Scotland's National Nature Reserves

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The Reserve Plan for Abernethy - Dell Woods National Nature Reserve 2009-2015

Scotland's National Nature Reserves

The Reserve Plan for
Abernethy National Nature Reserve
Dell Woods
2010 – 2016

Foreword

Abernethy National Nature Reserve (NNR) is located on the southern edge of the village of Nethybridge, 14 kilometres (9 miles) northeast of Aviemore in Badenoch and Strathspey. The Dell Woods section of Abernethy NNR - is owned and managed by Scottish Natural Heritage (SNH) and forms part of the much larger Abernethy NNR, the largest remnant of an ancient native pinewood which once covered the foothills of the Cairngorms. These woods are home to some of the most charismatic mammals and birds of the Scottish Highlands including pine marten, red squirrel, capercaillie, osprey, Scottish crossbill and crested tit. They are also home to a suite of flowers characteristic of native pinewoods including twinflower, intermediate wintergreen and creeping lady's tresses. For many rare species, including the less well-known insects, fungi, lichens and mosses, these woods are their main, and sometimes only, stronghold in Britain.

Abernethy NNR is one of more than 50 NNRs in Scotland. Scotland's NNRs are special places for nature, where many of the best examples of Scotland's wildlife are cared for. They offer special opportunities for people to visit, enjoy and find out about the richness of our natural heritage.

Abernethy NNR lies within the Cairngorms National Park (CNP). We are introducing a new collaborative approach to managing NNRs within the CNP and Abernethy NNR is included within the suite of Cairngorms NNRs. Whilst the key focus of NNR management must be on delivering the NNR Policy, we are keen for all the NNRs in the CNP to also contribute towards delivery of the CNP Plan. Thus our management of the Reserve will contribute to the aims of the National Park, see appendix 5.

The paths within the NNR also form part of the CNP core paths plan and will remain part of this network for the future.

This document sets out how we intend to manage the Dell Woods section of Abernethy NNR for the next six years. It has sections outlining our plans for management of the natural heritage, management for people, and property management. We consulted with key stakeholders and the local community in 2008 and we have incorporated many of their suggestions and comments into this plan. The Reserve Plan is the blueprint for management of Dell Woods. The plan is backed up by project plans and an indicative 6-year budget. Annual work programmes will be drawn up to implement the Plan.

If you would like more information about the wildlife and history of the Reserve, please read the companion document The Story of Abernethy NNR - Dell Woods. It tells you about the natural heritage, past land use and previous management of the Reserve and is recommended reading for those wishing to understand more about the Reserve.

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Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdair air fad airson Alba air fad


Cairngorms
NATIONAL PARK

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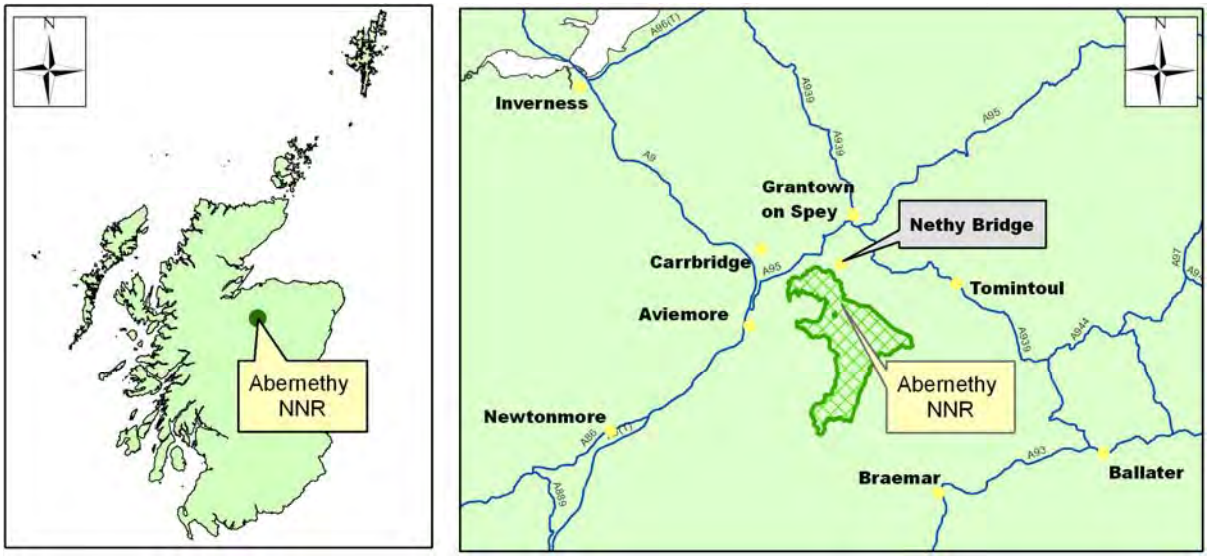
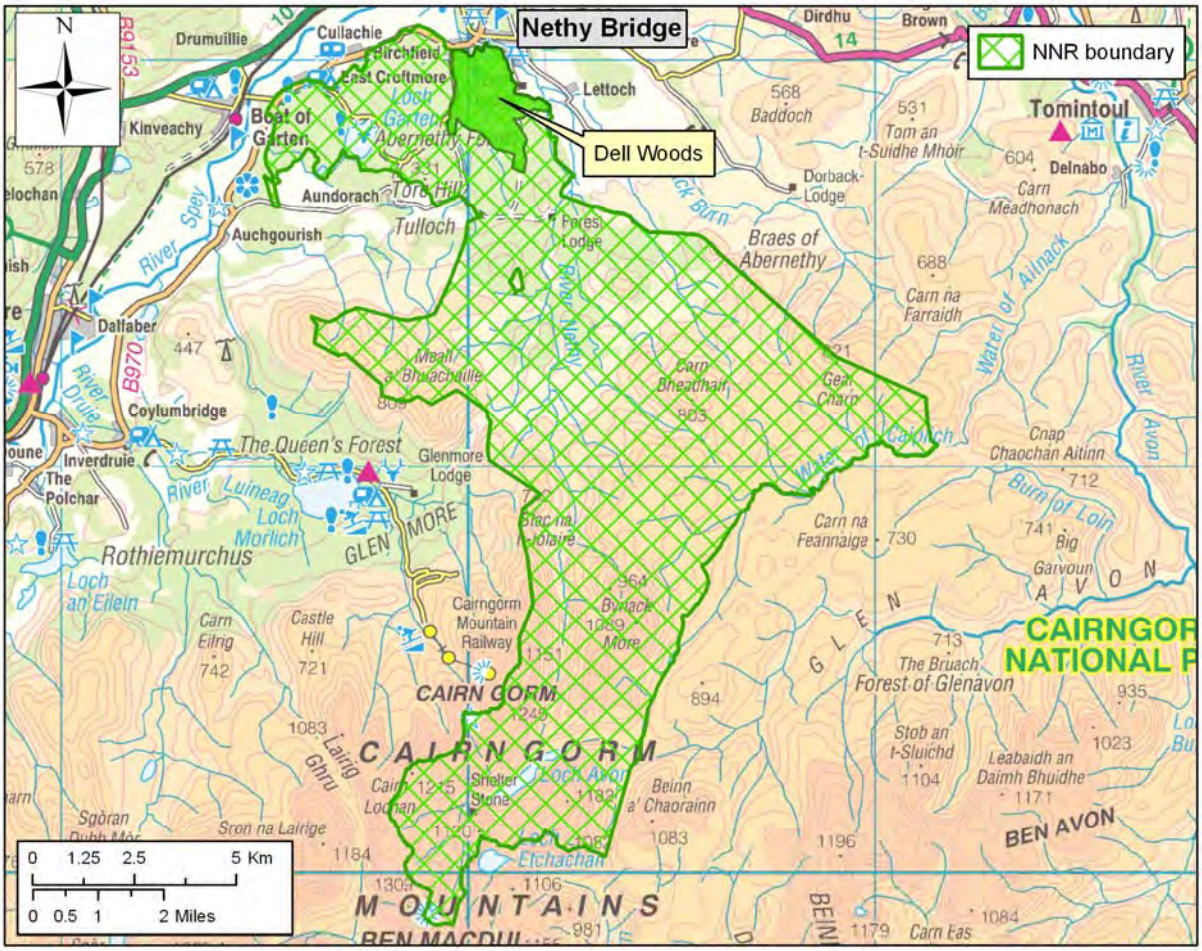
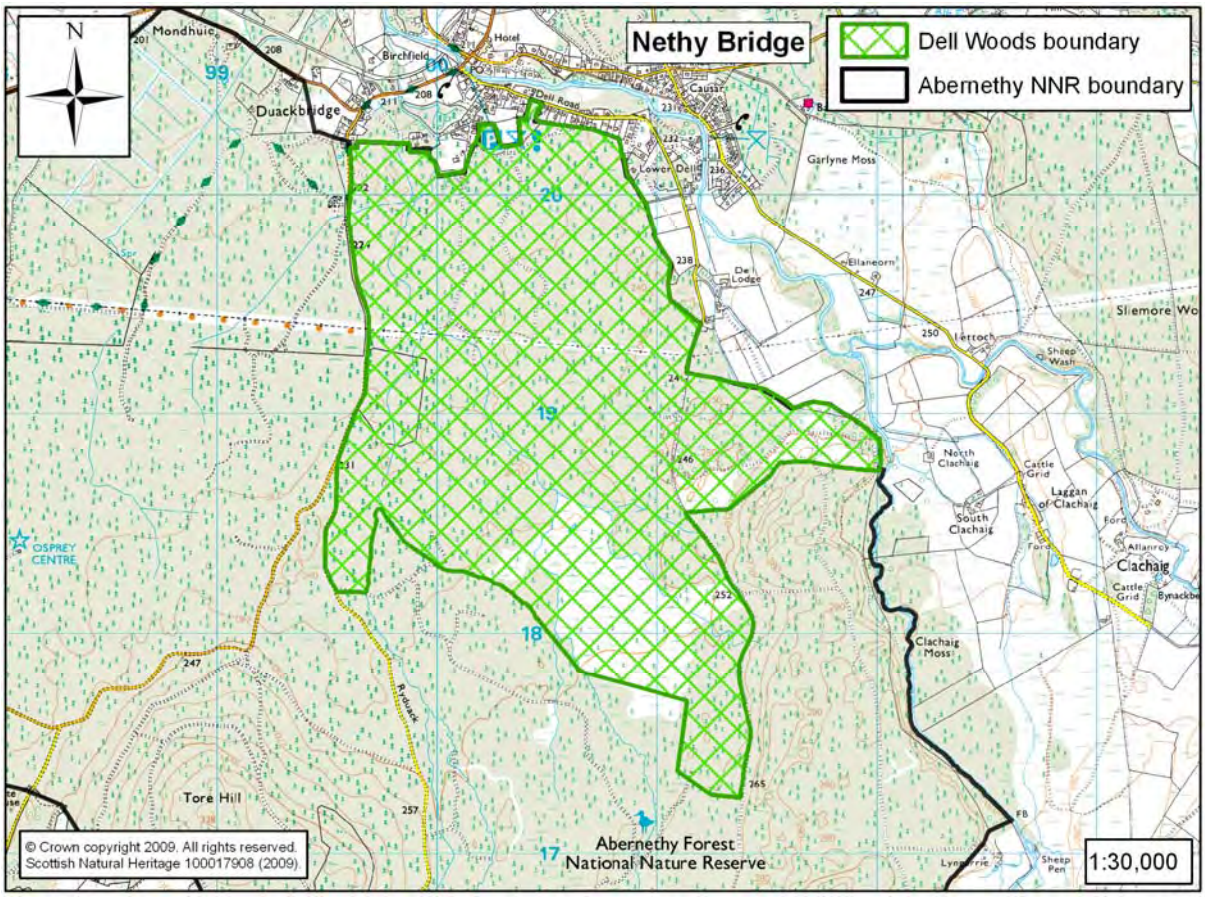
Location map



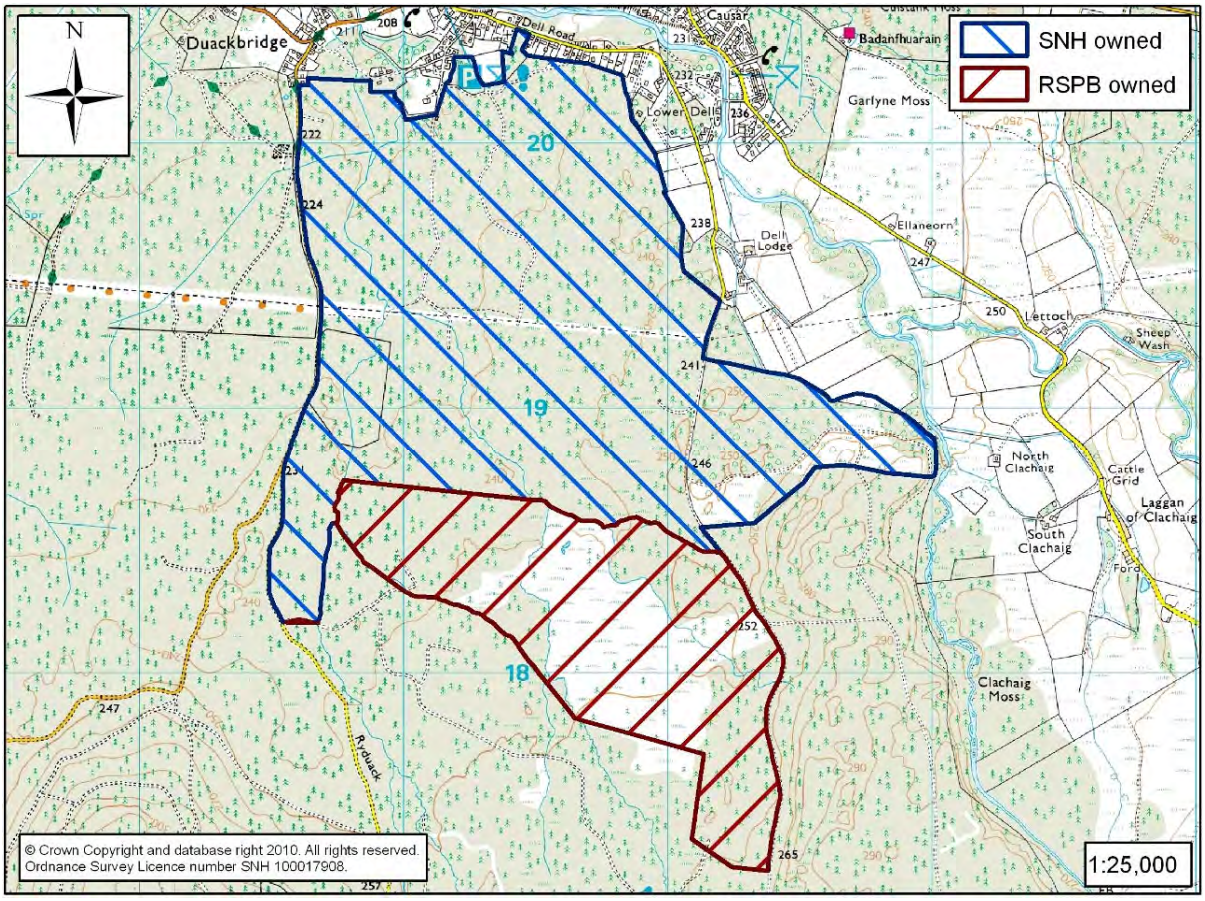
Boundary map – Abernethy NNR



Original Boundary of Dell Woods section of Abernethy NNR



NEW BOUNDARY OF DELL WOODS AFTER RSPB LEASED AREA WAS RETURNED.



