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Wednesday, 16 August 2023



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Document control sheet:

Form BE 180/P

Client: CNPA
Proposal: Cairngorms 2030 SEA
Title: BP5017

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1. Introduction

1.1. Background

In November 2022, Babbity Environmental was commissioned by the Cairngorms National Park Authority (CNPA) to carry out a Strategic Environmental Assessment (SEA) of the National Authority's future vision for the Park: *Heritage Horizons: Cairngorms 2030 People and Nature Thriving Together* (hereafter the Cairngorms 2030 Programme or C2030).

The Cairngorms 2030 Programme embraces a vision for the future of the Park in which, by 2030, the Cairngorms National Park aims to be an exemplar of people and nature thriving together in a rapidly changing world; a place where involvement is diverse, decision making is inclusive and there is a shared ambition for a future that is rich in nature: gifting a legacy of healthier people and place for future generations.

The CNPA's response to the climate emergency is centred on a community-based adaptation to climate change, with a focus on empowering communities to use their own knowledge and decision-making processes to take action. Effective community engagement and empowerment will enable positive and cooperative working relationships, leading to creative and innovative solutions to issues, and better economic, environmental and cultural outcomes for all parties.

In order to deliver the vision outlined above, the Cairngorms 2030 Programme contains a set of Aims and Objectives, under three distinct but related themes: People, Nature and Place, that, overall, sit under three overarching, cross-cutting principles: Inclusion and Diversity, System Change and the Wellbeing Economy, and Knowledge Exchange.

From these aims and objectives, 20 plans have emerged to tackle the climate emergency and the nature crisis, delivering an economy and sustainable development that works for all, across the Cairngorms National Park. This SEA addresses the potential environmental impacts, positive and negative, of the 2030 Programme's Aims, Objectives and Plans.

This report constitutes an Environmental Report, in accordance with the requirements of the European Community (EC) SEA Directive (2001/42/EC12) and the Environmental Assessment (Scotland) Act 2005 (the SEA Act). The Environmental Report illustrates the SEA process and the identification of all potentially significant environmental effects (both positive and negative) associated with the implementation of the draft 2030 Programme, with the overall process aiming to:

- Identify relevant environmental issues associated with the 2030 Programme, providing a high level of environmental protection and the integration of environmental decision making into the preparation of the draft plan;
- Evaluate the likely significant environmental effects of C2030, to ensure appropriate environment issues are identified, described, evaluated and taken into account, before the 2030 Programme is adopted and implemented; and
- Provide an early opportunity for public participation in environmental decision making, through consultation on the 2030 Programme and the associated Environmental Report.



1.2. Purpose of the SEA

SEA is a systematic process for evaluating the environmental consequences of proposed plans or programmes to ensure environmental issues are fully integrated and addressed at the earliest appropriate stage[s] of decision making. SEA, at its best, functions in promoting sustainable planning development and as a useful, transparent tool in the decision-making process.

The process of SEA was introduced under European Directive 2001/42/EC12 on the assessment of the effects of certain plans and programmes on the environment (SEA Directive) and came into force in 2001. The Directive requires the CNPA, as the programming authority, to assess the likely significant effects of its plans and programmes on: “the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship of the above factors” including, “secondary, cumulative, synergistic, short, medium, and long-term, permanent and temporary, positive and negative effects”.

The purpose of this report is to evaluate the likely environmental effects of implementing the Cairngorms 2030 Programme, and its related plans, as per the requirements of the Directive and Regulations. This includes an assessment of realistic alternative approaches and options, as well as the suggestion of mitigation and enhancement measures to prevent, reduce and offset any significant adverse effects on the environment of implementing the strategy.

This report has been issued to the statutory consultation bodies by CNPA and is available to view and comment on by other interested organisations and members of the public in parallel with the consultation period for the Cairngorms 2030 Programme. More detail on the consultation period is available in Section 8.1.

The current level of environmental baselines are presented in Section 4, in support of the predicted assessment of the potential effects associated with implementing the CNPA’s Plans. The environmental baseline provides information on both the current and potential issues directly associated with the plans, and with the likely future state without implementing them, estimated using past trends as required by the SEA Act. It also requires consideration of the environmental characteristics of areas likely to be significantly affected.

1.3. Consultation process

In accordance with the SEA legislation, the Environmental Report will be made available for public consultation along with the draft Programme for a period of six weeks. Early engagement with the Consultation Authorities has already taken place and these representations have helped to inform the content of the draft Programme and the SEA process.

1.4. Structure of this Report

The areas considered in this Environmental Report, and their location in the report, are as follows:

- Summary of the Cairngorms 2030 Programme – Section 2.1;
- Relationship with other PPPS and environmental objectives - Sections 2.3 & 2.6
- Review of CNPA Aims and Objectives - Section 2.4
- SEA assessment methodology – Section 3.2;
- Scope of Assessment - Section 3.3



- Integrated Ecosystems Approach - Section 3.7;
- Key issues and environmental baseline – Sections 4.4 & 4.5;
- Existing environmental problems and the likely evolution of the environment without the 2030 Programme – Section 4.14;
- Consideration of alternatives – Section 6;
- Identification and assessment of likely significant effects on the environment – Section 7 and appendices A & B;
- Mitigation and enhancement measures – Section 7.5 ; and
- Proposed monitoring programme – Section 8.6;
- Next steps regarding the consultation – Section 8.2;
- Habitats Regulation Appraisal - Section 9;
- Ecosystem Services Assessment - Section 10;
- Summary of scoping consultation responses – Appendix C

A non-technical summary of the information provided in this report has been provided separately.



2. The Cairngorms 2030 Programme

Cairngorms 2030 is a programme consisting of 20 plans to tackle climate change and the nature crisis, delivering an economy that works for all, covering the Cairngorms National Park. The Cairngorms 2030 Programme outlines a strategy to deliver a vision for the Park, where involvement in decision-making is diverse and inclusive and there is a shared ambition for a future that is rich in nature, gifting a legacy of healthier people and place for future generations.

The 2030 Programme further explains how the 20 plans included within the Programme will progress, how outcomes will be developed, and success measured. It covers the context, need and rationale as well as the mechanics for how the Programme elements will be funded and managed and who will be involved.

2.1. Overall Programme Summary

The 2030 Programme has been shaped in direct response to the unprecedented biodiversity, human health and climate crises that have emerged as the greatest challenges of our time and how the National Park can work to address them. The Programme has been designed to tackle these crises, at a landscape scale, with input, support and collaboration from the people who live in, work and visit the Park to help rapidly deliver the Scottish Government's net-zero carbon, biodiversity and wellbeing targets.

To meet these challenges, the CNPA has taken a holistic approach to focus on Nature, People and Place as one linked system. The outcomes and goals of each are outlined below.

2.1.1 Nature

The Cairngorms National Park aims to be a global exemplar of how people can work with nature to make the transformative, collaborative and innovative changes required to reduce carbon emissions and adapt in an ever-changing world. It will also seek to provide successful working models in which nature provides public health benefits and helps tackle dementia. Vital native habitats and ecosystems will be restored and recreated at scale to protect some of the most at-risk species and to help nature thrive.

2.1.2 People

Residents and visitors of the National Park will be climate resilient, bold in ambition and innovative in delivery. Together with land managers, communities and business the National Park aims to build an empowered and collaborative partnership across the public, private and third sector to deliver change and a shared net zero future.

This will be achieved by developing new inclusive ways to empower people, placing them at the heart of decision making to transform their own communities, to build their capacity, capability and desire to make real change locally. Through this project, communities will develop a new focus to thrive with nature, reduce their impacts on the planet and improve wellbeing for all. A route to a wellbeing economy will be created that benefits people and nature and provides green solutions to public health priorities, including Covid-19 recovery, cost of living pressures, social isolation and those experiencing dementia and their carers.



2.1.3 Place

The National Park looks to drive a systemic shift in how people interact with and care for the land around them. Sustainable and active travel will become realistic choices throughout the National Park. Land managers will explore more sustainable ways of managing land and lead the transition to net zero farming. Large areas of woodland and peatland will be expanded and restored, communities will develop natural solutions to alleviate flooding and will have their voices heard in how they value their landscapes.

2.2. Context and overview of plans

To align with the wider Cairngorms National Park Partnership Plan 2022-27, the 2030 Programme uses the same thematic breakdown of Nature, People & Place, under which the 20 plans are grouped. These are outlined below, with the related plans within each theme.

2.2.1 Nature

The Nature-based Solutions (NbS) approach is an internationally agreed process to provide solutions to the twin crises of global warming and biodiversity loss. They were agreed by the International Union for Conservation of Nature and defined as: “actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits”.

The Cairngorms 2030 Nature theme addresses the crises by adopting the principles of NbS, within the specific context of the Cairngorms National Park. They address some of the critical issues and promote solutions where we can provide the most effective remedy. This will ensure an effective contribution to mitigating global warming and reversing biodiversity loss for Scotland and the UK.

The ‘Nature’ projects should be considered as a group, all delivering the same aims. For example, the provision of clean rivers and better regulated water flows is achieved not just from the river restoration work but also the smart provision of new woodland and peatland restoration. Rain falling on the mountains won’t just run off quickly, creating flooding, but will be filtered by the sponge of peatlands, slowed from reaching the ground by the woodland and then allowed to be stored in the restored floodplains. The farming areas will ensure more water is retained in healthier soils and that cattle are not disturbing particles by keeping them away from water courses. Farms will produce less pollution by needing fewer chemical inputs. All this could be achieved, whilst making sure the essence of the landscape, and its special qualities that the communities love, are enhanced and retained at each step.

The nature theme encompasses seven projects that will deliver a wide range of outcomes. These include:

1. Cairngorms Future Farming
2. Climate Resilient Catchments
3. Nature Recovery
4. Green Finance
5. Landscape and Communities
6. Peatland restoration



7. Woodland expansion

These projects were chosen as each of them addresses specific issues within the Park. Individually, they will enable improvements to these issues, as well as opportunities to develop new techniques and approaches. Collectively, they combine to create a tiered, catchment-wide programme that will allow whole landscapes to develop positively, using natural processes in response to climate change.

The outcomes

- Enhanced biodiversity – providing “bigger, better and more joined up” habitats, with increased wildlife and protected species populations in better condition.
- Less greenhouse gasses from farms and other managed areas, with more being held in long term storage.
- Flood reduction and flow regulation, as well as cleaner rivers.
- Communities involved in their environment through having a voice in decision-making, with their special landscape qualities clearly expressed and used as a basis for policy and decision making in rural areas.
- More people directly involved in conservation through volunteering and with better skills to do so.
- A better trained workforce, now and in future, able to understand the need and benefits for incorporating environmental protection and enhancement within their daily work.
- More resilient farm businesses, able to at least maintain their economic viability, as well as being better prepared to access new Scottish Government Agri-environment schemes.
- Land more resistant to climate change effects, with healthier soils, rivers and habitats physically able to manage drought, floods and higher temperatures.

2.2.2 People

The underlying premise of the People Theme is to make people feel more connected to the National Park, in order to engender a sense of ownership and care, which then encourages people to want to look after and get involved in projects and opportunities that benefit both people and nature, implementing long-term positive behaviour change.

The People Theme projects are designed to have a big impact on people’s health and wellbeing, as well as creating more opportunities to improve their living and working conditions, whilst delivering net zero targets.

There will be three key aspects to the work undertaken:

- **Involve** people in codesigning and delivering practical projects, such as skills development, green health initiatives, climate learning, arts and cultural events, community engagement and community led climate action, to allow people to nurture a sense of ownership, responsibility and empowerment that will lead to more pro-environmental behaviours.
- **Empower** people by, continuing to put them at the centre of decision making that will affect them, their livelihoods and their communities. This will be, in part, through a community managed climate grants process, and also through action planning for future climate, nature and community resilience.



- **Inform** people, through workshops, training and resources, to help increase awareness and understanding of climate, biodiversity and health issues and how they will be affected by them. The wellbeing of communities and place will also be at the heart of this work.

The delivery phase of the People Theme Projects will focus on opportunities and initiatives that have not been tried before and working with new and existing audiences, with a view to making a real difference to people's lived experience in the Cairngorms. The eight People Theme projects are:

1. Wellbeing Economy
2. Public Health and the Outdoors
3. Dementia Activity Centre
4. Climate Learning and Education
5. Effective Community Engagement
6. Community Arts and Culture
7. Climate Conscious Communities
8. Community Managed Climate Grant Scheme

2.2.3 Place

With transport accounting for over a third of Scotland's carbon emissions, how residents and visitors travel to and within the National Park will need to change in order to achieve Scotland's net zero targets and to tackle the challenges of the climate emergency. By changing the way people travel, the 2030 Programme aims to place active and sustainable travel at the heart of a greener future, leading to a fairer and regenerative local economy and to reduce transport-related carbon emissions. The Cairngorms National Park seeks to become a rural exemplar for sustainable and active travel, embracing technology and design innovation, to reduce transport-related carbon emissions.

The Park has a strong travel heritage based upon historical movement of people within a local region. However, much of the social transport heritage has been lost due to the dominance of privately owned motorised vehicles. Improving active travel routes and supporting infrastructure provides an opportunity to reconnect people with the social and environmental heritage of the park, strengthening people's sense of place and belonging. Raising awareness of the impact of personal travel choices and enabling a modal shift in behaviours, so that people travel more sustainably, will reduce the impact of personal journeys on the environmental heritage of the Park.

This suite of projects will collectively contribute to mitigating the climate emergency, changing attitudes and behaviours, to deliver net zero targets, whilst also improving the health and wellbeing of individuals. The means by which these targets will be reached are:

- Developing high-quality walking, wheeling and cycling connections in our communities.
- Developing a cohesive network that supports cycle use by residents and visitors across the park.
- Support delivery and use of sustainable transport options.



- Encourage modal shift in personal behaviours.

The four Place Theme Projects are:

1. Active Communities
2. Cycle Friendly Cairngorms
3. Sustainable Travel
4. Changing Travel Behaviours

2.2.4 Programme wide - Knowledge and Research Exchange

The objective of the 'Research, Evaluation and Knowledge Exchange' strand of work is to share the journey of the Cairngorms 2030 programme: the knowledge gained, change achieved, and lessons learned; within the organisation, locally, nationally and internationally.

The project will create a robust Knowledge Exchange, Research and Evaluation framework which will guide (i) the baselining of 'where we are'; (ii) the assessment of 'what we achieve' through both individual project level outputs and wider programme level outcomes; (iii) the capturing of the process of achieving the project and programme aims; (iv) the sharing of this information and experience in diverse networks across research, policy and practice, at all geographical scales.

2.3. Relationship with other PPPS and environmental objectives and assessment

Appended to this Chapter, in Section 2.6, is a Table of all relevant PPS and their relationship to the 2030 Programme.

2.4. Review of CNPA Aims and Objectives

2.4.1 The Cairngorms National Park Aims

The National Park has four distinct, overarching aims, as set out by Parliament:

- 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.

