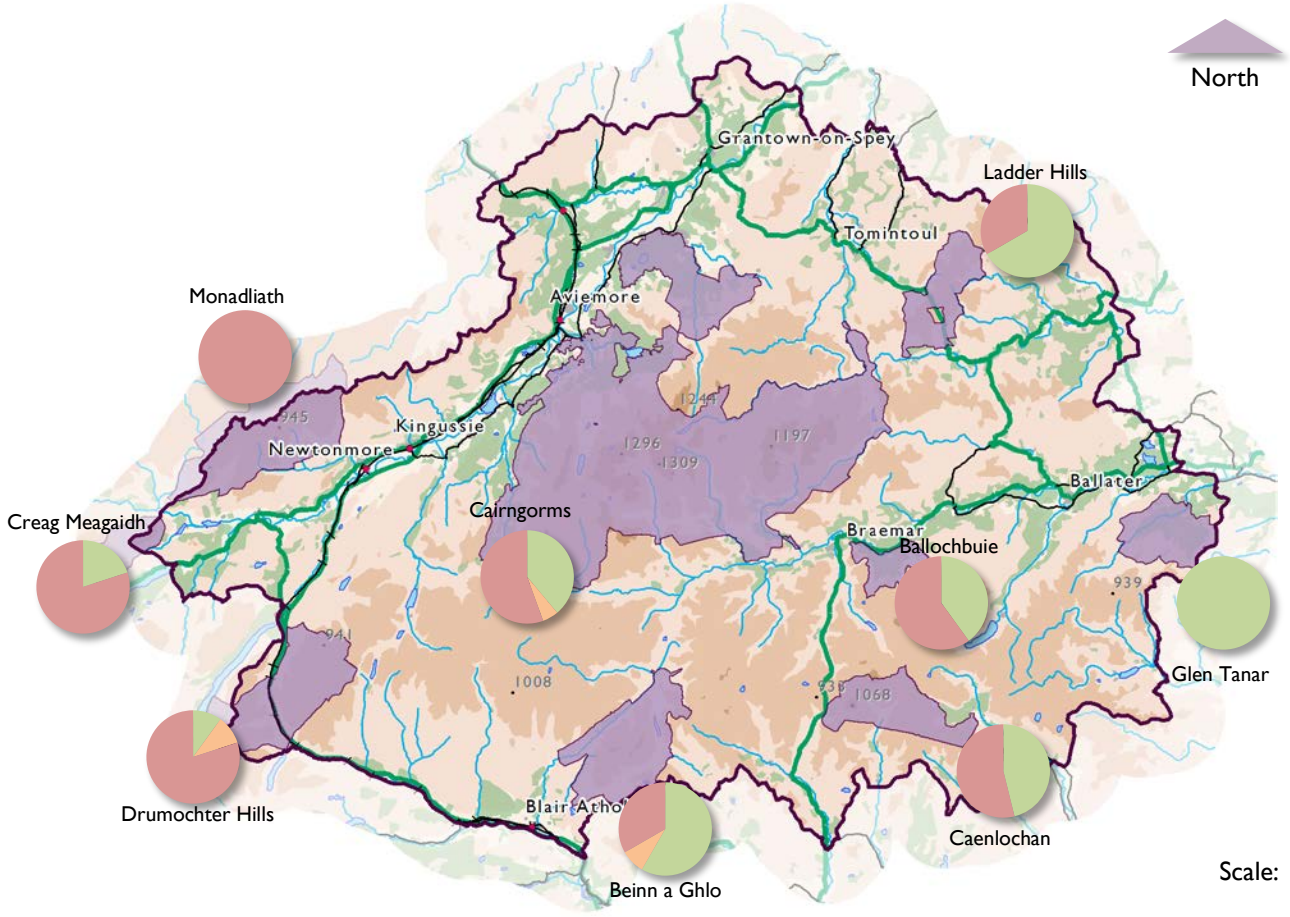


Figure 4 Heather moorland areas within the Cairngorms National Park (Soil Survey of Scotland Staff, 1981)



Features in 'Favourable Maintained' or 'Favourable Recovered' condition.
Features that are either in 'Favourable Declining' or 'Unfavourable Recovering' condition.
Features that are in 'Unfavourable Maintained' or 'Unfavourable Declining' condition.

