Cairngorms Nature Action Plan 2013-2018
Strategic Environmental Assessment

Environmental Report

Table of Contents

Non Technical Summary

1.Introduction & Key Facts about the Plan 1

2 .Context for the Cairngorms Nature Action Plan 6

3. Assessment of Environmental Effects and Measures envisaged for prevention reduction and offsetting any significant effects 27

4. Monitoring 33

5. Next Steps 35

Appendix1 – Other PPS and Environmental Objectives

Appendix 2 – Assessment Record Forms

Appendix 3 – Using the ecosystems Approach in the SEA

Non-Technical Summary

This is a non-technical summary of the Environmental Report, part of a Strategic Environmental Assessment (SEA) of the Cairngorms Nature Action Plan 20013-18 (CNAP). It explains:

- What the SEA is
- How it has been carried out
- What effects the CNAP is likely to have on the environment
- How the SEA has influenced the Plan
- Next steps

What is the SEA?

SEA is a way of making sure that the environmental effects of a plan are thought about carefully as it is made. The point of doing it is make sure that the plan has as few bad effects on the environment as possible and has as many good effects as possible. It is also done to help the consultation on the plan by giving the public information about the effects it could have. It is a legal requirement for public sector bodies to do SEA on many plans they produce.

How has the SEA been carried out?

The Cairngorms Nature Action Plan (CNAP) helps to deliver the four aims of the National Park:

- To conserve and enhance the natural and cultural heritage of the area;
- To promote sustainable use of the natural resources of the area;
- To promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public;
- To promote sustainable economic and social development of the area's communities.

It is a plan to coordinate the conservation and management of the natural heritage of the National Park. The plan is meant to enhance the environment of the Park and the SEA helps make the plan more effective and identify any unforeseen negative consequences.

The SEA:

- Summarises what state the environment is in just now; how it has changed, is expected to change; and the big issues facing it;
- Looks at how the environment might change without the plan;
- Picks out the things that are most important in the environment of the Park that are relevant to the Plan and need to be thought about while it is prepared;
- Tests the different parts of the plan against those points to predict what effects it might have on them;
- Makes the Plan change to avoid bad effects or to have better effects on the environment;
- Records the results of this assessment;

- Picks out what information needs to be used in future so that we can see what effects the plan has on the environment as it is delivered.

For this SEA, the Cairngorms National Park Authority used the idea of ecosystems to help choose what the assessment should test the plan against. The idea of ecosystems helps people to understand some of complicated links between different parts of the environment. Using it has helped us ask questions that are most relevant to the environmental issues in the Park.

What effect is the Cairngorms Nature Action Plan likely to have on the environment?

The assessment shows that the CNAP should have many good effects on the environment and is unlikely have bad effects. This is because:

1. The plan is focuses upon action to promote the conservation and enhancement of the natural heritage of the National Park. Therefore by it will by definition not include items that would be harmful to the environment.
2. It seeks to co-ordinate activity across many organisations who have responsibility for delivering conservation.

How has the SEA influenced the Plan?

The assessment has helped to test how well the plan considers the environment as a whole and to improve the way that outcomes should be delivered.

What are the next steps?

The draft Plan is now complete. The CNPA will prepare a statement showing how the SEA process has informed the completed CNAP; how it will coordinate the delivery of the Plan; and monitor its delivery and its environmental effects.

1 Introduction

Purpose of this Environmental Report

1.1 As part of the preparation of the Cairngorms Nature Action Plan 2013-2018, the Cairngorms National Park Authority is carrying out a Strategic Environmental Assessment (SEA). SEA is a systematic method for considering the likely environmental effects of certain plans, policies and strategies (PPS). SEA aims to:

- integrate environmental factors into PPS preparation and decision-making;
- improve PPS and enhance environmental protection;
- increase public participation in decision making; and
- facilitate openness and transparency of decision-making.

1.2 SEA is required by the Environmental Assessment (Scotland) Act 2005. The key SEA stages are:

Screening	determining whether the PPS is likely to have significant environmental effects and whether an SEA is required
Scoping	deciding on the scope and level of detail of the Environmental Report, and the consultation period for the report – this is done in consultation with Scottish Natural Heritage, The Scottish Ministers (Historic Scotland) and the Scottish Environment Protection Agency
Environmental Report	publishing an Environmental Report on the PPS and its environmental effects, and consulting on that report
Adoption	providing information on: the adopted PPS; how consultation comments have been taken into account; and methods for monitoring the significant environmental effects of the implementation of the PPS
Monitoring	monitoring significant environmental effects in such a manner so as to also enable the Responsible Authority to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial action.

1.3 Scoping for the draft CNAP was undertaken in November 2012 and consulted upon between December 2012 and January 2013. Responses to this scoping will be incorporated into the final plan.

1.4 The purpose of this Environmental Report is to

- provide information on the CNAP 2012-2017.

- identify, describe and evaluate the likely significant effects of the PPS and its reasonable alternatives; in this case updating the Environmental Report of the SEA.

Key Facts about the Cairngorms Nature Action Plan 2013-2018

1.5 The Cairngorms Local Biodiversity Action Plan (CLBAP) has been a key document since 2002. However the key outcomes having been set more than ten years ago were in need of review and revision. In January 2012 the decision was made by the Cairngorms LBAP management group to undertake this review. The CNAP is the result of this process and this SEA report is assessing this.

1.6 The Park Authority has undertaken the review of the CLBAP and worked with partners and stakeholders to produce the CNAP. In addition the CLBAP management group agreed to reconstitute its function and structure into what is now the Cairngorms Nature Partnership. It is steered by a strategy group made up of representatives from Dee Fisheries Trust, Forestry Commission Scotland, National Farmers Union Scotland, National Trust for Scotland, Royal Society for the Protection of Birds, Scottish Land & Estates, Scottish Gamekeepers' Association, Cairngorms National Park Authority and a Community Development Officer

1.7 The key facts relating to the CNAP are set out in Table 1 below:

Table 1 Key Facts about the Cairngorms Nature Action Plan	
Responsible Authority	Cairngorms National Park Authority
Title of PPS	Cairngorms Nature Action Plan 2013-2018
Purpose of PPS	
What prompted the PPS	The review of the current Cairngorms Local Biodiversity Action Plan
Subject (e.g. transport)	Conservation of biodiversity within the Cairngorms National Park
Period covered by PPS	2013-2018
Frequency of updates	5 years
Area covered by PPS	The Cairngorms National Park, approximately 4,500 km/sq
Summary of nature and content of PPS	The CNAP sets out a vision and action plan for the conservation of biodiversity within the CNP for the next five years. The vision is that nature in the Cairngorm National Park will be cared for and treasured by all who live and work here and all who visit. Natural habitats, rich in distinctive species, will be even more diverse,

	even more resilient and even better connected than they are today. The action plan is divided into four main areas and a series of actions is identified under each. These areas are: 1. Woodland – Caledonian Pine woods, conifer plantation, birch/aspen, wet/riparian, montane and upland oak 2. Wetland - Upland flushes, fens & swamps, Lowland fens, Wet grassland, Rivers, and Lochs & ponds. 3. Priority actions for other habitats 4. Involving people – Inspiring and engaging and providing opportunities.
Contact Point	CNAP - Andy Ford, Cairngorms Nature Manager SEA - Matthew Hawkins, Heritage Manager Cairngorms National Park Authority, 14 The Square, Grantown-on-Spey, Morayshire, PH26 3G

SEA Activities to Date

1.8 SEA has been undertaken at different stages and levels of detail throughout the development of the CNAP. The plan's Five-Year Outcomes are intended to provide a framework for decision making about conservation activity and priorities.

1.9 Table 2 summarises the SEA activities to date in relation to the Cairngorms National Park Partnership Plan 2012-2017

Table 2. SEA activity to date

SEA Action/Activity	When carried out	Notes
Screening to determine whether the PPS is likely to have significant environmental effects	*April-May 2012*	
Scoping the consultation periods and the level of detail to be included in the Environmental Report	*Dec 2012 – Jan 2013*	
Outline and objectives of the PPS	*Dec 2012*	
Relationship with other PPS and environmental objectives	*January-February 2013*	
Environmental baseline established	*January-February 2013*	
Environmental problems identified	*January-February 2013*	
Assessment of future of area without the PPS	*January-February 2013*	
Alternatives considered	*January-February 2013*	Alternatives and priorities within the CNAP have been assessed throughout its development and

		extensive consultation with partners.
Environmental assessment methods established	*January-February 2013*	
Selection of PPS alternatives to be included in the environmental assessment		No reasonable alternatives have been identified for assessment
Identification of environmental problems that may persist after implementation and measures envisaged to prevent, reduce and offset any significant adverse effects	*January-February 2013*	
Monitoring methods proposed	*January-February 2013*	
Consultation timescales • Timescale for Consultation Authorities • Timescale for public	*February – March 2013*	
Notification/publicity action	*March 2013*	
Analysis of Consultation Responses	*March 2013*	
Review of PPS and environmental problems	*March – April 2013*	The review of consultation comments to both the draft Plan and Environmental Report have helped refine and improve the CNAP and Assessment.

2 Context

The CNAP sets out a vision for the conservation of biodiversity within the Cairngorms National Park for fifty years. It also identifies specific actions for the next five.

Structure and content of the CNAP

1. Introduction
   1.1. The introduction sets out the international and national context for the park. It illustrates the high biodiversity value placed upon the habitats and the special relationship with the people of the park as well as visitors and businesses. It highlights the special role of land managers in delivering the values habitats and species.
2. Vision
   2.1. The vision sets out the long term aspirations for biodiversity within the park area for 50 years – up to 2063.
   2.2. The vision is "Nature in the Cairngorms National Park will be cared for and treasured by all who live and work here and all who visit. Natural habitats, rich in distinctive species, will be even more diverse, even more resilient and even better connected than they are today."
3. Strategy
   3.1. This section outlines the purpose and aims of Cairngorms Nature and the action plan; the contributions the plan makes to other strategies and plans; and policies on data and research and bio-security.

   The Cairngorms Nature Action Plan outlines how, through the collective and co-ordinated efforts of members it aims to:

- Improve the quality and connectivity of woodlands and wetlands for biodiversity
- Conserve and enhance key species through focused conservation action
- Implement priority actions for other habitats
- Inspire and provide opportunities for people to engage with nature

   3.2. The policy context is outlined with reference to:

- Cairngorms National Park Partnership Plan
- Scottish Government Outcomes
- Scottish Biodiversity Strategy
- Scottish Forestry Strategy
- Scottish Land Use Strategy
- Scotland Rural Development Programme

- Cairngorms National Park Local Plan

3.3 As a principle, Cairngorms Nature will focus data and research work in two main areas:

- Collating and ensuring easy access to biological data;
- Undertaking research, surveying and monitoring that will; directly help deliver actions; and help monitor indicators and progress

3.4 Biosecurity is a significant for the national Park and is addressed within the plan. The CNAP will focus upon specific measures:

- Promote understanding of the issues caused by non-native species and the remedial measures that can be taken at both a local and landscape level;
- Support existing eradication and prevention programmes; and
- Review existing plans and policies, identify gaps and duplications, and formulate a Park-wide strategic approach.

4. Action

Under this section actions for conservation are identified under four headings. For each one specific actions and relevant stakeholders are identified. Key targets are also listed for each area.

- Woodland – Caledonian Pine woods, conifer plantation, birch/aspen, wet/riparian, Montane and upland oak

- Wetland - Upland flushes, fens & swamps, Lowland fens, Wet grassland, Rivers, and Lochs & ponds.
- Priority Habitat actions - Montane, Moorland and grassland habitats
- Involving people - Inspiring and engaging and providing opportunities

Changes to the Plan and the SEA as a result of consultation

2.1 Comments on the draft Plan and the Environmental Report that accompanied will help to refine and improve the plan. the changes will be recorded and a summary will be reported in the final statement.

Relationship with other Plans, Programmes and Strategies and Environmental Objectives

2.2 Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes an outline of the PPS relationships with other relevant PPS, and how environmental protection objectives have been taken into account in the PPS preparation. This section covers these issues and describes the policy context within

which the PPS operates.

2.3 The CNAP must have appropriate regard to a wide range of national and international laws, policy and strategy. For example, the National Park Partnership Plan, Habitats and Birds Directives, Water Framework Directive, Scottish Climate Change Adaptation Strategy and National Planning Framework all provide a context and direction for the CNAP.

2.4 The CNAP provides the strategic context for biodiversity issues within the Local Plan and forthcoming Local Development Plan in the Park, and it will influence the SRDP.