These aims are to be pursued collectively. However, if there is conflict between the first aim and any of the others, greater weight is given to the first aim (as set out in Section 9.6 of the National Parks (Scotland) Act 2000). This helps ensure conservation of the natural and cultural heritage underpins the economic, social and recreation value of the Cairngorms National Park.

2.4.2 2030 Programme Aims and Objectives

The 2030 Programme contains six aims and objectives, interlinked under the People, Nature & Place themes.



Table 2.1: Cairngorms 2030 Programme Aims and Objectives

People	Aim 1. To enhance ecological and economic wellbeing, through transformational, collaborative and innovative change.	Objective 1. People's health and livelihoods will be improved through the development and promotion of a wellbeing economy in the Cairngorms National Park.
	Aim 2. To inform and change attitudes and behaviours in order to deliver net-zero and biodiversity targets.	Objective 2. People and businesses will be more knowledgeable about climate and carbon and will have changed their behaviours to help deliver net-zero and biodiversity targets.
Nature	Aim 3. To empower people to take responsibility for decisions affecting change in their environment and see the benefits of those changes flow to their communities.	Objective 3. People will be more involved in their community's governance and practical activity.
	Aim 4. To be an international showcase for inclusive and equitable land management change.	Objective 4. Cairngorms National Park will trial new models of land use and land management and pioneer new collaborations to engage with nature.
Place	Aim 5. To mitigate the climate emergency, improve biodiversity and connect landscape change to community aspirations.	Objective 5. Cairngorms National Park will contribute to net zero and biodiversity targets through landscape-scale enhancements to woodlands, peatlands, river catchments, uplands and farmlands.
	Aim 6. To place active travel at the heart of a greener future, leading to a fairer and regenerative local economy during Covid recovery.	Objective 6. Cairngorms National Park will be a rural exemplar for sustainable and active travel, embracing technology and design innovation, to reduce transport related carbon emissions.

2.5. High level policy assessment

There have been significant changes in the policy landscape, since the first NLHF Heritage Horizons funding application was submitted. A climate emergency and nature crisis have been declared. The UK has left the European Union and its policy framework, and the Covid-19 pandemic – and the collective need to recover from its impacts – is at the forefront of policy discussion. There is also a deepening cost-of-living crisis and a desire to move to an economy that works for everyone, with the wellbeing of our citizens at its heart.



2.5.1 National policy framework

As a whole, the 2030 Cairngorms programme and its inclusion in the Cairngorms National Park Partnership Plan is guided by Scottish Government's National Performance Framework and by the UN Sustainable Development Goals.

The development of Cairngorms 2030 has informed the climate change mitigation policy of the Cairngorms National Park, along aligned delivery themes. The documents listed below are the key national policy documents that underpin the approach taken in this plan.

2.5.2 Nature

- A Future Strategy for Scottish Agriculture
- Climate Change Plan 2018 – 2032
- Deer Working Group – Scottish Government Response
- Environment Strategy for Scotland
- Grouse Moor Management Review – Scottish Government Response
- Land Use Strategy for Scotland 2021 – 2026
- Scottish Biodiversity Strategy 2022, Biodiversity Statement of Intent, Edinburgh Declaration
- Water Framework Directive and River Basin Management Plans

2.5.3 People

- Equalities Duty
- Land Rights and Responsibilities Statement
- National Gaelic Language Plan
- Nature-based Jobs and Skills Action Plan
- Scotland's National Strategy for Economic Transformation
- Scotland's Public Health Priorities
- Skills Action Plan for Rural Scotland
- Volunteering for All

2.5.4 Place

- Cultural Strategy for Scotland
- Housing to 2040 Strategy
- Let's Get Scotland Walking – National Walking Strategy
- National Planning Framework 4
- National Transport Strategy
- Scotland Outlook 2030 – Responsible Tourism for a Sustainable Future
- Strategic Transport Projects Review 2

2.5.5 National policy context

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, which amends the Climate Change (Scotland) Act 2009, sets targets to reduce Scotland's emissions of all greenhouse gases to net-zero by 2045 at the latest, with interim targets for reductions of at least 56% by 2020, 75% by 2030, 90% by 2040.



Scotland's target of net-zero emissions by 2045, five years ahead of the UK, is firmly based on what the independent Committee on Climate Change (CCC) advise is the limit of what can currently be achieved. The levels of all of Scotland's targets are regularly reviewed, following advice from the CCC.

The 2019 Act embeds the principles of a Just Transition, which means reducing emissions in a way which tackles inequality and promotes fair work, at the heart of Scotland's approach to reaching net-zero.

2.5.6 Local / regional policy context

The Cairngorms National Park Partnership Plan 2022-2027 is the overarching management plan for the Cairngorms National Park. It sets out how all those with a responsibility for the Park will coordinate their work to tackle the most important issues over the next five years. It includes the Economic Strategy, Sustainable Tourism Strategy, Regional Spatial Strategy, Climate Action Plan and the Regional Land Use Framework. It is supported by a number of action plans that will help to deliver the objectives of the plan and the National Park's aims.

The Cairngorms National Park Local Development Plan 2020 will guide development in the Cairngorms National Park, over the period 2020-2025 and into the longer term.

2.5.7 Thematic area policy context

The Cairngorms National Park Partnership Plan provides strategic direction for five key strategies / plans. These are each developed, through close partnership working with different sectors, and their delivery is dependent on the work undertaken by businesses, land managers, communities, charities and the public sector, in mutual support.

This project delivers across all five strategies and will be the foundation for all future policy and strategy developments in the National Park.





2.6. Relevant Plans, Programmes and Strategies

Relevant PPS	Relevant objectives/purpose	SEA Topic	Relationship between the PPS and the Cairngorms 2030 plans
International Directives and Policies			
European Charter for Regional or Minority Languages (European Council, 1992)	European Directive adopted under the auspices of the Council of Europe to protect and promote historical regional and minority languages in Europe. Identifies Gaelic as being an endangered language.	<ul style="list-style-type: none"> ▪ Landscape and Cultural heritage ▪ Population and Human health 	The proposals should support the Gaelic language, where relevant to the priorities identified.
European Landscape Convention (European Commission, 2000)	Promotes the protection, management and planning of European landscapes and organises European co-operation on landscape issues.	<ul style="list-style-type: none"> ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural heritage ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should be a tool for the maintenance and restoration of landscapes and their natural habitats.
The Paris Agreement (United Nations Framework Convention on Climate Change, 2015)	The agreement sets out a global action plan to put the world on track to avoid dangerous climate change, by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C.	<ul style="list-style-type: none"> ▪ Climatic Factors 	Where relevant to the priorities identified, the proposals should seek to promote the development and use of appropriate renewable energy sources and contribute to climate change mitigation.
Kyoto Protocol (UNFCCC, 1997)	Protocol to the international Framework Convention on Climate Change with the objective of reducing the greenhouse gases that cause climate change.	<ul style="list-style-type: none"> ▪ Climatic factors 	Where relevant to the priorities identified, the proposals should support measures that will reduce greenhouse gas emissions.
The Pan-European Biological and Landscape Diversity Strategy (Council of Europe, 1995)	The Strategy aims to reverse the decline of landscape and biological diversity, by promoting innovation and proactive policy making.	<ul style="list-style-type: none"> ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should support the Strategy by considering the contribution that actions could make to protecting biodiversity and landscapes.



Ramsar Convention on Wetlands of International Importance, 1971	Requires conservation and wise use of wetlands.	<ul style="list-style-type: none"> Water Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should ensure the protection and enhancement of wetlands.
Taking Sustainable Use of Resources Forward: A thematic Strategy on the prevention and recycling of waste (EU 2005)	A sector-based strategy, produced as a requirement of the Seventh Environmental Action Programme of the European Community, seeking to help Europe become a recycling society that seeks to avoid waste and uses waste as a resource.	<ul style="list-style-type: none"> Climatic factors Air Material assets 	Where relevant to the priorities identified, the proposals should seek to minimise waste and promote recycling.
Thematic Strategy for Soil Protection (EU 2006)	A sector-based strategy produced as a requirement of the Seventh Environmental Action Programme of the European Community, seeking to establish common principles for the protection and sustainable use of soils.	<ul style="list-style-type: none"> Soil and geodiversity 	Where relevant to the priorities identified, the proposals should contribute towards the protection and improvement of soil.
UN Convention on Biological Diversity (UN, 1992)	An international legally binding treaty, with three main goals: conservation of biodiversity; sustainable use of biodiversity; and fair and equitable sharing of the benefits arising from the use of genetic resources.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna 	Where relevant to the priorities identified, the proposals should look for opportunities to conserve and, where possible, to restore, biodiversity.
UN Framework Convention on Climate Change (the Rio Earth Summit) 1992 (UN, 1992)	Treaty aimed at reducing global emissions of greenhouse gases to combat global warming.	<ul style="list-style-type: none"> Climatic factors 	Where relevant to the priorities identified, the proposals should assist in the reduction of greenhouse gas emissions.
National Legislation (UK and Scotland)			
Air Quality (Scotland) Regulations 2000 (as amended in Scotland)	Establishes standards for air quality and sets limits for various pollutants in Scotland.	<ul style="list-style-type: none"> Air Population and Human health 	Where relevant to the priorities identified, the proposals should support measures that would improve air quality.
Ancient Monuments and Archaeological Areas Act 1979 (as amended by Historic Environment (Amendment) (Scotland) Act 2011)	Prescribes the approach to be taken to planning for scheduled ancient monuments and archaeological areas.	<ul style="list-style-type: none"> Landscape and Cultural heritage 	Where relevant to the priorities identified, the proposals should ensure that scheduled ancient monuments and archaeological areas are not adversely affected by new development.



Climate Change (Scotland) Act 2009	Legislation to set a target for the year 2050, an interim target for the year 2020, and to provide for annual targets, for the reduction of greenhouse gas emissions; about the giving of advice to the Scottish Ministers relating to climate change; to confer power on Ministers to impose climate change duties on public bodies; to make further provision about mitigation of and adaptation to climate change; to make provision about energy efficiency, including provision to enable council tax discounts; to make provision about the reduction and recycling of waste; and for connected purposes.	▪ Climatic factors	Where relevant to the priorities identified, the proposals should support and include climate change adaptation and mitigation measures.
Conservation (Natural Habitats, &c) Regulations 1994 (as amended for Scotland)	These regulations relate to the designation of European sites, and provision of protection to various plant and animal species.	▪ Biodiversity, Flora and Fauna	Where relevant to the priorities identified, the proposals should ensure that European sites are protected from loss or damage.
Environment Act 1995	The Act sets new standards for environmental management by National Parks and other statutory bodies.	▪ All Topics	The CNPA must adhere to the standards set out in the Act.
Environmental Assessment (Scotland) Act 2005	Requires Strategic Environmental Assessments to be completed for plans, programmes and strategies likely to have significant environmental effects.	▪ All Topics	Enables the significant environmental effects of the plans to be identified and addressed.
Environmental Impact Assessment (Forestry) (Scotland) Regulations 2017	Requires environmental impact assessments for certain forestry projects.	▪ All Topics	The plans will be required to be compatible with Environmental Impact Assessments legislation.
The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017	Requires environmental impact assessment of site-specific projects and specifically requires consideration of Sensitive Areas, including National Parks.	▪ All Topics	The plans will be required to be compatible with Environmental Impact Assessments legislation.
Equality Act 2010	The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society.	▪ Population and Human health	The plans should ensure that they do not result in individuals or groups with protected characteristics being discriminated against.



Flood Risk Management (Scotland) Act 2009	Establishes roles, responsibilities and requirements for sustainable flood management.	<ul style="list-style-type: none"> ▪ Climatic Factors ▪ Water ▪ Population and Human health 	The plans should support flood management, particularly natural flood management.
Gaelic Language (Scotland) Act 2005	The Act aims to secure Gaelic as an official language of Scotland, "commanding equal respect" with English.	<ul style="list-style-type: none"> ▪ Landscape and Cultural heritage ▪ Population and Human health 	In their production, the plans should meet the requirements of the Act and enable any other partners, including those not covered by the Act, to do the same.
Historic Environment Scotland Act 2014	Amongst other things, establishes Historic Environment Scotland with the general function of investigating, caring for and promoting Scotland's historic environment.	<ul style="list-style-type: none"> ▪ Landscape and Cultural heritage 	The plans should support the protection and preservation of the historic environment.
Housing (Scotland) Act 2014	Makes provision about housing, including provision about the abolition of the right to buy, social housing, the law affecting private housing, the regulation of letting agents and the licensing of sites for mobile homes.	<ul style="list-style-type: none"> ▪ Population and Human health 	The plans should support the provision of housing, particularly affordable housing.
Land Reform (Scotland) Act 2003	Establishes right of responsible access to land and water.	<ul style="list-style-type: none"> ▪ Water ▪ Landscape and Cultural Heritage ▪ Biodiversity, Flora and Fauna ▪ Population and Human health 	The plans can provide for, and support, responsible access.
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.	<ul style="list-style-type: none"> ▪ All Topics 	Establishes the aims of National Parks. Provides direction on the functions and role of the National Park Authority.



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.	<ul style="list-style-type: none"> Water Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should support conservation and enhancement of biodiversity.
Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997	Prescribes the approach to be taken in planning for listed buildings, conservation areas and designed landscapes and gardens.	<ul style="list-style-type: none"> Material Assets Landscape and Cultural heritage 	Where relevant to the priorities identified, the proposals should ensure that listed buildings, conservation areas and designed landscapes and gardens are not adversely affected.
Protection of Badgers Act 1992 (as amended in Scotland)	Sets out offences in relation to the protection of badgers.	<ul style="list-style-type: none"> Biodiversity, Flora and Fauna 	Where relevant to the priorities identified, the proposals should seek to protect badgers.
Sewage (Scotland) Act 1968	Along with the Water Industry (Scotland) Act 2002, this gives responsibilities to Scottish Water to manage the discharge of surface water that enters its drainage systems (by providing sewers and public Sustainable Urban Drainage Systems (SUDs)) and to maintain water supplies and drainage infrastructure.	<ul style="list-style-type: none"> Water Population and Human health 	Where relevant to the priorities identified, the proposals should have regard to Scottish Water's duties under this Act.
Water Environment and Water Services (Scotland) Act 2003	Transposes the Water Framework Directive into Scots' law.	<ul style="list-style-type: none"> Water Biodiversity, Flora and Fauna Landscape and Cultural Heritage Population and Human health 	Where relevant to the priorities identified, the proposals should encourage improvements to the water environment and support measures for more efficient use of water.
Water Industry (Scotland) Act 2002	Along with the Sewage (Scotland) Act 1968, this gives responsibilities to Scottish Water to manage the discharge of surface water that enters its drainage systems (by providing sewers and public Sustainable Urban Drainage Systems (SUDs)) and to maintain water supplies and drainage infrastructure.	<ul style="list-style-type: none"> Water Population and Human health 	Where relevant to the priorities identified, the proposals should have regard to Scottish Water's duties under this Act.