Figure 5 Special Areas of Conservation with upland habitats as qualifying features and their latest assessed condition.

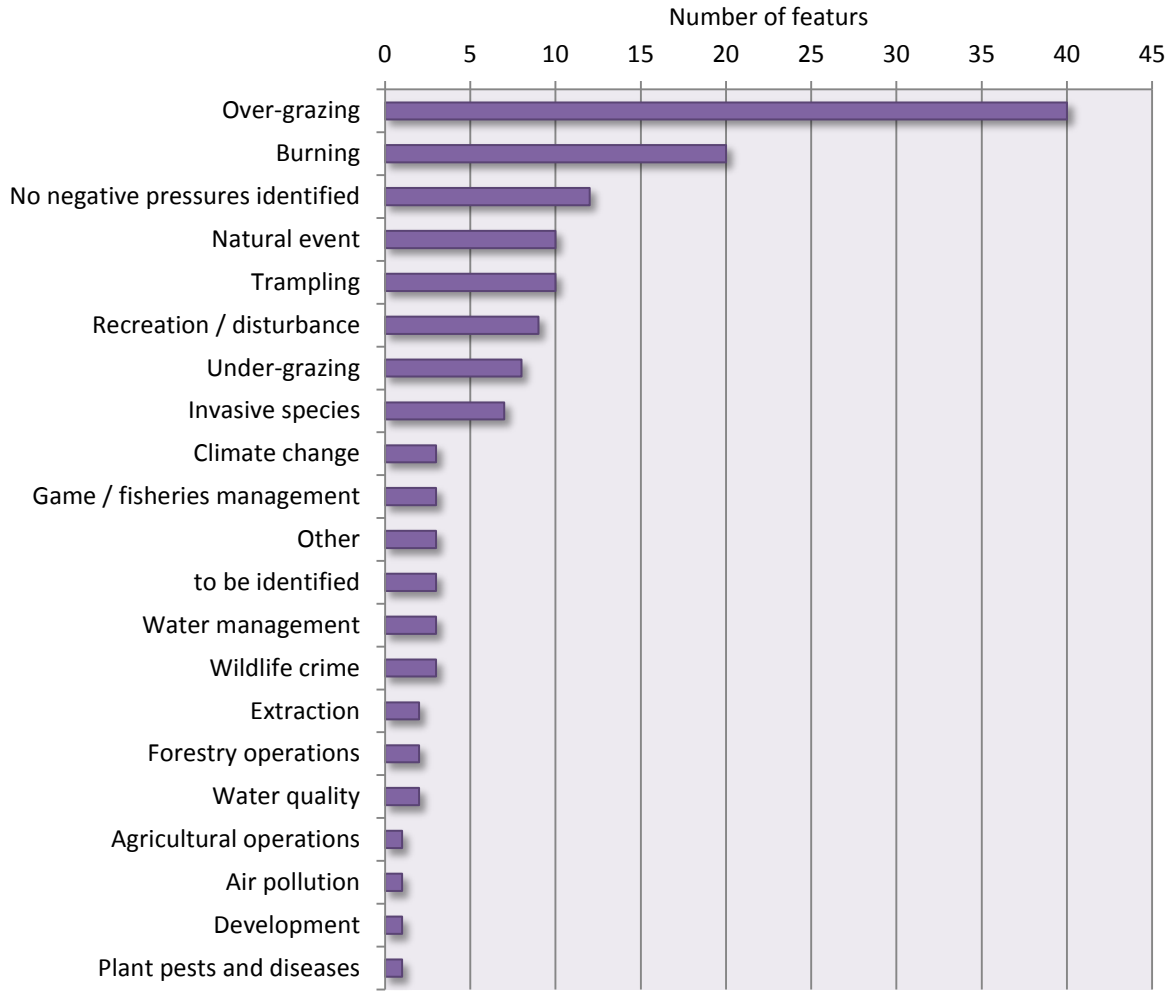


Figure 6. Graph showing the "Pressures" on designated features in the Cairngorms National Park listed as being in 'unfavourable declining' condition (79 out of 420 assessed).