2.5 The full range of relevant environmental objectives is extensive. Appendix 1 to this Environmental report summarises the main PPS, environmental objectives and relationships with the CNAP in more detail. Table 3 below summarises the main points related to SEA issues. This is a relatively narrow list because of the specialised nature of the CNAP

Table 3. The points for the CNAP from other PPSs

SEA Issues	Main points for the CNAP 2012-2017
Biodiversity, flora, fauna	• Conserve and enhance biodiversity, particularly the nationally and internationally rare and threatened species and habitats • Help species and habitats adapt to the effects of climate change • Conserve nationally important habitat and species through wetland and woodland creation.
Population & Human Health	• Adapt to the effects of climate change and avoid hazards as a result of extreme weather events
Soil	• Maintain productive capacity of soils • Prevent erosion of soils • Maintain quality of natural soils and soil fauna • Maintain or improve carbon storage of soils and peat
Water	• Maintain and improve water quality • Encourage natural processes, particularly natural flood management and catchment processes
Air & Climatic Factors	• Increase sequestration of carbon
Material Assets	• Conserve landscapes of the Park (as one of the attractions for visitors) • Maintain and increase the supply of timber an woodfuel for local use
Cultural Heritage	• Promote the understanding of relationship of natural and cultural heritage and through which promote the conservation of the latter.

Landscape	• Conserve and enhance landscape character and special landscape qualities of the Park
Inter-relationships between issues	• Maintain and improve the health of ecosystems and natural systems (which cut across all issues)

Relevant Aspects of the Current State of the Environment

2.6 Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes a description of "the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme", and "the environmental characteristics of areas likely to be significantly affected". This section aims to describe the environmental context within which the PPS operates and the constraints and targets that this context imposes on the PPS

2.7 The CNPA has adopted an ecosystems approach to the SEA of the CNAP. The ecosystems approach should provide a clearer strategic context for the SEA by focusing on the services that ecosystems provide, their importance to the health of the ecosystem (in the National Park and beyond), and the products or benefits that people get from them. The approach drew on the work of the National Ecosystems Assessment (NEA) http://uknea.unep-wcmc.org/Home/tabid/38/Default.aspx

2.8 The ecosystems approach is one that fits well with the CNAP as a tool for delivering conservation within the National Park. This approach was adopted for the Cairngorms National Partnership Plan 2012-2017 and the draft Local Development Plan 2013.

Building the Ecosystems Approach into SEA

2.9 Ecosystem services are one way of defining the things in the natural environment that benefit people. They range from things like the ways soils are formed, clean water to drink, air to breath, plants and animals we eat, to the pleasure we take from skiing on hills or looking at landscapes and wildlife. The Millennium Ecosystem Assessment (MA) identifies four broad categories of ecosystem services that were also used for the NEA and have become an accepted way of identifying and categorizing them:

- **Provisioning Services** – the products we get from ecosystems such as food, fibre and water;
- **Regulating Services** – the benefits we get from the regulation of ecosystem process such as the regulation of pollination, the climate, noise and water;
- **Cultural Services** – the non-material benefits we get from ecosystems such as spiritual enrichment, inspiration for art, recreation, cultural heritage, tourism and simple aesthetic experience. The way that people value nature can also be a cultural service, for example, iconic or rare species may not be critical to an ecosystem, yet are protected because people would like them to be a self sustaining part of it;

- **Supporting Services** – functions of the ecosystem that are essential for the production of all other ecosystem services such as soil formation, the cycling of nutrients, water cycling, production of atmospheric oxygen and provision of habitat

2.10 The ecosystem approach has been extended to place value on different ecosystems services and to estimate the economic value of different services to human society. The argument for placing economic value on ecosystems services is that it can help policy makers take account of the costs and benefits of policy options on the natural environment. Although placing economic value on ecosystems services from the Cairngorms National Park could be a useful extension of the concept, it will not be done for the SEA. Instead, a simpler categorisation of the importance of different ecosystem services using a high to low scale will be used to indicate relative value.

Environmental Baseline

2.11 The NEA identifies 8 broad habitats in the UK that can be associated with ecosystems:

- Enclosed Farmlands
- Woodlands
- Semi-natural Grasslands
- Open Waters (Rivers, lochs, wetlands and floodplains)
- Mountains Moor and Heathland
- Coastal margins
- Marine
- Urban

2.12 Five of those broad habitats are significant in the Cairngorms National Park:

- **Enclosed Farmlands** - mainly confined to the straths of the Park. Although very little of the farmland of the Park is classed as prime quality (the highest productive capacity), they are a local source of food for the population of the Park. The farmlands are close to many of the rivers and tributaries, and in some cases are part of the functional floodplains of the Park. They can affect the water quality and function of those water bodies, and are an important habitat for wading birds - both for breeding and feeding.
- **Woodlands** - the CNP has a wide variety of forests and woodland, including many rare or threatened woodland habitats and associated species. Many woodlands are designated for nature conservation. Many woodlands are important as a source of timber and woodfuel. Woodlands play an important role in the water cycling by slowing the discharge of water towards rivers, preventing erosion of soils and landslides. They are also important to local climates – riparian woodland can slow or prevent water temperature increases by shading, and woodland provides shelter from strong winds.

- **Open Waters (Rivers, lochs, wetlands and floodplains)** - the CNP has the headwaters of three of Scotland's major rivers as well as many smaller ones. Many are designated for nature conservation. It also has an intricate network of high level and lower level wetlands and open water bodies, including valley flood plains. As well as providing water for the habitats and people in the National Park, rivers from the Park provide water to other parts of Scotland.
- **Mountains, Moor and Heathland** - much of the CNP falls into this broad habitat, and large areas are designated for habitat or species conservation. The CNP is internationally famous and valued for these habitats, and it would be appropriate to make a distinction between mountains and moorland as major habitats in their own rights in the Park. Moorlands in the Cairngorms National Park are also associated with Moorlands tend to be managed for grouse shooting but overlap with areas of upland wetland and blanket bog. The peat deposits of moorlands are a significant store of carbon.
- **Semi-natural Grasslands**, mainly in the form of acid grassland are often associated with moorlands in the Park. Acid grasslands are not a dominant habitat in their own right in the Park and tend to occur where moorland is used for rough grazing by sheep or cattle, or are present where deer graze heavily. In some locations in the Park, both moorland and acid grassland habitats are used for grazing by sheep and cattle at the margins of farmland and as an integral part of upland farming – the semi natural grasslands form a transition between farmland in valleys and lower slopes to moorland on the upper slopes and hill tops.
- **Urban** - only a small part of the land area of the CNP is urban (around 13.5 square km or about a third of 1% of the total land area of the Park). However, it's in urban areas where most of the Park's 17,500 residents live, and in and between urban areas where most human activity takes place.

2.13 So, for the Cairngorms National Park, 7 broad habitats can identified:

- Enclosed Farmlands
- Woodlands
- Open Waters (Rivers, lochs, wetlands and floodplains)
- Mountains
- Moor
- Semi-natural grasslands
- Urban

2.14 Each of those habitats has a range of ecosystems services. Appendix 3 of the Environmental Report provides a more detailed explanation of how and why ecosystems services are relevant to the National Park and to the SEA. It also provides a more detailed description of the environmental baseline by habitat types and ecosystems services.

2.15 A more conventional summary of the environmental baseline is shown in Table 4.

Table 4. Conventional Summary Description of Environmental Baseline	
Biodiversity, flora, fauna	• 25% of UK's threatened species present and is the UK stronghold for many species • 51% of Park area designated for natural heritage conservation (48% of international importance and 26% of national importance). 74.5% of the designated features of these sites are in favourable condition (at December 2010).
Population & Human Health	• Population of c17,500 • 25.8% of population over 60 (higher than Scottish average) • Average health index in top 25% of Scotland (based on deprivation indices) • Extensive core paths network • 55 Munros including 5 summits over 4000 feet • 3 ski centres • National Cycle Network Route 7 • 1 Long Distance Route (Speyside Way)
Soil	• 8 SSSIs with soils of international importance • 12 SSSIs with soils of national importance • High proportion of undisturbed soils (only 2% cultivated) • Podzols form 50% of soil cover including internationally significant alpine podzols on the plateau • Peat forms 13% of soil cover • Significant Scottish carbon store in soils and peat.
Water	• 81% of streams classified as excellent (A1) or good (A2) (SEPA 2003) • 20 sq km standing waters • Catchments of 6 major rivers
Air & Climatic Factors	• Relatively low atmospheric pollution • Annual precipitation over 2250mm on summits and under 900mm in straths • Average annual snow cover 200 days on summits and 50 days on low-ground • Prevailing winds from south-west
Material Assets	• Outstanding geological heritage • High quality timber from productive native woodlands • Local woodfuel sources • Potential for small scale micro renewables
Cultural Heritage	• 11 designated Historic Gardens & Designed Landscapes • 110 Scheduled Ancient Monuments • 741 listed buildings • 3 Conservation Areas • 2 Inventory Battlefield sites (Killiecrankie & Cromdale) • numerous records in NMRS • large number of historic landscapes • Potential for survival of many unknown remains in upland areas • 3 Conservation Areas • Distinctive local vernacular architecture • Cultural landscapes and associations with landscapes and land uses
Landscape	• 30 GCR sites (of which some are part or all SSSI) • Granite massif and plateau

Table 4. Conventional Summary Description of Environmental Baseline	
	• Internationally important landform record • Two National Scenic areas • Coherent identity of landscape across park from landform and landcover. • Extensive areas where the special quality of wildness can be experienced. • Understanding and appreciation of the special landscape qualities of the Park.

Environmental Problems

2.16 Schedule 3 paragraph 4 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes a description of existing environmental problems, in particular those relating to any areas of particular environmental importance. The purpose of this section is to explain how existing environmental problems will affect or be affected by the CNAP and whether it is likely to aggravate, reduce or otherwise affect existing environmental problems.

2.17 Table 5 below summarises the key trends and environmental issues associated with the broad habitats of the Park

Likely Evolution of the Environment without the CNAP

2.18 The CNAP is specifically targeting natural heritage conservation and seeks therefore to directly target many of the issues identified in table 5 relating to natural heritage.

2.19 Without the CNAP, it is likely that many of these issues will not be addressed directly. The plan seeks to coordinate conservation activity into priority areas to ensure best use of resources across organisations. This focusing of effect will lead to better outcomes in the target areas.

2.20 Some action would still be undertaken on an individual basis by the various partner organisations. However opportunities for cumulative and synergistic benefits would be lost.

2.21 There is a significant risk that populations of the key species for focussed action will decline further.

Table 5 Summary of main Environmental Issues in the habitats of the Cairngorms National Park

Habitat	Ecosystems services or benefits that this habitat is most important for	Main Drivers of Change	Threats/Problems	Opportunities	Key Environmental Objectives for this Habitat in the CNP
Enclosed Farmlands	• Food • Soil quality • Storage of carbon in soils • Water quality • Pollination of crops • Landscape • Patterns of settlement • Sense of place, history and tradition • Living culture and identity	• Agricultural and environmental policy • Economic viability • Climate change effects • Planting of woodland to achie SG targets	• loss of productive land to other uses • loss of edge habitats • loss of iconic wild bird species • effects of extreme weather events	• protecting productive land from other uses • potential diversification of produce in different climatic conditions • Enhancement of habitat networks • build resilience to extreme weather events • maximise carbon storage capacity	• to maintain or improve the productive capacity of farmland • to maintain or improve the carbon storage capacity • increase the resilience to climate change effects • conserve or enhance the value for distinctive wild species and habitats • maintain or enhance special landscape qualities • maintain capacity for learning and enjoyment of history and culture
Woodlands	• timber as a material and as fuel • rich and diverse habitats and species • stability of soils • storage of carbon • shelter • soil & water quality • pollination of woodland species • ecological knowledge • recreation • landscape • Patterns of settlement • sense of place, • tradition • living culture and identity	• Forestry and environmental policy including the national target for increasing Scotland's tree cover to 25% • Recreational uses • Economic viability • Climate change effects	• disease risks • loss to other land uses • fragmentation of native and ancient woodland sites • recreational disturbance to key iconic species • effects of extreme weather events and changes in climate • disturbance of archaeological remains in	• Enhancement of woodland networks including montane and riparian woodland • increased use of locally grown timber for construction and fuel • woodland creation and management to build resilience to extreme weather events • increased recreational use of woodland • management of recreational use to avoid disturbance to key species	• maintain or increase timber and woodfuel production • conserve or enhance the value for distinctive wild species and habitats • to maintain or improve the carbon storage capacity • increase resilience to climate change effects • maintain recreational value • maintain or enhance special landscape qualities • maintain capacity for learning and enjoyment of history and culture

Table 5 Summary of main Environmental Issues in the habitats of the Cairngorms National Park