1 Our Vision for Dell Woods in 2035

Abernethy NNR is of both national and international important for wildlife. It is managed primarily for nature according to best practice, and has the security of tenure required ensuring continuity of management. These factors mean it satisfies the requirements expected of all NNRs under our policy on NNRs (Appendix 1). Under this policy, as well as the primary aim of management for the natural heritage for which it was identified, each NNR must serve at least one of three key purposes: raising national awareness, providing specialised management, or encouraging research and demonstration.

This management plan deals with the Dell Woods section of Abernethy NNR. The land in this area is either owned or managed by Scottish Natural Heritage. The rest of the NNR is owned and managed by the Royal Society for Protection of Birds. Throughout this plan Dell Woods is considered within the context of the wider Abernethy NNR. We will refer to this area as either Dell Woods or the Reserve. When talking about the whole NNR including both SNH and RSPB land we use Abernethy NNR. Currently SNH lease 108 hectares from RSPB – this lease will be terminated and in future this land will be managed by RSPB as part of their wider landholding.

Over the period of this plan we will work with RSPB to agree joint actions on a number of projects to improve both our working relationship and the overall condition of the Reserve. By working together we can consider Dell Woods as part of a wider ecological unit which benefits from complementary management. The same benefits will be gained by considering our delivery of the management for people section of the plan in partnership with RSPB. We will meet with RSPB regularly to discuss management and issues.

Our other key partner in delivering our management objectives for this NNR is Explore Abernethy. They are already heavily involved in promoting paths on the NNR, and in other initiatives such as interpretation and guided walks. We will work more closely with Explore Abernethy in future to make sure our information for visitors

is properly coordinated, and to take up their offer of greater involvement in managing the Reserve.

The following vision for Dell Woods is framed within this policy and the Reserve will be managed for all three key purposes. Our vision describes how we would like the Reserve to be in 2035. The projects in this document will allow us to work towards this vision over the next 6 years.

Vision for Abernethy NNR – Dell Woods

The condition of the habitats and species at Abernethy NNR – Dell Woods has improved over the last 16 years. The characteristic pinewood flora and fauna is flourishing. The pine is regenerating and the proportion of broad-leaved trees has increased. There are good areas of juniper. The shrub layer and understory are rich and diverse, with strong populations of twinflower, intermediate wintergreen and creeping lady's tresses.

The broad-leaved trees and the abundance of deadwood benefit a wide range of species adding to the overall richness of the forest. As the forest has aged, the canopy has begun to open and trees are beginning to regenerate within the forest itself. The majority of the exotic conifers once present have now been removed and a more natural forest structure is developing as nature takes its course.

The forest supports strong populations of pine specialists including capercaillie and crested tit.

The water level on the Reserve's bogs has been restored creating an intimate mosaic of bog and bog woodland. Dragonflies and damselflies abound, including the very rare and vulnerable northern damselfly.

People recognise the Reserve as a local and national asset and they enjoy and value its special qualities. Local people, educational and school groups, and visitors use the Reserve. This is all achieved whilst avoiding disturbance and damage to

sensitive species and habitats.

The local community is proud of the Reserve and benefit from it in terms of both their well-being and enjoyment. Working with Scottish Natural Heritage they are the Reserves local custodians, helping to manage the Reserve for the benefit of all. The Reserve also plays an important role in the local economy by helping to attract visitors to the area.

Scottish Natural Heritage (SNH) developed a policy for all NNRs in 1996 (see Appendix 1). The policy requires all NNRs to be nationally important for nature and to be managed primarily for the nature conservation interest (primacy of nature), following best practice. The management proposals for Abernethy NNR - Dell Woods will achieve this. Reserves are also required to be used for one or more of three purposes: raising national awareness, specialised management and research and demonstration. Abernethy NNR will continue to be used for all three purposes:

Raising national awareness: Abernethy NNR - Dell Woods provides an opportunity for visitors to experience the climax state of Caledonian pinewood. On-site interpretation material and web media will promote the special character of the Reserve and highlight the sensitive nature of the species, habitats and management issue. The Reserve will be part of the Cairngorms NNR suite and will contribute to action to achieve the Cairngorm National Park aims.

Specialised management: The highest priority for natural heritage management is to keep the priority habitats and species populations in good condition. This includes the ancient woodland and restoring woodland of natural character in the planted forest. We will use methods which are tried and tested using an evidence based approach, which we will assess through appropriate monitoring. We will not be using deer fences to manage our special habitats and species from the deleterious impacts of deer and will deer stalking to help us achieve our conservation objectives.

Research: the research we undertake on the Reserve ourselves and we will work together with RSPB on complimentary projects. It is important in our understanding how these special habitats and species react to direct management and wider influences such as climate change.

Objectives – *check against document towards end of updates.*

Our proposed objectives for managing Dell Woods over the next six years are:

Natural Heritage Management	1. Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; 2. Woodland bogs - Restore and enhance bog habitats; 3. Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important; 4. Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve.
Management for People	5. Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; 6. Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; 7. Education - Facilitate and encourage the use of the Reserve for educational purposes; 8. Public engagement - Engage the local community in the management of the Reserve.
Property Management	9. Property - Ensure property on the Reserve is managed and maintained following best practice.

2 Natural Heritage Management

Dell Woods lies on an area of hummocky ground with free draining knolls and wet hollows, created by glaciers depositing debris as they retreated at the end of the last Ice Age. In the drier areas the Reserve is dominated by Scots pine mainly between 100 and 140 years old, with scattered ancient pine trees. There is a healthy shrub layer of juniper (an indicator of ancient forest) together with aspen, birch, rowan, bird cherry and alder. Although the woodland tends to be very open with a luxuriant understorey of heather, blaeberry and cowberry, there are dense thickets of successfully regenerating pine. These are concentrated on the areas of heath that have previously been cleared of trees, for example beside King's Road and along the power line wayleave. The areas of dry heath within Dell Woods will be managed as part of the pinewood, with natural regeneration of trees being encouraged.

Within the hollows the combination of poor drainage and low temperatures has created ideal conditions for peat to build up, forming blanket bogs. Here heather, cross-leaved heath, cotton grasses and bog (sphagnum) mosses dominate. Occasional gnarled bog pine managing to survive in spite of the water logged conditions. Peaty dubh lochans (black pools) within these bogs provide excellent habitat for dragonflies.

In managing the Reserve we will allow natural processes to take place where possible and a more natural forest to develop, only intervening where necessary to enhance habitats or to protect rare or vulnerable species.

Designations

We declared Dell Woods as an extension to the then existing Abernethy Forest NNR in 1988. Of its 375 hectares (ha), Scottish Natural Heritage (SNH) owns 267 ha and leases 108 ha from the Royal Society for the Protection of Birds (RSPB), who own much of the adjoining forest. The leased area was returned to the RSPB in 2009 and therefore the Dell Woods section is now 267 ha and totally owned by SNH. See Map. In 2007 we declared a new Abernethy NNR, replacing Abernethy Forest NNR and increasing the size to 12754 ha, including Dell Woods. There is a grazing tenant for an area of 36 ha on the east side of the Reserve.

The Reserve's national and international importance has been recognised by its inclusion within the much larger Abernethy Forest SSSI, Abernethy Forest SPA, and the Cairngorms SAC. The later, SPA and SAC, represent the European tier of designation and stand for Special Protection Area (SPA) under the Birds Directive, and Special Area of Conservation (SAC) under the Habitats Directive. Parts of the Reserve also form part of the River Spey SAC because of the tributaries which feed the Spey.

Our management of the Reserve must take particular account of the features that are qualifying or notified interests of these designated sites and which thus receive additional legal protection under British and European law. Where activities proposed within the Management Plan may affect such features an appropriate assessment has to be undertaken before any action on the ground can take place. Table 1 summarises the designations and qualifying features, whilst the appendices gives further details and maps of the designations themselves.

The Reserve is one of a suite of 9 NNRs located in or close to the Cairngorms National Park (CNP). We will work to deliver the action in the National Park Plan to promote and interpret this suite of Cairngorms NNRs as the best places to experience and enjoy the Park's special natural qualities.

Table 1: Designations and qualifying features for Dell Wood NNR

	European			UK
DESIGNATION	**Special Protection Area**	**Special Area of Conservation**		**Site Of Special Scientific Interest**
SITE NAME	**Abernethy Forest SPA**	**Cairngorms SAC**	**River Spey SAC**	**Abernethy Forest SSSI**
Habitats				
Alpine and Boreal heaths		✓*		
Alpine pioneer formations of the *Caricion bicoloris-atrofuscae*		✓*		
Basin fens				✓
Bogs: raised bogs		✓*		✓
Subalpine dry heaths				✓
Bog woodland		✓		
Caledonian forest/ Native pinewood		✓		✓
European dry heath		✓		
Plants in crevices on base-rich rocks		✓*		
Tall herb communities		✓*		
Juniper on heaths or calcareous grasslands		✓*		
Acid peat-stained lakes and ponds		✓*		
Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels		✓*		

	European			UK
DESIGNATION	**Special Protection Area**	**Special Area of Conservation**		**Site Of Special Scientific Interest**
SITE NAME	**Abernethy Forest SPA**	**Cairngorms SAC**	**River Spey SAC**	**Abernethy Forest SSSI**
Hard-water springs depositing lime		✓*		
Dry grasslands and scrublands on chalk or limestone		✓*		
Montane acid grasslands		✓*		
Plants in crevices on acid rocks		✓*		
Acidic scree		✓*		
Species-rich grassland with mat-grass in upland areas		✓*		
Mountain willow scrub		✓*		
Very wet mires often identified by an unstable `quaking` surface		✓*		
Wet heath with cross-leaved heath		✓		
Species				
Atlantic salmon			✓	
Beetle assemblage				✓
Breeding bird assemblage				✓
Capercaillie	✓			✓
Crested tit				✓
Dragonfly assemblage				✓
Invertebrate assemblage				✓
Fungi assemblage				✓
Green shield-moss		✓		
Lichen assemblage				✓
Osprey	✓			✓

	European			UK
DESIGNATION	**Special Protection Area**	**Special Area of Conservation**		**Site Of Special Scientific Interest**
SITE NAME	**Abernethy Forest SPA**	**Cairngorms SAC**	**River Spey SAC**	**Abernethy Forest SSSI**
Otter		✓	✓	
Scottish crossbill	✓			✓
Vascular plant assemblage				✓

*Qualifying interests that occur within the wider designation but are not found on the NNR.

Native pinewoods

Objective 1

Allow pinewood habitats to develop naturally, but intervene where necessary to enhance particular habitats and species.

Dell Woods supports many species characteristic of native, ancient pinewoods which are rare elsewhere in Britain. Although today's forest retains many species from the original forest, its character has been heavily influenced by man's activities.

Management of the NNR to date has focused on restoring the woodland to a more natural character. We have removed non-native conifers and controlled the deer population to allow natural regeneration of trees to take place. Broadleaves and dead wood, particularly within the Caledonian pine forest, provide an important habitat for lichens, fungi, invertebrates and birds and are no longer removed.

Management and monitoring

We will continue the existing programme of deer control within Dell Woods to allow the forest to regenerate naturally. Deer are a natural part of the pine forest and regeneration of the forest will be sought in the presence of deer. The number of deer we cull each year will be determined by an annual assessment based on monitoring results of deer damage to regenerating trees.

We will work closely with RSPB and the Cairngorms, Speyside, Deer Management Group to deliver deer management on the NNR alongside adjoining land owners. We will agree a joint deer management plan with the RSPB as our direct neighbour.

During the next 6 years efforts will be made to remove non-native species from within the woodland, so as to maintain the woodland's integrity. There will be however, a need to retain some mature non-native trees when they are being used by species of conservation importance or where they benefit local landscape.

The amount of dead wood within managed forests tends to be much less than in natural forests. We are concerned that the amount of dead wood within the Reserve is too low and that the overall diversity of the NNR would benefit from an increase. A survey will therefore be undertaken before any management action is envisaged.

There are very few broad-leaved trees within the pinewood stands in the Reserve. We will encourage the establishment of broad-leaved trees within the pinewoods through natural regeneration and continued deer management. At the end of this planning cycle we will consider the success of our management and consider further options for management for broad-leaved trees.

The SAC, SPA and SSSI features of special interest are monitored on a 6-year cycle to confirm that they remain in favourable condition. As Dell Woods – Abernethy is part of the larger designation it is unlikely that wider site condition monitoring (SCM) of the designation will produce a meaningful result for this part of the NNR. With this in mind we will undertake monitoring which will collect comparable data to SCM to allow us to undertake check of condition on the features of interest within Dell Woods - Abernethy.

Key projects are to:

- Produce and implement a woodland management plan;
- improve the proportion of broadleaves through continued deer management;
- produce a joint deer management plan with RSPB;

- reduce the number of non-native species by removing them but retain trees in certain areas to benefit local landscapes and other species; and
- improve natural regeneration through continued deer management.

Bogs

Objective 2

Restore and enhance bog habitats.

Within the hollows and low lying areas in the Reserve the lack of drainage has slowed plant material rotting down. This has led to the build up of peat, giving rise to saturated bog, wet moss and mire communities of considerable conservation importance. These areas support rare mosses and insects, including the northern damselfly.

As part of previous forestry operations on the Reserve naturally wet and boggy ground was drained to allow tree planting, threatening these important mire and bog woodland habitats. In 2001 under the support of a European funded 'Wet Woodland' restoration project, ditches on the Reserve were dammed over an area of approximately 14 ha, creating a network of pools and saturated ground to allow the recovery of original habitats.

Management and monitoring

We will assess the condition of the dams and water levels to see if further work is necessary to reinstate the water tables to the levels that would occur naturally on the Reserve. This is a continuation of work undertaken during the Wet Woodland project. We will liaise with RSPB with the aim of developing a joint project in which we would map the proposed work and agree a joint action plan. Prior to starting any work we will assess the impact of any change in the water level on conservation interests, and we will ensure that we deliver this project in a way that does not damage important habitats and species that prefer drier ground. The deer control measures described previously should also allow some natural

regeneration of pine on the bogs, creating areas of bog woodland, an internationally important habitat.

Key projects are to:

- produce and implement a management plan for the woodland bogs;
- liaise with RSPB regarding wider impacts of raising water tables;
- carry out survey of likely impact of raising water tables; and
- reinstate water tables to their natural levels where desirable.