Wildlife and Countryside Act 1981 (as amended in Scotland)	Sets out offences in relation to the protection of certain species.	▪ Biodiversity, Flora and Fauna	Where relevant to the priorities identified, the proposals should support protected species.
Wildlife and Natural Environment (Scotland) Act 2011	Amends Wildlife and Countryside 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.	▪ Biodiversity, Flora and Fauna	Where relevant to the priorities identified, the proposals should support provisions of the Act.
Nature Conservation (Scotland) Act 2004	To make provision in relation to the conservation of biodiversity; to make further provision in relation to the conservation and enhancement of Scotland's natural features; to amend the law relating to the protection of certain birds, animals and plants; and for connected purposes.	▪ Biodiversity, Flora and Fauna	Where relevant to the priorities identified, the proposals should support provisions of the Act.
National Policy (UK and Scotland)			
The Air Quality (Scotland) Regulations 2000	Sets out air quality objectives for Scotland.	▪ Air ▪ Population and Human health	Where relevant to the priorities identified, the proposals should encourage reductions in emissions, through a range of measures.
Creating Places - A policy statement on architecture and place for Scotland (Scottish Government, 2013)	A policy statement on architecture and place setting out the comprehensive value good design can deliver. The document contains an action plan that sets out the work that will be taken forward to achieve positive change.	▪ Landscape and Cultural heritage ▪ Population and Human health	Where relevant to the priorities identified, the proposals should support good design.



Scottish Climate Change Adaptation Programme (Scottish Government, 2014)	Sets objectives in relation to adaptation to climate change, ministerial proposals and policies for meeting those objectives, and the period within which those proposals and policies will be introduced. The Programme also sets out the arrangements for wider engagement in meeting those objectives.	<ul style="list-style-type: none"> ▪ Climatic factors ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should encourage reductions in emissions through a range of measures.
Civil Contingencies Act 2004	Delivers a framework for civil protection in the UK and defines the responsibilities for responders to emergencies.	<ul style="list-style-type: none"> ▪ Material Assets ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should support the requirements of responders to fulfil their statutory duties.
Cleaner Air for Scotland – The Road to a Healthier Future (Scottish Government, 2015)	The national cross-government strategy that sets out how the Scottish Government and its partner organisations propose to reduce air pollution further to protect human health and fulfil Scotland’s legal responsibilities as soon as possible.	<ul style="list-style-type: none"> ▪ Air ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should encourage reductions in emissions through a range of measures.
Climate Change: The UK Programme (UK Government, 2000)	Goal to reduce carbon emissions in the UK by 60% by 2050.	<ul style="list-style-type: none"> ▪ Climatic factors ▪ Air 	Where relevant to the priorities identified, the proposals should encourage reductions in emissions through a range of measures.
Groundwater Protection Policy for Scotland (SEPA, 2009)	This policy aims to provide a sustainable future for Scotland’s groundwater resources by protecting legitimate uses of groundwater and providing a common SEPA framework.	<ul style="list-style-type: none"> ▪ Water ▪ Soil and geodiversity 	Where relevant to the priorities identified, the proposals should aim, where possible, to manage significant flood risk to groundwater from flooding related pollution.
Designations Three Year Plans 2016 – 2019 (HES, 2016)	This document sets out the three-year plans for Historic Environment Scotland's work on designations.	<ul style="list-style-type: none"> ▪ Landscape and Cultural heritage 	Where relevant to the priorities identified, the proposals should follow the guidance when considering designated sites and structures.



Historic Environment Circular 1 (HES, 2019)	This circular covers the requirements of the secondary legislation ('the Regulations') relating to the Historic Environment Scotland Act 2014 ('the 2014 Act').	▪ Landscape and Cultural heritage	Where relevant to the priorities identified, the proposals should follow the guidance for policy development on the management of the historic environment.
Historic Environment Policy Statement (HES, 2019)	Document to which planning authorities are directed in their consideration of applications for conservation area consent, listed building consent, for buildings of all three categories, and their consideration of planning applications affecting the historic environment, and the setting of individual elements of the historic environment.	▪ Landscape and Cultural heritage	Where relevant to the priorities identified, the proposals should follow the guidance for policy development on the management of the historic environment.
Land Use Strategy for Scotland 2016 – 2021 (Scottish Government, 2016)	Outlines strategy for achieving sustainable land use across Scotland and getting the best from the land of Scotland.	▪ All Topics	Where relevant to the priorities identified, the proposals in the plans could support the National Land Use Strategy.
Managing Change in the Historic Environment Guidance Notes (HES, various)	Series of guidance notes which are designed to support the Scottish Historic Environment Policy (SHEP) and Scottish Planning Policy.	▪ Landscape and Cultural heritage	Where relevant to the priorities identified, the proposals should support positive management of the historic environment.
National Planning Framework 4 (Scottish Government, 2023)	A long-term strategy for Scotland that provides the spatial expression of the Government's Economic Strategy and plans for the development and investment in infrastructure.	▪ All Topics	Where relevant to the priorities identified, the proposals should support the strategic context set by NPF4 for future regional change around the Park.
Control of Woodland Removal Policy (Scottish Government, 2009)	Sets out Scottish Ministers' policy on woodland removal in Scotland.	<ul style="list-style-type: none"> ▪ Climatic Factors ▪ Water ▪ Soil and geodiversity ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should support the policy.



The River Basin Management Plans for the Scotland River Basin District: 2015–2027 (SEPA, 2015)	Fulfills a requirement under the Water Environment and Water Services (Scotland) Act 2003.	<ul style="list-style-type: none"> Water Soil and geodiversity Biodiversity, Flora and Fauna 	Where relevant to the priorities identified, the proposals should support management objectives for water bodies in the National Park.
Scotland Rural Development Programme 2014 – 2020 (Scottish Government, 2014)	Sets goals for sustainable rural development and the types of support available.	<ul style="list-style-type: none"> All Topics 	Where relevant to the priorities identified, the proposals in the plans could support rural development and diversification.
Scotland's Climate Change Adaptation Framework (Scottish Government, 2009)	The framework plays a central role in building Scotland's resilience to the changing climate, by setting the strategic direction for Scottish Government actions and providing specific actions for different sectors	<ul style="list-style-type: none"> Climatic factors Population and Human health 	Where relevant to the priorities identified, the proposals should support and include climate change adaptation and mitigation measures.
Scotland's Economic Strategy (Scottish Government, 2015)	Reaffirms the Scottish Government's commitment to creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.	<ul style="list-style-type: none"> Material assets Population and Human Health 	Where relevant to the priorities identified, the proposals should encourage economic development that does not adversely affect the special qualities of the Park.
Scotland's National Transport Strategy (Transport Scotland, 2006)	Scottish Government's National Strategy for reducing transport emissions by 80%.	<ul style="list-style-type: none"> Climatic Factors Air Population and Human health 	Where relevant to the priorities identified, the proposals should support reductions in emissions from transport.
Scottish Biodiversity Strategy (Scottish Government, 2004 / 2013)	<p>Comprises of two documents:</p> <ul style="list-style-type: none"> Scotland's Biodiversity – It's in Your Hands. A strategy for the conservation and enhancement of biodiversity in Scotland (2004). 2020 Challenge for Scotland's Biodiversity - A Strategy for the conservation and enhancement of biodiversity in Scotland (2013). <p>Identifies Scottish biodiversity priorities and lead partners for taking action.</p>	<ul style="list-style-type: none"> Water Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should reflect the purpose of the Strategy through support for the Cairngorms Nature Action Plans 2013 - 2018.



Scottish Forestry Strategy (Scottish Government, 2019)	Outlines strategic priorities for forestry including management, planting and environmental stewardship.	<ul style="list-style-type: none"> ▪ Air ▪ Water ▪ Soil and geodiversity ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should provide a strategic direction for forestry policy within the National Park.
Scottish Geodiversity Charter 2018-2023 (Scottish Geodiversity Forum, 2018)	Charter sets out why geodiversity is important, and presents a vision that geodiversity is recognised as an integral and vital part of our environment, economy, heritage and future sustainability, to be safeguarded for existing and future generations in Scotland.	<ul style="list-style-type: none"> ▪ Soil and geodiversity ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage 	The CNPA is a signatory to the Charter and therefore, where relevant to the priorities identified, the proposals should include actions to help meet its objectives.
Scottish Government's Infrastructure Investment Plans (Scottish Government, 2015)	Gives an overview of the Scottish Government's plans for infrastructure investment over the coming decades.	<ul style="list-style-type: none"> ▪ Material Assets ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should take account of potential impacts (both positive and negative) of actions on existing and planned developments.
Scottish Government's National Performance Framework, National Outcomes (Scottish Government, undated)	As part of the National Performance Framework, the Scottish Government has set 15 National Outcomes that the public sector must collectively deliver on children and young people, economy, fair work and business, international, communities, education, health, poverty, culture, environment, human rights.	<ul style="list-style-type: none"> ▪ All Topics 	Where relevant to the priorities identified, the proposals should identify and contribute to delivery of the outcomes that are most appropriate in the Park.
Scottish Planning Policy (Scottish Government, 2014)	National planning policy and guidance.	<ul style="list-style-type: none"> ▪ All Topics 	Where relevant to the priorities identified, the proposals should identify and contribute to the requirements set out within Scottish Planning Policy.
Scottish Soil Framework (Scottish Government, 2009)	Ministers' policies and objectives for the conservation and use of soils.	<ul style="list-style-type: none"> ▪ All Topics 	Where relevant to the priorities identified, the proposals should promote soil conservation.



Scottish Water Business Plans 2015 – 2021 (Scottish Water, 2015)	The business plans set out how Scottish Water will deliver improvements to drinking water quality, the environment and customer service required by Scottish Ministers.	<ul style="list-style-type: none"> Water Population and Human health 	Where relevant to the priorities identified, the proposals should be developed with regard to the objectives and actions proposed in the Business Plans.
Scottish Zero Waste Plans (Scottish Government, 2010)	Provides context for waste planning in Scotland by sets the strategic direction for waste policy for Scotland, with a target of 70% recycling and maximum 5% to landfill, by 2025, for all Scotland's waste.	<ul style="list-style-type: none"> Climatic Factors Soil and geodiversity Material assets Population and Human health 	Where relevant to the priorities identified, the proposals in the plans could support waste management and good design.
Tourism Scotland 2020 (HIE, 2012)	The strategy targets those markets that offer Scotland the greatest growth potential, provides collaboration within and across Scotland's tourism destinations and develops the authentic memorable experiences tourists seek.	<ul style="list-style-type: none"> Landscape and Cultural Heritage Population and Human health 	Where relevant to the priorities identified, the proposals should support development of sustainable tourism to contribute to national targets for tourism growth.
UK Geodiversity Action Plans (UK GAP, 2011)	The Action Plans provides a framework in which actions for geodiversity can be captured in one place, allowing a range of organisations, groups and individuals to demonstrate their achievements in a UK-wide context	<ul style="list-style-type: none"> Soil and geodiversity Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should include actions to help promote and protect the National Park's geodiversity.
UK Post-2010 Biodiversity Framework (JNCC/Defra, 2012)	The Framework sets out the common purpose and shared priorities of the UK and Scotland for the management of the environment as a whole.	<ul style="list-style-type: none"> Water Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should reflect the purpose of the Framework through support for the Cairngorms Nature Action Plans 2013 - 2018.
Local Plans and Strategies			



Cairngorms National Park Partnership Plan 2017 – 2022 and emerging NPPP 2022 – 2027 (due for adoption in autumn 2022)	The NPPP is a five-year management plan covering the whole of the Cairngorms National Park area (for a five year period, although it also contains longer term targets). NPPPs seek to identify key land management, social and economic issues for the Park as a whole, along with strategic measures to alleviate them.	▪ All Topics	Where relevant, the plans should support the objectives and policies in the NPPP.
A9 Dualling Strategy (Transport Scotland)	The project involves the upgrade of 80 miles of single carriageway along the A9 between Perth and Inverness by 2025.	▪ All Topics	The plans will need to consider the effects of the dualling on the aims of the National Park and how this will influence the proposals in the plans.
Cairngorms National Park Capercaillie Framework (CNPA, 2015) (and subsequent Cairngorms Capercaillie Project)	The Framework provides a set of working data, analysis and recommendations that will inform implementation across a wide spectrum of work, from habitat and species management, to recreation management and development planning. The Cairngorms Capercaillie Project will deliver the recommendations of the Capercaillie Framework.	▪ Biodiversity, Flora and Fauna	Where relevant to the priorities identified, the proposals should support the aims of the Framework and ensure that capercaillie and their habitat are not adversely affected.
Cairngorms National Park Core Paths Plans (CNPA, 2015)	Identifies a network of core paths throughout the National Park.	▪ Biodiversity, Flora and Fauna ▪ Population and Human health	Where relevant to the priorities identified, the proposals should support the promotion and development of core paths.
Cairngorms Forest Strategy (CNPA, 2018)	The Forest Strategy provides future direction for the management of existing forests and guidance on creating new woodlands that enhance the Cairngorms National Park and supports its four aims.	▪ All Topics	Where relevant to the priorities identified, the proposals should support the aims of the Strategy and ensure that forests and woodlands are not adversely affected.
Cairngorms National Park Economic Strategy 2015-2018 (CNPA, 2015)	The purpose of the Strategy for the Cairngorms National Park is to identify the priorities that are specifically relevant to the area and to ensure that partners are working together to address them.	▪ Population and Human Health	Where relevant to the priorities identified, the proposals should support the National Park's aim to promote sustainable economic and social development of the area's communities.



Cairngorms National Park Gaelic Language Plans (CNPA, 2018)	A plan that aims to enhance the Gaelic Language and culture within the National Park.	<ul style="list-style-type: none"> ▪ Landscape and Cultural Heritage ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should support the aims of the Language Plans.
Cairngorms National Park Local Development Plan 2021	Establishes development and settlement strategy for the Park, allocates specific development sites, and provides policies for managing development in the Park.	<ul style="list-style-type: none"> ▪ All Topics 	Where relevant to the priorities identified, the proposals in the plans will need to take account of the LDP contents.
Cairngorms Nature Action Plans (CNPA, 2018)	Priorities and actions for biodiversity in the National Park.	<ul style="list-style-type: none"> ▪ Water ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should support the implementation and review of Cairngorms' Action Plans.
Active Cairngorms (CNPA, 2015)	Provides a framework for managing outdoor access in the Park.	<ul style="list-style-type: none"> ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage ▪ Population and Human health 	Where relevant to the priorities identified, the proposals in the plans could support and promote responsible outdoor access.
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.	<ul style="list-style-type: none"> ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural heritage ▪ Population and Human health 	Where relevant to the priorities identified, the proposals should support communities in developing their own plans and capacity.
Local Outcome Improvement Plans (LOIPs) (prepared by Community Planning Partners in each of the 5 Local Authority areas overlapping the Park)	Strategic documents outlining (usually socio-economic) priorities for communities. Community Planning Partners include local public services such as councils, NHS boards, police and fire services, and other public bodies. They work together to improve the way that local services are planned, co-ordinated and carried out.	<ul style="list-style-type: none"> ▪ All Topics 	Where relevant to the priorities identified, the proposals should help deliver priorities to address inequalities and issues in communities.