Habitat	Ecosystems services or benefits that this habitat is most important for	Main Drivers of Change	Threats/Problems	Opportunities	Key Environmental Objectives for this Habitat in the CNP
			existing or new woodland	• promoting responsible recreation and dog management	
Open Water	• fresh water • groundwater • important wild species and rich habitats • local climate regulation • regulation of flooding • water quality • ecological knowledge • recreation • landscape • Patterns of settlement • sense of place • tradition	• Environmental policy • Climate change effects • Hydro energy schemes • Invasive non-native species • River Basin Management Planning	• Point source and diffuse pollution • water abstraction • erosion and sediment • alterations to river beds and banks • effects of extreme weather events and changes in climate to the physical processes, chemistry and distinctive habitats/species of open water systems • invasive non-native species	• Enhancement of functioning wetlands and floodplains • adoption and extension of natural flood management techniques • reduction in pollution sources • minimisation unnecessary water abstraction – reducing water loss following abstraction, more efficient use of water • maintain an improve the ecological status of water bodies	• conserve or enhance the value for distinctive wild species and habitats • maintain or improve water quality • minimise unnecessary use of water • maintain or increase ability to store water • increase resilience to climate change effects • maintain recreational value • maintain or enhance special landscape qualities • maintain capacity for learning and enjoyment of history and culture
Mountains	• rare and fragile species and habitats • climate regulation • soil quality • water quality • seed dispersal and pollination of mountain plant species	• nature conservation policy • climate change effects • grazing pressures and changes • disturbance to species and habitats from recreation • the setting of and views from mountains due to	• Climate change effects on marginal arctic-alpine habitats and species • inappropriate grazing by stock or wild mammals • erosion (natural	• Enhancing the sense of wildness • manage changes in habitats – eg towards montane scrub • maintain patchwork of grazing densities for habitat resilience	• conserve or enhance the value for distinctive wild species and habitats • increase resilience to climate change effects • maintain recreational value to maintain or improve the carbon storage capacity

Table 5 Summary of main Environmental Issues in the habitats of the Cairngorms National Park

Habitat	Ecosystems services or benefits that this habitat is most important for	Main Drivers of Change	Threats/Problems	Opportunities	Key Environmental Objectives for this Habitat in the CNP
	• ecological and geological knowledge • recreation • landscape • sense of place, history & tradition • living culture and identity	renewable energy or other large developments	process and human induced) and potential changes brought about by extreme weather events • reduced sense of wildness as a result of visual impact of development • recreational disturbance to sensitive birds	• promoting responsible recreation and dog management	• maintain sense of wildness • maintain or enhance special landscape qualities • maintain capacity for learning and enjoyment of history and culture
Moorland	• climate regulation as stores of carbon • soil quality • water quality • pollination of moorland plant species • ecological and geological knowledge • recreation • landscape • sense of place, tradition and history • living culture and identity	• nature conservation and environmental policy • land ownership and management objectives • climate change effects • planting of woodland to achieve SG target.	• Loss to other uses • inappropriate grazing by stock or wild mammals • disease and pest risks to iconic species (heather and grouse) • loss of stored carbon • illegal killing of protected species especially raptors	• Protecting and enhancing carbon storage capacity	• conserve or enhance the value for distinctive wild species and habitats • conserve or enhance the distinctive wild species and habitats • to maintain or improve the carbon storage capacity • increase resilience to climate change effects • maintain recreational value • maintain or enhance special landscape qualities • maintain sense of wildness • maintain capacity for learning and enjoyment of history and culture
Semi-natural	• provision of food where	• grazing regimes	• Loss to other	• Identify most diverse	• conserve or enhance the

Table 5 Summary of main Environmental Issues in the habitats of the Cairngorms National Park

Habitat	Ecosystems services or benefits that this habitat is most important for	Main Drivers of Change	Threats/Problems	Opportunities	Key Environmental Objectives for this Habitat in the CNP
grasslands	used for livestock grazing • some distinctive wild species and habitats • soil quality and storage of carbon • knowledge • recreation • landscape • sense of place, tradition history	• succession to moorland, scrub, woodland, wetland • planting of woodland	uses • Changes in grazing	semi natural grasslands for management • Identify areas for suitable for woodland expansion • Use to promote cultural heritage of Park	value for distinctive wild species and habitats • Maintain productive capacity of soils • to maintain or improve the carbon storage capacity • maintain or enhance landscape character • maintain capacity for learning and enjoyment of history and culture
Urban	• contribution to climate change through release of carbon • sources of noise and air pollution • introduction of invasive species • recreation • patterns of settlement, urban forms and landscape • sense of place, tradition, history and identity	• economic changes • population changes • climate change – the effects of it and public policy to minimise carbon emissions	• Loss of urban green spaces • fragmentation of green networks within towns and villages • Changes in character and setting of towns and villages through new development. • dispersed rural settlements rely heavily on transport by private car • flooding due to extreme weather events	• consolidate and enhance character of settlements through design of new developments • improve the energy efficiency of existing and new buildings • conserve and enhance urban green spaces and networks, linking with wider habitat networks • use urban areas to increase local food production • support communities to develop more efficient rural transport links • improve communications and IT infrastructure to	• conserve or enhance the value for distinctive wild species and habitats • maximise energy efficiency and minimise energy waste • maintain or enhance landscape character • maintain capacity for learning and enjoyment of history and culture

Table 5 Summary of main Environmental Issues in the habitats of the Cairngorms National Park					
Habitat	**Ecosystems services or benefits that this habitat is most important for**	**Main Drivers of Change**	**Threats/Problems**	**Opportunities**	**Key Environmental Objectives for this Habitat in the CNP**
				reduce need to travel to work locations	

SEA Objectives

2.22 Table 6 sets out 9 objectives, phrased as questions that are a basis for the SEA. They build on the environmental objectives identified in table 5. They therefore necessarily cover a wide range of potential issues across all the habitats of the National Park.

Table 6 SEA Questions

SEA Question	Rationale for Question	Environmental Objective
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?	Local food has potential to be of high quality and with a low carbon footprint from transport. The nutritional values of local fresh food are likely to be greater than from food stored and transported from far away. Management of farmland affects native species; the management of soils; release of greenhouse gases; the quality of the water environment; the material cultural heritage and non-material cultural heritage of tradition and history; the appearance of the landscape; as well as the material value of farmland as a natural resource.	**To maintain or improve the sustainable and productive capacity of farmland**
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	Timber from woodland is an important material for with many uses. Local wood as a source of fuel can be a low carbon alternative to fossil fuels. While many woodlands in the Park are managed for the conservation of distinctive species and habitats, many are also managed to provide economic benefits. Some woodland is managed for multiple benefits including woodfuel.	**To maintain or increase sustainable timber and woodfuel production**
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	Water that falls in the Park makes its way through a range of habitats towards the streams and rivers that flow out of the Park. It is taken from ground water sources, rivers and lochs in the Park for use by the human population of the Park as well as providing an important habitat in its own right for a range of rare and distinctive species such as salmon, lamprey and fresh water pearl mussel. Waste water from humans is also returned to the main rivers of the Park, and other products such as fertilizers and pesticides, road salt and some industrial waste may enter water courses and affect water quality. The rivers that leave the Park provide water for other parts of Scotland and are a corridor for many species to use for travel. Rivers and wetlands store water, helping river catchments to cope with extreme weather events such as storms, sudden snow melt and drought. The ability of rivers to flood naturally along their length allows them to avoid sudden and unexpected flooding in other areas. It is likely that we will experience more frequent extreme weather events as our climate changes, so the ability of river systems and wetlands to behave naturally will affect how severely humans experience the events. The natural cycle of flooding also provides diverse habitats that support many important species. Other habitats (particularly woodland) in a river catchment also help to store water, slow its movement downstream, and help prevent erosion from water.	**To maintain or improve water quality** **To maintain or increase ability to store water** **To increase the resilience to climate change effects**

Table 6 SEA Questions		
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	The Cairngorms National Park has 25% of the UK's rare and threatened species and large areas of habitat that is rare or infrequent. 51% of the Park is designated for nature conservation and 48% is designated as being of European importance for nature conservation. The distinctive species and habitats recognised in these designations, and others in the Cairngorms Local Biodiversity Action Plan (and latterly the CNAP), rely on both the designated sites as well as a wider network of habitats across the Park. The viability of many species is linked to the appropriate management of habitats and connections between them irrespective of whether the land is designated for them. As well as providing a range of habitats that are important in their own right, the diversity and extent of these habitats helps species adapt to changes or other pressures such as changes in climate.	**To conserve and enhance the value for distinctive wild species and habitats** **To increase the resilience to climate change effects**
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	The National Park stores carbon in peat, in soils and in plants, particularly woodland. Disturbance of peatland and carbon-rich soils can release carbon to the atmosphere. Conservation of these area can secure can secure long term storage of carbon.	**To maintain or improve the carbon storage capacity**
6. Will the Plan increase energy efficiency and reduce energy waste?	Living in or visiting a relatively remote part of Scotland requires more energy for day to day life, business and travel. Reducing the need to travel by car, improving the energy efficiency of buildings and processes will reduce the need for energy and the need to use fossil fuels.	**To maximise energy efficiency and minimise energy waste** **To increase the resilience to climate change effects**
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?	There are many factors that contribute to a healthy lifestyle. The National Park provides particular opportunities for physical recreation that can benefit physical and mental health. It also provides less tangible opportunities to enjoy and appreciate the nature and landscapes of the Park that can help to contribute to mental health and wellbeing.	**To maintain recreational value**
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	The landscapes of the National Park are distinctive and are valued by the people who live in and visit the Park. This is partly reflected in the categorization of the Park as an IUCN Category V Protected Landscape. The landscapes of the Park will all change subtly over time, and can change suddenly in extreme events or with major changes in the use of land. Managing changes in the landscape to maintain and enhance the distinctive character and the ways that people experience it are important to the long term management of the Park.	**To maintain and enhance landscape character** **To maintain sense of wildness**
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.	The material cultural heritage of the Park – the buildings, archaeological remains, and landscapes, together with the knowledge they provide, are enhanced and enriched by the stories, history, traditions, and communities of the Park. Wherever possible, the built heritage and archaeological remains are preserved or recorded. However, they become a living part of our cultural heritage when they are linked to the lives of people today through shared stories, history and tradition.	**To maintain capacity for learning and enjoyment of history and culture**

2.23 Table 7 shows how each SEA question is relevant to a number of the SEA topics.

Table 7. SEA Questions and relevant SEA topics	**Biodiversity, Flora and Fauna**	**Population and Human Health**	**Soil**	**Climatic Factors**	**Water**	**Air**	**Cultural heritage**	**Landscape**	**Material Assets**
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?	■	■	■	■	■		■	■	■
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	■		■	■	■		■	■	■
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	■	■		■	■			■	■
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	■		■	■	■	■	■	■	■
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	■		■	■		■		■	■
6. Will the Plan increase energy efficiency and reduce energy waste?		■		■					
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?		■							■
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?							■	■	
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.		■					■	■	

2.24 Table 8 shows the SEA questions with appropriate SEA assessment criteria and proposed indicators for each SEA question. The indicators are based on the availability of data, and are intended to be relatively easily understood by the public.

Table 8. SEA Questions with assessment criteria and proposed indicators

SEA Question	Assessment Criteria	Proposed Indicators
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?	• What effect will the plan have on the productive capacity of agricultural land? • What effect will the plan have on the function and quality of agricultural soils? • Will the plan increase the integration of farming and nature conservation?	The area of high quality productive land lost to either woodland or wetland creation

Table 8. SEA Questions with assessment criteria and proposed indicators

SEA Question	Assessment Criteria	Proposed Indicators
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	• What effect will the plan have on the production of commercial timber? • What effect will the plan have on the supply of wood for woodfuel? • Will the plan affect the supply of any other timber products?	New woodland created though out Park. This will result in an increase in connectivity
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	• What effect will the plan have on sediment loading as a result of erosion • What effect will the plan have on the flow of water downstream – will it slow water through woodland planting, floodplain management or Sustainable Urban Drainage Systems (SUDS)?	The ecological status of water bodies in the Park. Net increase in area of wetland and Riparian woodland. Areas of modified burns reinstated to natural profile
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	• What effect will the plan have on the features of designated sites? • What effect will the plan have on habitats and species in the Cairngorms LBAP? • What effect will the plan have on the resilience of habitats and species to climate change, including the connectivity of habitats? • What effect will the plan have on invasive non-native species? • Will the plan effect delivery of biosecurity?	The condition of the features of designated sites. No net loss of key species. Restoration of wetlands and blanket bog. Restoration and enhancement of existing woodlands. Increase in new woodlands The ecological status of water bodies in the Park.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	• What effect will the plan have on the ability of peatland to store carbon? • What effect will the plan have on other carbon rich soils? • What effect will the plan have on the total carbon stored in peat, soils and vegetation?	Increase in moorland drains blocked. Restoration of blanket bogs

Table 8. SEA Questions with assessment criteria and proposed indicators		
SEA Question	**Assessment Criteria**	**Proposed Indicators**
6. Will the Plan increase energy efficiency and reduce energy waste?	• What effect will the plan have on the resilience of society to climate change effects?	
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?	• What effect will the plan have on opportunities for physical exercise? • What effect will the plan have on people's understanding and interest in maintaining healthy lifestyles?	An increase in the number of volunteer days spent caring for nature in the National Park
8. Will the Plan conserve and enhance the distinctive landscape character and special landscape qualities and consequently the experience of the Park?	• What effect will the plan have on changes in landscape character in the Park? • What effect will the plan have on the special landscape qualities of the Park? • What effect will the plan have on the qualities of wildness that people experience in the Park?	Area of land with high value wildness. Directing woodland planting in appropriate areas using landscape toolkit
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.	• What effect will the plan have on designated archaeological sites? • What effect will the plan have on wider archaeological remains and built heritage in the landscapes of the Park? • What effect will the plan have on the historic landscape heritage in Park? • What effect will the plan have on communities' and visitor's knowledge and appreciation of the historic environment?	Community heritage projects celebrate the connections between cultural and natural heritage.