Biodiversity

Objective 3

Retain and encourage biodiversity on the Reserve

The species present in Dell Woods are particularly associated with northern pinewoods, and are often rare in other parts of Scotland and Britain. The restoration of the native pinewood and bog habitats to a more natural state under the previous objectives will benefit species characteristic of these habitats. We will also carry out specific management for some targeted UK and Local Biodiversity Action Plan species and habitats. We will focus on those identified in the Cairngorms Local Biodiversity Action Plan (CBAP) as high priority including capercaillie, twinflower, northern damselfly, water vole and Atlantic salmon.

Management and monitoring

Where possible, projects to benefit individual species will involve volunteers from the local community and further afield.

Capercaillie: Although the decline of capercaillie appears to have recently halted, there is still a long way to go before the population recovers. Research by the RSPB and others suggests that management of the field layer to encourage blaeberry could be beneficial, providing caterpillars and other insects for chicks to eat, and leaves and berries for the adults. Capercaillie need ground cover in which to nest and shelter their chicks. Innovative management techniques for managing the field layer to encourage blaeberry (e.g. controlled burning, cutting, stock grazing) and to provide cover (e.g. constructing brushwood shelters, pulling over trees to create thickets), have been trialled by the RSPB at Abernethy, as well as on Glen Tanar NNR. We will liaise with the RSPB to consider whether to follow a more active course of habitat management for this species. Also, as the Dell Woods section of the site is relatively small, it is important that we work with

RSPB to consider the implications of management in the wider capercaillie population. We will continue to monitor capercaillie to ensure our management is beneficial. Capercaillie are particularly prone to disturbance and any projects relating to people will be assessed for likely impact on this species.

Twinflower: At present there is only a single twinflower colony within the Reserve, consisting of a single clone. As twinflower's pollen is ineffective on individuals of the same genetic stock, the existing colony will produce little or no seed. We will investigate, in consultation with others, the possibility of establishing additional twinflower colonies within the woodland. This could involve using plants from a different area to encourage pollination and genetic diversity. In the long term this could improve the chances of survival of twinflower within Dell Woods, however before beginning this project we will survey the existing population and consider options for expanding the population.

Wetlands: We will investigate the opening up of ponds to benefit dragonflies and damselflies, including the rare northern damselfly, a CBAP priority, and amphibians.

Red squirrel: Red squirrels are occasionally seen within Dell Woods and we would like to be more active in encouraging them. An existing feeding project is underway within the NNR, led by the Nethy Bridge Tourist Association.

Pine hoverfly: As part of the SNH led Species Framework programme artificial nesting sites are being created in other local pinewoods to encourage expansion of the pine hoverfly population, a species currently threatened with extinction. This is a possible project for Dell Woods. Ellen Rotheray is currently working on a PhD [1] on this subject at Stirling University which will help guide future management.

[1] Population dynamics, ecology and management of the BAP species *Blera fallax* (pine hoverfly) and *Hammerschmidtia ferruginea* (aspen hoverfly) (*Diptera, Syrphidae*)

Water vole: The water vole is threatened throughout its British range, particularly by predation from introduced American mink. The Cairngorms Water Vole Conservation Project was set up in March 2006 to secure the nationally important populations of this species remaining within the Cairngorms. We will support this project by firstly monitoring for the presence of mink on the Reserve, and then introducing control measures if they are necessary.

Heath Cudweed: Heath cudweed is usually found on moorland and forestry tracks in the north on acidic, well-drained soils, The UK holds a substantial proportion of the World's population, approximately 24%. Heath cudweed is a Cairngorm LBAP species for special attention. The one site at Dell Woods - Abernethy has declined in the number of spikes. Further monitoring of this site and a review of management of the surrounding area should be undertaken.

Streams: Both salmon and otter use the burns through the Reserve. They are qualifying interests for the River Spey SAC, and management of the Reserve must not adversely affect them. Although the management proposed is unlikely to have any such effect, it is essential to ensure that this is so. For example, the damming of ditches to restore water tables must not create any barriers to fish migration, or lead to the silting of spawning redds.

Grassland and blanket bog: An agricultural tenant grazes 36 ha of herb-rich neutral grassland, birch woodland and blanket bog on the eastern side of the Reserve. We will continue to work with our tenant to ensure the rich diversity of plants and invertebrates found in this area is maintained.

Key projects are to:

- liaise with RSPB regarding future field layer management and shelter creation to benefit capercaillie;
- continue monitoring capercaillie to ensure that NNR management activities are benefiting this species;

- carry out preliminary work to look at the future establishment of additional twinflower colonies and, if appropriate, establish them;
- monitor heath cudweed site and review management of surrounding area;
- continue creating ponds to benefit dragonfly species;
- continue monitoring for the presence of American mink, and control if noted; and
- continue to encourage the current grazing regime on agricultural tenancy.

Research, Survey, Monitoring and Demonstration

Objective 4

Commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve.

Research, survey and monitoring projects can further our understanding of the management needed for the Reserve, and also help evaluate the effectiveness of existing management. Demonstration projects allow us to share what we have learned with others who manage similar habitats or properties.

Management and monitoring

We will encourage visits by specialists on lower plants, fungi, invertebrates and other groups to supplement information collected as part of our Site Condition Monitoring programme. This will build up a more complete picture of the Reserve. A recent discovery on the Reserve is the rare tooth fungi.

We will take up the offer from the British Lichen Society regarding assistance with the identification of the lichen interest on NNR to update the species list and obtain advice on sensitive species. Where possible the NNR will be promoted for its lichen importance.

Where we can we will use the Reserve to demonstrate techniques of habitat management to other land managers.

We will develop a monitoring programme for the Reserve.

Key projects are to:

- produce and implement a monitoring programme for the Reserve;

- encourage visits by specialists on lower plants, fungi, invertebrates and other groups;
- liaise with the British Lichen Society regarding lichen interest on NNR to update species list and obtain advice on sensitive species. Where possible the NNR will be promoted for its lichen importance;
- use the Reserve to demonstrate management techniques to other land managers in relation to deer management and monitoring;
- carry out surveys of the proportion of dead wood within the woodland;
- monitor the key features of the Reserve through the national site condition monitoring programme; and,
- produce an annual report and undertake a five-year review to track progress against objectives.

3 Management for People

SNH encourages people to visit our NNRs and wants to make visits as enjoyable as possible.

Dell Woods is a popular and frequently visited Reserve. It offers people an easily accessible, rich natural heritage opportunity, where they can experience a feeling of wildness close to the village of Nethy Bridge. Local people and visitors use the Reserve for quiet recreation, whether watching wildlife, walking the dog, jogging, or simply enjoying the peaceful atmosphere. Local wildlife tourism businesses and Ranger type services bring their customers and groups to the Reserve to see the area's distinctive wildlife.

There is a network of paths through the NNR, many connecting the woodland with the community of Nethy Bridge. The paths on the western side of the Reserve connect with the Speyside Way long distance route. The paths also form part of the core paths plan and will continue to form part of the local network of paths around Nethybridge.

As a small section of a larger NNR, Abernethy - Dell Woods is limited in the facilities that can be provided for visitors so we work with organisations such as Explore Abernethy and the RSPB to provide information and opportunities locally.

Explore Abernethy is a community initiative established in 1997 to record, interpret and explore the cultural heritage of the Nethy Bridge area. Explore Abernethy, with funds from SNH, has established a waymarked network of paths within the Reserve and beyond, and produced an accompanying leaflet to promote them. The initiative employs a project officer and a seasonal ranger who leads a programme of guided walks in the summer. The award winning Explore Abernethy room in the Nethy Bridge community centre interprets the cultural heritage of the surrounding area, as do a number of interpretive boards

in the village. The local primary school, with assistance from the ranger and SNH staff, recently produced a self guided trail leaflet for the Reserve.

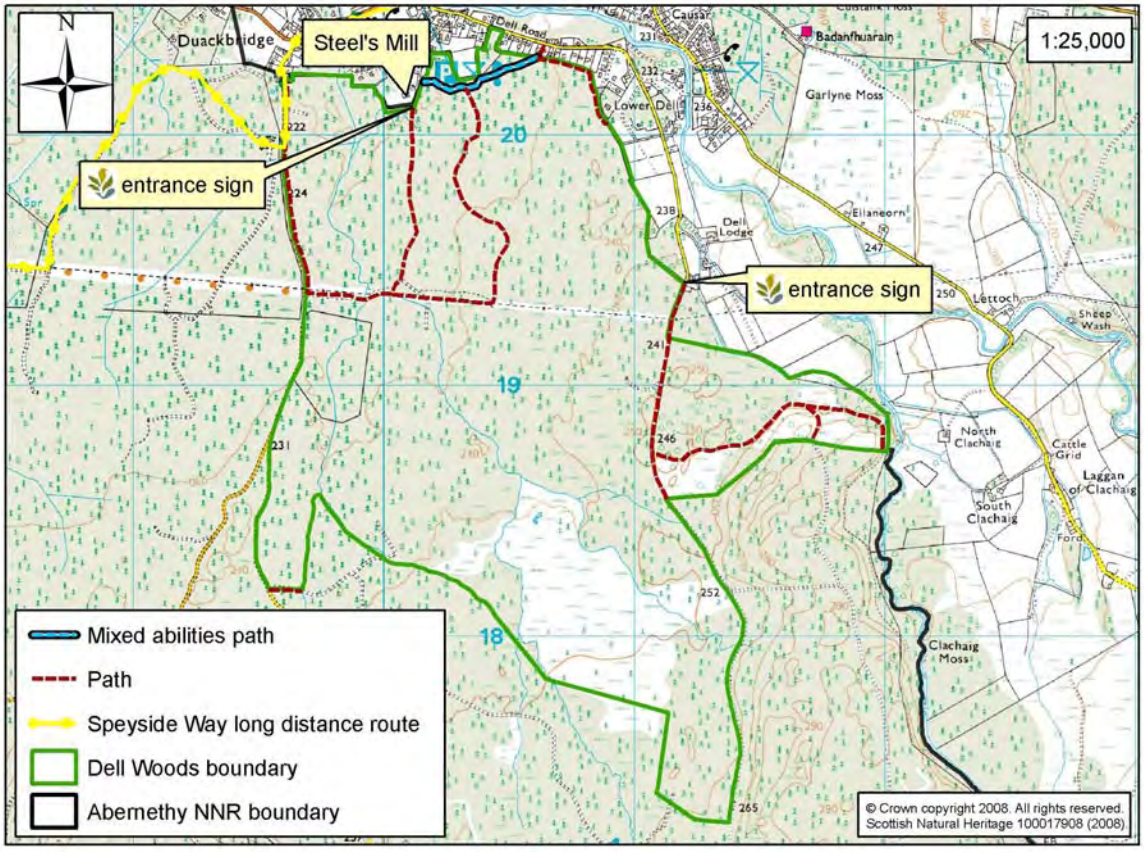
Within the wider Abernethy NNR, RSPB have a well-established visitor centre at Loch Garten. Excellent facilities allow visitors to watch ospreys, capercaillie and other wildlife at close quarters without disturbing them.

At Dell Woods we will focus on improving the current network of paths, providing better signage and increasing the information available both on and off the NNR. We will continue to promote the Explore Abernethy centre as the main access and parking point for the Reserve and will not create any formal car parking closer to the Reserve.

We also want to improve the quality of experience for visitors to the Reserve by enhancing the existing facilities.

However we have an obligation to balance the needs of visitors with meeting the requirement for primacy of nature set out in the NNR policy and the European and UK designations placed on the Reserve. For this reason we intend to continue with the focus of visitor management being in the northern section of the Reserve and the southern area with the most sensitive habitats and species being left largely undisturbed. Any work will be subject to an appropriate assessment under the Natura regulations and we will need to be satisfied that the level of impact is within acceptable limits of change.

Current Facilities at Dell Wood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Duackbridge
Steel's Mill
entrance sign
entrance sign
1:25,000
Garlyne Moss
Dell Lodge
Ellaneorn
Lettoch
Sheep Wash
North Clachaig
Cattle Grid
Laggan of Clachaig
South Clachaig
Ford
Clachaig Moss
20
19
18
Mixed abilities path
Path
Speyside Way long distance route
Dell Woods boundary
Abernethy NNR boundary
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Scottish Natural Heritage 100017908 (2008)

Facilities and Access

Objective 5

Improve access and facilities for all people using and visiting the Reserve.

The northern half of the Reserve is well served by an existing network of formal and informal paths, including approximately 400m of mixed abilities path, which have been maintained and enhanced over the years by SNH and latterly Explore Abernethy. The Reserve is used as an access point to the wider Abernethy forest.

Management

During the period of this plan we will undertake a number of improvements to the path network through Dell Woods. All paths will be subject to a habitat assessment to consider the implications for habitats and species within the Reserve. This is a requirement under the Natura 2000 regulations. The assessment may assess that the impact is significant and the work cannot progress or may set out measures to reduce impact for us to undertake. The following sets out our priorities for path improvement:

Where the existing mixed-abilities path runs along the farm access track, we will investigate the option of providing a separate path from the Manse field to Steel's Mill, as opposed to going along the side of the existing agricultural access track. This is not a completely new path, as it would follow an old route which has fallen into dis-use. See map below.

We intend to create a new circular path by upgrading the Kings Road and Hamuck's Road to tie in with the new route from the Manse field to Steel's Mill so it can be used by a wider range of abilities, subject to a habitat assessment. We will

upgrade this path once we have constructed the link path from the Manse field.

We will investigate the possibility of constructing a path along the Reserve boundary starting from the Speyside Way on Tulloch Road to terminate at Steel's Mill. This will be priority 3 compared with the other two path projects.

We will thin dense pine regeneration along the edge of some paths to obtain more open views of the wider Reserve. This will be done where the thinning also benefits the woodland structure and understory and improves conditions for certain invertebrate species, especially butterflies.

The above summary sets out our priorities for improving the existing paths and creating links between them to improve all abilities access. We will not in the foreseeable future develop paths in the southern section of the Reserve along the pylon line for instance. We will return to proposals made during the consultation in the final year of this plan.

As a result of comments received during the consultation we will continue to promote the Explore Abernethy centre for car parking and will not develop any on the Reserve.