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.	<ul style="list-style-type: none"> Population and Human health 	Where relevant to the priorities identified, the proposals should support housing delivery.
Regional and Local Transport Strategies (prepared by Local Authorities)	Set out how to maintain and improve infrastructure.	<ul style="list-style-type: none"> Climatic Factors Air Population and Human health 	Plans should support sustainable transport solutions and encourage lower carbon forms of transport.
River Dee Catchment Management Plans (Dee Catchment Partnership, 2007)	Aims to promote sustainable use of natural resources, to improve water quality and biodiversity within the river catchment.	<ul style="list-style-type: none"> Water Soil and geodiversity Biodiversity, flora and fauna and Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should support integrated catchment management as a way of improving water quality and the health of natural systems.
River Spey Catchment Management Plans (Spey Catchment Initiative, 2016)	Aims to promote sustainable use of natural resources, to improve water quality and biodiversity within the river catchment.	<ul style="list-style-type: none"> Water Soil and geodiversity Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should support integrated catchment management as a way of improving water quality and the health of natural systems.
South Esk Catchment Management Plans (River South Esk Catchment Partnership, 2009)	Aims to promote sustainable use of natural resources, to improve water quality and biodiversity within the river catchment.	<ul style="list-style-type: none"> Water Soil and geodiversity Biodiversity, Flora and Fauna Landscape and Cultural Heritage 	Where relevant to the priorities identified, the proposals should support integrated catchment management as a way of improving water quality and the health of natural systems.



<p>Tourism: Action + Change: Tourism Action Plans for the Cairngorms National Park 2017- 2022 (CNPA, 2017)</p>	<p>Developed by the Cairngorms Tourism Partnership, which brings together the key businesses and agencies involved in tourism, the Action Plans sets out the priority actions over the next five years to deliver sustainable tourism in the Cairngorms National Park in line with the Europarc Federation of Protected Areas Charter.</p>	<ul style="list-style-type: none"> ▪ Air ▪ Water ▪ Material assets ▪ Biodiversity, Flora and Fauna ▪ Landscape and Cultural Heritage 	<p>Where relevant to the priorities identified, the proposals should support the implementation of the Sustainable Tourism Strategy.</p>
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3. Approach and Method

3.1. Background

The Cairngorm National Park Programme 2030 is subject to the Strategic Environmental Assessment (Scotland) Act 2005 which requires an environmental assessment to be undertaken for all public sector policy, plans and programmes. A screening and scoping exercise was carried out in 2022, with regards to these regulations, and the conclusions of the exercise were that only ten of the 20 plans, contained within the programme, merited an assessment being conducted. The reason given for this was that other plans were either too conceptual in nature to allow for a meaningful assessment, or that they were unlikely to have negative environmental impacts¹.

While consultation by the statutory authorities (see Appendix C) raised no issue with this approach, it was considered, upon reflection and review of the screening and scoping documents and in discussion with the CNPA SEA team, that the approach had limitations (see section 2.4). For the purpose of gaining the maximum utility from the SEA undertaking, the SEA team decided to go further than this initial scope and, following discussion with the Cairngorms programme team, an approach has been determined to expand the scope of the SEA assessment to include all 20 plans included within the 2030 programme, to include the aims and objectives of the 2030 Programme, as well as the 2030 Programme's overarching philosophy and values.

The SEA Act specifies the minimum data that is to be included within the SEA as being enough information to allow an assessment of the Plan, Programme or Strategy (PPS) on the following environmental features: biodiversity (including fauna and flora); population; human health; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and, importantly, the inter-relationship between all of these issues and their potential cumulative impacts.

3.2. ANSEA Approach and Method

The SEA of the Cairngorm National Park Programme 2030 took an adapted ANSEA approach², which sought to integrate the environmental assessment into the heart of the policy making process. The ANSEA approach is essentially a set of procedures through which the SEA team aims to communicate with the main programme team, throughout various stages of the programme or policy making process.

The first and main step in the process is to break down a fluid, uncertain and changing strategy development into discrete manageable units. These are identified as:

- The Functional System;
- Intervention Points; and
- Procedural Criteria.

¹ Cairngorms 2030 programme and plans (screening determination in line with the Environmental Assessment (Scotland) Act 2005)

² ANSEA (2002) New Concepts in Strategic Environmental Assessment: Towards Better Decision-Making



The definition of the functional system aims to break down the programme into as many sets of decisions and assumptions, as possible, to get an understanding of what it is doing. This ranges from the programme values, through to its conceptual aims and objectives and what it aims to deliver (Figure 1). Once this process is complete, it allows the SEA team to identify the points within the programme making process where they can meaningfully intervene (i.e. intervention points), to modify or suggest alternatives to the programme objectives and course of action, remembering that environmental issues are only one aspect of the wider issues that any programme needs to consider. Intervention points occur when decisions are being made by the programme team that can have positive or negative environmental effects. Ongoing consultation, between the programme team and SEA team, is a crucial part of the ANSEA approach, due to the reflexive and iterative nature of the process.

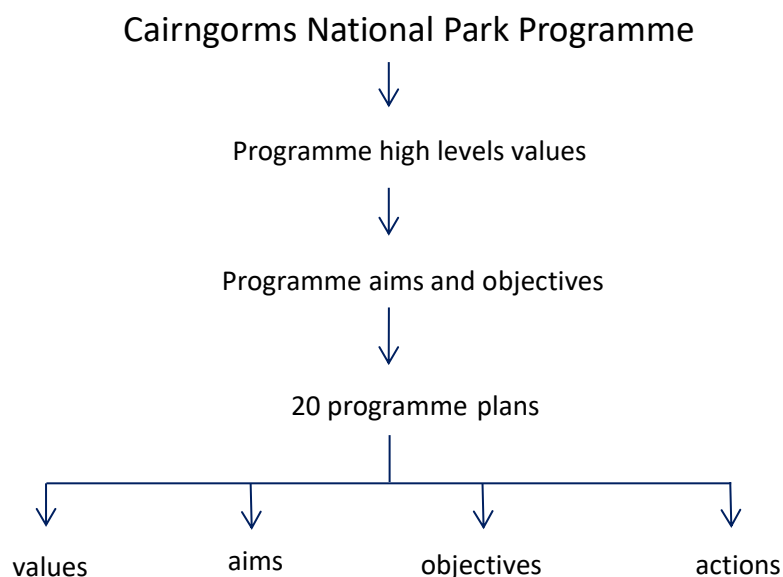


Figure 1: SEA Intervention Points

It is recognised that the programme will develop plans that are at different stages of their implementation. These may be due to different funding mechanisms or differing timeframes for implementation. Due to the conceptual as opposed to physical nature of the plan's outcomes, each plan was assessed in line with the degree of detail that was to be presented in the 2030 programme. For plans that are still undergoing major development, recommendations were made for future rounds of environmental assessment.

3.3. Scope of Assessment

During the scoping report preparation, a list of environmental objectives, against which the plans' performance could be measured, were drawn up. These were produced from a review of the main environmental legislation and guidance within Scotland.



Following the baseline and PPS review, it was determined that there could be positive and/ or negative impacts on all of the SEA topics (see Table 3.1). As a result, they were all scoped into the assessment.

The environmental issues set out in Schedule 3 of the SEA Act, *Information for Environmental Reports*, were scoped against their potential for significance of impact associated with the CNPA Plan (Table 3.1).

The SEA topics and their main objectives in relation to SEA are shown in Tables 3.1 and 3.2.

Table 3-1: SEA Topics and their Rationale

SEA Issue	Rationale
Population and human health	<ul style="list-style-type: none"> • Potential for positive effects to the local environment, through successful cross Resource and Service working and collaboration. • Potential positive effects on physical and mental health and wellbeing for people of all ages, through the promotion of quality living environments, access to sustainable employment and volunteering, availability and access to greenspace, and more active lifestyles. • Potential to improve health and wellbeing through conservation awareness, promotion of renewable energy and substitutes for fossil fuel. • Potential to protect and promote health and wellbeing through improved access to educational activities, environmental volunteering and conservation therapy. • Potential positive effects on health and wellbeing through actions to reduce poverty. • Potential positive effects through improvements to the availability and accessibility of services.
Biodiversity, fauna and flora	<ul style="list-style-type: none"> • Potential for positive effects through the promotion of the benefits of biodiversity and greenspace and the protection of the Green Network. • Potential for positive effects for ecosystem services – biodiversity as a life support system. • Potential to make ecosystems more resilient to climate change. • Potential to promote and support biodiversity gains with greenspace and local green networks. • Potential for positive and negative effects on some species, habitats and ecosystems, through the promotion of actions, for example, developments and increasing visits to the outdoors. • Potential to improve woodlands and increase canopy cover, particularly in urban areas, and thus improve habitat connectivity.
Soil	<ul style="list-style-type: none"> • Potential positive effects associated with the reuse and/or greening of brownfield, vacant and derelict land and contaminated land. • Potential positive effects through the promotion of a circular economy and reducing the amount of waste going to landfill. • Potential positive effects through promoting the long-term sequestration of carbon in habitats, trees, and soil. Potential negative effects on other habitats if not done correctly.



SEA Issue	Rationale
	<ul style="list-style-type: none"> • Potential positive effects through raising awareness of house building and other development impacts with regards to soil removal, soil capping and possible effects on natural flood defences. • Potential positive effects on behaviours by raising awareness of possible soil contamination of micro plastics and other pollutants through landfill usage, littering and other activities.
Water	<ul style="list-style-type: none"> • Potential positive effects relating to the reduction of flood risk, particularly through nature-based solutions and promotion of the green infrastructure. • Potential positive effects by promoting the review of service provision to mitigate and adapt to expected climatic change, particularly due to increased rainfall, storms and heat waves. • Potential positive effects through promoting the need to reduce water use. • Potential positive effects to flood risk management through the promotion of the importance of wetlands and peatlands as additional carbon sequestration opportunities. • Potential for positive effects by promoting the need to adapt food growing and agricultural practices to ensure resilience to climate change. • Potential positive effects on behaviours by raising awareness of possible contamination to watercourses and groundwater of micro plastics and other pollutants through the use of landfill, littering and other activities. • Potential positive effects through promoting responsible and safe enjoyment of water resources.
Air, noise and light	<ul style="list-style-type: none"> • Potential positive effects to local air quality through actions to reduce emissions and other pollutants from road traffic, buildings and other sources. • Potential positive effects through promoting the benefits of green infrastructure to reduce air and noise pollution. • Potential positive effects through encouraging reduction in noise pollution, particularly noise nuisance. • Potential positive effects on biodiversity by reducing light pollution at night-time. • Potential positive and negative effects to road and community safety from changes to street lighting approach.
Climatic factors	<ul style="list-style-type: none"> • Potential to reduce greenhouse gas emissions through improving domestic energy efficiency and other potential activities to tackle fuel poverty. • Potential positive effects through reducing the CNP's greenhouse gas emissions through carbon management programmes. • Potential for positive effects through the promotion of renewable energy solutions and the reduction in the dependency on fossil fuels. • Potential for positive effects through the promotion and implementation of sustainable procurement policies and practices. • Potential for positive effects through mainstreaming climate change mitigation and adaptation in all key CNPA plans, policies and strategies. • Potential for positive effects for carbon capture and sequestration through the promotion of nature and biodiversity assets, including peatland and trees.



SEA Issue	Rationale
	<ul style="list-style-type: none"> Potential for positive effects through the promotion of climate justice and a just transition to net zero.
Historic and cultural heritage	<ul style="list-style-type: none"> Potential for positive effects on protected built and natural heritage, monuments and archaeology and the setting of historic and cultural assets through the promotion of the importance of these assets and the requirement to protect them. Potential for negative effects by increased footfall to historic assets encouraged by the Plan. Potential for positive effects through the promotion of green tourism.
Material assets	<ul style="list-style-type: none"> Potential for positive effects through the promotion of the use of sustainable materials and practices within construction, maintenance and procurement. Potential for positive and negative effects from the greening and remediation of previously used land and vacant and derelict land. Potential for positive effects through enhancements to public spaces and greenspace. Potential for positive effects through the promotion of zero waste principles by encouraging recycling and reducing the volume of waste sent to landfill. Potential for positive effects through the provision and maintenance of safe, sustainable and affordable housing. Potential for positive effects through the promotion of sustainable transport modes, including public transport and active travel. Potential for positive effects through the promotion of zero carbon principles within Scottish Planning Policy and the Local Development Plan. Potential for positive effects through the promotion and delivery of the circular economy. Potential for positive effects on the improvement of grey, blue and green infrastructure.
Landscape	<ul style="list-style-type: none"> Potential to promote local landscape character. Potential to influence other plans to promote the benefits of enjoyment of landscape and townscape to enhance health and wellbeing. Potential for positive effects through the promotion of respectful and responsible use of local neighbourhoods and community assets. Potential to foster sense of ownership and local investment in local landscapes and townscapes.
Inter-relationship issues	<ul style="list-style-type: none"> Potential for significant effects from impacts relating to topics that are individually insignificant but collectively significant. Potential for beneficial cumulative impacts through mutually positive plans. Potential for negative cumulative impacts through mutually adverse plans. Potential for neutralising effects where one project or plan counterbalances the positive or negative effects of another, resulting in no net significant effects. Potential for synergistic effects where one project or plan's impacts are greater than the sum of its individual parts.



SEA Issue	Rationale
	<ul style="list-style-type: none"> Potential for transboundary (i.e. external to the Park) effects on more distant receptors.

Following consultation, it was determined that all environmental Issues would be scoped in as a precautionary measure. These formed the basis for developing the SEA objectives and sub-objectives used within the assessment process.

Table 3-2: SEA Main Environmental Objectives

Topic	Objective number	Main Objective(s)
Climatic factors	1a	Reduce the emissions of greenhouse gases with particular focus on emissions from buildings, transport, energy generation and industry (especially CO ₂), but also from natural carbon sinks (such as woodlands and peatlands).
	1b	Ensure existing and proposed infrastructure and buildings are located and designed to cope with future climate conditions.
Air	2a	To maintain or improve air quality and reduce emissions of key pollutants as identified in the UK Air Quality Strategy.
Water	3a	Maintain and improve the quality of water resources and protect and enhance the state of the water environment.
	3b	Reduce demand for water and minimise unnecessary water use.
	3c	To reduce the impact of invasive non-native species on the water environment.
Soil and geodiversity	4a	Minimise contamination and safeguard and improve soil, peat quality and geodiversity.
Material assets	5a	Encourage the sustainable use and reuse of material assets.
Biodiversity flora and fauna	6a	Protect and enhance the biodiversity of the National Park. Safeguard the ecological viability of all qualifying features of all RAMSAR sites including SPAs and SACs.
Landscape and cultural heritage	7a	Protect and enhance the character, diversity and special qualities of the landscapes of the Park.
	7b	Protect and enhance the historic and cultural environment and assets (including linguistic) of the Park.
Population and human health	8a	Support and enhance the health and wellbeing of residents and visitors to the Park through housing, recreation and employment opportunities.