Consideration of Reasonable Alternatives

2.25 The Environmental Assessment (Scotland) Act 2005 requires that reasonable alternatives to the Plan are considered as part of the SEA. The process of developing the CNAP involves interpreting the National Park Partnership Plan aims and other national policy objectives to the Park in order to make the most of those PPSs. The identification of the key aims and actions within the plan has been undertaken with many contributors from a variety of conservation bodies. The development process has been one of considering alternatives and setting out preferred options. This has been integral to the development of the plan.

2.26 The aims of the plan reflect the consultation on and commitment to the National Park Partnership Plan 2012-2017; the pressing need for action on threatened and endangered habitats and species; and the need to engage people with the natural world, for the health and well-being benefits that this brings, and empower them to have a say in decisions about their environment.

2.27 The highest level decision has been in setting the priority for woodland and wetlands. All major habitat types were considered for such as montane, moorland and grasslands. It was considered that the two chosen were the best because:

- These were areas where effective action could be taken within the timescale of the plan.
- It would deliver action for species and habitats that were in most need
- It fitted with the strategic direction from the Cairngorms National Partnership Plan

It was clear that other species and habitats also have urgent conservation needs and these have been individually identified within a more general category outwith the woodland and wetland focus. The actions listed in this area are those considered by participating specialist as items that could not wait for another five year but needed more immediate attention.

3 Assessment of Environmental Effects and Measures envisaged for prevention, reduction and offsetting any significant adverse effects

Assessment Methods

3.1 The assessment of the CNAP 2012-2017 has been done by answering the 9 questions identified in Tables 6-8 for each substantial component on the Plan. The assessment criteria shown in Table 9 were used as prompts in the assessment. The assessment methods, SEA objectives, questions and criteria were modified and simplified following the response of consultation authorities on the SEA scoping report.

3.2 The assessment was recorded in a similar form to the example shown in Table 9, using a simple visual 5-colour scale of effects will be used to provide a summary of effects. Where effects were predicted, the nature of those effects was explained in more detail and any mitigation measures required to avoid, reduce, or offset them were also recorded. Potential cumulative and/or synergistic effects were assessed simply with the help of a summary matrix of individual assessments.

Table 9. Example of assessment recording form

Plan Objective/outcome	I		
Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question1			
SEA Question2			
SEA Question3			
SEA Question4			
SEA Question5			
SEA Question6			
SEA Question7			
SEA Question8			
SEA Question9			
Mitigation measures:	•		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

Summary of effects of the Cairngorms Nature Action Plan 2013-2018

3.3 The Plan was assessed using the framework described earlier. A summary of the assessment findings is shown in Table 10 and the full findings are shown in Appendix 2.

Table 10. Summary matrix of potential effects

SEA Objectives:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

Table 10. Summary matrix of potential effects

Cumulative/Synergistic Effects		ML	SML	SML	ML		SML	ML	SML
Vision		L	ML	SML				ML	
Aims		ML	ML	SML	ML		SML	ML	
Data and research				SML					
Biosecurity				SML					
Woodlands		ML	ML	SML	L		SML	L	
Wetlands			SML	SML				ML	
Moorland, montane,			L	SML	L			L	
Involving People				L			SML		SML

Duration of effects: L=long term, M=medium term, S=short term

positive effect	*no effect or negligible effect*	*negative effect*	*not applicable*

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

3.4 Summary of effects:

Overall there are no negative impacts from any sections of the CNAP and they are at 'worse' neutral. However they are frequently positive and these are summarised below. It is apparent that objectives 1 and 6 are not positively benefitted by effects of the CNAP.

Vision: is a general statement of intent in if eventually fulfilled will be positive for objectives 2, 3,4 and 8. The will vary in timescale some from short others will take longer.

Aims: the aims are general by their nature and are positive for 2,3,4,5 7 and 8. The effect will be felt relatively quickly short or medium.

Data and research: A positive effect is likely on SEA objective 4 only because it is targeted at baseline information needed for direct conservation actions.

Bio-security: A positive effect is likely on SEA objective 4 only because it is targeted at species specific measures and will directly affect native species and habitats. The effects could be short immediate and last into the future.

Woodlands: this is positive for 2,3,4,5 7 and 8.. generally they will take longer time to be of benefit but in some cases (eg management) the beneficial effect will be at least medium term.

Wetlands: is likely to have a positive effect on objectives 3,4 and 8. They could be quick to realise ebing in the main short term benefits.

Moorland, Montane and Grasslands: A positive effect is likely on objectives 3,45 and 8. They generally take longer for effects to be felt because of the climate conditions of uplands.

Involving People: A positive effect is likely on SEA objectives 4, 7 and 9. They are quick to be effective with short term effects being most common and lasting into the long term.

Cumulative and/or Synergistic Effects of the Plan

3.5 The cumulative effects across the SEA objectives are found to be positive, due to the mitigation already built into the plan. The actions are intended to be delivered in a co-ordinated way, and the proposals for their delivery already set out parameters and ways in which this integration should occur.

3.6 There are synergistic benefits to be derived from the combined delivery of actions. This means that the whole ecosystem will benefit from a general improvement in individual habitats. It is clear, though perhaps expected, that species and habitats will be benefitted from all actions.

3.7 Examples of cumulative and synergistic effects include:

- The benefits to managing flood evens from riparian woodland planting is increased by additional tree planting within catchments for other habitat connection through to montane planting. At each point there is increased interception reducing peak storm levels. This can be further enhanced by recreation of wetland areas which increases flood storage and re-introduction of beaver (though not an action in the plan it is suggested within the vision)
- An increase in carbon storage can be achieved through the good management of peat soils and its restoration. This can be further enhanced by planting of broadleaf tree on mineral soils.

Mitigation

3.8 Mitigation has been built into the development of the plan, given the need to integrate the four aims and comply with section 9(6) of the National Parks (Scotland) Act. In this way a number of potentially negative effects are avoided through parameters set on how outcomes should be delivered.

3.9 Specific mitigation measures that were identified during the assessment of the draft Plan have been incorporated during the development of the CNAP on an iterative basis. For example to ensure the conservation objective for Natura Sites would be considered. No additional mitigation measures are considered necessary or have been identified within the SEA

4 Monitoring

4.1 Monitoring of the environmental effects of the CNAP and of environmental change in the Park is an integral part of the overall monitoring of the Plan. The indicators for the SEA objectives are based upon the indicators associated with the Five-Year Actions and will be used for the monitoring of the outputs of the plan.

4.2 Wherever possible monitoring data will be updated annually and published on the CNPA website.

Table 11. SEA monitoring indicators

SEA Question	Proposed Indicators
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?	• No loss of high quality productive land lost to either woodland or wetland creation
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	• 5000ha of new woodland created throughout Park. This will result in a 10% increase in connectivity • Restoration of FCS and PAWS woodlands • Enhancement of native, broadleaf and confer plantation
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	• The ecological status of water bodies in the Park. • Net increase in area of wetland and wet grassland. • Riparian woodland planted • Areas of modified burns reinstated to natural profile
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	• No reduction in the condition of the features of designated sites. • No net loss of key species identified within CNAP. • Restoration of blanket bogs. • Restoration of FCS and PAWS woodlands • Enhancement of native, broadleaf and confer plantation • New native woodland planted of various types • The ecological status of water bodies in the Park improved or maintained.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	• 5km of drains blocked. • Restoration of blanket bogs
6. Will the Plan increase energy efficiency and reduce energy waste?	•

Table 11. SEA monitoring indicators	
SEA Question	**Proposed Indicators**
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?	• An increase in the number of volunteer days spent caring for nature in the National Park
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	• Area of land with high value wildness. • Use of Landscape toolkit on all major forestry applications directing planting in appropriate areas
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.	• Community heritage projects celebrate the connections between cultural and natural heritage.

5 Next Steps

5.1 The CNAP once completed following consultation will be submitted to the Cairngorms Nature Strategy Group and the CNPA Board with this revised environmental report. Following approval and adoption the CNPA will:

- Formally adopt the CNAP;
- Prepare a post-adoption SEA statement showing how the SEA process has informed the completed Plan;
- Coordinate delivery of the Plan; monitor its delivery and its environmental effects.

Appendix 1

Other PPSs and Environmental Objectives

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
International Directives			
SEA Directive 2001/42/EC (European Union, 2001)	Requires Strategic Environmental Assessments to be undertaken for plans, programmes and strategies with significant environmental effects.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Enables significant environmental effects of the Plan to be identified and addressed.
Ramsar Convention on Wetlands of International Importance 1971	Requires conservation and wise use of wetlands.	Biodiversity Water Landscape	Plan can ensure protection and enhancement of wetlands through actions.
Directive 2009/147/EC: the Conservation of Wild Birds 1979	Requires member states to sustain populations of naturally occurring wild birds by sustaining areas of habitats to maintain ecologically and scientifically sounds levels.	Biodiversity Water Landscape Woodlands and Forests	Plan will support protection and enhancement of bird habitat through actions.
Directive 92/42EEC: The Conservation of Natural Habitats of Wild Fauna and Flora 1992	Requires member states to sustain populations of naturally occurring flora and fauna by sustaining areas of habitats to maintain ecologically and scientifically sound levels.	Biodiversity Water Landscape Woodlands and Forests	Plan must ensure protection and enhancement of Natura Sites.
EU Flood Risk Directive 2007/60/EC	Aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity.	Water Climatic factors	Plan should reduce and manage flood risk through encouraging natural flood management approaches.
Directive 2000/60 EC: The Water Framework Directive	Requires member states to achieve good ecological status of inland water bodies, and develop integrated catchment management and river basin management plans.	Water Biodiversity Landscape	Plan will support enhancement of the water environment.
Directive 96/62 EC: Ambient Air Quality and Management	Establishes standards for air quality and sets limits for various pollutants.	Air Human Health	Plan should not impare measures that would improve air quality.
EU Common Agricultural Policy	Sets policy for agricultural support with increased emphasis on rural development support.	Land Landscape Population	Plan will not deter rural diversification of economic activities.
UN Framework Convention on Climate Change (the Rio Earth Summit) 1992	Treaty aimed at reducing global emissions of greenhouse gases to combat global warming.	Climatic factors Air	Plan should not increase greenhouse gas emissions.
Kyoto Protocol (UNFCCC, 1997)	Protocol to the international Framework Convention on Climate Change Framework with the objective of reducing Greenhouse gases which cause climate change.	Climatic factors Air	Plan should not increase greenhouse gas emissions.
Taking Sustainable Use of	A sector based strategy	Climatic factors	Plan should have no adverse

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
Resources Forward: A thematic Strategy on the prevention and recycling of waste (EU, 2005)	produced under the Environmental Action Programme	Air	effect upon targets
National Legislation			
Environmental Assessment (Scotland) Act 2005	Requires Strategic Environmental Assessments to be completed for plans, programmes and strategies likely to have significant environmental effects.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Enables significant environmental effects of the Plan to be identified and addressed.
Water Environment and Water Services (Scotland) Act 2003	Transposes the Water Framework Directive into Scots law.	Water Biodiversity Landscape	Plan should encourage improvements to the water environment
Environmental Impact Assessment (Scotland) Regulations 2011	Requires environmental impact assessment of site specific projects and specifically requires consideration of Sensitive Areas including National Parks.	Climatic factors Soils Air Biodiversity Water Landscape Human Health Cultural heritage	The Plan can be a material consideration for planning applications requiring Environmental Impact Assessments.
Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999	Requires environmental impact assessments for certain forestry projects.	Climatic factors Soils Air Biodiversity Water Landscape Human Health Cultural heritage	The Plan can be a material consideration for forestry applications requiring Environmental Impact Assessments.
Land Reform (Scotland) Act 2003	Establishes right of responsible access to land and water.	Biodiversity Water Land Human Health	Plan should have no adverse effect upon targets
Wildlife and Countryside Act 1981	Requires certain species to be protected.	Biodiversity	Plan will support protected species.
Nature Conservation Act (Scotland) 2004	Act places duties on public bodies for conserving biodiversity, increases protection for Sites of Special Scientific Interest (SSSI), amends legislation on Nature Conservation Orders, provides for Land Management Orders for SSSIs and associated land, strengthens wildlife enforcement legislation, and requires the preparation of a Scottish Fossil Code.	Biodiversity Land Water	Plan will support conservation and enhancement of biodiversity.
National Parks (Scotland) Act 2000	Specifies what a Park Authority can do and how it should be run, including a requirement to produce a National Park Plan.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland)	Will allow CNPA to co-ordinate the delivery of 4 aims