5. KEY ISSUES

5.1 Woodland expansion

Woodland restoration, enhancement and expansion are priorities in the Scottish Biodiversity Strategy, Scottish Forestry Strategy, Cairngorms Nature Action Plan and current National Park Partnership Plan. Native woodland regeneration and willow scrub establishment survey work by FES at Glenmore indicates a potential for expansion towards the 850m contour. Grazing pressure and muirburn remain as significant barriers to woodland expansion, as indicated in the above graph showing 'pressures' on designated features in the National park.

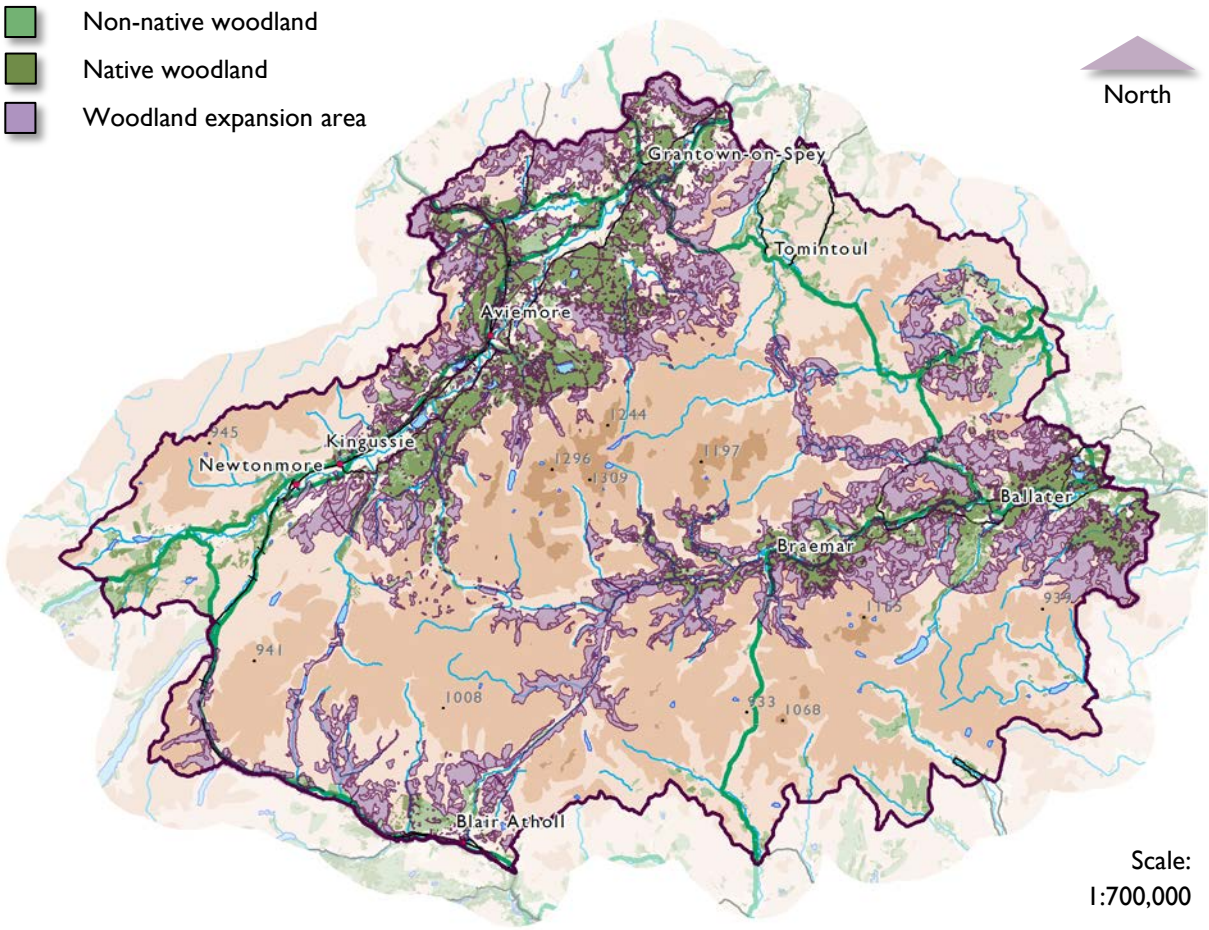


Figure 7 Areas of woodland and woodland expansion in the Cairngorms National Park.