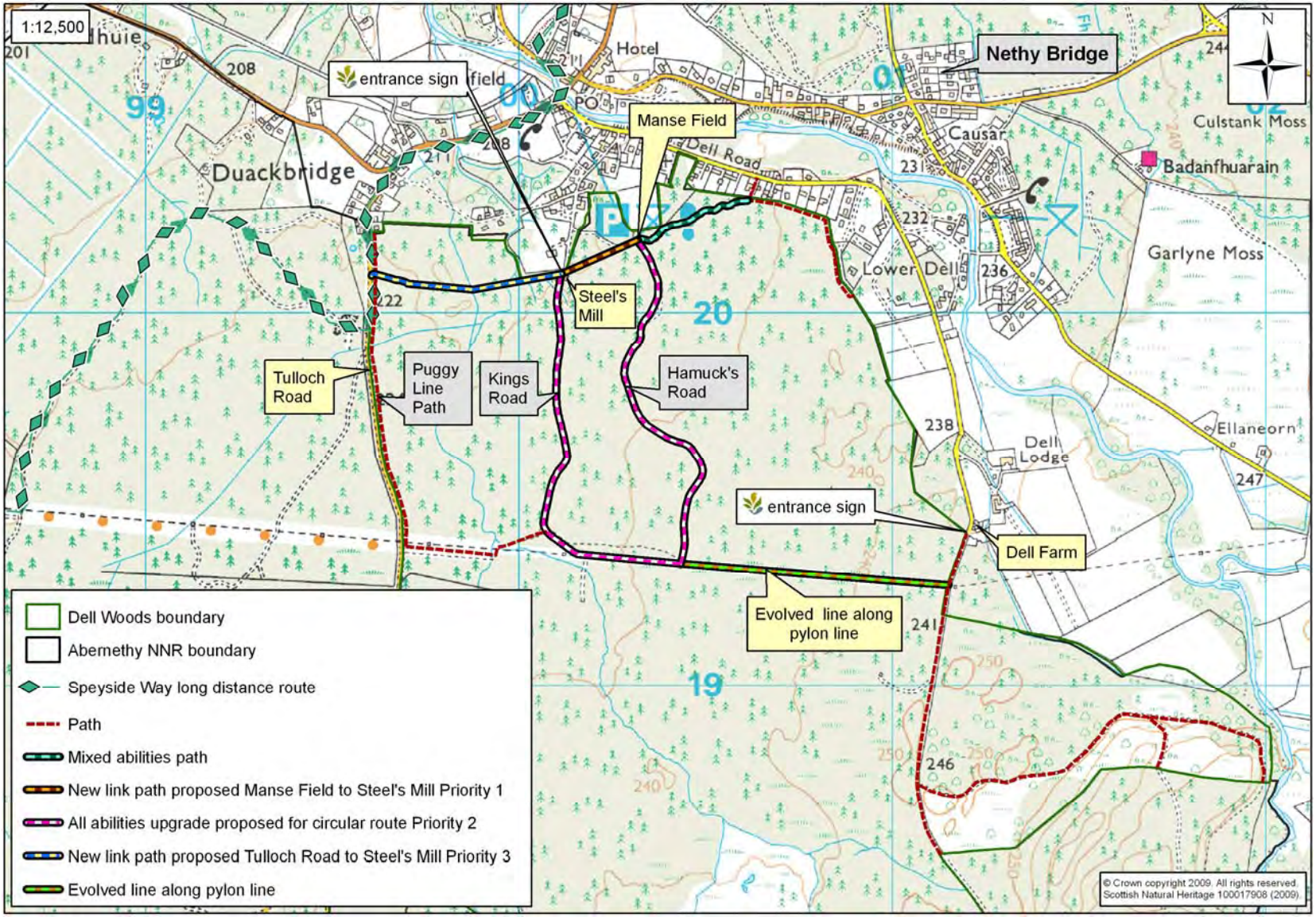
We will explore the requirements and expected level of use for a mobility scooter to be made available for visitors to the Reserve. Depending on the outcome of a survey we will agree whether this is needed or can be addressed in other ways.

Key projects are to:

- Produce and implement a signage plan for the Reserve;
- upgrade the existing circular path;
- provide a separate path which will run from the Manse field to Steel's Mill;

- investigate the possibility of constructing a path along the Reserve boundary starting from the Speyside Way on Tulloch Road to terminate at Steel's Mill;
- undertake a survey to assess requirements for a mobility scooter; and
- thin dense pine regeneration along the edge of some paths to obtain more open views of the NNR and hills.

Map of path upgrades at Abernethy NNR - Dell Woods



Promotion and Interpretation

Objective 6

Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve.

A key purpose of NNRs is to increase awareness of Scotland's rich natural heritage. We do this generally by organising events and guided walks, and by providing information within leaflets and other publications, on interpretive panels and on web sites.

Over the last decade Explore Abernethy has led a programme of guided walks and activities during the summer months, many of which use the Reserve. The Reserve is also used as a destination by the SNH grant-aided Highland Council Ranger Service.

Reserve leaflets are distributed from tourism information centres, local shops, and at other NNRs in the National Park.

There are currently two thresholds signs marking major entrances to the Reserve, but giving no further information.

The NNR web site (http://www.nnr-scotland.org.uk) currently provides limited information about Dell Woods, as part of the larger Abernethy NNR.

Management and Monitoring

We recognise face-to-face contact as the most effective means of communicating with people and propose to continue working closely with Explore Abernethy. We will work together to involve the ranger in management work on the NNR and also to offer events on the NNR.

We will produce a new NNR leaflet and continue to make it available from tourist information centres, the community centre occupied by Explore Abernethy and other NNRs in the Cairngorms. We will also provide a means to ensure the Reserve leaflet is available to visitors during the winter months when the Explore Abernethy operation is closed. As well as providing natural heritage information about the NNR details on accessibility will also be included.

We will continue with contributions to the village local newsletter 'The Nethy'.

We will maintain and enhance the information available about the Reserve on the NNR web site, and in collaboration with the local community, would like to look at providing further information about the Reserve on the Nethy Bridge Community and other relevant websites.

We will be replacing the existing threshold signs with new ones at all major entrances to the Reserve (see map page 14). These will inform visitors they are entering a NNR, provide orientation for visitors and include a basic description of why the Reserve is special.

Although we think interpretation boards and threshold signs do have a useful role to play in interpreting the Reserve to visitors, we agree with many of our local stakeholders that they should be used sparingly, and placed carefully to avoid excessive interpretation detracting from the natural feeling of the area. We will work with RSPB to agree a joint approach to signage on the Reserve to avoid excessive or duplicate signage.

We will work with Explore Abernethy and RSPB to provide additional information on the NNR within their displays and in the village in preference to providing information on site. We recognise the importance of focusing this within the local community, and good signage within the village centre will

help visitors to find the NNR more easily. We will work with Explore Abernethy to consider options for developing a mobi-tour of the Reserve. We will also work with our partners to improve awareness and promotion of the Reserve.

One of our key interpretive messages will be the importance of Abernethy NNR within the wider National Park and how it contributes to the natural heritage of the National Park. We will also seek to promote the other 8 NNRs within the National Park and they will do the same for Abernethy. We will also use the interpretation to improve awareness and understanding of the sensitivities of the Reserve and to help minimise disturbance.

We will promote responsible access for dog owners in line with the Scottish Outdoor Access Code.

Key projects are to:

- continue supporting the existing Explore Abernethy programme;
- Establish a formal agreement with Explore Abernethy for NNR related work;
- continue to distribute Reserve leaflets;
- continue to contribute articles to the local Nethy Bridge newsletter;
- provide more information about the Reserve on the NNR website, and on relevant websites;
- erect new threshold signs with appropriate interpretation at all major entrances to the Reserve;
- erect new signage, with permission, in the village centre to further interpret the NNR and help visitors find the NNR more easily; and
- continue to promote the key interpretive messages of the Cairngorms National Park and promote the other 8 NNRs within the National Park.

Education

Objective 7

Facilitate and encourage the use of the Reserve for educational purposes.

Educational groups make little use of the Reserve at present. We think there is potential for local schools, interested groups and further/higher educational groups from further afield to make greater use of the Reserve.

Management and Monitoring

We would like to encourage additional use of the Reserve for educational purposes, and we will promote and facilitate such visits. We will assess the demand from local schools, colleges and interest groups who may wish to visit the Reserve for educational visits. The Explore Abernethy Ranger will still be the main point of contact but the Reserve Manager or other staff may be available to assist with certain visits.

We will work with RSPB, Explore Abernethy and the Highland Council Ranger service to support visits to the NNR. In particular we will look at ways we can jointly support the Grantown Grammar Schools Darwin scheme.

Key projects are to:

- Establish closer links with Abernethy Primary School to support The Highland Council's Eco-School's programme and Education for Sustainable Development within the school curricula;
- Establish closer links with RSPB and Grantown Grammar School to support their Darwin Scheme; and
- promote and support educational visits to the Reserve.

Involving the Local Community

Objective 8

To engage the local community in the management of the Reserve.

SNH is committed to encouraging local involvement with NNRs. The Reserve already has many links with the local community. We would like to strengthen these ties by providing more opportunities for local people to become involved in the management of the Reserve.

Management and Monitoring Proposals

We see the people living near the Reserve very much as the local custodians of a national asset, and we will look for opportunities to encourage anyone living locally who would like to become more involved with the Reserve.

We will promote volunteering opportunities when they arise.

SNH staff will attend Nethy Bridge community council meetings at least once a year, attending additional meetings if asked to do so. We will continue to attend Explore Abernethy meetings where appropriate.

We will work with the local community and volunteers to reduce the occurrence of fly tipping and to ensure non-native species are not introduced to the NNR.

Key projects are to:

- Establish a voluntary warden scheme for the NNR;
- discuss with the local community new ways for people to become involved in the NNR;
- work with the community and volunteers to reduce fly tipping and the introduction of non-native species;

- promote volunteering opportunities through Explore Abernethy; and
- attend relevant Nethy Bridge community council meetings and Explore Abernethy meetings to discuss the Reserve's management.

4 Property Management

Objective 9

To ensure property on the Reserve is managed and maintained following best practice.

Of the total Dell Woods – Abernethy part of the wider NNR is 375 hectares (ha) some 267 ha is owned by SNH

A Scottish and Southern Energy wayleave runs across the Reserve, to which the company has rights of access for repair and maintenance. Ground maintenance work by Scottish and Southern Energy is undertaken under the following guidelines:

- Directly under the line, fell all scrub birch and naturally regenerating trees. Cut into manageable lengths, and stack neatly. All brushwood to be stacked at the edge of the lane;
- No vehicle access other than on existing vehicle tracks;
- Trees at edge of lanes to be felled and left complete;
- Juniper to be cleared directly underneath the line, elsewhere to be left;
- Work to be completed between months September to March.

In addition, SNH will pursue negotiations with SSE to have the Powerline removed or buried and so enhance the forest experience.

SNH NNR staff carry out practical management work on the Reserve. The deer cull has been carried out by both SNH and by Forestry Commission Scotland under a joint working arrangement. From 2009 the deer cull is being offered to a local stalker on a trial basis. SNH Area Officers based in Aviemore also have time allocated to work on the Reserve.

The only building on the Reserve is Steel's Mill, a dilapidated corrugated iron hut, with local historical significance, at the Culvardie Road entrance. Other built infrastructure includes the network of paths and bridges.

Management and Monitoring

We will terminate the SNH lease of land from RSPB and in future this land will managed by RSPB as part of their wider land holding.

We will continue to maintain the property in good order, meeting fully our responsibilities to our agricultural tenant, neighbours, and to people using and visiting the Reserve. We will continue to satisfy our obligations under health and safety and other legislation. This includes maintaining an up to date fire plan and following best practice when undertaking activities such as deer stalking. A joint fire plan will be developed with the RSPB for the entire Abernethy NNR.

As recommended during the consultation we will discuss with Scottish and Southern Energy the possibility of changing the terms of the agreement to allow juniper to be left under the pylon line.

There are no major built projects planned for the Reserve. Quarterly checks are carried out to ensure the property is safe and repairs and maintenance undertaken as necessary. Checks are also undertaken to ensure that the Reserve complies with the Disability Discrimination Act and the Land Reform Act in relation to public access.

As a result of the consultation on Dell Woods we will retain Steel's Mill but will liaise with the local community council to consider its future.

We will make the Reserve fire plan available on the revised NNR website. We will work towards a joint fire plan with RSPB.

We will meet with RSPB on a regular basis to discuss management and joint projects. We will also attend Explore Abernethy meetings as mentioned in objective 8.

Key projects are to:

- attend RSPB liaison meetings;
- maintain property in good order including paths, car parks and fences;
- carry out regular checks to ensure that the property is safe and carry out repairs and maintenance as necessary; and
- ensure the management of the property conforms with relevant legislation;
- liaise with Scottish and Southern Energy (SSE) regarding the possibility of leaving juniper underneath the wayleave of the powerline;
- negotiate with SSE regarding the removal or burying of the Powerline;
- retain Steel's Mill and liaise with the local community council as to how best to develop its future use;
- prepare a joint fire plan for the Abernethy NNR with the RSPB; and
- upload the Reserve fire plan onto the NNR website.

Summary

SNH will manage and maintain the property according to best practice and fully meet its responsibilities to our tenant, neighbours and to people using and visiting the Reserve. We will maintain the property in good order, conforming to all relevant legislation. The property will be inspected regularly and repairs and maintenance carried out as necessary.

5 Document Properties

Photographs

Photography by Lorne Gill, David Genney and David Carstairs.

Links

Scottish Natural Heritage www.snh.org.uk

SNH Sitelink www.snh.org.uk/snhi/

Explore Abernethy
http://www.exploreabernethy.co.uk/

RSPB - Loch Garten/Abernethy Reserve
http://www.rspb.org.uk/reserves/guide/l/lochgarten/index.asp

Acknowledgments

The Reserve Plan for Abernethy NNR – Dell Woods has been written by Peter Duncan (Reserve Manager) and Susan Luurtsema (Managed Sites Officer) and approved by Steve North (acting Area Manager – East Highland).

We would like to thank the following SNH staff for their contribution and comments: Chris Donald (Operations Manager – East Highland), David Carstairs (Area Officer – East Highland), Alison Matheson (Recreation and Access Group) and Susi Hodgson (Geographic Information Officer).

Appendix 1 – National Nature Reserve (NNR)

Scotland's NNRs are special places for nature, where many of the best examples of Scotland's natural heritage are protected. Nature comes first on our NNRs, (referred to as primacy of nature). These Reserves, also offer special opportunities for people to enjoy and find out about the richness of our natural heritage. NNRs are declared under the National Parks and Access to the Countryside Act 1949 or the Wildlife and Countryside Act 1981.

A new policy for NNRs in Scotland was developed in 1996. This Policy requires NNRs in Scotland to have four attributes, and to be managed for one or more of the three purposes.

The attributes are

- **Primacy of nature -** The needs of nature will be placed at the heart of decisions about land-use and management of our NNRs, and nature conservation will be the overriding land use, although it may not be the sole purpose of management.
- **National importance -** It must be of national importance that the NNR be managed as a nature Reserve, for the protection of geological features, habitats, or species found there.
- **Best practice management -** NNRs must be well managed, not only to safeguard the nature conservation interests, but also to provide for people's enjoyment and understanding.
- **Continuity of management -** Both research and management on NNRs require us to take a long-term view, so it is important that management continuity is assured.

The purposes are

- **National awareness of NNRs** – on these Reserves people can take pride in the natural heritage 'on display' and come to understand it better and enjoy it to the full.

- **Specialised management of NNRs** - the character of the interest requires specialised and pro-active management, which is best, delivered by a nature Reserve.
- **Research-related NNRs** - These NNRs will offer opportunities for research into the natural heritage and its management, which specifically require a nature Reserve location and which are not available elsewhere.

From 2000 - 2003 all of Scotland's NNRs were reviewed against this policy. Because of the review there are now 58 NNRs in Scotland. There are currently a number of NNRs identified during the review which have still to be taken through the de-declaration process. As a result of this a search on many SNH systems will show more than 58 NNRs until this work is completed.