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
		Act 2005	
Flood Risk Management Act (Scotland) Act 2009	Establishes roles, responsibilities and requirements for sustainable flood management.	Water Climatic factors	Plan should support flood management, particularly natural flood management.
Climate Change (Scotland) Act 2009	Outlines emission reduction targets, adaptation measures, and establishes duties on public bodies.	Climatic factors Soil Water Biodiversity Human Health Population	Plan should support climate change adaptation and mitigation measures for biodiversity.
Wildlife and Natural Environment (Scotland) Act 2011	Amends Wildlife Consultation Act 1981, and seeks to modernise game law; abolish the designation 'areas of special protection'; improve snaring practice; regulate invasive non-native species; change the licensing system for protected species; amend current arrangements for deer management and deer stalking; strengthen protection of badgers; change how muirburn can be practised; and make operational changes to the management of Sites of Scientific Interest; game law, use of shores, and invasive species legislation.	Climatic factors Soil Water Biodiversity	Plan will support provisions of the Act.
National Policy			
Scottish Government Purpose	The Scottish Government's purpose is to secure sustainable economic growth for Scotland. All the public sector should be working to the purpose.	Air Soil Water Population Human Health Biodiversity Climatic factors Material Assets Cultural Heritage Landscape	The Plan should support the delivery of its special qualities and management needs.
Scottish Government National Outcomes	The Scottish Government has 16 National Outcomes that the public sector must collectively deliver.	Air Soil Water Population Human Health Biodiversity Climatic factors Material Assets Cultural Heritage Landscape	The Park should identify and contribute to delivery of the outcomes that are most appropriate to natural heritage.
National Planning Framework for Scotland 2	National framework to guide spatial development.	All SEA Issues listed in Schedule 2 of the	Plan should have no adverse effect upon targets

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
(2009)		Environmental Assessment (Scotland) Act 2005	
Scottish Planning Policy Guidance	SPP covering a range of topics relevant to the Local Development Plan.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Provides information for developing policies to address natural heritage in the Local Development Plan,
Planning Advice Notes (including PAN 42)	Scottish Executive good practice advice.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Provides information for developing policies to address natural heritage in the Local Development Plan,
Scotland River Basin Management Plan	Fulfils a requirement under the EU Water Framework Directive.	Water Biodiversity Soil	Plan should have no adverse effect upon targets
Land Use Strategy for Scotland	Outlines strategy for achieving sustainable land use across Scotland and getting the best from the land of Scotland.	Soil Water Biodiversity Landscape Population	Plan should have no adverse effect upon targets
Scottish Forestry Strategy	Outlines strategic priorities for forestry including management, planting and environmental stewardship.	Water Soils Biodiversity Landscape	Plan will help to deliver SFS targets
Scotland Rural Development Programme	Sets goals for sustainable rural development and the types of support available.	Water Biodiversity Landscape Soil	Plan should have no adverse effect upon targets and can help identify priority habitats for targeting funding steams
Climate Change: The UK Programme	Goal to reduce carbon emissions in the UK by 60% by 2050.	Climatic factors Air Soil	Plan should have no adverse effect upon targets
Changing Our Ways: Scotland's Climate Change Programme	Demonstrates how Scotland will deliver carbon savings from devolved policy measures and reduce its vulnerability to the changing climate.	Climatic factors Air Soil	Plan should have no adverse effect upon targets
Climate Change Adaptation Framework (2009)	Establishes a framework buy which Scotland will adapt to Climate Change	Climatic factors Soil Air Water Human Health	Plan includes measures that help the biodiversity of the Park adapt to climate change.
Air Quality Strategy for England, Scotland, Wales and Northern Ireland	Sets out objectives for eight air pollutants.	Air Soil Climatic factors	Plan should have no adverse effect upon targets
UK Biodiversity Action Plan	Identifies UK priority species and habitats where action to	Biodiversity Water	Plan will support delivery of the UKBAP and significant Park

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
	conserve is required.	Soil	species. UKBAP priority species have been a criteria in setting actions
Scottish Biodiversity Strategy	Identifies Scottish biodiversity priorities and lead partners for taking action.	Biodiversity Water Soil	Plan will support delivery of the SBS. The SBS priority species have been a criteria in setting actions
Choosing our future: Scotland's Sustainable Development Strategy	Outlines a strategic framework for the Scottish Government's strategies on climate change, transport, renewable energy, energy efficiency, green jobs and biodiversity.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Plan should have no adverse effect upon targets
The Diversity of Scottish Soil	Scottish Government Guidance	Soil	Plan supports this and seeks to enhance natural soils within the area
Scotland's Zero Waste Plan (2010)	Sets out the Scottish Government's vision for a zero waste society in Scotland	Material Assets Soil Water Air Climatic factors Population	Plan should have no adverse effect upon targets
A Policy Statement for Scotland – Designing Places	Provides the policy context for important areas of planning policy and design guidance.	Landscape Cultural Heritage Population Human Health	Plan should support good design for biodiversity.
A Policy on Architecture for Scotland (2001 updated in 2006)	Scottish Government Guidance 2001.	Landscape Cultural Heritage Population Human Health	Plan should have no adverse effect upon targets
Scotland's National Transport Strategy 2006	Scottish Government - National Strategy for reducing transport emissions by 80%.	Population Human Health Air Climatic factors	Plan should have no adverse effect upon targets
Scottish Tourism: The Next Decade – a Tourism Framework for Change (2006)	Scottish Government's ambitions for growth in tourism revenues by 50% by 2015.	Population Land Human Health	Plan should have no adverse effect upon targets
Scottish Historic Environment (SHEP) December 2011	Outlines Scottish Ministers' policies on the historic environment, and supersedes the policy elements in Passed to the Future.	Cultural Heritage Landscape	Plan should have no adverse effect upon targets. Potential to deliver key outcomes and facilitate minister's vision
Managing Change in the Historic Environment Guidance Notes	Series of guidance notes which are designed to support the Scottish Historic Environment Policy (SHEP) and Scottish Planning Policy.	Cultural Heritage Landscape	Plan should have no adverse effect upon targets. Potential to deliver key outcomes and facilitate minister's vision

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
The Special Qualities of Scotland`s National Scenic Areas 2010 report No 374	Scottish Natural Heritage Guidance for identification	Cultural Heritage Land form & Land use Authenticity and Integrity Visual experience Wildlife	Landscape Special qualities for the NP have been identified in a previous study. Plan should support the enhancement of special qualities of the NP and the NSAs
Scotland's physical activity strategy 'Let's make Scotland more active' (2003)	Sets out how the Scottish Government aims to increase and maintain the proportion of physically active people in Scotland.	Population Human Health	Plan should have no adverse effect upon targets
Local Plans and Strategies			
Cairngorms National Park Plan 2007-2012	The first National Park Plan for the Cairngorms National Park	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	LBAP identified specific targets within the CNPP. CNAP will develop some of these for further actions
Mid-term Review of the Cairngorms National Park Plan 2009	Mid-point review of five year Plan to assess achievements to date and to assess actions to achieve vision for 2030.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Plan should have no adverse effect upon targets
Cairngorms National Park Local Plan 2010	Establishes development and settlement strategy for the Park, allocations specific development sites, and provides policies for managing development in the Park.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	The CNAP will support delivery through providing the background for natural heritage policies and guidance.
Local Authority Single Outcome Agreements	Strategic documents outlining priorities across communities in the National Park.	All SEA issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2006	Plan should have no adverse effect upon targets
Community Plans	Plans set out how public services will be planned and delivered, through consultation and co-operation.	All SEA Issues listed in Schedule 2 of the Environmental Assessment (Scotland) Act 2005	Plan should have no adverse effect upon targets
Community Visions and Local Community Action or development Plans	Statements from communities in the Park about how they would like to change or develop in future, sometimes with plans on how to get there.	Population Human Health Biodiversity Cultural heritage	Plan should have no adverse effect upon targets
Local Housing Strategies (prepared by local authorities as housing authorities for each council area)	Required by the Housing (Scotland) Act 2001. Sets out how housing authorities will provide for housing needs and demands in their area.	Population Human Health	Plan should have no adverse effect upon targets
Housing Need and Demand Assessments (prepared by local authorities as housing	Assess housing need and demand in each local authority area, and identify likely future need and demand to inform	Population Human Health	Plan should have no adverse effect upon targets

Relevant PPS	Relevant Objectives/Purpose	SEA Issue	Relationship between the policy CNAP 2013-18
authorities for each council area)	housing strategies and development plans		
Regional and Local Transport Strategies	Set out how to maintain and improve infrastructure.	Air Climatic factors Human Health Population	Plan should have no adverse effect upon targets
Area Waste Plans	Strategies for waste management, minimisation and recycling for each local authority area.	Soil Water Air Material assets Population	Plan should have no adverse effect upon targets
Economic Development Strategies	Priority areas for economic development.	Soil Material Assets Population	Plan should have no adverse effect upon targets. Opportunities for linking biodiversity and tourism are possible.
Strategy and Action Plan for Sustainable Tourism in the Cairngorms	Identifies measures to support and develop sustainable management of tourism in the Park in line with the Europarc Federation of Protected Areas Charter	Population Biodiversity Landscape Water Air Material Assets	Plan should have no adverse effect upon targets
Cairngorms Local Biodiversity Action Plan	Priorities and actions for biodiversity in the National Park	Biodiversity Soil Water Material Assets	The CNAP is a review of the CBAP. Action plan will supersede the original actions
Cairngorms Outdoor Access Strategy	Provides a framework for managing outdoor access in the Park	Human Health Biodiversity Landscape Air Climatic factors	Plan should have no adverse effect upon targets
Cairngorms National Park Core Paths Plan	Identifies a network of core paths throughout the Park.	Human Health Biodiversity	Plan should have no adverse effect upon targets
Cairngorms Landscape Framework	A framework for managing landscape change in the Cairngorms to maintain and enhance the special landscape qualities and character.	Landscape	The Landscape Framework will help to ensure that the special landscape qualities of the Park are conserved and enhanced. The Plan will help to safeguard these qualities through the development of improved habitats
Catchment Management Plans for rivers Dee, South Esk and Spey	Catchment Management Plans bring together all the people and organisations who affect or are affected by the river catchment to manage in ways that maintain and improves the quality of water and overall health of the catchment.	Water Air Soils Biodiversity Climatic Factors Human Health Material Assets	The Plan supports integrated catchment management as a way of improving water quality and the health of natural systems.

Appendix 2

Assessment Tables

Vision and Aims

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome **Vision**
"Nature in the Cairngorms National Park will be cared for and treasured by all who live and work here and all who visit. Natural habitats, rich in distinctive species, will be even more diverse, even more resilient and even better connected than they are today."

Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food?			The vision is not primarily about agricultural production however positive benefits will be had through the enhancement of the support that species give to farms, in particular pollination.
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	**L**		The vision implies that through nature and people thriving together, the Park will continue to produce timber and woodfuel. This is a likely positive effect of the Plan at the Park scale, though not significant at the national scale.
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**ML**	**ML**	The vision implies that through nature and people thriving together, the Park will continue to supply and store high quality fresh water. In addition the development of more natural river systems would improve storm water storage. This is a likely positive effect of the Plan at the Park scale, and a benefit to areas outside the Park in Scotland.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	The vision states that through nature and people thriving together, the Park will increasingly conserve and enhance the viability and diversity of species and habitats.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	**ML**	**ML**	The vision states that peatlands and woodlands will function as carbon sinks
6. Will the Plan increase energy efficiency and reduce energy waste?			It could be argued that the vision implies through nature and people thriving together that increasing energy efficiency and reducing energy waste loss are obvious objectives. However the vision does not explicitly say so.
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?	**SML**	**SML**	The vision states that visitors will continue to enjoy and act responsibly in the National Park.
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**ML**	**ML**	The vision is explicit about habitats and consequently improvements here will improve the landscapes of the NP. The Park is a national designation and it occupies a significant proportion of Scotland and so this is also nationally significant.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			The vision states that visitors will continue to enjoy and act responsibly in the National Park and this implies support for this objective.