Table 3.3 outlines the sub-objectives identified, offering an additional layer of assessment to the main objectives identified in Table 3.2. To ensure a fully robust SEA, the SEA Team proposed to amend, where applicable, the wording of some sub-objectives in collaboration with the CNPA Programme Team.



Table 3-3: SEA Environmental Sub-objectives

Sub-objective number	Sub-objective(s)
1a	Will there be an effect on energy conservation and efficiency in new development?
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?
1a	Will there be an effect on local production and use of materials and food produce?
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?
1a	Will there be an effect on travel that produces greenhouse gas emissions?
1b	Considering future implications of climate change (e.g. increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?
1b	Considering future implications of climate change (e.g. increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?
2a	Is there a potential effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?
2a	Will there be an effect on the levels of other types of air pollution (e.g. particulates)?
3a	Will there be an effect on the water quality of rivers, lochs and groundwater from diffuse and point source pollution?
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?
3a	Will there be an effect on public water supplies?
3b	Will there be an effect on demand for water from development (residential and business)?
3b	Will there be an effect on sustainable use of water resources?
3c	Will there be an effect on the water environment from invasive non-native species?
4a	Will there be an effect on carbon rich soils, in particular peat?
4a	Will there be an effect on soil sealing, soil structure and soil loss?
4a	Will there be an effect on the levels of soil contamination?
4a	Will there be an effect on soil erosion and landslides?
4a	Will there be an effect on geodiversity interests (e.g. GCRs)?
5a	Will there be an effect on sustainable use of natural resources (e.g. water, timber, aggregates)?
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (e.g. water, heat, energy or flood protection infrastructure)?
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?
6a	Will there be an effect on protected species?



6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?
6a	Will there be an effect on Cairngorms Nature Action Plan bird, invertebrate and mammal species?
6a	Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?
7a	Will there be an effect on the special landscape qualities of the National Park landscapes?
7a	Will there be an effect landscape character and local distinctiveness?
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?
8a	Will there be an effect on housing for local needs?
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?
8a	Will there be an effect on employment opportunities local to places of residence?

3.4. Overview of the SEA for the Draft Cairngorms Programme

As discussed in Section 3.1, a screening exercise, carried out under the SEA Act, identified 10 of the 20 subplans of the programme as having possible environmental effects and, therefore, would form the focus (i.e. the functional system) of the SEA. However, upon review and consultation between the SEA Team and the Cairngorms 2030 programme development team, it has been decided that the SEA should consider the *whole* of the Cairngorms Programme for the following reasons:

1. Sifting out plans, based on the lack of detail, could lead to missed opportunities at the conceptual stage of plan making,
2. By primarily considering projects to be scoped out, in terms of negative impacts, the approach could fail to identify and promote positive impacts, limiting the scope for environmental enhancement that is a major aim of the programme.
3. By considering plans in isolation, the approach failed to see the Cairngorms Programme as a holistic package of measures and, hence, could fail to adequately assess cumulative impacts and identify cumulative gains and, likewise, potential positive and negative inter-relationship issues.

The SEA process involves testing the proposed priorities and outcomes of the draft Programme against environmentally based SEA objectives (Tables 3.2 & 3.3), in order to predict the potential environmental effects (positive and negative) and consider appropriate mitigation or enhancement measures. A series of intervention points (section 3.2) have been identified in the development of the Programme. These are:

1. The setting of the programme's values;
2. The identification of the main conceptual aims and strategy of the programme; and,



3. The 20 plans held within the overall programme and related themes. Each theme has its own aims and objectives that are a subtext to that of the overall programme (see Figure 1).

3.5. Scope of the SEA

A Scoping Report was prepared and submitted by the CNPA to the SEA Gateway, in June 2022. It provided information on the draft CNPA 2030 Programme and set out the level and method proposed for undertaking the SEA. Consultation on the Scoping Report allowed the Consultation Authorities (Historic Environment Scotland, Scottish Environment Protection Agency (SEPA) and NatureScot) to provide comment on their views regarding the proposed assessment process, with the Consultation Authorities in agreement with the level in which the SEA issues were presented (Appendix C). It should be noted that of the three statutory consultees, SEPA did not take the opportunity to respond to the scoping report.

The SEA scoping report identified a number of procedural protocols for identifying environmental effects from the programme, including a significance matrix for assessing the importance and magnitude of an environmental effect (as shown in Table 3.4), which was used, in conjunction with the main objectives and sub-objectives, as a basis for carrying out the environmental assessment and recording the findings. Tables 3.2 and 3.3 provide the main objectives and template for scoring and recording potential environmental effects during the environmental assessment.

Accordingly, the SEA evaluated the magnitude of any potential significant environmental effects, determined a pre-and post-mitigation significance score, using the symbology in Table 3.4, and addressed what form any mitigation would take, for the 2030 programme's high-level values, its aims and objectives, and the related 20 plans, providing easy-to-read visual signifiers for potential environmental effects, ensuring consistency across the environmental assessments within the Environmental Report.

The information and issues identified as part of the baseline have also been used to inform which objectives and sub-objectives are relevant to the environmental assessment of the Cairngorms 2030 plans. The SEA objectives, sub-objectives and questions are provisional and may be modified during the SEA process – for example, as a result of comments from the Consultation Authorities, changes in the baseline data pertaining to individual plans when it is fully collected and/or if the content of the Cairngorms 2030 plans cover different subject matter than currently expected, (i.e., a change of scope).

Where available, guidance published by the consultation authorities was used as a basis for setting the SEA objectives and sub-objectives. These relate to the specific SEA environmental receptors and issues that have the potential to be affected by the Cairngorms 2030 plans.



Table 3-4: Significance Matrix

Significance of Effect	
Element would have a major positive environmental effect in its current form as it would resolve an existing issue or maximise opportunities. SIGNIFICANT.	++
Element would have a minor positive environmental effect.	+
Effect of Element is uncertain.	?
No connectivity with the environmental Topic/Objective being assessed.	x
Element would have no predicted environmental effects.	0
Element would have a minor adverse environmental effect.	-
The Element would have a major adverse environmental effect, as it would create significant new problems or substantially exacerbate existing problems. Consider exclusion of option. SIGNIFICANT.	--

3.5.1 Longevity and Permanence of Effects

Consideration of longevity and scale of effects was built into the assessment table template (Section 7) and formed an integral part of the environmental assessment for each element assessed, using a short, medium and long-term scale.

3.5.2 Alternatives and Mitigation

Where environmental effects have been identified, alternative options have been considered and assessed as different options emerged during the drafting of the stage 1 plans. This important aspect of the SEA is a major area of successful legal challenges to SEA which have focused on the [in]adequate assessment of alternatives (as required by Article 5(1) of the SEA directive). This is reiterated in EU Guidance, which states that “the studying of alternatives is an important part of the assessment”. Failure to comply would leave the plan/programme vulnerable to legal challenge.

In light of this, following the assessment procedure, the SEA team generated a number of sensible alternatives to the proposals offered by the Cairngorms 2030 Programme Review team. The alternatives suggested were “identified, described and evaluated in a comparable way” as to the main proposals, a stance which was integrated in the legal challenge to the Broadland Joint Strategy (Heard v. Broadland DC³).

3.5.3 Cumulative and In-combination Effects

Consideration of the potential for cumulative and in-combination effects is a legislative requirement and was included as an integral part of the environmental assessment process for individual elements of the plan and the 2030 programme as a whole. A review of the assessment results was also undertaken to double check any cumulative or in-combination effects that may not have been apparent during individual assessments.

³ <https://www.pacni.gov.uk/sites/pacni/files/Heard%20v%20Broadland%20DC%20%281%29.pdf>



3.5.4 Other Environmental Assessments

Habitats Regulations Appraisal (HRA) is mandatory for all plans deemed likely to have an adverse effect on a protected Natura 2000 site. As such, HRA was undertaken, as required, at the same time as the draft Environmental Report (Section 9). The Cairngorms National Park contains two types of Natura 2000 site within the Park - SACs (protected under the Habitats Directive) & SPAs (protected under the Birds Directive) in addition to Ramsar designated sites. Nearly half of the Park is considered under the Natura 2000 network⁴. The HRA was used to inform the Environmental Report and vice versa as part of an iterative process.

In addition, if it becomes apparent, during the plan development process that a plan, or elements of it, falls under other environmental assessment legislation; for example, some of the transport and travel options might fall within the thresholds of requiring EIA further down the implementation process, then the relevant assessment process, and impacts upon plan delivery, will be flagged.

3.6. Methodology Overview

Strategic Environmental Assessment (SEA) is an iterative, systematic process for identifying, reporting, proposing mitigation measures and monitoring environmental effects of plans, programmes and strategies (PPS). It aims to ensure that environmental issues are taken into account at every stage in the preparation, implementation, monitoring, and review of PPS of a public nature in an auditable and transparent manner.

The SEA process involves testing the proposed priorities and outcomes of a draft PPS (in this case, the Cairngorms National Park Authority's 2030 Programme) against environmentally based SEA objectives, in order to predict the potential environmental effects and consider appropriate mitigation or enhancement measures. The assessment is then followed by the preparation and undertaking of a monitoring programme, once the CNPA Programme is adopted.

The key stages of the SEA methodology are summarised in Table 3-5. Intervention points have previously been determined (see section 2.2) resulting in the stages outlined as 1-3 in Table 3.5. These stages cascade from the high-level overarching values of the draft 2030 programme (stage 1), to its aims and objectives (stage 2), finishing with an assessment of the 20 plans within the programme (stage 3), using the predetermined SEA topics (see section 2.3). Stages 5-7, in Table 3.5, were further applied to each of these three initial stages, resulting in an iterative, transparent and robust assessment.

Table 3-5: SEA methodology

	SEA stage	Assessment requirements
1	Test the CNPA Programme high-level values against SEA objectives	<ul style="list-style-type: none">• To ensure the draft CNPA Programme accords with environmental principles. To predict and evaluate the effects of the draft Programme and assist in its refinement.

⁴ <https://cairngorms.co.uk/wp-content/uploads/2015/11/151105PDF02Appendix2Topic61.pdf>



2	Test the CNPA Programme aims and objectives against SEA objectives	<ul style="list-style-type: none">• To ensure the draft CNPA Programme accords with environmental principles. To predict and evaluate the effects of the draft Programme and assist in its refinement.
3	Test the CNPA 20 plans against SEA objectives	<ul style="list-style-type: none">• To ensure the draft CNPA plans accords with environmental principles. To predict and evaluate the effects of the plans and assist in its refinement.
4	Assess the 20 plans from a Natural Capital/Ecosystems Services approach	<ul style="list-style-type: none">• To add an additional level of robustness to the SEA and ensure a more encompassing, useful and holistic SEA.
5	Develop strategic alternatives	<ul style="list-style-type: none">• To assist in the development and refinement of the alternatives for achieving the overall purpose of the draft CNPA Programme.
6	Consider ways to enhance environmental benefits and/or mitigate against adverse effects of the draft CNPA Programme	<ul style="list-style-type: none">• To ensure all potential mitigation measures and indicators for maximising beneficial effects are considered and, as a result, residual effects identified.
7	Proposed measures to monitor the environmental effects of the draft CNPA Programme once implemented	<ul style="list-style-type: none">• To propose a monitoring framework to assess the environmental performance of the draft Programme.

3.7. Integrated Ecosystems Approach

An ecosystems approach, described by The Convention on Biological Diversity as a “strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way⁵”, was further integrated into the Strategic Environmental Assessment. An ecosystems approach is not mandatory when undertaking an SEA but given the wide coverage of environmental topics that the 2005 Act requires an SEA to consider, there are strong synergies with this approach. Using an integrated approach should aim to focus on only the significant environmental effects of a plan, rather than all interactions with the environment, as proportionality, in the application of an ecosystems approach, is essential and can contribute to an effective SEA.

Following a review of the C2030 Programme, it was ascertained that four of the final twenty plans within the Cairngorms 2030 programme were likely to produce measurable ecosystems service changes (see section 10) and were therefore mapped against the relevant ecosystem services listed within the Eco-metric method (Ecosystems Knowledge Network, 2021). This utilised a natural capital approach, which was undertaken concurrently with the SEA (stage 4, Table 3.5). To avoid duplication of efforts, a natural capital baseline was established using the CNPA SEA topics baseline data. Once the baseline was established, the impact of the proposed 20 plans were determined through:

- Identification of the change in natural capital asset quantity, quality and location (based upon the natural capital baseline) &
- Assumptions as to the impacts on ecosystem service provision.

⁵ Integrating an Ecosystems Approach into Strategic Environmental Assessment, www.gov.scot [2022]
Babbity Environmental Ltd
Company registered in Scotland SC 564740



Upon determining the above, initial findings, as to the scale and direction of the impacts of the project on natural capital and ecosystem services, were defined. This comprised a qualitative narrative, along with quantification (where possible) of habitat losses or gains. Once impacts on natural capital assets and ecosystem services were known, high-level mitigation measures were outlined, alternatives suggested, and incorporated into the SEA.



4. The Environmental Baseline

4.1. Introduction to the Local Environment

The SEA Act requires that the Environmental Report includes a description of the relevant aspects of the current state of the environment and its likely evolution without implementation of the 2030 Programme. It also requires consideration of the environmental characteristics of areas likely to be significantly affected. This section aims to describe the environmental context, within which the 2030 Programme will operate, and the implications, constraints and opportunities that this context imposes. The descriptive environmental baseline, for The Cairngorms National Park, can be found in the CNPA's SEA Topics Papers⁶.

4.2. Collecting environmental data

The environmental baseline was established for those environmental issues scoped into the assessment, taken from the environmental topics listed in Schedule 3 of the SEA Act. The relevant environmental information was primarily sourced from the CNPA's 2022 SEA Topic Papers Report, with further information gathered from SEPA, NatureScot, HES and the Cairngorms National Park Partnership Plan 2022 - 2027⁷. The collection of the baseline information and key indicators will support the CNPA's monitoring programme. The current status, trend and key environmental issues are considered through the data collected across the environmental indicators relevant to the Plans. The following sections provide overarching information on the environmental issues relevant for this SEA, which are:

- Climatic Factors;
- Air;
- Water;
- Soil & Geodiversity;
- Material assets;
- Biodiversity, Flora & Fauna;
- Cultural heritage; and
- Population and human health.