More information can be found at:

Scotland's National Nature Reserves: A policy statement
http://www.snh.org.uk/pdfs/polstat/nnrpolcy.pdf

National Nature Reserves – General Information
http://www.nnr-scotland.org.uk

Appendix 2 – Special Area of Conservation (SAC)

Special Areas of Conservation are areas designated under the European Community Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC), commonly known as the Habitats Directive. Together with Special Protection Areas, which are designated under the Wild Birds Directive for wild birds and their habitats, SACs form the Natura 2000 network of sites. The Natura 2000 network is designed to conserve natural habitats and species of animals and plants which are rare, endangered or vulnerable in the European Community. Appendixes I and II of the Habitats Directive list the habitats and (non-bird) species respectively for which SACs are selected. In Great Britain the Directive was transposed into domestic legislation via the Conservation (Natural Habitats &c.) Regulations 1994, which are relevant to Special Protection Areas (SPAs) as well as SACs. Natura sites are generally underpinned by the SSSI mechanism in the terrestrial environment, although there are a few exceptions where other management measures are employed. The Scottish Executive Rural Affairs Department Circular No. 6/1995 (Revised June 2000) on the Habitats and Birds Directives gives further details of how the Regulations apply in Scotland.

SNH acts as the advisor to Government in proposing selected sites for ministerial approval as possible SACs. SNH then consults with key parties over the site proposals on behalf of Scottish Ministers. The consultees, who include owners and occupiers of land, local authorities and other interested parties, are sent details of the proposed site boundaries and the habitats and/or species for which they qualify. SNH also negotiates the longer-term management of these sites. Following consultation, SNH forwards all responses to Scottish Ministers who then make a decision about whether to submit the site to the European Commission as a candidate SAC. Once submission of all candidate sites is completed, the Commission, together with Member States, will consider the site series across Europe as a

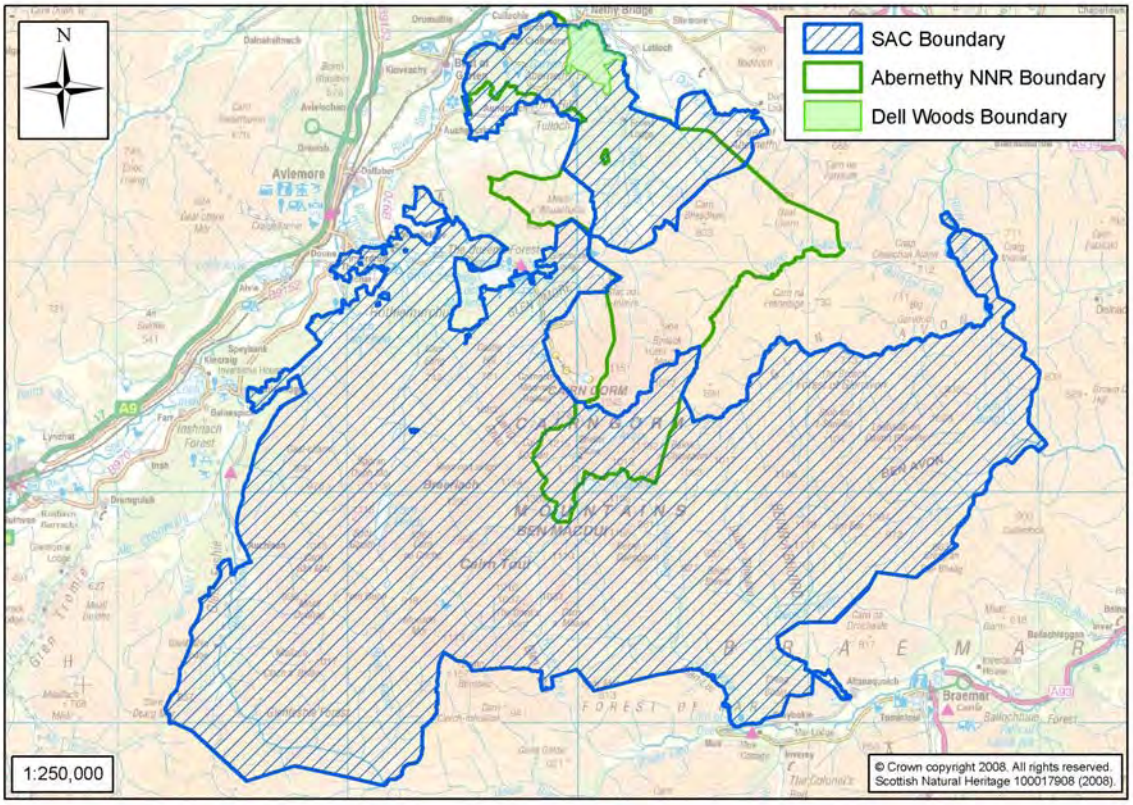
whole. At this stage sites which are adopted by the Commission become Sites of Community Importance (SCIs), after which they can be finally designated as Special Areas of Conservation by national governments.

The following websites provide further information:

Special Areas of Conservation:
http://www.jncc.gov.uk/ProtectedSites/SACselection

Cairngorms SAC

Country	Scotland
Unitary Authority	Aberdeenshire; Highland; Moray
Central grid reference	NN995993
Latitude	57 04 36 N
Longitude	03 39 15 W
SPA EU CODE	UK0016412
Weblink	Status Designated Special Area of Conservation (SAC)
Area (ha)	57685.02



Annex I habitats that are a primary reason for selection of this site

Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea

The Cairngorm mountains contain the highest oligotrophic waterbodies in the UK. This complex of lochs has a range of high altitude conditions. The very highest waters (corrie and plateau lochs at >900 m) have rocky substrates and very low nutrient status, and suffer the harshest climate. In combination, these factors lead to low species diversity and the absence of aquatic macrophytes. This is an extreme variation of the habitat type. Lochs in the valley floors enjoy more sheltered conditions and the occurrence of finer sediments allows limited establishment of higher plants, although these are still extremely oligotrophic systems. Key species for this habitat type are present in Loch Einich (altitude 500 m), which supports quillwort *Isoetes lacustris* and shoreweed *Littorella uniflora*. The rare six-stamened waterwort *Elatine hexandra* has also been recorded here. The lochs in this area are classified as Type 3 or in some cases Type 2.

Northern Atlantic wet heaths with *Erica tetralix*

The Cairngorms is representative of Northern Atlantic wet heaths with *Erica tetralix* in north-east Scotland and has the largest extent of this habitat in this part of the UK. M16 *Erica tetralix – Sphagnum compactum* wet heath is the most extensive community. The site is notable for the occurrence, at high elevation, of this eastern vegetation type, more typically associated with southern lowland heaths. The more oceanic M15 *Scirpus cespitosus – Erica tetralix* wet heath is also present, occupying the more strongly-flushed soils. It is the presence of undisturbed lichen-rich wet heath occupying wet hollows within high-altitude, windswept 4060 Alpine and Boreal heaths that is of particular importance. Wet heath is also developed in hollows within the upper parts of 91C0 Caledonian forest, within blanket mire and dry heath, giving a variety of ecological transitions. The rare montane ground-beetle *Amara alpina* is associated with wet heath in the Cairngorms, feeding on seed-heads of deergrass *Trichophorum cespitosum*.

European dry heaths

The Cairngorms has the largest extent of European dry heaths in the UK and is representative of the upland heaths of the cool and less oceanic north-east of Scotland. The site contains extensive examples of all the heath types characteristic of the eastern Highlands and is representative of the heathland in this area. The principal NVC types present are H12 *Calluna vulgaris – Vaccinium myrtillus* heath, H18 *Vaccinium myrtillus – Deschampsia flexuosa* heath and H16 *Calluna vulgaris – Arctostaphylos uva-ursi* heath. These communities mainly occur on acid soils and are species-poor. The main exceptions to this are areas of species-rich H10 *Calluna vulgaris – Erica cinerea* heath, developed on base and/or lime-rich soils at Inchrory. The Cairngorms holds the most extensive well-developed snow-bed forms of *Vaccinium – Deschampsia* heath in the SAC series. There are widespread transitions to wet heath, woodland, juniper scrub and Alpine and Boreal heaths.

Alpine and Boreal heaths

The Cairngorms is the superlative example of the relatively continental hills of the eastern Scottish Highlands. It has the full range of heath types characteristic of the area and the most extensive tracts of Alpine and Boreal heaths in the UK. There is the best development of eastern lichen-rich heaths, coupled with a range of snow-bed heaths that are better developed than on any other site. H13 *Calluna vulgaris – Cladonia arbuscula* heath includes a large area in which there is a co-dominance of heather *Calluna vulgaris* and bearberry *Arctostaphylos uva-ursi*, an unusual kind of heath which occurs most extensively on the Cairngorms. H19 *Vaccinium myrtillus – Cladonia arbuscula* heath is dominated by mixtures of mountain crowberry *Empetrum nigrum* ssp. *hermaphroditum*, bilberry *Vaccinium myrtillus*, cowberry *V. vitis-idaea* and, unusually, trailing azalea *Loiseleuria procumbens*. H20

Vaccinium myrtillus – Racomitrium lanuginosum heath is also extensive, taking the habitat type up to its highest altitude in the UK. Calluna-rich and Vaccinium-rich forms of H22 *Vaccinium myrtillus – Rubus chamaemorus* heath are more extensive than on any other site, and snow-bed forms of H18 *Vaccinium myrtillus – Deschampsia flexuosa* heath are also well-developed. There is extensive development of heath on solifluction terracing. These alpine heaths give way below to alpine forms of H12 *Calluna vulgaris – Vaccinium myrtillus* heath and H16 C*alluna vulgaris – Arctostaphylos uva-ursi* heath; the latter community being largely restricted to north-east Scotland. There are also transitions to European dry heaths at lower altitude, *Juniperus communis* formations, Northern Atlantic wet heaths and Siliceous alpine and boreal grasslands and late snow-bed vegetation. This is the single most outstanding site for high-altitude acidic habitats in the UK.

Juniperus communis formations on heaths or calcareous grasslands

The Cairngorms has the third-largest extent of juniper *Juniperus communis* formations in the UK and is one of several sites representing the habitat type in north-east Scotland. The site is exceptional for the wide range of ecological situations in which juniper occurs. Creag Fhiaclach is unique in having the most natural altitudinal tree-line in the UK. At around 640 m there is mixed tree-line woodland with stunted Scots pine *Pinus sylvestris* and juniper, giving way at higher altitude to alpine juniper scrub. The alpine juniper scrub is developed extensively and often occurs in a stunted form transitional between ssp. communis and ssp. nana. On most of the site juniper occurs on acidic granite, while at Inchrory juniper occurs on both neutral and calcareous soils. Juniper also occurs at the margins and as part of the understorey of 91C0 Caledonian forest within the site.

Siliceous alpine and boreal grasslands

The Cairngorms complex (Cairngorms, eastern Cairngorms, Northern Corries and Inchrory) has the largest tracts of Siliceous alpine and boreal grasslands in the UK, developed on granite and, more locally, base-poor schist up to very high altitudes (above 1000 m). The total extent is more than twice that on any other site in the UK. The full range of sub-types on acidic soils is well developed and they are widespread. Both U10 *Carex bigelowii – Racomitrium lanuginosum* moss-heath and U7 *Nardus stricta – Carex bigelowii* grass-heath are extensive. The U9 *Juncus trifidus – Racomitrium lanuginosum* rush-heath community is particularly well-developed, becoming predominant on the higher plateau, and its extent far exceeds that on any other site in the UK. The stands of U8 *Carex bigelowii – Polytrichum alpinum* sedge-heath are among the most extensive in the UK. The late-lie moss snow-beds (U11 *Polytrichum norvegicum – Kiaeria starkei* snow-bed and U12 *Salix herbacea – Racomitrium heterostichum* snow-bed) are the most extensive and well-developed in Britain. The U14 *Alchemilla alpina – Sibbaldia procumbens* dwarf-herb community is also well-represented.

Species-rich Nardus grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe) * Priority feature

The Cairngorms is representative of the most eastern forms of species-rich Nardus grasslands in the UK. Both CG10 *Festuca ovina – Agrostis capillaris – Thymus praecox* grassland and CG11 *Festuca ovina – Agrostis capillaris – Alchemilla alpina* grassland are well-represented through an altitudinal range of 300–750 m, associated with calcareous and basic schists. There are particularly extensive examples at Inchrory on calcareous schist, but the community occurs elsewhere, notably at Craig an Dail Beag and in Glen Feshie. Swards also occur on alluvial soils in the bottoms of many of the main glens. At Inchrory both northern and southern species are well represented, including

species characteristic of both species-rich Nardus and 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*). The most abundant of the southern species is common rockrose *Helianthemum nummularium*; others include burnet saxifrage *Pimpinella saxifraga* and blue fleabane *Erigeron acer*. Green-winged orchid *Orchis morio* has also been recorded. Northern species include yellow saxifrage *Saxifraga aizoides* and hair sedge *Carex capillaris*, both of which are locally abundant in flushed grasslands at Inchrory. Mountain everlasting *Antennaria dioica*, alpine meadow-rue *Thalictrum alpinum*, alpine saw-wort *Saussurea alpina* and the rare alpine milk-vetch *Astragalus alpinus* and alpine cinquefoil *Potentilla crantzii*, are also present.

Blanket bogs * Priority feature

The Cairngorms support extensive areas of blanket bog both on the lower slopes, where it gives way to 4010 Northern Atlantic wet heath and 4030 European dry heaths as the gradient increases, and at high altitude. This contrasts with most other sites, which tend to be dominated by bogs of more limited altitudinal range. At low altitude bogs occur along valleysides and in depressions amongst the undulating glacial deposits and there are good examples of M18 *Erica tetralix – Sphagnum papillosum* blanket mire. Where bogs occur within or adjacent to 91C0 Caledonian forest, Scots pine *Pinus sylvestris* is often present, forming stands of 91D0 Bog woodland. These bogs are generally rich in the bog-mosses *Sphagnum capillifolium* and *S. papillosum*. On the Cairngorms blanket bog probably extends to a higher altitude than on any other SAC in the UK, around 1000 m. The bogs at higher altitude are M19 *Calluna vulgaris – Eriophorum vaginatum* blanket mire and some of these are moderately extensive on the gently sloping plateaux below the mountain tops. Above about 850 m, heather *Calluna vulgaris* disappears from the blanket bog and is replaced by mountain crowberry *Empetrum nigrum* ssp. *hermaphroditum* and bog

bilberry *Vaccinium uliginosum*. Dwarf birch *Betula nana* occurs locally in this higher-altitude bog. Lichens of the reindeer group (*Cladonia arbuscula* and *C. rangiferina*) are abundant, and the Cairngorms have some of the best examples of lichen-rich bogs.

Petrifying springs with tufa formation (Cratoneurion) * Priority feature

The Cairngorms is one of three sites representing upland petrifying springs with tufa formation in north-east Scotland. The springs occur particularly at Inchrory, where there is an extensive series of springs associated with metamorphosed limestones and calc-schists. There are transitions to 7230 Alkaline fens, 6230 Species-rich Nardus grasslands and more acidic grassland and heath communities.