Figure 7 shows the areas where there are additional grant payments available for woodland creation in the National Park. These 'target areas' are designed to encourage uptake of woodland creation grants, that will extend the habitat available for capercaillie and other critical pinewood species extend into moorland.

5.2 Peatland Restoration

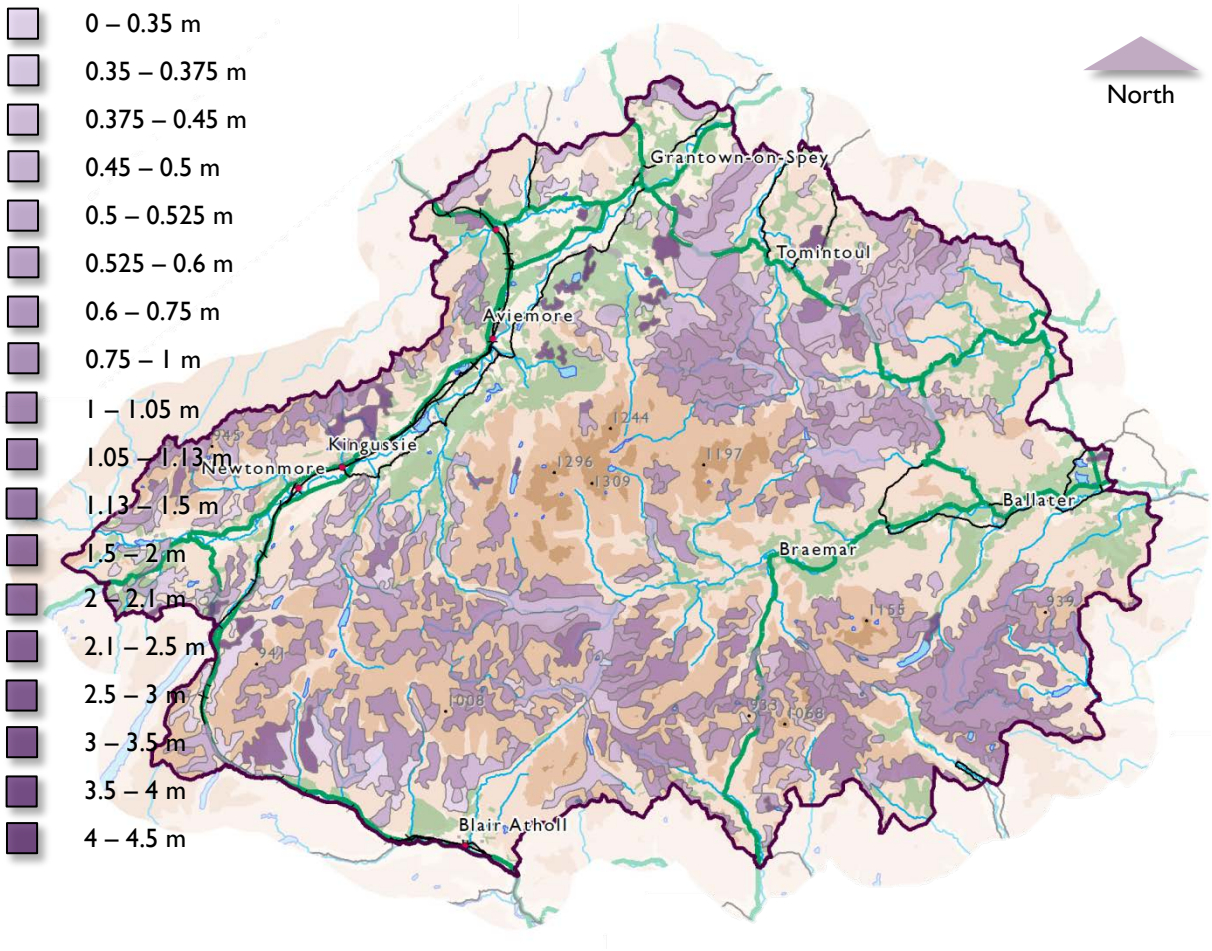


Figure 8 Depth of peat in the Cairngorms National Park (Soil Survey of Scotland Staff, 1981).

Scale: 1:700,000

Peatland restoration projects are already underway on Mar Estate and Glenlivet, with proposals for funding of other projects in the pipeline for Balmoral and Invercauld. ECMP have agreed to produce a peatland restoration proposal covering the upper Dee and Avon catchments ready for the next round of funding. Peatland locations and depths have been mapped across CNP. In restoring degraded peatland we must take steps to prevent the same pressures, including grazing levels, leading to erosion again.

5.3 Raptor Conservation

Today in Scotland it is illegal to intentionally or recklessly kill, injure or take any wild bird (with the exception, in season, of certain game birds and waterfowl); take damage or destroy the nest of a wild bird while it is in use or being built; take or destroy eggs; or obstruct or prevent a wild bird from using its nest. These provisions apply to all birds of prey (raptors), with no exceptions.

There is a longstanding conflict inherent in the management of moorland for driven grouse shooting in which raptor predation can reduce grouse shooting bags, limit grouse populations and cause economic losses. Consequently despite the clear legally protected status of raptors there continue to be cases of raptor persecution occurring across the UK and within the Cairngorms National Park. "Today, there is no doubt that persecution is greatly reduced, but there are still pockets of resistance where illegal practices continue, with quite profound effects" (SNH, Raptors - Naturally Scottish, 2012).

The Cairngorms National Park has lower populations of some raptors than would be expected given the available habitat and prey. For example, there is potential to significantly increase peregrine falcons (Northeast Raptor Study group 2015) and Hen Harriers (Rebecca *et al* 2016), both of which have been limited by persecution.

In limited trials, provision of supplementary food greatly reduced their predatory impact on young grouse, but did not result in higher grouse densities for shooting. (RSPB)