Mitigation measures:	• None required

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome **Aim 1**

Improve the quality and connectivity of woodlands and wetlands for biodiversity

Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			The aim is not primarily about agricultural production however positive benefits will be had through the enhancement of the support that species give to agriculture, in particular pollination
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	**ML**		This aim should ensure the Park will continue to produce timber and woodfuel. This is a likely positive effect of the Plan at the Park scale, though not significant at the national scale.
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**ML**	**ML**	This aim will enhance to ability of the Park to supply high quality fresh water. In addition the development of more natural river systems would improve storm water storage. This is a likely positive effect of the Plan at the Park scale, and a benefit to areas outside the Park in Scotland.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit outcome of this aim
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	**ML**		This is an explicit outcome of this aim but the extent will be limited to the CNP and so is not of national significance.
6. Will the Plan increase energy efficiency and reduce energy waste?			The aim does not explicitly cover this objective
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?			The aim does not explicitly cover this objective
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**ML**	**ML**	The aim will result in landscape change that will enhance the special landscape qualities of the National Park and in particular the sense of wildness.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			The aim does not explicitly cover this objective
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome Aim 2
Conserve and enhance key species through focused conservation action

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			The aim is not primarily about agricultural production however positive benefits will be had through the enhancement of the support that species give to agriculture, in particular pollination
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	**ML**		This aim should ensure the Park will continue to produce timber and woodfuel through the conservation fo woodland species. This is a likely positive effect of the Plan at the Park scale, though not significant at the national scale.
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**ML**	**ML**	This aim will enhance to ability of the Park to supply high quality fresh water. In addition the development of more natural river systems would improve storm water storage. This is a likely positive effect of the Plan at the Park scale, and a benefit to areas outside the Park in Scotland.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit outcome of this aim
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is an not an explicit outcome of this aim
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of this aim
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?			This is an not an explicit outcome of this aim
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**ML**	**ML**	The aim will result in landscape change that will enhance the special landscape qualities of the National Park and in particular the sense of wildness.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			The aim does not explicitly cover this objective
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome Aim 3
Implement priority actions for other habitats

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			The aim is not primarily about agricultural production however positive benefits will be had through the enhancement of the support that species give to agriculture, in particular pollination
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is an not an explicit outcome of this aim
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**ML**	**ML**	This aim will enhance to ability of the Park to supply high quality fresh water. In addition the development of more natural river systems would improve storm water storage. This is a likely positive effect of the Plan at the Park scale, and a benefit to areas outside the Park in Scotland.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit outcome of this aim
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	**ML**	**ML**	This is an not an explicit outcome of this aim but there will be benefits from good management of peat soils
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of this aim
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?			This is an not an explicit outcome of this aim
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**ML**	**ML**	The aim will result in landscape change that will enhance the special landscape qualities of the National Park and in particular the sense of wildness.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			The aim does not explicitly cover this objective
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome Aim 4
Inspire and provide opportunities for people to engage with nature

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is an not an explicit outcome of this aim
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is an not an explicit outcome of this aim
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?			This is an not an explicit outcome of this aim
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit outcome of this aim
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is an not an explicit outcome of this aim
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of this aim
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles ?	**SML**	**SML**	This is an explicit outcome. This facility will be available to visitors from around Scotland.
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?			This is an not an explicit outcome of this aim
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			The aim does not explicitly cover this objective but the relationship between Nature and cultural heritage is likely to be raised.
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

Data and Research

SEA of Cairngorms Nature Action Plan 2013-2018 Assessment recording form **Plan Objective/outcome** **Data and Research** • **Collate and ensure easy access to data** • **Undertake research, surveying and monitoring**			
Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of these actions but it will support habitat expansion through directing targeted actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?			This is not an explicit outcome of these actions
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	It will directly support specific actions for conservation by providing needed knowledge and an information baseline. Knowledge and data will be of value nationally and internationally.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is not an explicit outcome of these actions
6. Will the Plan increase energy efficiency and reduce energy waste?			This is not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is not an explicit outcome of these actions but it will add to the knowledge base which will facilitate activity on the ground
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?			This is not an explicit outcome of these actions
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is not an explicit outcome of these actions
Mitigation measures:	• None required		
Duration of effects: L=long term, M=medium term, S=short term			
positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

Biosecurity

SEA of Cairngorms Nature Action Plan 2013-2018 Assessment recording form **Plan Objective/outcome** **Biosecurity** • **Promote understanding of issues** • **Support eradication and prevention programmes for INNS** • **Review current plans and formulate new strategy**			
Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of these actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?			This is not an explicit outcome of these actions
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	These actions will help to reduce competition from INNS and also provide baseline information on their spread. This is not limited to the NP but some are relevant to wider areas
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is not an explicit outcome of these actions
6. Will the Plan increase energy efficiency and reduce energy waste?			This is not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is not an explicit outcome of these actions but it will add to the knowledge base which will facilitate activity on the ground
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?			This is not an explicit outcome of these actions
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is not an explicit outcome of these actions
Mitigation measures:	• None required		
Duration of effects: L=long term, M=medium term, S=short term			
positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

Woodlands

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form

Plan Objective/outcome Actions for all woodland types

- **Improving connectivity**
- **Improving biodiversity value**

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is an not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	**ML**		This will be an effect of the management required for woodland habitats
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**ML**	**ML**	This will be an effect from an increase area of woodland in the NP. Interception of precipitation and a reduction in infiltration rates. In addition a reduction in siltation and run off.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary outcome of these actions
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	**L**	**L**	This is an not an explicit outcome of this aim but an increase in woodland should increase stored carbon
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?	**SML**		This is an not an explicit outcome of this aim, though it should encourage more people to enjoy the landscape
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**L**	**L**	It will enhance the landscape special qualities of the Park through reforestation and in particular the quality of wildness which is heavily influenced by apparent naturalness.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is an not an explicit outcome of these actions
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form

Plan Objective/outcome **Actions different for specific woodland types**

- **Restore Conifer Plantation on AWI sites and promote continuous cover**
- **New montane woodland**
- **New and enhanced Bog and Riparian woodland**
- **New and enhanced Birch and Aspen stands with improved connectivity**
- **Upland Oak – investigate distribution**

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is an not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?	**ML**		This will be an effect of the management required for woodland habitats both new and existing
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**ML**	**ML**	This will be an effect from an increase area of woodland in the NP. Interception of precipitation will increase and a reduction in siltation and run off rates.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary outcome of these actions
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	**L**	**L**	This is an not an explicit outcome of this aim but an increase in woodland should increase stored carbon
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?	**SML**		This is an not an explicit outcome of this aim, though it should encourage more people to enjoy the landscape
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**L**	**L**	It will enhance the landscape special qualities of the Park through reforestation and in particular the quality of wildness which is heavily influenced by apparent naturalness.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is an not an explicit outcome of these actions
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome **Key Species for focused activity**

- **Capercaillie**
- **Scottish Wildcat**
- **Twinflower**
- **One Flowered Wintergreen**
- **Green Shield Moss**
- **Pine Hoverfly**
- **Pearl Bordered Fritillary**
- **Dark Bordered Beauty**
- **Kentish Glory**
- **Woodants**

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is an not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of this aim but some benefits will occur through management and expansion of habitat. These benefits are covered in the section above.
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?			This is an not an explicit outcome of these actions
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary outcome of these actions
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is not an explicit outcome of this aim but some benefits will occur through management and expansion of habitat. These benefits are covered in the section above.
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is an not an explicit outcome of these actions
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?			This is not an explicit outcome of this aim but some benefits will occur through management and expansion of habitat. These benefits are covered in the section above.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is an not an explicit outcome of these actions
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term			
positive effect	*no effect or negligible effect*	*negative effect*	*Not applicable*
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

Wetlands

SEA of Cairngorms Nature Action Plan 2013-2018 Assessment recording form **Plan Objective/outcome** **General Wetland Actions** • **Enhancing exiting Wetlands** • **Increasing area of wetland habitat** • **Maintain high water quality of rivers and freshwater systems**			
Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is an not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is an not an explicit outcome of these actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**SML**	**SML**	The increase in high quality wetland habitats will be a result of and a contributor to high water quality. The more natural water systems will enhance the ability of catchments to retain water.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary outcome of these actions
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is an not an explicit outcome of these actions but there may be some minor effects from retaining more water in organic soils.
6. Will the Plan increase energy efficiency and reduce energy waste?			This is an not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is an not an explicit outcome of these actions
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**ML**	**ML**	Long term benefits will be had once significant wetland habitats are either improved or created. In particular the more natural it looks will improve the wildness qualities of certain areas.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is an not an explicit outcome of these actions
Mitigation measures:	• None required		
Duration of effects: L=long term, M=medium term, S=short term			
positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome Key Species for Focused Action

- **Redshank**
- **Freshwater Pearl Mussel**
- **Northern Damselfly**

Fungus - *Plicatura crispa*

- **Northern February Red Stonefly**

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of these actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**SML**		This is not an explicit outcome of these actions but there will be some benefits from the actions.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary outcome of these actions
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is not an explicit outcome of these actions
6. Will the Plan increase energy efficiency and reduce energy waste?			This is not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is not an explicit outcome of these actions
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**ML**	**ML**	This is not an explicit outcome of these actions but there will be some benefits from the actions.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is not an explicit outcome of these actions
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

Other habitats

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form
Plan Objective/outcome Other habitats

- **Enhancing the quality of grassland, moorland and montane habitats**
- **Identifying and protecting important sites**

Summary of effect at scale of:	Park	Scotland	Commentary on assessment
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of these actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?	**L**	**L**	There will be some benefit from the restoration of the upland soils in particular Peatland. These benefits may initially be quite low.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary aim of these actions.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.	**L**	**L**	There will be some benefit from the restoration of the upland soils in particular Peatland. These benefits may initially be quite low.
6. Will the Plan increase energy efficiency and reduce energy waste?			This is not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is not an explicit outcome of these actions
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**L**	**L**	Long term benefits will be had once significant habitats are either improved or created. In particular the more natural it looks will improve the wildness qualities of certain areas.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is not an explicit outcome of these actions
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

SEA of Cairngorms Nature Action Plan 2013-2018
Assessment recording form

Plan Objective/outcome **Key species for focused action**

- **Golden eagle**
- **Alpine sow thistle**
- **Woolly willow**
- **Small white orchid**
- **Powdered sunshine lichen**
- **Small dark yellow underwing**
- **Mining bee -** *Andrena marginata*

Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of these actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?			There will be some benefit from the restoration of the upland soils in particular Peatland. These benefits may initially be quite low.
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**SML**	**SML**	This is an explicit and primary aim of these actions.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is not an explicit outcome of these actions
6. Will the Plan increase energy efficiency and reduce energy waste?			This is not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?			This is not an explicit outcome of these actions
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?	**L**	**L**	Long term benefits will be had once significant habitats are either improved or created. In particular the more natural it looks will improve the wildness qualities of certain areas.
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.			This is not an explicit outcome of these actions
Mitigation measures:	• None required		

Duration of effects: L=long term, M=medium term, S=short term

positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***

uncertain effect/ effect cannot be predicted/ or both positive and negative effects

Involving People

SEA of Cairngorms Nature Action Plan 2013-2018 Assessment recording form **Plan Objective/outcome** **Involving People** • **Inspiring and engaging** • **Providing opportunities**			
Summary of effect at scale of:	**Park**	**Scotland**	**Commentary on assessment**
SEA Question:			
1. Will the Plan maintain or improve the ability of farmland in the Park to produce high quality local and seasonal food sustainably?			This is not an explicit outcome of these actions
2. Will the Plan maintain or increase the sustainable production of timber and woodfuel in the Park?			This is not an explicit outcome of these actions
3. Will the Plan maintain or improve the Park's ability to provide a high quality supply of fresh water in and from the Park, including the ability of river catchments to store water?			This is not an explicit outcome of these actions
4. Will the Plan conserve and enhance the viability and diversity of distinctive species and habitats in the Park?	**L**	**L**	There will be indirect benefits from raising awareness of land managers and public to various conservation issues.
5. Will the Plan maintain or improve the storage of greenhouse gases in peat, soils and woodland in the Park.			This is not an explicit outcome of these actions
6. Will the Plan increase energy efficiency and reduce energy waste?			This is not an explicit outcome of these actions
7. Will the Plan maintain the opportunities for people to enjoy physical recreation and healthy lifestyles?	**SML**	**SML**	This will be a consequence for these actions through encouragement of people go get into the countryside. This will be promoted nationally and so is of some relevance to the whole of Scotland.
8. Will the Plan conserve and enhance the distinctive landscape character and experience of the Park?			This is not an explicit outcome of these actions
9. Will the Plan maintain or improve opportunities to experience, learn about and share the cultural heritage of the Park.	**SML**		This is not an explicit outcome of these actions but there could be some benefits from linking natural heritage with cultural hertiage
Mitigation measures:	• None required		
Duration of effects: L=long term, M=medium term, S=short term			
positive effect	***no effect or negligible effect***	***negative effect***	***Not applicable***
uncertain effect/ effect cannot be predicted/ or both positive and negative effects			

Appendix 3

Using the Ecosystems Approach in the SEA

Building the Ecosystems Approach into the SEA

Ecosystems are a natural unit of living things and their physical environment. The living parts and non-living parts work together as an independent system. An impact on one part of the system can lead to impacts on other parts of the system. The Earth is made up of many ecosystems at many scales and there is often overlap between ecosystems. The Cairngorms National Park contains and is part of many ecosystems. It therefore makes sense to consider the Park and how it is managed in terms of its ecosystems.