Alpine pioneer formations of the Caricion bicoloris-atrofuscae * Priority feature

The Cairngorms is one of two sites in the eastern Scottish Highlands representing alpine pioneer formations of lime and/or base-rich mires at moderately high altitude. Due to the predominance of acidic rocks within the Cairngorms complex this habitat is very restricted in extent, occurring mainly in the Inchrory area, associated with calcareous rocks and occurring alongside 7220 petrifying springs and 7230 alkaline fen. A small representation is also present in Glen Feshie. Despite this restricted distribution, these flushes are well-developed. They contain a range of characteristic species, including yellow saxifrage *Saxifraga aizoides*, Scottish asphodel *Tofieldia pusilla,* three-flowered rush *Juncus triglumis* and alpine rush *J. alpinoarticulatus*. Sheathed sedge *Carex vaginata* is also present. The main NVC type present is M11 *Carex demissa – Saxifraga aizoides* mire.

Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)

The Cairngorms complex contains representative examples of high altitude siliceous scree communities characteristic of the eastern Scottish Highlands. Extensive areas of scree occur on granite at a range of altitudes in the Cairngorms. The scree communities in this site are very diverse. Of particular interest is the flora of high-altitude screes in the snowy corries, with parsley fern *Cryptogramma crispa*, alpine lady-fern *Athyrium distentifolium* and rare wavy meadow-grass *Poa flexuosa* (U18). The flora is rich in rare moss species, for example *Dicranum glaciale*, and rare liverworts, such as *Tetralophozia setiformis* and *Marsupella adusta*. These occur on rocks in and about the snow-beds. There are also several northern Atlantic bryophytes such as *Scapania nimbosa*, *Scapania ornithopodioides* and *Anastrophyllum donnianum*, which are restricted to areas of late snow-lie where they are protected from winter frosts.

Siliceous rocky slopes with chasmophytic vegetation

The Cairngorms represent high-altitude Siliceous rocky slopes with chasmophytic vegetation in the eastern Scottish Highlands. Crevice communities occur widely on acidic granite rocks and support an abundance of characteristic species. Rare species include Highland cudweed *Gnaphalium norvegicum*, alpine speedwell *Veronica alpina*, spiked wood-rush *Luzula spicata* and hare's-foot sedge *Carex lachenalii*.

Caledonian forest * Priority feature

The Cairngorms complex, consisting of six individually large Caledonian forest areas, including Abernethy and North Rothiemurchus, represents the more 'continental' East Central biochemical region, typically with W18b *Pinus sylvestris – Hylocomium splendens* woodland, Vaccinium spp. sub-community. This complex of woodlands is the most extensive

area of native pinewood in the UK and comprises almost half the total area of ancient Caledonian forest in Scotland. In common with the rest of Scotland, the upper limits of the pine woodland are mostly artificially depressed by grazing, but a more natural tree-line occurs at 640 m on Creag Fhiachlach. This is the highest altitudinal limit of woodland in the UK, and consists of bushy stunted growth of Scots pine *Pinus sylvestris* admixed with juniper *Juniperus communis* of a similar stature. The pine woodland shows transitions to a wide range of other vegetation, including 91D0 Bog woodland on the forest mires. There are areas of unusual herb-rich pine woodland at Mar Lodge, similar to those described at Ballochbuie. This type of forest is of very restricted distribution in Scotland. The forest contains nationally important populations of capercaillie *Tetrao urogallus*, Scottish crossbill *Loxia scotica* and the osprey *Pandion haliaetus*.

Bog woodland * Priority feature

This site contains one of the largest areas of native 91C0 Caledonian forest in the UK, lying on gently-undulating glacial deposits in the foothills of the Cairngorms. Scots pine *Pinus sylvestris* Bog woodland has developed within the forest because the irregular glacial topography has led to marked variations in geomorphology and drainage pattern. The drier slopes and knolls support mature pine woodland and in the hollows between, wet mires with abundant bog woodland have developed. These stands are composed of mire vegetation, either M18 *Erica tetralix – Sphagnum papillosum* mire or M19 *Calluna vulgaris – Eriophorum vaginatum* mire, with a scattering of stunted pine trees and saplings. A good intact example of this community occurs at Mineral Well within Rothiemurchus forest. Recent peat stratigraphy shows evidence of a history of wooded bog on this site. The bog woodland appears to be stable, and the trees, although stunted, continue to grow. Other areas, including Inshriach, have been influenced by past management for commercial forestry, and

recent restoration work has created the conditions required for wet woodland restoration. In total the hollows form an extensive area representing the largest example of Bog woodland in Scotland.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Natural dystrophic lakes and ponds
Sub-Arctic Salix spp. scrub
Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*)
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
Transition mires and quaking bogs
Calcareous rocky slopes with chasmophytic vegetation

Annex II species that are a primary reason for selection of this site
Green shield-moss *Buxbaumia viridis*

Green shield-moss *B. viridis* at Rothiemurchus had sporophytes, four in total and much fewer than in 2002. However, three new stands, close together, were found at Abernethy with a total of eight sporophytes. Areas of woodland with apparently suitable habitat were found to be very patchy, but a number of areas with good potential habitat were identified. It is thought possible that further survey may result in more new records for the species. Although sporophyte production is small, it is broadly comparable with that at the site at Moniack Gorge, Highland, and greater than that at Kindrogan, Perthshire. Given the extant records and the potential for discovery of further stands, the Cairngorms area is probably the most important locus for the species in the UK.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Otter *Lutra lutra*

Conservation objectives for Cairngorms Special Area of Conservation

To avoid deterioration of the qualifying habitats (listed below) thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
To ensure for the qualifying habitats that the following are maintained in the long term:

- Extent of the habitat on site
- Distribution of the habitat within site
- Structure and function of the habitat
- Processes supporting the habitat
- Distribution of typical species of the habitat
- Viability of typical species as components of the habitat
- No significant disturbance of typical species of the habitat

Qualifying Habitats:

- Acid peat-stained lakes and ponds
- Acidic scree
- Alpine and subalpine heaths
- Blanket bog*
- Bog woodland*
- Caledonian forest*
- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels
- Dry grasslands and scrublands on chalk or limestone
- Dry heaths
- Hard-water springs depositing lime*
- High-altitude plant communities associated with areas of water seepage*
- Juniper on heaths or calcareous grasslands
- Montane acid grasslands
- Mountain willow scrub
- Plants in crevices on acid rocks in upland areas*
- Plants in crevices on base-rich rocks
- Species-rich grassland with mat-grass
- Tall herb communities

- Very wet mires often identified by an unstable `quaking` surface
- Wet heathland with cross-leaved heath

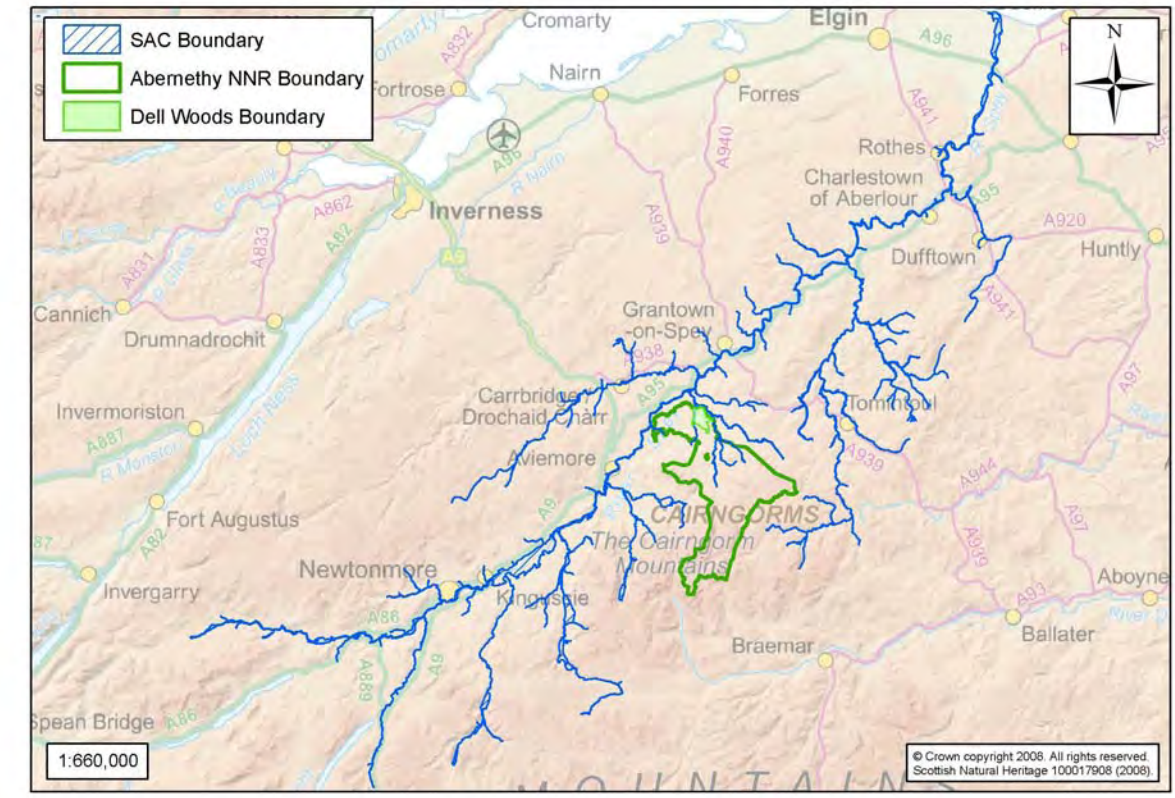
* Indicates priority habitat

Conservation Objectives for Cairngorms Special Area of Conservation

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- To ensure for the qualifying species that the following are maintained in the long term:
- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species Qualifying Species:
    - Green shield-moss
    - Otter

River Spey SAC

Country	Scotland
Unitary Authority	Highland; Moray; Perthshire
Grid Ref*	NJ095319
Latitude	57 22 15 N
Longitude	03 30 00 W
SPA EU CODE	UK0019811
Weblink	Status Designated Special Area of Conservation (SAC)
Area (ha)	5729.48



Annex II species that are a primary reason for selection of this site

Freshwater pearl mussel *Margaritifera margaritifera* –

The River Spey is a large Scottish east coast river that drains an extensive upland catchment and supports an outstanding freshwater pearl mussel population in its middle to lower reaches. In parts of the River Spey, extremely dense mussel colonies have been recorded (225 m^2) and the total population is estimated at several

million. As the population also shows evidence of recent recruitment and a high proportion of juveniles, the River Spey is considered to support a pearl mussel population of great international significance.

Sea lamprey *Petromyzon marinus*

The River Spey represents the sea lamprey *Petromyzon marinus* in the northern part of its range in the UK. It is absent from rivers north of the Great Glen, and the River Spey is virtually at the northern limit for this species. Recent surveys show that sea lamprey larvae are widely distributed throughout the middle and lower reaches of the river, where the particularly fast-flowing waters of the River Spey provide ideal spawning conditions for this species. In addition, as an unpolluted and relatively little modified system, the River Spey matches the other key habitat requirements of the sea lamprey in terms of good water quality, clean gravels and marginal silts and an unhindered migration route to the sea.

Atlantic salmon *Salmo salar*

The Spey supports one of the largest Atlantic salmon *Salmo salar* populations in Scotland, with little evidence of modification by non-native stocks. Adults spawn throughout virtually the whole length of the river, and good quality nursery habitat is found in abundance in the main river and numerous tributaries. Salmon in the Spey system are little affected by artificial barriers to migration, and the waters in the catchment are largely unpolluted (the river is oligotrophic throughout its length). For a system of its size, the Spey is also relatively free from flow modifications such as abstractions, diversions and impoundments. The salmon population includes fish of all ages including migrating smolts and returning adults, possibly reflecting genetic differences within the Spey stock.

Otter *Lutra lutra*

The Spey represents an important otter *Lutra lutra* site in Scotland, with good quality freshwater habitat. Surveys have identified high levels of otter presence throughout the Spey catchment. Riverine habitat features which are known to be important to otters are

present, such as reedbeds and islands, and populations of important prey species are relatively healthy. The persistence of a strong population of otter on this river indicates that habitat conditions are particularly favourable for the survival of the species.

Conservation objectives for River Spey Special Area of Conservation

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and
- To ensure for the qualifying species that the following are maintained in the long term:
    - Population of the species, including range of genetic types for salmon, as a viable component of the site
    - Distribution of the species within site
    - Distribution and extent of habitats supporting the species
    - Structure, function and supporting processes of habitats supporting the species
    - No significant disturbance of the species
    - Distribution and viability of freshwater pearl mussel host species
    - Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species

Qualifying Species:

- Atlantic salmon
- Freshwater pearl mussel
- Otter
- Sea lamprey

The site overlaps with Abernethy Forest, Cairngorms, Craigmore Wood, Drumochter Hills, Kinveachy Forest, Moray and Nairn Coast, and River Spey – Insh Marshes Special Protection Areas

Appendix 3 – Special Protection Area (SPA)

Special Protection Areas are areas classified under Article 4 of the European Community Directive on the Conservation of Wild Birds 1979 (EC79/409), commonly known as the Birds Directive. SPAs are intended to safeguard the habitats of birds which are rare or vulnerable in Europe as well as all migratory birds which are regular visitors. Together with Special Areas of Conservation (SAC), which are designated under the Habitats Directive for habitats and non-bird species, SPAs form the Natura 2000 network of sites. The Natura 2000 network is designed to conserve natural habitats and species of animals and plants which are rare, endangered or vulnerable in the European Community. Natura sites in Great Britain are protected via the Conservation (Natural Habitats &c.) Regulations 1994, which transpose the Habitats directive into GB law and are relevant to both SACs and SPAs. Natura sites are also generally underpinned by the SSSI mechanism in the terrestrial environment. The Scottish Executive Rural Affairs Department Circular No. 6/1995 (Revised June 2000) on the Habitats and Birds Directives gives further details of how the Regulations apply in Scotland.