The baseline assessment further requires consideration of the key issues listed below:

- The inter-relationship between the issues;
- Short, medium, and long-term effects;
- Permanent and temporary effects;
- Positive and negative effects; and
- Secondary, cumulative and synergistic effects.

⁶ CNPA SEA Topic Papers, 2022

⁷ CNPA NPPP 2022-2027, 2022



4.3. Overview of the Cairngorms National Park

The Cairngorms National Park is part of an international family of National Parks and is the largest in the UK, at 4,528 sq. km (1,748 sq. miles), covering 6% of Scotland's landmass. The Park's unique management style, focused on partnership delivery through extensive stakeholder engagement, offers the ideal foundation for collaborative climate action, the primary focus of the 2030 Programme.

The area is home to around 18,500 people, living in 22 community council areas. The Park has a very important visitor economy, attracting around 1.9 million visitors a year - in summer months attracting as many visitors per day as there are residents. The Park covers parts of five local authority areas: Aberdeenshire, Moray, Highland, Angus, and Perth & Kinross.

As the UK's largest protected area and home to one quarter of the UK's rare and endangered species, the location of some of the most important wetlands in Europe and vast areas of peatland, the National Park has highly significant potential for environmental enhancements and has been at the forefront of conservation, land management, local engagement, outdoor education, recreation and visitor management, since the Park was designated in 2003.

4.4. Summary of Baseline Data

The environmental baseline has been collected using key environmental indicators that are reported within the CNPA's SEA Topics Baseline Report. A narrative summary of the key issues affecting CNPA are outlined in section 4.13, with an indication of the affected receptors and the potential implications and opportunities. A summary baseline of each of the SEA topics follows.

4.4.1 Climatic Factors

Historic climatic data, across the CNPA, is tracked and recorded from Braemar and Aviemore weather stations.

Braemar

Braemar weather station is a sufficient distance from main settlements to not be affected by urbanisation and, therefore, best reflects the nature of the climate within the Park.

The findings are consistent with broader trends across Scotland, where temperatures have risen by around 0.8 degrees Celsius since 1980, with increased heavy precipitation events contributing to an increase in winter rainfall versus decreases in summer rainfall.

Records from the weather station indicate that this area of the Park is experiencing a decrease in the number of days of air frost and an increase in annual rainfall.

Aviemore

The trend is for both Aviemore and Braemar to become wetter. However, in contrast to Braemar, the temperature trend for temperature in Aviemore is colder, and with more days of air frost, indicating an east/west divide, potentially caused by the intervening mountains. The difference between Aviemore and Braemar is also to be expected, as the effects of climate change will not be even across all areas.



Average maximum and minimum temperatures, in Aviemore, have both decreased by around 1°C since the mid 1980s, with average rainfall increasing, over a similar time period, by around 70mm a year. The average number of days per year with recorded air frost has increased from 80 to 90.

4.4.2 Greenhouse Gas Emissions

The trend in CO₂ equivalent emissions in the Park is encouraging, with a marked decline since 2001 overall. However, this is not represented equally among all sectors. There have been recent increases in transport, waste and development emissions within the Park, which have eaten into the decreases made through more tree planting and renewable energy usage.

4.4.3 Woodland Creation

A key aim of the Cairngorms National Park Forest Strategy⁸ is woodland creation. Woodland creation can occur through new planting or by creating conditions that allow natural regeneration. Woodland contributes to tackling climate change through trees absorbing carbon dioxide. It can also help to naturally mitigate flood events, an impact of a changing climate. There has been a significant increase in new woodland in the National Park since 2011, with around 40% occurring through regeneration and 60% through new planting.

4.4.4 Peatland Restoration

Peatlands are the largest natural terrestrial carbon stores, sequestering more carbon than all the other vegetation types combined globally. Their protection and restoration are critical in efforts to take climate change. Globally damaged peatlands account for 10% of the greenhouse gas emissions from the combined land use sector. The National Park is therefore involved in the restoration and protection of its natural peatlands, in an effort to tackle climate change.

Limited funding and weather issues, in 2016 and 2017, affected the proposed works during those years. Following delays due to Covid-19, six legacy projects, carried forward from 2019, started in the late summer of 2020, with two of these completed by March 2021. The CNPA was unable to attract any suitable contractors for other legacy projects or for new projects, and there remains a significant lack of contractors. Actual restoration management totalled only 131 hectares in 2020/21⁹.

4.4.5 Greenhouse Gas Emissions: Carbon Dioxide

The UK National Atmospheric Emissions Inventory maps greenhouse gas emissions. In the Park, the most significant carbon dioxide emissions are associated with road transport corridors and settlements (Figure 4.1).

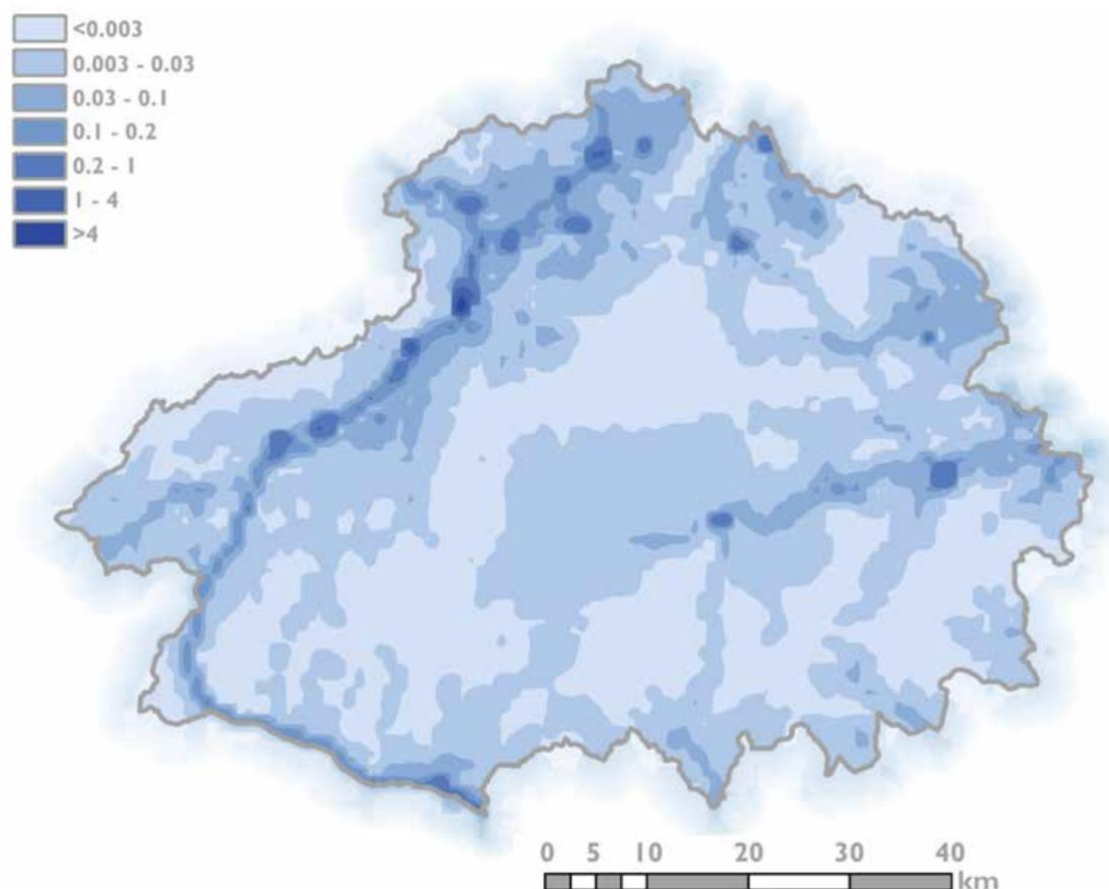
Other emission sources include those associated with agricultural practices and the Granish landfill site, near Aviemore. Due to topography and climate, the Park has limited land suitable for lowland agricultural practices, compared to upland land uses, meaning that emissions from agriculture are limited. The degraded peatlands, in the mountain areas, are also emitting carbon dioxide, adding to the emissions in the National Park. However, peatland restoration projects are underway to bring peatland habitats back to functioning carbon sinks.

⁸ <https://cairngorms.co.uk/working-together/authority/national-park-strategies/forest-strategy/>

⁹ CNPA KPI reporting, Board Paper 2; Annex 1, 2021



Figure 4.1 Carbon Dioxide (as carbon) emissions (t) for the Park, 2017 (km2 data)



4.4.6 Greenhouse Gas Emissions: Granish Landfill Site

With regard to methane (CH_4), another greenhouse gas, the only facility within the Park that contributes towards the Scottish Pollutant Release Inventory is Granish landfill site, which is operated by Highland Council. Estimates, of the methane emissions for the site, indicate a trend for sudden significant reductions in emissions, which then plateau.

4.4.7 Greenhouse Gas Emissions per person

Annualised data for National Parks is not available. To get an approximation of the contribution of the Park, further analysis of data from the 2019 Department of Business, Energy and Industry Strategy¹⁰ has been required. Mid-year population estimates have been used as a proxy for proportionally attributing the emissions of the residents within the Park. The overall trend has been for a combined reduction in emissions, per person, in the Park between 2005 - 2017.

¹⁰ <https://ukclimateprojections-ui.metoffice.gov.uk/>



4.4.8 Future Climatic Projections

Probable projections, available from the 2018 UK Climate Projections,¹¹ are available for high, medium and low emission scenarios, with the latest projections down to a local resolution of 2.2 km². However, the degree of uncertainty changes with the scale of resolution, so the data used for the baseline is for the 25km² area, including Braemar.

This is helpful as it increases the reliability of the projections and includes the Braemar weather station, used to record the actual climatic changes shown since the 1960s, allowing comparisons to be made. Although the overall trend in greenhouse gas emissions is downward in the Park, it is likely that substantial further decreases will be required to meet the emissions targets of the Climate Change (Emissions Reduction Targets) (Scotland) Bill 2019.

4.5. Air

4.5.1 Air Pollution

Air pollution refers to the presence of harmful substances in the air that we breathe. These pollutants can come from natural sources, such as dust and wildfires, but the majority of air pollution is caused by human activities.

Common sources of human-caused air pollution include industrial processes, transportation, and energy production. For example, factories and power plants release pollutants such as sulphur dioxide, nitrogen oxides, and particulate matter into the air. Vehicles emit pollutants such as carbon monoxide, nitrogen oxides, and volatile organic compounds.

4.5.2 Effects

Poor air quality can have both short term and long-term effects on human health. Air pollution can also damage the wider environment, causing the acidification of soils and water or deposition of nutrients, negatively affecting plant and animal life. Air pollution can also damage the fabric of buildings and historic environments.

Exposure to air pollution can have serious health consequences, including respiratory problems, cardiovascular disease, and cancer. Children, the elderly, and people with pre-existing health conditions are particularly vulnerable.

Air pollution can also have a range of environmental impacts, including damage to crops and ecosystems, and climate change. To reduce air pollution, governments and individuals can take steps such as promoting cleaner transportation options, increasing energy efficiency, and reducing emissions from industrial processes.

4.5.3 Main Pollutants

The air quality objectives for Scotland are set out in the Air Quality (Scotland) Regulations 2000 (as amended). The main pollutants of concern are:

- Nitrogen oxides (NO_x)
- Sulphur dioxide (SO₂)
- Ground-level ozone (O₃)

¹¹ <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index>



- Particulate matter (PM₁₀ and PM_{2.5})
- Non-methane volatile organic compounds (NMVOCs)
- Ammonia (NH₃)

4.5.4 Reduction in Emissions

The air quality of Scotland is generally better now than it has been at any time since before the industrial revolution, with increasingly strict controls over industrial emissions, tighter fuel and emission standards for road vehicles and the control of smoke from domestic premises, yielding positive results.

An independent review¹² of air quality in Scotland, published in 2019, found 4 of the above 6 main pollutants of concern had significantly reduced.

4.5.5 Transport

Dualling of the A9 and how this could change traffic levels and visitor numbers in the Park, means that air quality could be a future concern, in particular, the potential for increasing pollutants associated with traffic emissions, such as PM₁₀ and nitrogen dioxide (NO₂). Spatial data, on the emission of PM₁₀ and NO₂, is available from the UK National Atmospheric Emissions Inventory for 2016. The highest emissions are located along the A9 and within the main settlements of Aviemore, Grantown-on-Spey and Ballater, where traffic volumes are greatest. However, these emissions are still well below the World Health Organisation levels that would have adverse effects on human health.

4.6. Water

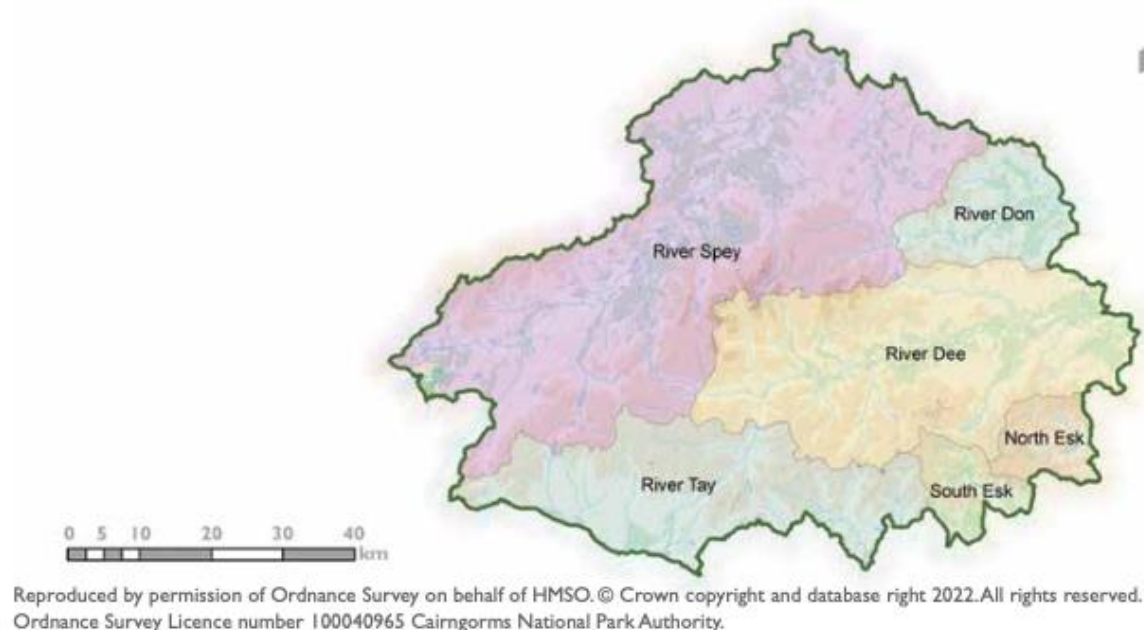
4.6.1 Rivers

The Cairngorms National Park encompasses the headwaters of three of Scotland's major rivers, the Tay, Dee and Spey, as well as many smaller ones. The Park contains part of eight river catchments, although two have only a very small portion within the Park (Figure 4.2). The largest catchment is for the River Spey, followed by the Dee.