Limitation of grouse populations through raptor predation is most likely to occur where raptors are at high density because of the abundance of alternative prey, and grouse are at low density either because of unsuccessful management or the cyclical nature of some grouse populations. In the long term, habitat management may reduce densities of alternative prey, leading to reductions in raptor densities and their predation on grouse. (Redpath and Thirgood 2008).

Efforts by NGOs to raise awareness of raptor persecution and by bodies representing landowning interest to tackle the problem have helped and some species such as the goshawk, red kite and white tailed eagle are on the increase. Notably the buzzard has significantly increased in recent years leading to calls from some land managers to allow for their protected status to be reduced.

One option favoured by some conservationists is to encourage the recovery of golden eagles on grouse moors in the expectation that they will suppress harrier density. (Fielding et al 2003).

Diversionary feeding and alternative prey for raptors are important considerations for moorland managers. Mountain hare are an important prey and alternative prey item for golden eagle.

5.4 Hare management

Mountain hare occupy the same habitat as red grouse and thrive on moorland managed for red grouse. Alongside deer, mountain hares are known carriers of ticks. In some places they also have a localised impact on tree regeneration and growth. Consequently hare culls have been carried out by land managers for many years. However, there is insufficient information in the public domain about numbers culled and the context of population counts and estimates. Research is ongoing to define the best methods for population assessments and setting cull targets that guarantee the hare populations remain in good health.

5.5 Landscape

"The special landscape qualities of the Cairngorms National Park" report commissioned by Scottish Natural Heritage and Cairngorms National Park Authority (2010) describes the moorland, "Vast stretches of moorland characterise the Park, and it is probably the best place in the world to experience the distinctive browns and purples of swathes of heather. In late summer, the heather in full bloom is symbolic of the Scottish Highlands. It dominates the middle range hills, ascends the higher slopes and in places descends to the floor of the straths. The matrix of heather unifies the landscape elements of the whole Park, occurring throughout and linking the farmland, woodlands and the high tops."