Table 1 below identifies the main broad ecosystems services that are likely to be important in the Cairngorms National Park. It draws on and extends the work of the National Ecosystems Assessment.

Table 1 – Ecosystems Services in the Cairngorms National Park

Provisioning services:

The products obtained from ecosystems. For example:

- food (crops & livestock)
- fibre (crops, trees, wool, etc)
- fuel
- fresh water
- distinctive wild species

Cultural services:

The non-material benefits people obtain from ecosystems.

- knowledge - ecological and geological
- recreation - enjoyment, physical and mental health
- patterns and forms of settlement
- aesthetic experience of landscape
- sense of place
- tradition
- awareness and appreciation of the historic environment
- spiritual and personal association or connection with place, history and tradition
- spiritual and personal association or connection with nature
- societal identity and pride

Regulating services:

The benefits obtained from the regulation of ecosystem processes. For example,:

- climate regulation(local temperature regulation, emission and storage of greenhouse gases)
- hazard regulation (eg flooding, landslides, wildfire)
- disease and pest regulation
- soil quality
- water quality
- seed dispersal
- air quality and noise
- pollination

Supporting services:

Ecosystem services that are necessary for the production of all other ecosystem services.

- biodiversity
- biomass production
- atmospheric oxygen production
- natural weathering processes
- erosion
- soil formation and retention
- nutrient cycling
- water cycling
- river processes
- provisioning of habitat
- provision of rock/minerals & landforms
- photosynthesis
- evolutionary processes

Clearly, not all ecosystems services will be as important in all the broad habitats of the National Park. Nor will they all benefit the same people in the same way. Some will benefit people who live or work in the Park, some those who visit, and some will be important for people outside the Park. A scoping or sifting exercise can help tell us what ecosystems services are important in each habitat.

Table 2 summarises the importance of different ecosystems services from different habitats in the Cairngorms National Park. It also shows that there are some differences in the services or benefits that we take or get from the different habitats of the National Park. There are two points about the table that are worth highlighting. Firstly, the supporting ecosystems services are all, by their nature important. Secondly, the habitats of the National Park are linked to and important for many cultural ecosystems services – partly reflecting the value that society places on the National Park as a special place.

The ecosystems services identified can be linked to SEA topics. Table 3 shows how SEA topics are relevant to the different ecosystems services. Because the ecosystems services are derived from complex and interacting systems, most services are linked to many of the formal SEA issues.

However, not all ecosystems services are things that are likely to be affected by the CNAP at a National Park scale. For example, supporting services such as the provision of rocks and landforms rely on geological processes operating over thousands and millions of years. Humans have little influence over such processes. Similarly, photosynthesis is a process that's vital to most terrestrial life, yet its function or the potential for it to function will not be significantly influenced by the CNAP, though generally it will be supportive.

The cultural ecosystems services provided by the Park are some of the most significant of all the ecosystems services provided by the Park's habitats. They reflect the way society experiences and values its special qualities, recognising that many of the benefits of the Park are nationally important.

Table 2 The importance of ecosystems services in broad habitats of the Park.

Importance of the Ecosystems Service	
	High
	Medium- High
	Medium-Low
	Low

		Enclosed Farmland	Woodland	Open Waters	Moorland	Semi-natural Grasslands	Mountains	Urban
Provisioning Ecosystems Services	food	Medium- High	Low	Low	Medium-Low	Medium-Low	Low	Low
	fibre	Medium-Low	High	Low	Low	Low	Low	Low
	fuel	Low	Medium- High	Low	Low	Low	Low	Low
	fresh water	Low	Low	High	Low	Low	Medium- High	Low
	Distinctive wild species	Medium-Low	High	High	Medium-Low	Medium-Low	High	Low
Regulating Ecosystems Services	climate regulation (local temperature regulation, emission and storage of greenhouse gases)	Medium- High	Medium- High	High	High	Medium- High	High	High
	hazard regulation (eg flooding, landslides, wildfire)	Medium- High	High	High	Medium- High	Medium-Low	Medium-Low	Medium-Low
	disease and pest regulation	Medium-Low	Medium-Low	Medium- High	Medium-Low	Medium-Low	Medium-Low	Medium- High
	soil quality	Medium- High	High	Medium- High	High	High	High	Medium-Low
	water quality	High	High	High	High	Medium-Low	High	Medium- High
	seed dispersal	Low	High	High	Medium- High	High	High	Medium-Low
	air quality and noise	Low	Medium- High	Medium-Low	Medium-Low	Low	Medium- High	High
	pollination	High	High	Medium-Low	High	High	High	Medium-Low
Cultural Ecosystems Services	knowledge - ecological and geological	Medium- High	High	High	High	High	High	Low
	recreation - enjoyment, physical and mental health	Medium- High	High	High	High	High	High	Medium- High
	patterns and forms of settlement	High	High	High	High	High	High	High
	aesthetic experience of landscape	High	High	High	High	High	High	High
	sense of place	High	High	High	High	High	High	High
	tradition	High	High	High	High	High	High	High
	awareness and appreciation of the historic environment	High	High	High	High	High	High	High
	spiritual and personal association or connection with place, history and tradition	High	High	High	High	High	High	High
	spiritual and personal association or connection with nature	High	High	High	High	High	High	Medium-Low
	societal identity and pride	High	High	High	High	High	High	High
Supporting Ecosystems Services	Biodiversity	High	High	High	High	High	High	High
	biomass production	High	High	High	High	High	High	High
	atmospheric oxygen production,	High	High	High	High	High	High	High
	natural weathering processes	High	High	High	High	High	High	High
	erosion	High	High	High	High	High	High	High
	soil formation and retention	High	High	High	High	High	High	High
	nutrient cycling	High	High	High	High	High	High	High
	water cycling	High	High	High	High	High	High	High
	river processes	High	High	High	High	High	High	High
	provisioning of habitat	High	High	High	High	High	High	High
	provision of rock/minerals	High	High	High	High	High	High	High
	provision of landform	High	High	High	High	High	High	High
	photosynthesis	High	High	High	High	High	High	High
	evolutionary processes	High	High	High	High	High	High	High

Table 3 Ecosystems services and SEA topics		Biodiversity, Flora and Fauna	Population and Human Health	Soil	Climatic Factors	Water	Air	Cultural heritage	Landscape	Material Assets
Provisioning Ecosystems Services	food	■	■	■	■	■		■	■	■
	fibre	■	■	■	■	■		■	■	■
	fuel		■	■	■		■			■
	fresh water	■	■			■				■
	distinctive wild species	■			■	■		■	■	■
Regulating Ecosystems Services	climate regulation (local temperature regulation, emission and storage of greenhouse gases)	■	■	■	■	■	■			
	hazard regulation (eg flooding, landslides, wildfire)	■	■	■	■	■	■	■	■	■
	disease and pest regulation	■	■	■	■	■	■	■		■
	soil quality	■	■	■	■	■	■			■
	water quality	■	■	■	■	■	■			■
	seed dispersal	■		■	■	■	■		■	■
	air quality and noise	■	■	■	■	■	■	■	■	
	pollination	■	■	■	■	■	■	■	■	■
Cultural Ecosystems Services	knowledge - ecological and geological	■	■	■	■	■	■	■	■	■
	recreation - enjoyment, physical and mental health	■	■	■	■	■	■	■	■	■
	patterns and forms of settlement	■	■	■	■	■	■	■	■	■
	aesthetic experience of landscape	■	■					■	■	
	sense of place	■	■	■	■	■	■	■	■	■
	tradition	■	■	■	■	■	■	■	■	■
	awareness and appreciation of the historic environment	■	■	■	■	■	■	■	■	■
	spiritual and personal association or connection with place, history and tradition	■	■	■	■	■	■	■	■	■
	spiritual and personal association or connection with nature	■	■	■	■	■	■	■	■	■
	societal identity and pride	■	■	■	■	■	■	■	■	■
Supporting Ecosystems Services	Biodiversity	■	■	■	■	■	■	■	■	■
	biomass production	■		■	■	■	■		■	
	atmospheric oxygen production,	■	■	■	■	■	■			
	natural weathering processes	■		■	■	■	■	■	■	
	erosion	■	■	■	■	■	■	■	■	■
	soil formation and retention	■	■	■	■	■	■		■	■
	nutrient cycling	■	■	■	■	■	■			■
	water cycling	■	■	■	■	■	■			■
	river processes	■	■	■	■	■	■		■	■
	provisioning of habitat	■	■	■	■	■	■	■	■	■
	provision of rock/minerals	■	■	■	■	■	■	■	■	■
	provision of landform	■	■	■	■	■	■	■	■	■
	photosynthesis	■	■	■	■	■	■	■	■	■
	evolutionary processes	■	■	■	■	■	■	■	■	■

The Environmental Baseline

This section sets out the current state of the environment in the Cairngorms National Park. In using an ecosystems approach to inform the assessment, the information is presented by the seven broad habitats of the Park. The information supplements information in the State of the Park Report of 2006, and other publications of the CNPA. Table 2 summarises the ecosystems services that different habitats provide. We have made an assumption that with the exception of urban habitats, all the habitat types are important in their own right for providing supporting ecosystem services

Enclosed Farmlands

It is estimated that around 7% of the area of the Park is enclosed farmland, confined to the straths of the Park. Most of that is enclosed pasture, with less than 1% of the area of the Park used for crops. The Park has seen a steady reduction in the area of enclosed farmlands, partly because of the history of small scale and marginal upland farming that has been becoming steadily less economical. There has been a trend towards loss of the enclosed pasture to more marginal rough grazing as well as a growth in farm woodlands[1]. The majority of agricultural production in the Park is linked to beef and lamb. The long term trend in these sectors has been one of declining numbers of stock, again linked to the marginal economics of farming of farming in much of the Park.

Historically, the farmlands of the straths of the Park have provided important habitat for wading birds. They continue to be important (the Strathspey area is one of Scotland's most significant areas for breeding waders) though populations have been in decline. The relationship of farmlands in the Park with water and wetlands is significant, partly because much farmland is within the functional or constrained floodplains of the main rivers. In some places the farmland has been drained and protected from flooding, but many areas continue to flood.

Farmland provides an important link to our cultural heritage, with historical remains and landscapes, active tradition and stories of the past. It is an integral part of the landscape in the valleys and straths of the Park. Particular features include historic settlements and route way pattern, abandoned settlements and Pictish artefacts. The Historic Land use Assessment (HLA) identifies relic landscape remnants. There are two registered battlefield sites (Cromdale and Killiecrankie) and several others are known. A number of designed landscapes are associated with lodges and these tend to be on strath floors and lower slopes.

Drivers of Change

Changes in farmland management have been for economic and policy reasons. The marginal nature of much farming in the Park means that some farm units are not viable businesses. It also means that most farming is reliant on subsidy in order to be economically viable, and the policy objectives of the subsidies drive farming practice.

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[1] The Economic and Social Health of the Cairngorms National Park Report, 2010.
http://www.cairngorms.co.uk/parkauthority/publications/

Much agricultural land is managed for a range of public benefits including biodiversity, public access, and flood management as well as food. Climate change may increase the potential productivity of some farmland in the Park in the future. However, the need to reduce greenhouse gas emissions as well as adapt to potential extreme weather events are becoming stronger drivers of public policy. It is likely that more management will be based on the management of carbon- rich soils and the improved function of floodplains in the future. The national target for increasing Scotland's trees cover to 25% may result in woodland replacing some areas of farmland.

Woodlands

Woodlands are the Park's richest and most diverse habitats. Woodland covers about 20% of the Park area, with around half being semi-natural woodland and half planted woodland[2]. The semi natural woodlands in particular are important with ancient pine woods, and important areas of birch woodland, aspen and oak. Woodland supports some of the Cairngorms most iconic and distinctive species such as capercaillie, pine marten, crossbill, crested tit and red squirrel. They are also important for a wide range of plant, fungi and lichen species that only survive in particular woodland habitats. Many areas of woodland are protected by Natura designations and SSSI designations, and there are a number of woodland National Nature reserves in the Park.