¹² <https://www.gov.scot/publications/cleaner-air-scotland-strategy-independent-review/>



Table 4.2 CNPA catchments



Many of the rivers and their tributaries, as well as the lochs and wetlands connected to them, are internationally and nationally important areas, protected for nature conservation. The rivers are also important, providing water for business and people within and outwith the Park, as they flow downstream, towards the sea.

4.6.2 Water Framework Directive

The Water Environment (Water Framework Directive) Regulations 2017 (now transposed post-Brexit) sets out the objectives for water protection in Scotland. The WFD sets out a number of objectives to improve the quality of water and water bodies:

- General protection of the aquatic ecology;
- Specific protection of unique & valuable habitats;
- Protection of drinking water resources; and
- Protection of bathing water.

The Directive requires all water features, above a certain size threshold, to be classified using a system of five quality classes – high, good, moderate, poor and bad, with groundwater classified as good or poor. The requirements of the WFD are part of Scottish legislation and set out the classification of water bodies by describing how much their condition or status differs from near natural conditions. Water bodies, in a near natural condition, are at high status, while those for which quality has been severely damaged, are classed as being in bad status.

From the available information, between 2013 and 2017, the number of waterbodies in the Park in high status have increased slightly, the number in good and moderate status have declined, while the number in poor status have increased four-fold.



4.6.3 Water Quality

SEPA monitors water levels at 20 sites within the Park, as well as at a number of locations just outside the Park boundary. The trends can be used as an indicator of climate change or as an identifier of potential risks, such as flooding and overall water quality.

4.6.4 Pollution

Pollution, leading to the deterioration of water quality, can originate from one of two sources; point and diffuse.

Point source discharge means a release of effluent, or other matter, to the water environment or land, via a pipe or outlet. For example, this includes sewage and trade effluent, surface water discharges from urban areas and abandoned mine discharges.

Diffuse pollution is the release of potential pollutants from a range of activities that, individually, may have no effect on the water environment, but, at the scale of a catchment, can have a significant effect. Activities associated with diffuse pollution are varied and include: run-off from roads, houses, commercial areas, farmland, forestry activities and community and amenity green spaces; seepage into groundwater from developed landscapes of all kinds; and yard run-off from industrial activities.

Government regulation has been extremely successful in reducing instances of point source pollution and therefore diffuse pollution is now of greatest concern. Diffuse sources of water pollution can have a significant effect of biodiversity and human health. The effects include:

- Groundwater and surface water contamination and the subsequent loss, or need for treatment, of drinking water resources;
- Nutrient enrichment and eutrophication of water bodies;
- Oxygen depletion of water bodies;
- Toxicity to plant and animal life, including endocrine disruption in fish; and
- Smothering of freshwater pearl mussel beds and fish spawning gravels.

Of particular significance, is the effect of water pollution on freshwater pearl mussel populations, as good water quality is essential for the completion of their life cycle. Freshwater pearl mussel is one of the priority species on the Nature Action Plan List (Cairngorms National Park Authority, 2019 - 2024) and is one of the qualifying features for a number of the National Park's SACs, including the River Spey and River Dee SACs.

As noted, the Water Environment (Water Framework Directive) Regulations, adopted in 2017, remains the operational tool that sets out the objectives for water protection in Scotland post-Brexit. The WFD sets out a number of objectives in respect of which the quality of water is protected. The key ones are:

- General protection of the aquatic ecology;
- Specific protection of unique and valuable habitats;
- Protection of drinking water resources; and
- Protection of bathing water.



All these objectives must be integrated for each river basin. It is clear that the last three - special habitats, drinking water areas and bathing water - apply only to specific bodies of water (those supporting special wetlands; those identified for drinking water abstraction; and those generally used as bathing areas). In contrast, ecological protection should apply to all waters: the central requirement of the WFD is that the environment be protected to a high level in its entirety.

SEPA is the responsible authority for monitoring water quality in Scotland to the requirements set out by the WFD. The Directive requires all water features in a category (i.e. rivers, lochs, transitional waters, coastal waters and groundwater), above a certain size threshold, to be defined as water bodies.

Surface water bodies are classified using a system of five quality classes – high, good, moderate, poor and bad, with groundwater classified as good or poor. In general, the classification of water bodies describes by how much their condition or status differs from near natural conditions. Water bodies in a near natural condition are at high-status, while those whose quality has been severely damaged are at bad status.

From the available information, between 2013 and 2017 the number of waterbodies in the Park in high status have increased slightly, the number in good and moderate status have declined, while the number in poor status have increased four-fold. The main reasons for waterbodies not achieving overall good status is the presence of a large number of barriers to fish and poor morphology (this covers catchment/land use matters such inputs of fine sediments or impacts to hydrology and direct impacts, such as through engineering or condition of riparian corridor).

Section 4.9.8 below, *Freshwater and Wetland Habitats*, gives an indication of overall water quality in the Park and as can be seen, the current situation is mixed, and while only a minority of waterbodies are in bad or poor condition, there has been an increase in the number of waterbodies changing to a worse status or classification. SEPA predicts that more waterbodies in the Park will move into the good/moderate category by 2027, with the shift to a greater proportion having an improved status, likely to result from remediation works on historical engineering and barriers to fish passage.

4.6.5 Water Infrastructure

There are 9 water and waste treatment works, across the Park, with two private supplies serving Angus Glens and Glenmore. The largest, by far, is Aviemore, with a connection serving 10,556 homes, followed by Tomnavoulin, at 7,068. The rest of the park ranges across a much lower scale, with treatment works serving between 10 and 350 homes.

Including all planned and committed development proposals, capacity exists at most of the Scottish Water treatment works serving settlements in the Park. However, the reported current capacity of many waste treatment works serving the Park is an ongoing constraint to development.

4.6.6 Flooding

All of the rivers and watercourses in the Park have the potential to flood, to some degree. When the main rivers break their banks, they often cause damage to land, building and infrastructure, resulting in economic cost.



The River Spey and its tributaries continue to flood regularly. These floods have damaged properties in Newtonmore, Aviemore and Carrbridge, on a number of occasions. A significant number of properties remain at risk of future flooding in these and other settlements identified as Potentially Vulnerable Areas (PVAs) in the Park.

The Dee suffers from flooding related to heavy rain and melting snows. In 2014, the caravan park and a number of roads were closed due to flooding and, in December 2015 & January 2016, the Dee experienced widespread flooding, which caused significant damage to property and transport infrastructure. Ballater also has a significant number of properties at risk of flooding.

The Tay catchment contains one PVA that falls across the National Park boundary at Blair Atholl. A number of historical river floods have been recorded in this area, including July 1916 and June 1931, when the railway was affected, and evacuation was required, as River Garry flooded near Blair Atholl. There continues to be a risk of flooding at Blair Atholl from the Garry Burn and from surface water.

4.7. Soil & Geodiversity

Soils cover much of the surface of the earth, forming the foundation of all terrestrial ecosystems and services. They support key processes in biomass production, atmospheric and hydrological systems. Nearly all of the food, fuel and fibres used by humans are produced in soil. The functions provided by soil depend on a multitude of soil organisms, which makes soil an important part of our biodiversity. Soil is second only to the oceans as a carbon sink, with the potential to play an important role in the slowing of climate change.

4.7.1 Land Capability for Agriculture

Land Capability Classification for Agriculture mapping provides information about the potential for land to be productive. The classification ranks land from 1 to 7, on the basis of its potential productivity and cropping flexibility, determined by the extent to which its physical characteristics (soil, climate and topography) restrict agricultural use. Land classified from 1 to 3.1 is considered to be prime arable agricultural land suitable for production of a wide range of crops. Land classified as 3.2 – 4.2 is suitable for mixed agriculture (primarily cereals, forage crops and grass), with land classified as 5.1 – 5.3 having the potential to be improved grassland. Land classified as 6.1 – 7 is restricted to rough grazing, due to severe limitations that prevent improvement by mechanical means.

The majority of land in the National Park, around 93%, is classified as agricultural capability 5 – 7. Around 6% is classified as suitable for mixed agriculture (classes 3.2 – 4.2). Only 0.1%, a small area around Strathdon, on the edge of the National Park, is identified as 3.1, prime arable agricultural land.

4.7.2 Carbon Rich Soils

Carbon rich soils are important carbon sinks that, if exposed, start to release carbon back into the atmosphere. Carbon rich soils, such as those created by peatland habitats, are very slow to regenerate due to the cool wet conditions stunting plant growth. The soils of the Park are particularly rich in soil organic matter because the cool, moist climate encourages the retention of decomposed organic materials. Peat, the most carbon rich soil, covers an extensive area of the Park.



Climate is important in determining the equilibrium of soil organic matter content. Changes in climate, such as the increase in heavy rainfall events during winter, identified in Topic 1 (climatic factors) are likely to disrupt the equilibrium.

4.7.3 Geodiversity

Underpinning, and, in some instances, part of soils, is geodiversity. Many of the issues affecting soils also affect geodiversity, for example, acidification, erosion, and unsympathetic land management. Geodiversity is the term used to describe the variety of rocks and soils laid down over millennia, which combine to create landforms that are the basis for landscapes.

Geological Sites of Special Scientific Interest (SSSI) and Geological Conservation Review (GCR) sites aim to safeguard wider geodiversity within the Park.

There are 16 geological and mixed (geological and biological) SSSIs within the National Park, covering an area of some 680km², around 15% of the Park area, with 39 GCR sites covering an area of around 592km².

4.8. Material Assets

Material assets can include a wide range of apparently disparate interests. Within the context of this SEA, and following the framework of the CNPA, consideration of the baseline has been given to energy, waste, geological materials used as a resource, transport and digital infrastructure.

4.8.1 Energy Generation

In order to safeguard the special landscape qualities of the Park, the Park Authority has historically implemented restrictive policies on large scale renewable energy development in the Park. As a result, developments of energy generating infrastructure have been relatively minor in scale and number. It should be noted that this may not reflect the amount actually generated, due to some permissions not being implemented and also variations in predicted and actual generation once built.

Installing certain renewable energy technologies, such as solar panels and biomass boilers, is within the permitted development rights of householders and businesses, provided certain conditions are met. This means that no data is available on energy generation installed under permitted development rights, as it is not recorded officially.

4.8.2 Geological Mineral Resources

The British Geological Society identifies 4 active quarries operating in the Park, based on 2014 information¹³. However, additional quarries are known to operate or have consent, in the Park. For example, Carn Dhomhnuill Bhain quarry, near Dalwhinnie, and Broomhill quarry, near Dulnain Bridge, were granted consent to recommence extraction activities in 2018. The quarries in the Park can extract a variety of mineral resources, mainly used for construction works.

¹³ <https://www.bgs.ac.uk/GeoIndex/>



4.8.3 Waste

Estimates of household waste and recycling for Local Authority (LA) areas are recorded by SEPA. Specific data for Scotland's national parks is not available and, therefore, to get an approximation of the Cairngorms National Park's contribution, further assumptions need to be made.

Mid-year population estimates have been used, as a proxy, for proportionally attributing the waste produced and recycled for the LAs that cover the National Park's area, to the National Park itself¹⁴. It is recognised that this is a blunt means of estimation; indeed estimates based on estimates should always be treated with caution. However, in the absence of detailed National Park specific information, the information presented in Tables 4.1 - 4.5 offers a 'best-guess' and a generalised baseline for measurement over the period.

Table 4.1: Average kg waste generated per person

Year	Average kg waste generated per person (CNP mean)	Scotland
2016	520	450
2017	510	450
2018	490	420
2019	490	420

Table 4.2: Average kg waste landfilled per person

Year	Average kg waste landfilled per person (CNP mean)	Scotland
2016	240	210
2017	240	200
2018	230	180
2019	220	130

Table 4.3: Average kg waste recycled per person

Year	Average kg waste recycled per person (CNP mean)	Scotland
2016	265	210
2017	260	205
2018	240	190
2019	250	200

¹⁴ Cairngorms National Park Authority | Appendix 2: Topic 5 Material Assets 2017-2022
Babbity Environmental Ltd
Company registered in Scotland SC 564740



Table 4.4: Average kg waste diverted from landfill by other mean, per person

Year	Average kg waste diverted from landfill by other means, per person (CNP mean)	Scotland
2016	22	44
2017	17	42
2018	22	56
2019	26	105

Table 4.5: Average tonnes CO₂e produced by waste

Year	Average tonnes CO ₂ e produced from waste (CNP mean)	Scotland
2016	1.90	1.50
2017	1.80	1.40
2018	1.70	1.30
2019	1.60	1.20

According to these estimates, the household waste, per person, is higher than the Scottish average, which for 2019 was 490 kg per person, across the Cairngorms, although showing a trend of reducing. It is estimated that the amount of waste landfilled was slightly higher than the Scottish average (220kgs compared to 130kgs) and the recycling rate is higher than the Scottish average, which in 2019 was 250kgs, compared to 200kg of waste recycled. Average waste, diverted to landfill by other means, fluctuates but is generally higher in Scotland, as a whole, by a factor of two. Average tonnes CO₂e, produced by waste, is generally higher in the CNP, compared to Scotland, but both shows signs of reducing, over time.

It should be recognised that the Cairngorms National Park is not responsible for waste management in the area, with this function falling to the Local Authorities that cover its area. The C2030 Programme may however play a role in waste reduction, contributing to the objectives of the Scottish Net Zero Plan (Scottish Government, 2021), by promoting the move to circular methods of production and consumption, embodied within a wellbeing economy.

4.8.4 Transport Infrastructure

The Park benefits from relatively good major transport infrastructure links, compared to many other rural areas in Scotland. A mainline railway between Perth and Inverness and four A Class roads (A9, A93, A95 and A86) connect the area with Highland, Moray, Aberdeenshire, Perth and Kinross and the west of Scotland. Of the four A roads, the A9 is subject to a current improvement project. The A9 Dualling Strategy aims to link existing sections of dual carriageway to create a continuous dual carriageway between Inverness and Perth. The geography of the Park means that links between certain parts of the Park are relatively poor, due to topography and climate, affecting their travel times and navigability in poor weather.



4.8.5 Road

Networks of other A, B, C and unclassified roads provide access to other parts of the Park, although many are narrow and snaking, increasing journey times. The travel times have an effect on access to services for residents and visitors.

Drive times demonstrate the nature of the road infrastructure in the Park, with the population often having to travel for a long time to reach key services e.g., up to 72 minutes to reach a retail centre in parts of Moray, and up to 37 minutes to drive to a secondary school in parts of Aberdeenshire. The rural nature of the area is also demonstrated through the relatively high instances of car ownership. According to the 2011 Census, around 85% of households had access to a car or van, which is higher than the Scottish level of around 70%. As a result, a high proportion of the population of the Park have a reliance on the road infrastructure of the area for access to services, as well as for work.