Landscapes constantly evolve as habitat change is implemented. Landscape change can be gradual and subtle occurring over many years e.g. grazing damage, annual incremental mature tree removal from moorland or conversely woodland/scrub regeneration onto moorland. Landscape change can be more dramatic and sudden e.g. new hill tracks, fencing, windfarms, wildfire and new forest plantations.

The moorland landscape we have today is there by choice; moorland management has created the open and extensive landscape we have today and simultaneously kept in check the spread (or return) of other lost habitats.

5.6 Access

The Land Reform (Scotland) Act 2003 ensures everyone has statutory access rights to most of Scotland's outdoors, if these rights are exercised responsibly, with respect for people's privacy, safety and livelihoods, and for Scotland's environment. Equally, land managers have to manage their land and water responsibly in relation to access rights.

In relation to upland land management and field sports, the Code asks for responsible behaviour from the public by:

- Minimising disturbance through being alert to the possibility of shooting taking place
- Avoiding crossing land where shooting is taking place
- Taking account of advice on alternative routes.

Inappropriately designed and located fencing can impact on the landscape and the ability of people to access upland areas. The use of signage, explaining where and when shooting is taking place and offering alternative routes helps to improve understanding bwteen land managers and others accessing the uplands.

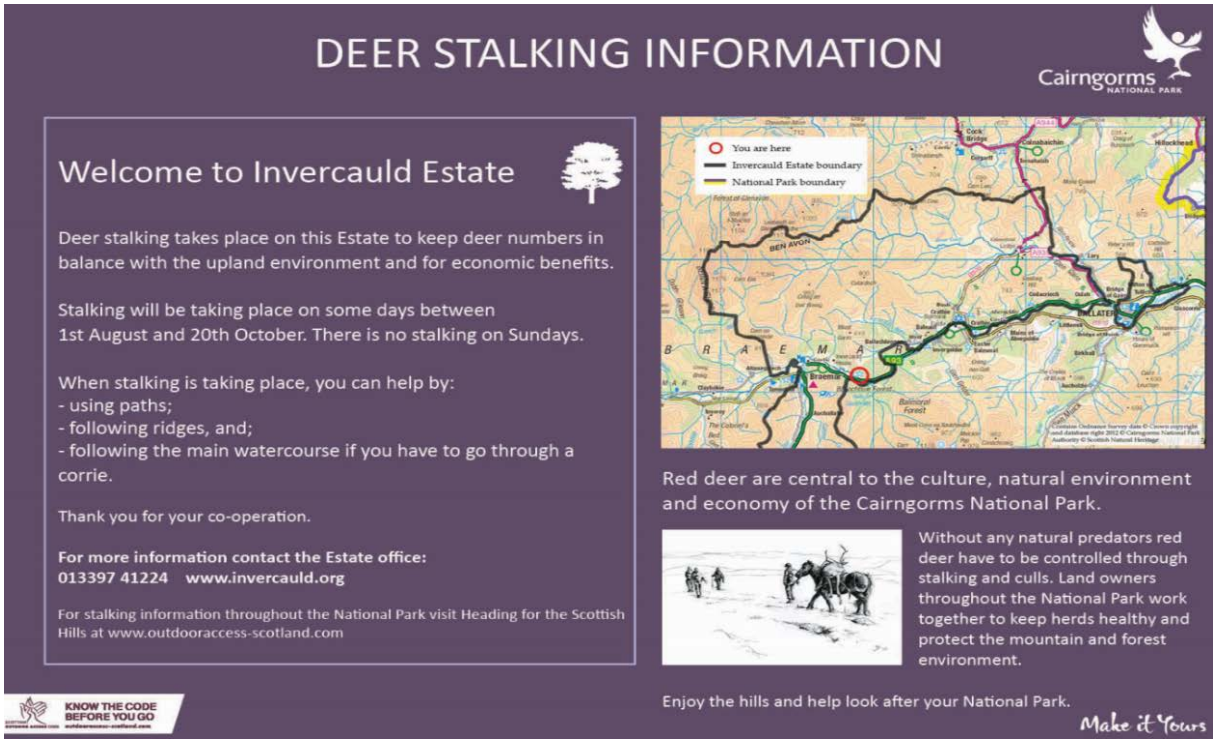


Figure 9 Example of Deer Stalking Information provided in the Cairngorms National Park.