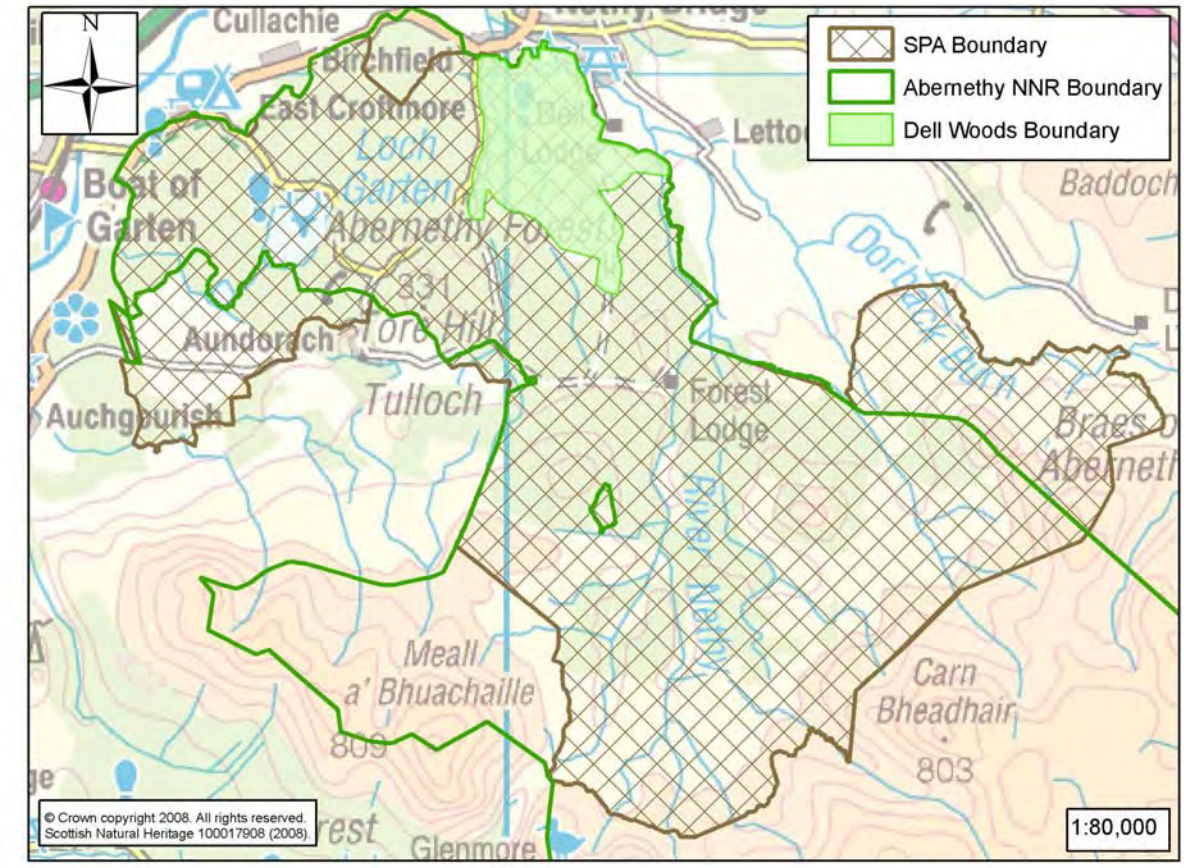
SNH acts as the advisor to Government in proposing selected sites for ministerial approval as proposed SPAs. SNH then consults with key parties over the site proposals on behalf of Scottish Ministers. The consultees, who include owners and occupiers of land, local authorities and other interested parties, are sent details of the proposed site boundaries and the species for which the site qualifies. SNH also negotiates the longer-term management of these sites. Following consultation, SNH forwards all responses to Scottish Ministers who then make a decision about whether to classify the site as a Special Protection Area.

The following websites provide further information:

Special Protection Areas:
http://www.jncc.gov.uk/UKSPA/default.htm

Abernethy Forest SPA

Country	Scotland
Unitary Authority	Highland
Classified	25/04/1990
Latitude	57 13 22 N
Longitude	03 18 10 W
SPA EU CODE	UK9002561
Area (ha)	5793.46
Component SSSI/ASSIs	Abernethy



Abernethy Forest is located on the southern fringe of the Spey Valley to the north of the Cairngorm massif in the eastern Highlands of Scotland. It is the largest remaining tract of native pinewood in Britain and is characterised by its great variety of

topography and habitats. The River Nethy flows northwards through the eastern margin of the forest, creating an additional variety of conditions through the processes of erosion and deposition along its channel. The forest has developed on undulating glacial deposits, with Loch Garten and many pools (and their surrounding valley mires) found within the lowest areas. In contrast, the higher ground opens out in places to Heather *Calluna vulgaris*-Bearberry *Arctostaphylos uva-ursi* heaths and there is an extensive shrub layer of Juniper *Juniperus communis* in many places. Although some undisturbed high forest remains, much of the woodland has been managed, although the presence of old pines and glades creates a semi-natural structure and vegetation composition in many areas. There are many plants and animals present that are characteristic of native pinewoods, as well as rich assemblages associated with wetlands and species typical of northern heaths. The forest is being extended southwards by pine regeneration on higher ground, encouraged by sympathetic conservation management. Abernethy Forest supports large populations of breeding woodland birds associated with northern pinewoods and their glades, including Capercaillie *Tetrao urogallus* and Scottish Crossbill *Loxia scotica* (Britain's only endemic bird species). The large and varied area of semi-natural vegetation at Abernethy supports several species of raptors, including nesting Osprey (*Pandion haliaetus*).

This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

During the breeding season;

Capercaillie *Tetrao urogallus*, 45 individuals representing at least 2.0% of the breeding population in Great Britain

Osprey *Pandion haliaetus*, 2 pairs representing at least 2.0% of the breeding population in Great Britain (Count as at early 1990's)

Scottish Crossbill *Loxia scotica*, 175 pairs representing at least 58.3% of the breeding population in Great Britain

Conservation objectives for Abernethy Forest Special Protection Area

- To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and
- To ensure for the qualifying species that the following are maintained in the long term:
- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species

No significant disturbance of the species
Qualifying Species:

- Capercaillie (*Tetrao urogallus*)
- Osprey (*Pandion haliaetus*)
- Scottish crossbill (*Loxia scotica*)

The site overlaps with Cairngorms Special Area of Conservation and River Spey Special Area of Conservation

Appendix 4 – Site of Special Scientific Interest (SSSI)

Scottish Natural Heritage is the key statutory agency in Scotland for advising Government and for acting as the Government's agent in the delivery of conservation designations in Scotland. Site of Special Scientific Interest (SSSI) is the main nature conservation designation in Great Britain. These sites are special for their plants or animals or habitats, their rocks or landforms or a combination of these.

The SSSI series has been developed over the last 50 years and since 1981 as the national suite of sites providing statutory protection for the best examples of GB's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, many SSSIs were renotified and others newly notified under the Wildlife and Countryside Act 1981 or the Nature Conservation (Scotland) Act 2004. Further changes in the protective mechanisms were introduced by the 2004 Act.

These sites are also used to underpin other national and international nature conservation designations. Most SSSIs are privately owned or managed; others are owned or managed by public bodies or non-government organisations. There are more than 1400 SSSIs in Scotland.

Web Links:

'The Nature of Scotland – A Policy Statement'
http://www.scotland.gov.uk/library3/environment/nas-00.asp

'People and Nature: A New Approach to SSSI Designations in Scotland'
http://www.scotland.gov.uk/library/documents-w1/pandn-00.htm

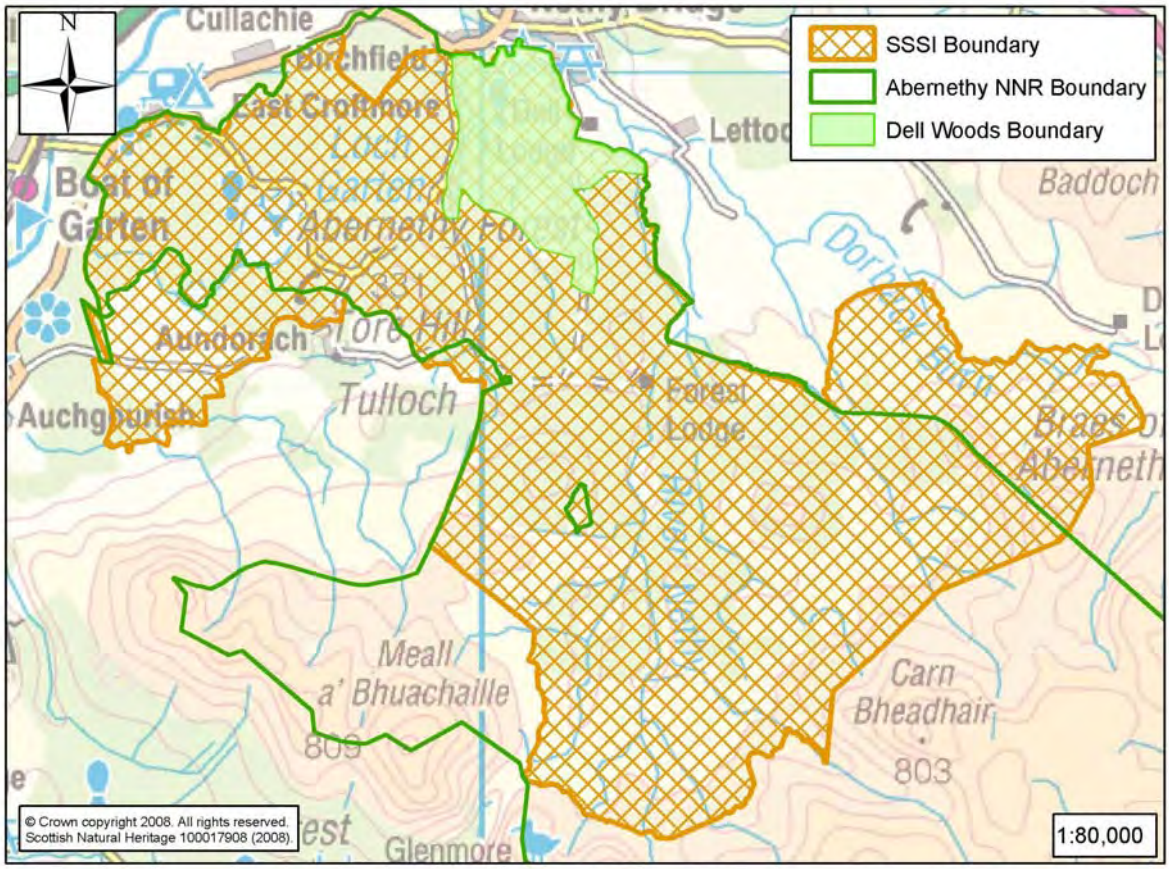
Guidelines for selection of biological SSSIs
http://www.jncc.gov.uk/Publications/sssi/default.htm

Site of Special Scientific Interest (SSSI):
http://www.snh.org.uk/about/ab-pa01.asp

Abernethy Forest SSSI

Country	Scotland
Unitary Authority	Badenoch & Strathspey District, Highland Region
Grid Ref*	NJ 010165
Notified	17 December 1986
Area	5,793.46 hectares

*This is the approximate central point of the SSSI. In the case of large, linear, or composite sites, this may not represent the location where a feature occurs within the SSSI.



CITATION ABERNETHY FOREST
SITE OF SPECIAL SCIENTIFIC INTEREST
HIGHLAND (Badenoch and Strathspey)

Geological
Quaternary geology and geomorphology: Quaternary of Scotland
Geomorphology: Fluvial Geomorphology of Scotland

Biological
Woodlands: Native pinewood
Fens: Basin fen
Bogs: Raised bog
Upland habitats: Subalpine dry heath
Vascular plants: Vascular plant assemblage
Non-vascular plants: Fungi assemblage
Non-vascular plants: Lichen assemblage
Birds: Capercaillie *Tetrao urogallus*
Birds: Scottish crossbill *Loxia scotica*
Birds: Crested tit *Lophophanes cristatus*
Birds: Osprey *Pandion haliaetus*
Birds: Breeding bird assemblage
Invertebrates: Invertebrate assemblage
Invertebrates: Beetle assemblage
Dragonflies: Dragonfly assemblage

DESCRIPTION
Abernethy Forest is situated between Aviemore and Nethy Bridge in Strathspey and extends from near the River Spey in the north to the foothills of the Cairngorm mountains in the south.

Geology

A part of the SSSI extending from Loch Garten to Tulloch Moor is a key area for studying the vegetation history of the Cairngorms – Spey Valley area since the last glacial retreat. It is notable for the length and completeness of its vegetation record which has been worked out from the identification of pollen and plant remains and this in conjunction with radio-carbon dating, gives an accurate assessment of the timescale involved. The site is particularly significant in helping to understand the establishment, development and history of native Scots pine forest.

The SSSI is part of an internationally important area recognised for its exceptional assemblage of pre-glacial, glacial, glaciofluvial and periglacial features. Within the SSSI there is an intact network of landforms created and abandoned by the retreating Spey glacier, including: moraines, kames, kettle holes, terraced outwash deposits of silts, sands and gravels, and drift and rock cut melt-water channels. These landforms have created a varied

topography, with marked changes in drainage, from small boggy hollows, to dry sandy ridges.

A small part of the Dorback Burn affords a typical example of a wandering gravel river within an upland Scottish environment. The site has been monitored since 1978 and allows a valuable insight into river activity, especially in response to floods.

Habitats

One of the largest areas of native pinewood in Britain, Abernethy Forest represents part of a once continuous tract of woodland around the lower slopes of the Cairngorms. It is part of the eastern group of pinewood types which includes Glen Tanar, Rothiemurchus and Ballochbuie. Many plants and animals that are found only in the native pinewoods occur here and as such the site is of considerable national importance.

Parts of Abernethy consist of almost completely undisturbed high forest but much of the northern area is semi-natural, some having been planted since the mid-eighteenth century. The forest retains a high degree of naturalness and a good structural diversity in terms of varying age, height and form of trees and in the presence of a shrub layer of juniper and areas of bog woodland. Certain sections of the wood are partly or completely dominated by native broadleaf tree species, especially birch.

Lying on gently undulating glacial deposits between 200 and 600m above sea level, the site also contains a range of the montane and sub-montane habitats found in the Cairngorms complex. The irregular glacial topography allows marked variations in drainage and a consequent variety of different plant communities.

Within the forest area there is a series of oligotrophic to mesotrophic valley and basin mires which in places have systems of long aligned pools filled with aquatic bog moss Sphagnum species.

A raised bog adjacent to the Dorback Burn has an exceptional development of surface pools together with the uncommon occurrence of a lagg fen at its margins.

Important areas of dry heather-bearberry *Calluna-Arctostaphylos* heath occur, for example around Tulloch, and this has a limited distribution in Britain.

The River Nethy bisects the forest and this together with lochs and small lochans interspersed within it adds to the diversity of important habitats within the site.

Species

Many plant species of national and regional importance occur under both the open and closed woodland canopy. These include the vascular plant assemblage with species such as intermediate wintergreen *Pyrola media*, one-flowered wintergreen *Moneses uniflora* and twinflower *Linnaea borealis.*

The assemblages of lichens such as Stump lichen *Cladonia botrytes* and fungi such as *Sarcodon glaucopus* (a tooth fungi) at Abernethy are exceptional and contain many species which are rare and often confined to ancient pine forest.

Abernethy pinewood is noted for its nationally important breeding populations of several northern bird species including capercaillie, Scottish crossbill, crested tit and osprey. The woodland breeding bird assemblage includes the above species as well as black grouse *Tetrao tetrix,* redstart *Phoenicurus phoenicurus*, spotted flycatcher *Muscicapa striata* and tree pipit *Anthus trivialis.*

In addition, Abernethy is amongst the most important invertebrate sites in Scotland. It is rich in scarce or rare invertebrates' characteristic of the native pinewoods including species of flies such as the Pine hoverfly *Blera fallax,* spiders such as *Dipoena torva*, ants such as the Narrow-headed ant *Formica exsecta*, and moths such as the Cousin German *Protolampra sobrina*. Over 400 species of beetle such as *Atomaria badia*, *A.hislopi* and *A.ornata* have been listed for the area, many of which are indicators of ancient woodland. The dragonfly assemblage includes rare species such as the Northern Damselfly *Coenagrion hastulatum*, White-faced Darter *Leucorrhinia dubia* and the Northern Emerald *Somatochlora arctica* which breed in the forest mires and lochans.