The connectivity of the woodland within the national park is a key feature. Many of the woodlands support key species and the connectedness supports their meta-populations across wide areas. Capercaillie is a most notable example of this. Different species have different capacity for move between woodland areas. Some plant species take hundreds of years, some invertebrates can only more across narrow strips of open space while larger more mobile animals may move many kilometres. The degree of effective connectivity will therefore change across species. The connectivity support migration of species between woodland area and this enables robust populations through genetic diversity. It also facilitates population migration caused by climate change and allows species to adapt by moving either northwards or upwards.

Woodland plays an important local role in the regulation of climate in the Park by providing shelter from wind and from sunlight. Woodland on floodplains and throughout catchments can improve their ability to store and slow the release of water, protect against erosion of slopes and the release of sediment into water courses. Woodland can also have the capacity to store atmospheric carbon. Woodlands in the Park are an important recreation resource providing many marked routes for people to follow and potential to absorb many people without obvious impact. Nevertheless some woodland habitats and some species are sensitive to disturbance by people and by dogs.

Woodlands are an intrinsic part of the landscape of the Park, and provide strong links with historic environment and cultural heritage of the Park. There are a number of historic 'newfie'

[2] Cairngorms National Park Forest and Woodland Framework, 2008.
http://www.cairngorms.co.uk/parkauthority/publications/

sites dating from both world wars including accommodation areas, workshops areas and transportation lines. Many river courses and lochs were modified to provide high water volume for floating timber downstream. Remnants of these activities still survive across the park. Historic map analysis shows a pattern felling and reforestation across most woodland areas dating back to ancient times.

Woodland cover in the Park has been increasing for the past 50 years or so, initially through planting for commercial timber and latterly through planting and natural regeneration of native species. The Park has a significant industry based around the management of woodland for timber and timber products, for recreation, for biodiversity, and for woodfuel.

Semi natural and native woodland is expanding in the Park, but there has been loss of some area of ancient semi natural woodland to growth of settlements in Badenoch and Strathspey. Almost all settlement in Badenoch and Strathspey have at some point during the past 20 years expanded over areas of ancient semi natural woodland. Although there remain contentious sites for housing development within the planning system (either as planning applications or sites zoned for potential future development), no significant new areas of ancient semi-natural woodland have been identified for development in development plans since the National Park was established.

Drivers of Change

Most woodland management is influenced by public policy through designation and through financial support. A continued emphasis on management for biodiversity and for recreation as well as timber and woodfuel production and management of carbon is likely to remain. The effects of climate change on the species that inhabit woodland is not fully understood. The national target for increasing Scotland's trees cover to 25% may result in more woodland replacing other habitats.

Open Waters

The Cairngorms National Park has the headwaters of three of Scotland's major rivers as well as many smaller ones. Many of the rivers and their tributaries as well as lochs and wetlands are designated as Natura sites and SSSIs. The rivers in particular provide water for society in the National Park, and for people outside the Park as they flow downstream towards the sea.

The open waters cut across many of the habitats of the Park and receive water from them. Each habitat plays a role in the quality of the water, sometimes removing chemicals or materials and sometimes adding them to the water system. The open waters themselves provide further changes to the qualities of the water. As well as providing fresh drinking water, the rivers are used to remove waste. Treated sewage normally flows back to the river system, and waste from farmland and industries such as whisky distilling often re-enters the rivers. River processes of erosion and deposition, turbulence, flooding all contribute to the water quality and the function of the river systems. Changes in a river or water systems can affect it downstream and upstream.

Open waters play an important role in recreation for water sports and for angling and are an integral part of the landscape of the Park. Because of their importance to human society, they have long historical connections of use and change, providing an important link with the Park's cultural heritage.

Drivers of Change

Open waters are subject to a regulatory system to ensure their continued high quality, and this manages many human activities that could effect open waters. However, because of the connections with so many other habitats, open waters can be sensitive to a number of pressures. Climate change has already increased the temperature of many water bodies, so much so that some species such as Salmon, that rely on a specific temperature range to spawn successfully may be effected by small increases in future. The temperature of water also effects the chemical composition and the ways that nutrients and chemical are processed. The pollutants that fall with rain can also change with changes in climate.

Extreme weather events such as rainstorms and sudden snow melt increase the runoff from other habitats to open waters. The runoff can contain large volumes of chemicals and materials that the open waters are not used to, and the extra volume of water is either stored through flooding or runs downstream faster, increasing the likelihood of destructive erosion and flooding downstream. Invasive non-native species of plant and animal can have a destructive effect on wetland habitats.

The development of small-scale hydro energy schemes has potential to change water courses. Water is abstracted, used and returned as waste water by humans for land management and business activities as well as domestic uses. With projected increases in households and new developments of housing, this has potential to change the demand for water and discharge of waste water.

Mountains

Mountains form a large and iconic part of the Cairngorms National Park. They are a backdrop to most views of the National Park; are a distinguishing part of the landscape character of the Park; have a range of iconic species, habitats and geological and geomorphological features; and significant resource for recreation. The height and mass of the Cairngorms themselves provide a range of habitats and associated species that are rare or unique in the British Isles. Large areas of the mountains of the Park are designated as Natura sites, SSSIs, and NNRs for their species, habitats and geological importance. The mountains provide a focus for precipitation and an important starting point for the buffering of pollutants in precipitation as they more towards open waters.

Mountains are amongst the least intensively managed parts of the Park, with deer stalking and management for a few other game species as well as recreation management and management for biodiversity being the main objectives. The habitats of the mountains can be very sensitive

to the level of grazing by herbivore such as deer, sheep and hare. The mountains are particularly important as a recreation resource for hillwalking, rock climbing in summer and winter climbing as well as skiing.

The mountains have a long cultural history of use and exploration that is well documented and shared. They contain material evidence of past ways of life that is well preserved, and have numerous associations with stories, songs and art. Though archaeological records are rare in the highest lands there are few examples of Neolithic tools. Rote ways are historic and formed major access ways for trade, armies and cattle droving. Some are still in use today. Thereis a good physical record of recreation in particular mountain bothies.

Drivers of Change

Because so many species and habitats of the mountain occupy a particular niche of temperature range and precipitation that is not present elsewhere in the UK, they are particularly sensitive to changes in climate. Increases in temperature and changes in snowfall or the length of time snow remains have already changed the nature of habitats and the composition of species, and will continue to do so in future. The deposition of chemicals on the mountains is also slowly changing the chemical composition of soils, making them more fertile in some cases, but also allowing different plant species to grow in place of others. Soils and surfaces on mountains are often less stable than in other habitats and can be more likely to slip and slide during and after heavy rainfall or snow melt. Predicted climate change would exacerbate this effect.

Different parts of the mountains are important for different habitats. Some species and habitats can cope with grazing by deer and sheep while others die back. Managing the numbers of deer and sheep and their grazing pressure to support a range of species and habitats is a driver of public policy on designated areas.

People enjoying the mountain for recreation can also effect the habitats and species. Human feet can cause erosion of vegetation and soils; people can disturb bir ds animals, and dogs can disturb and kill birds and animals even when people do not. However, work to maintain paths and reinstate damaged ground has proved effective in the past and is likely to be effective in the future. Few people who recreate in the mountains do so with the intention of disturbing wildlife, so improving peoples understanding of the sensitive species and habitats is likely to reduce disturbance.

Moorland

Moorland habitats in the Cairngorms run between the mountains and woodland and farmland. The moorlands of the Park are a distinctive and iconic habitat and landscape that is internationally famous. Moorlands tend to be managed for red grouse shooting but are also important for black grouse near woodland margins.

Moorland frequently overlaps areas of upland wetland and blanket bog and is also associated with a mosaic semi-natural acid grassland on drier ground, by water courses and where heavily grazed by sheep cattle or deer. The use of moorland for rough grazing by sheep and cattle is

an integral part of upland farming. The peat deposits of moorlands are a significant store of carbon. They also play an important role in maintaining water quality by buffering some pollutants.

Moorland's role in recreation is significant, partly because the network of tracks and paths that provides easy access, and partly because most mountain habitats are accessed via moorland habitats. Moorland often preserves archaeological remains and evidence of past environments that tells us about historical life and culture of human society as well as what the land was like before humans managed it. In common with many other habitats of the Cairngorms, there is a recorded history, stories and tradition linked to moorland that enriches our cultural heritage. Particular features include shielings, townships and other pre clearance remains. These tend to be better represented in these areas because of the low intensity land management has retained them more often than in lower more managed areas. Older, Pictish, features remain and for the same reason, these include hill forts. Some remanants of early 20th century hydro schemes have been retained and some of these are being considered for reuse.

Drivers of Change

Moorland management relies on muirburn or cutting to promote new heather growth and maintain a habitat that supports as many red grouse as possible. Without this active management, moorland would change as heather grows rank and scrub or woodland may succeed it. Similarly, the level of grazing by sheep, cattle and deer effects the habitat. The habitat is more sensitive to extreme events than some others. For example, periods of very low humidity and low temperature can kill heather, and infestations of the Heather Beetle will similarly effect the growth of heather.

Intensive management for grouse can reduce or remove populations of other species such as deer and mountain hare, and illegal persecution of raptors is often associated with moorland management.

The conditions for the formation of peat require a particular temperature and precipitation range that may be influenced by climate change. As an important store of carbon, it is likely that future public support for the management of moorland will seek to secure the long term storage and management of the carbon in peat and soils. Changes in climate can lead to erosion of peat from sudden weather events and may also play a role in the success of species such as ticks and the diseases they can carry.

Incentives for renewable energy production may lead to an increase in proposals for small scale wind generation and hydroelectricity. The national target for increasing Scotland's trees cover to 25% may result in woodland replacing some areas of moorland.

Semi-natural Grasslands

Semi-natural grassland habitats are mostly associated with the margins between farmland and moorland and an area of rough grazing, or in a mosaic of semi-natural acid grassland and moorland on drier ground, by water courses and where heavily grazed by sheep cattle or deer. They are frequently on areas of ground that were previously farmed and have since been

abandoned. This means they often provide clear physical remains of past uses, ways of life and communities. Abandoned steading and townships are common in these areas particularly along glen floors. Field boundaries are common around the marking historic in-bye areas with headwalls. Abandoned sheep pens are also a common feature among the townships.

Drivers of Change

Most grasslands are maintained by grazing. Changes to semi natural grasslands are therefore mostly associated with changes in the grazing regime. This may occur through changes in management of livestock or deer by fencing or removal. Woodland planting will change a grassland over time and will also normally be accompanied by a reduction in grazing. Where semi natural grasslands occur on abandoned farmland, heather moorland, scrub woodland and wetland areas may also develop. The national target for increasing Scotland's trees cover to 25% may result in woodland replacing some areas of semi-natural grassland.

Urban

About a third of 1% of the Cairngorms National Park's area is within a settlement boundary in the Cairngorms National Park Local Plan. Perhaps as much land is covered by other buildings, roads and human development. These areas are important because it is in them that most human activity takes place. Urban habitats are diverse, with a range of buildings, garden and open spaces and unique micro climates. They require energy to function, create waste energy, pollution to the air, water and soil, noise and light.

The urban areas of the Park are the established way of living for most of its human population. The quality of accommodation, services and resources available in urban areas play a vital role in the health and wellbeing of the population. They also have a long cultural history, with a distinctive built heritage and are a focus for cultural celebrations and tourist attractions. Planned towns are a particular feature of the national park with four of the seven major settlements having an 18th century planned town centre. A few building date from this time but the majority of town centres are largely 19th century. The streetscapes and views with urban areas are a distinctive part of their character, and views of the straths and valleys of the Park are linked by the settlements and their connecting routes.

All urban areas within the Park provide some opportunities for recreation within them, or are connected to a network of paths and tracks and open areas around them and linking to other habitats of the Park. They are a significant place for visitors to the Park, both as a place of shelter, food and drink, but also as a place to get information about opportunities to experience, enjoy and learn about the Park.

The design of our urban areas has changed over time. New developments should now incorporate sustainable urban drainage systems (SUDS) and other measures to minimise their impacts on natural systems.

Drivers of Change

Urban areas in the Park are linked to people's ability to live there and for most people therefore linked to economic opportunity or availability of money. Changes in the wider Scottish economy may affect the ability of people to live in the Park.

Migration to the Park has been slightly higher than migration from the Park since 2003, and this has led to a slow increase in the population. Allied to the increasing population, changes in the composition of households (a trend towards a greater number of smaller households) mean a requirement for more house units to hold the same population. Current allocations of land for future housing development are expected to provide 20-25 years of housing land supply if the population continues to increase at its recent rates. However, constraints to the supply of new housing, such as the slow-down in bank lending to house builders of the past 2 years will also slow or stop increases in population. Nevertheless, new development can change the character and appearance of existing settlements and other areas.

Life in the National Park is currently heavily reliant on oil for energy. Much of the built fabric of the park is old and requires a lot of energy to heat. The remote location of the Park increases transport costs. Without action to improve the energy efficiency of buildings and ways of life, reduce energy consumption, and use lower carbon energy sources, life in the Park could become economically unviable for many of the working population.