5.7 Muirburn

The principal legislation governing muirburn is the Hill Farming Act 1946 as amended by the Wildlife and Natural Environment (Scotland) Act 2011 and the Climate Change (Scotland) Act 2009. It is guided by the Muirburn Code and Principles of Moorland Management, both of which are currently under review nationally.

Controlled muirburn reduces the fuel load and can reduce the likelihood of spread of wildfires. Poorly managed muirburn can lead to destruction of rare habitats, carbon emissions, impact on water quality and creation of wildfires. A more selective approach would provide increased habitat biodiversity by leaving areas of scrub around the moorland edge, rather than managing simply in terms of either forest or moorland.

5.8 Hill tracks

Tracks are a necessary component of land management, facilitating access to remoter areas enabling important habitat and species management such as deer control. However, inappropriately sited or constructed vehicle tracks can have detrimental impacts on the visual landscape, in particular where tracks extend into remote wild land areas or are on higher ground.

Scottish Natural Heritage (SNH) has issued good practice guidance, 'Constructed Tracks in the Scottish Uplands', on the construction and repair of tracks.

Significant landscape and visual impacts result from the introduction of a built feature into an otherwise apparently natural landscape. The scale of this impact is influenced by a number of factors including:

- Track alignment: the extent to which the alignment of the track reflects the overall structure of the landscape, for example reflecting the broad sweep of a ridgeline, or the finer grain landscape of a moraine field;
- The extent to which the alignment of the track adheres to conventional patterns of development, for example running along the valley floor, linking farmsteads or passing through bealachs;
- Cut and fill: the scale and treatment of cut faces and areas of fill, together with structures such as bridges, culverts and fences;
- The way the track is experienced: the relationship between the new track and key viewpoints such as public roads, paths and hill summits.

6. SUMMARY

Issues

- Changing trends in land management, e.g. in some places a shift from sporting deer forest to habitat management, in other places increased intensity of management for grouse;
- Impacts of deer and grouse management in delivering woodland expansion and peatland restoration;
- A wider public interest remit for deer management groups and planning now in place;
- Restoring areas of peat in poor condition to improve ecosystem function and mitigate climate change;
- Raptor persecution and underlying conflicts between raptor conservation and the impacts of muirburn;
- Ensuring land management activities, e.g. muirburn and fencing does not adversely impact on landscape and recreation value; and
- Need to meet Climate Change (Scotland) Act 2009 woodland expansion targets.

Targets / Preferred Direction

- Continue to improve and enhance the quality of moorland and montane habitats, particularly those in unfavourable condition;
- Manage deer numbers and muirburn to enable habitat enhancement;
- Improve the integration of grouse moor and sporting deer management with wider habitat and species diversity;
- Improve raptor population conservation;
- Expand peatland restoration projects; and
- Meet Climate Change (Scotland) Act 2009 woodland expansion targets and reduce greenhouse gas emissions.

Mechanisms for Delivery

- Collaboration across land holdings
- Deer management groups and plans
- Cairngorms Nature
- The East Cairngorms Moorland Partnership
- Catchment partnerships
- Designated site management
- National legislation including the Land Reform (Scotland) Act 2003, Climate Change (Scotland) Act 2009 and the Wildlife and Natural Environment (Scotland) Act 2011

Key Questions

- Should the Park Partnership Plan set guidance on the appropriate range of deer densities necessary to deliver the public interest?
- How can management for grouse be better integrated with wider habitat and species enhancement objectives such as woodland expansion, peatland restoration and raptor conservation?