NOTIFICATION HISTORY

First notified under the 1949 Act: 1972
Part notified under the 1981 Act: 9 March 1984 as Abernethy Forest (Seafield Section) SSSI
Re-notified under the 1981 Act: 17 December 1986 with a 5, 606.46 ha increase in area in addition to incorporating Abernethy Forest NNR and Abernethy Forest (Seafield Section SSSI
Notification reviewed under the 2004 Act: 16 December 2009

REMARKS
Measured area of site corrected from 5,796 ha.

Abernethy Forest SSSI is also Abernethy Forest Special Protection Area (SPA) designated for the birds listed below.

Capercaillie *Tetrao urogallus*
Osprey *Pandion haliaetus*
Scottish crossbill *Loxia scotica*

Abernethy Forest SSSI is part of the Cairngorms Special Area of Conservation (SAC) designated for the European habitats and species listed below:
Habitats

Acid peat-stained lakes and ponds
Acidic scree
Alpine and subalpine heaths
Blanket bog
Bog woodland
Caledonian forest
Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels
Dry grasslands and scrublands on chalk or limestone
Dry heaths
Hard-water springs depositing lime
High-altitude plant communities associated with areas of water seepage
Juniper on heaths or calcareous grasslands
Montane acid grasslands
Mountain willow scrub
Plants in crevices on acid rocks
Plants in crevices on base-rich rocks

Species-rich grassland with mat-grass in upland areas
Tall herb communities
Very wet mires often identified by an unstable 'quaking' surface
Wet heathland with cross-leaved heath

Species:

Otter *Lutra lutra*
Green shield-moss *Buxbaumia viridis*

Part of Abernethy Forest SSSI overlaps part of the River Spey Special Area of Conservation (SAC) designated for the European species listed below.

Atlantic salmon *Salmo salar*
Otter *Lutra lutra*
Freshwater pearl mussel *Margaritifera margaritifera*
Sea lamprey *Petromyzon marinus*

Appendix 5 – National Parks (NP)

National Parks in Scotland are designated by Scottish Ministers under the National Parks (Scotland) Act 2000. They are designated to deliver coherent management of large areas of outstanding natural and cultural heritage. To this end, the aims of National Parks are:

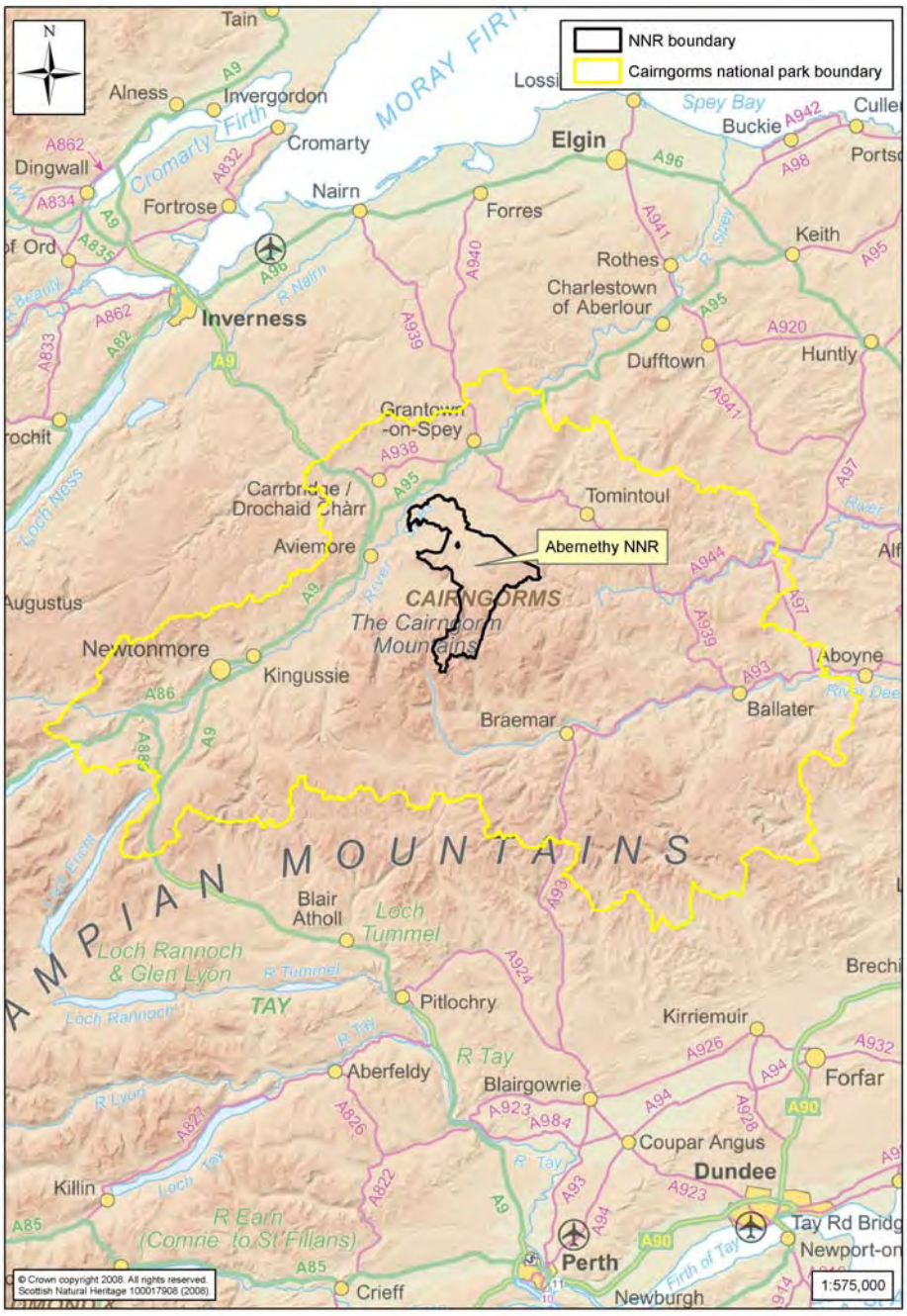
- to conserve and enhance the natural and cultural heritage;
- to promote the sustainable use of the natural resources of the area;
- to promote understanding and enjoyment of the special qualities of the area by the public;
- and to promote sustainable social and economic development of the communities of the area.

A National Park Authority is in place for the two National Parks in Scotland. Park authorities have the responsibility for drawing up the National Park Plan and ensuring its implementation. The Park Authorities are funded by Government and report directly to Scottish Ministers.

SNH had a close involvement in the preparation of the proposals for National Parks in Scotland. In 1999 we developed the advice, which led to the National Parks (Scotland) Act 2000. In 2001, we were asked to act as the statutory reporter to Scottish Ministers on the National Park proposals for Loch Lomond & the Trossachs and for the Cairngorms. SNH also has wider role in respect of National Parks based on its statutory responsibilities under the Natural Heritage (Scotland) Act 1991. These include specific functions for the notification and management of international and national designations, and the promotion of measures to implement the new legislation on access. We also have a general advisory function to Scottish Ministers, local authorities and other bodies including the National Park Authorities.

Cairngorms National Park

Country	Scotland
Unitary Authorities	Aberdeenshire, Highland Council, Moray & Angus
Established	7 January 2003
Area (ha.)	381,653.98



The Cairngorms National Park is Britain's largest and newest national park. It contains within it a unique range of landscapes, wildlife, habitats, and people.

Landscapes

- The Park is 3800 sq kilometres in area, 40% larger than the Lake District and twice the six of Loch Lomond and the Trossachs.
- 4 of Scotland's 5 highest mountains are within the Park, there are 52 summits over 900 metres (m). 10% of the land area is over 800m and 68% is over 400m above sea level.
- The land above 600m – known as the 'montane zone' – is the largest area of arctic mountain landscape in the British Isles.
- The Cairngorms contain the finest collection of different landforms outside arctic Canada – from granite tors to heavings and leavings from Ice Age glaciers.
- The Spey, Dee and Don valleys are major features of the lower ground.

Habitats

- 39% of the park area is designated as important for nature heritage; 25% is of European importance.
- The central mountain area provides a harsh habitat for a unique assemblage of vegetation, insects and animals.
- The forests of the Cairngorms contain remnants of the original Caledonian pine forest and include a rare kind of pinewood found only in Scotland and Norway.
- Heather moorland covers much of the national park. A product of centuries of interaction between man and nature, it fosters enormous ecological diversity.
- The rivers, loch and marshes are among the cleanest in Scotland.

Wildlife

- The national park is home to 25% of the UK's threatened bird, animal and plant species.
- The Cairngorms is the best place for the Scottish crossbill, the only bird unique to Britain. Golden eagle, osprey, dotterel, capercaillie and crested tit are just a few of the bird species found here.
- The national park is home to a wide variety of animals – including pine martens, red squirrels, badgers, wildcat, water vole and otters.

- The rivers are home to a rising population of the globally endangered freshwater pearl mussel, as well as salmon, trout and rare lampreys.

People

- The national park is home to 16,000 people, living in substantial towns, villages, hamlets, and houses in the countryside. At 4.2 people per square kilometre, the population density is very low.
- Major centres of population are Aviemore, Ballater, Braemar, Grantown-on-Spey, Kingussie, Newtonmore and Tomintoul.
- Toursim related businesses account for about 80% of the economy, including activities such as, skiing, walking, fishing, shooting and stalking.
- Approximately 1.4 million people visited the Cairngorms National Park in 2006 – approximately 1 million of those people visited Badenoch and Strathspey.

The following tables show how the objectives within the Dell Woods - Abernethy National Nature Reserve Management Plan contribute to the delivery of the Cairngorms National Park plan objectives and plan outcomes. Numbering is from the Cairngorms National Park plan.

Cairngorm national Park Strategic Objectives:

5.1 Conserving and enhancing the Park: Natura 2000 – a network of special sites

CNPA objective reference	Objective detail	Abernethy NNR - Dell Woods 2010-2016 management proposals and how these deliver CNPA objectives
5.1 a	Conserve and enhance the condition and diversity of habitats and species present throughout the Park through a landscape-scale approach to habitat networks.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important;

5.1 b	Ensure all designated nature conservation sites are in favourable condition.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats;
5.1 c	Engage all sectors in meeting or exceeding international, national and local biodiversity targets.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important;
5.1 e	Ensure that populations of species given special protection under the Habitat Regulations, the Wildlife and Countryside Act, the Nature Conservation Act and European Directives are stable or, where appropriate, increasing.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important; Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve.
5.1 g	Identify, prioritise and take action to address non-native species that pose a threat to the natural heritage and land management of The Park.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important; Research & monitoring – to commission, support and encourage

		targeted research, survey, monitoring and demonstration projects on the Reserve.
5.1 h	Promote appropriate reintroduction of species and reinstatement of habitats and identify the likely ecological, economic and management impacts.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important; Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve.
5.1 i	Develop awareness and understanding of the interactions of land-uses, tourism, outdoor access and nature conservation amongst all interests.	Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve.
5.1 j	Identify and carry out a research programme designed to provide the information and monitoring on the habitats, species and ecosystems required to guide future decision-making.	Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve.

5.1 Conserving and enhancing the Park: Natura 2000 – integrated land management

5.1 d	Develop collaboration and communication between statutory agencies, land managers, non-governmental organisations, voluntary groups, communities and other interests.	To engage with the local community in the management of the Reserve.

5.1 Conserving and enhancing the Park: Natura 2000 – forest and woodland management

5.1 a	Promote multi-objective forest and woodland management that delivers environmental, economic and social benefits.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important;
5.1 b	Enhance the condition of existing woodland cover and expand to develop habitat networks that complement the landscape character and other land-uses.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important;
5.1 c	Encourage a full range of forest ecosystems from valley floor to natural altitudinal tree-line in targeted areas and the re-development of woodland types that have declined.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important;
5.1 e	Promote the value of forests and woodlands as a major sustainable tourism asset, increasing the derived economic benefits to woodland owners and local communities.	Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the

		management of the Reserve.
5.1 f	Promote community participation in forest and woodland planning and management.	Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve.
5.1 g	Contribute to national efforts to address climate change.	Pinewoods - Improve conditions for pinewood and associated species and intervene to enhance where necessary ; Woodland bogs - Restore and enhance bog habitats; Biodiversity - encourage biodiversity on the Reserve especially habitats and species which are nationally important; Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve. Property - Ensure property on the Reserve is managed and maintained following best practice.

5.2 Living and working in the Park: sustainable communities

5.2 d	Strengthen the capacity of local communities and encourage community development building on existing networks, expertise	To engage with the local community in the management of the Reserve.

	and experience.	

5.3 Enjoying and understanding the Park: sustainable tourism

5.3 b	Improve and maintain the quality of experience in the Park for all visitors, communities and those working within the tourism industry.	Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve. Property - Ensure property on the Reserve is managed and maintained following best practice.
5.3 d	Ensure effective involvement by all stakeholders in the planning, development and management of tourism in the Park and maintain good communication between them.	To engage with the local community in the management of the Reserve.
5.3 f	Develop and maintain a wide range of opportunities for visitors to experience and enjoy the special qualities, distinctiveness and natural and cultural heritage of the Park.	Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve.
5.3 i	Ensure that visitor information is targeted at specific audiences and encourages resource protection, responsible access, visitor safety	Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation

	and the health benefits of regular outdoor exercise.	and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve.

5.3 Enjoying and understanding the Park: Outdoor Access and Recreation

5.3 b	Promote high standards of responsible enjoyment of the Park so that its special qualities are understood and appreciated, safeguarded now and for future generations to enjoy and the interests of others are respected.	Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve.
5.3 e	Support and encourage local community involvement in the planning and management of outdoor access throughout the Park.	To engage with the local community in the management of the Reserve.
5.3 g	Protect the more fragile areas of the Park from pressures arising from outdoor access and recreation.	Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve. Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the

		local community in the management of the Reserve.

5.3 Enjoying and understanding the Park: learning and understanding

5.3 a	Increase the awareness and understanding of the Park's special qualities and the management needed to sustain and enhance them.	Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve. Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve.
5.3 e	Develop and support opportunities for volunteering.	Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve. Visitor facilities - Improve access and facilities for all people using and visiting the Reserve; Visitor information - Encourage greater enjoyment, appreciation and understanding of the natural heritage of the Reserve; Education - Facilitate and encourage the use of the Reserve for educational purposes; Public engagement - Engage the local community in the management of the Reserve.
5.3 g	Ensure that the Park is a place where both scientific and traditional forms of knowledge about the land and its management are valued and	Research & monitoring – to commission, support and encourage targeted research, survey, monitoring and demonstration projects on the Reserve

	put to good use in the long-term management of the area.	