4.8.6 Rail

The Highland Main Railway Line runs between Inverness and Perth, through the Park, with stations at Carrbridge, Aviemore, Kingussie, Newtonmore, Dalwhinnie and Blair Atholl.

Using annual passenger usage at stations, based on sales of tickets as an indicator of the overall use of the line, there is an indication that use has increased significantly, within the Park, over the last 17 years.

4.8.7 Digital Infrastructure

Good digital connectivity is increasingly seen as an essential basic service that is required by residents, businesses, students, visitors, and the public sector and has been brought sharply into focus, following the Covid-19 pandemic and the resultant move towards home or hybrid working.

There are currently 28 telephone exchanges that cover the Park, not all of which are located within the Park boundary. All 28 exchanges are enabled to provide asymmetric digital subscriber line (ADSL) broadband, with all, but two, capable of providing connection speeds of up to 8 Mbps. (ASDL is a broadband connection, provided over home telephone lines.)

4.8.8 4G Not Spots

4G Not Spots remain a significant problem in rural areas and the Cairngorms National Park is no exception. Although coverage has improved in recent years and remains strongest with the carrier EE, in terms of delivering 4G accessibility, there are still areas within the Park that have no 4G coverage with any of the four main carriers, predominantly located in the southern parts of the National Park, at the greatest distance from more highly populated areas.

4.9. Biodiversity, Flora & Fauna

The Cairngorms National Park is a nationally and internationally important haven for nature and wildlife. Covering only 6% of the landmass of Scotland, the Park holds 25% of all rare animals, insects, lichen and fungi in the UK. The National Park further hosts some of Scotland's wildest land, including arctic-like mountain plateaux and Scotland's most extensive semi-natural pine forest, home to 80% of the capercaillie population.



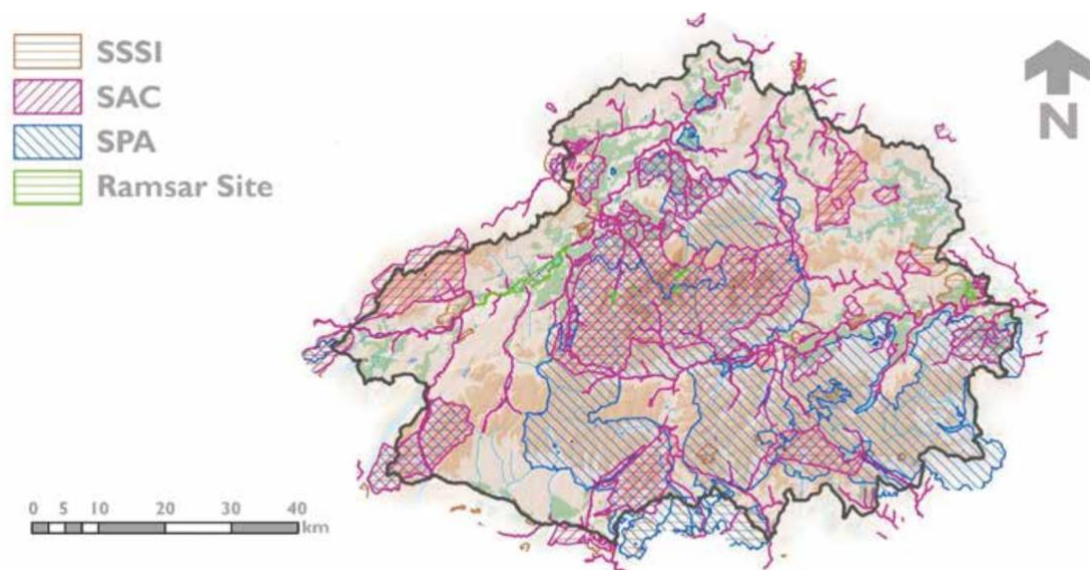
Half of the Park is designated as being of European importance for nature, through the Natura network, and over a quarter of the UK's rare and threatened species are found here.

Approximately 1200 species in the National Park are considered to be important for nature conservation, many of them are rare and endangered and some would become extinct in Scotland, if the populations in the National Park were to disappear.

4.9.1 Areas protected for nature conservation

With 55 nationally and 42 internationally important areas protected for nature conservation completely, or partially, within the National Park boundary, many of which overlap with each other, over half of the National Park is designated as one or more areas protected for nature conservation (Figure 4.3).

Figure 4.3 Designated Sites



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4.9.2 Changes in protected area condition 2015 - 2021

The condition of the protected areas could be considered a reflection of the wider state of biodiversity within the Park. Since the environmental baseline assessment was carried out for the current NPPP in 2015, the overall number of protected areas in favourable condition has increased from 42% to 58%.

4.9.3 Summary of pressures affecting protected areas

A wide range of pressures affect qualifying interests and notified features of protected areas, resulting in unfavourable conditions, most of which relate to land/water use and management. The table below shows the number of protected areas affected by the particular pressure, according to the latest Site Condition Monitoring, carried out by NatureScot.



Table 4.6: Summary of pressures affecting protected areas

Pressure	Number of protected areas affected
Over/under grazing, trampling and other grazing	175
Agricultural/forestry ops, game/fisheries mgmt.	47
Burning	46
Recreation disturbance	44
Invasive species, plants & pests	43
Water mgmt. & quality	29
Natural events	27
Climate Change	9
No pro-active mgmt.	7
Pro-active onsite mgmt. & conservation	6
Extraction	5
Development	4
Wildlife Crime	4
Maintenance activities	3
Flood defence works	3
Air pollution	1
Dumping/spreading of materials	1
Inter-specific competition	1

4.9.4 National Nature Reserves

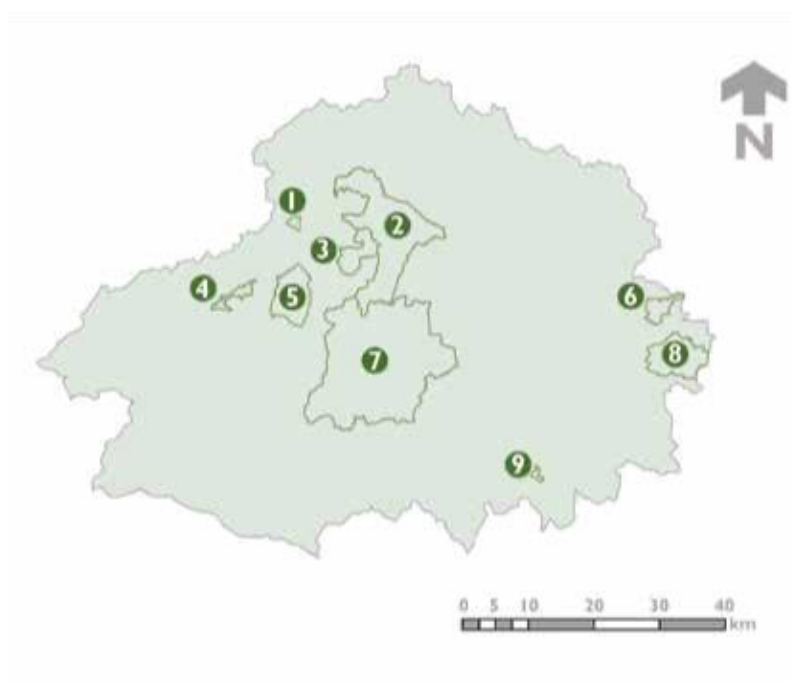
There are 9 actively promoted NNRs within the National Park, outlined in Table 4.7 and mapped in Figure 4.4.

Table 4.7: National Nature Reserves

NNR	Managed by
1 Craigellachie	NatureScot
2 Abernethy	NatureScot & RSPB
3 Glenmore	Forestry & Land Scotland
4 Insh Marshes	RSPB
5 Invereshie & Inshriach	NatureScot
6 Muir of Dinnet	NatureScot
7 Mar Lodge Estate	National Trust for Scotland
8 Glen Tanar	Glen Tanar Estate
9 Corrie Fee	NatureScot



Figure 4.4. CNPA 9 National Nature Reserve Locations



4.9.5 Cairngorms Nature Action Plan (CNAP) priorities

A number of species and habitats, important for conservation and tackling the effects of climate change, have been identified for landscape scale conservation and priority species management within the CNAP. Table 4.8 outlines these:

Table 4.8: CNPA Action Plan Priorities & Targets

Species	Landscape
Scottish Wildcat	5,000ha new woodland (including regeneration and montane)
Beaver	70% of new woodland is native
Curlew	750ha PAWS & native woodland under active restoration
Peregrine Falcon	20 farms in woodland and grassland projects
Invertebrates	increase in farmland waders from 2015 baseline
Aspen	5,000ha peatland under restoration management
Mountain Hare	150km river / riparian restoration
Capercaillie	50 ponds created or restored
Golden Eagle	
Hen Harrier	
Freshwater Pearl Mussel	
Plants, Fungi & Lichen	



4.9.6 Woodland habitats

The woodlands of the Park are a distinctive feature of the landscape, ecology, economy and cultural heritage. Part of the reason for their importance and distinctiveness stems from the unusually high proportion of native tree species they contain (i.e. even commercial woodlands are predominantly Scots pine).

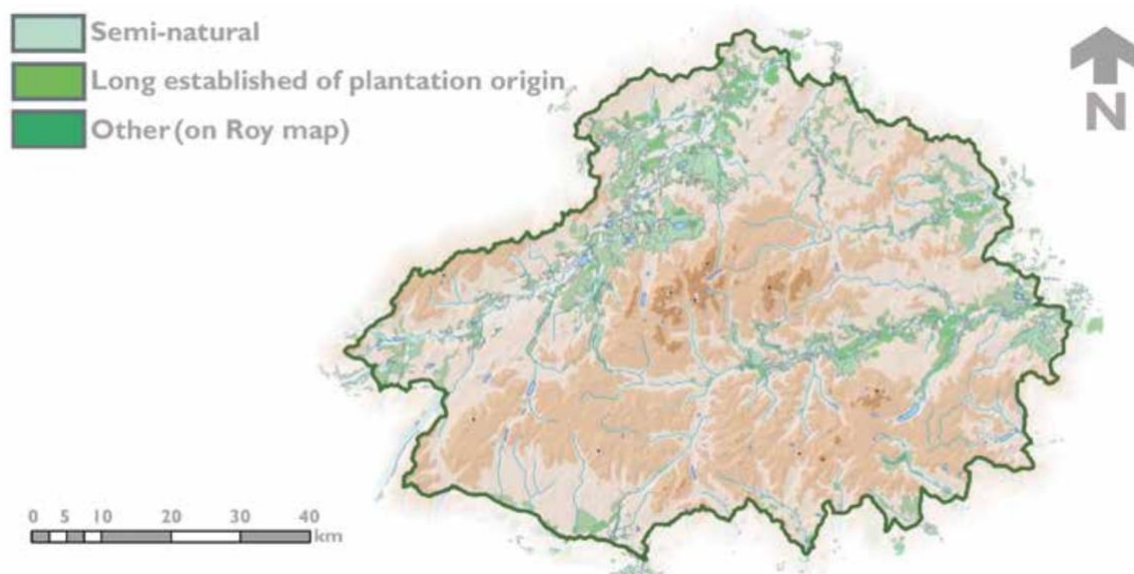
It is also one of the most widely recognised special qualities of the Cairngorms National Park. By providing this network and supporting many of the priority species identified in the CNAP, forests and woodlands make an important contribution to the wider biodiversity in the Park.

4.9.7 Ancient Woodland Inventory woodlands in the Park

Around 340 square km of the National Park's woodlands are identified as being ancient, according to the Ancient Woodland Inventory¹⁵. Although not definitive, due to historical mapping issues, the Ancient Woodland Inventory provides an indication of where ancient woodlands can be found in the Park (see map below).

Ancient woodland is defined as land that is currently wooded and has been continually wooded, at least since 1750. Around 160 square km of ancient woodlands have been identified as being semi-natural. Ancient woodland is of great and irreplaceable importance for biodiversity, due to its antiquity and lack of significant disturbance to the soil structure. Once destroyed, it cannot be recreated.

Figure 2.5 Ancient Woodland Location, CNPA



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¹⁵ (<https://www.nature.scot/professionaladvice/land-and-sea-management/managing-land/forests-and-woodlands/history-scotlandswood-lands>).



4.9.8 Freshwater and wetland habitats

The Park contains part of eight river catchments, although two have only a very small portion within the Park (see Figure 6). The largest catchment is for the River Spey. The latest data available from SEPA provides information on the ecological status of the 154 waterbodies analysed by SEPA in the Park.

This shows that, since the environmental baseline assessment was carried out for the current NPPP in 2015, the number of waterbodies in high, good or moderate ecological status has increased by around 8%, while the number in bad or poor status has increased by 1.3% (Table 4).

Table 4.9: Waterbody status figures for waterbodies in the Park

Status	2015, # Waterbodies	2017, # Waterbodies	% Change
High	13	12	-0.65%
Good	80	87	+4.55%
Moderate	26	32	+3.90%
Poor	18	16	-1.30%
Bad	2	6	+2.60%

Figure 4.6. CNPA River Catchments



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4.9.9 Scottish Wildcat

Knowledge about population figures is patchy, partly due to the elusive behaviour of wildcat and also because of interbreeding with domestic/feral cats, resulting in hybrids that can be difficult to tell apart from pure bred wildcat. The Highland Wildlife Park near Kincaig is hosting a breeding and reintroduction programme for Scottish wildcat, Saving Wildcats. This should boost the population of Scottish wildcat in the National Park in future years.



4.9.10 Capercaillie

Capercaillie populations in Scotland have declined significantly from an estimated 20,000 birds in 1970 to 1,114 at the national winter survey in 2015/16. The Park holds a significant proportion of the national population – around 80%, the majority in Strathspey - mostly in areas protected for nature conservation but also in other forests that host metapopulations.

Capercaillie also persist in Deeside. The Strathspey capercaillie population is crucial to the long-term survival of the species in the UK.

4.9.11 Curlew

The National Park is one of the most important UK mainland sites for breeding wading birds, due to its combination of wetlands, wet grasslands and low-intensity mixed farming. Nevertheless, curlew have seen their numbers dramatically reduce by over 62% between 1994 and 2017.

4.9.12 Deer

There are five species of deer found within the Cairngorms National Park. Their distribution is strongly influenced by human activity and land management:

- Red deer, a native species, have long been central to the cultural and natural heritage of the Highlands. They are common in most upland areas of the Park, although they can also be found in woodlands.
- Roe deer, another native species, are also numerous in the Park. They are more commonly seen on lower ground, in and around woodlands.
- Sika deer, a non-native species, are present in much smaller numbers. Populations of sika are found in the Monadhliath mountain range, with individuals also sometimes seen in other areas within the Park.
- Reindeer are found in the Park, mainly in the upland areas around Cairngorm and Cromdale hills. Once a native species, they were re-introduced in 1952, and form a unique semi-domestic herd managed by the Cairngorm Reindeer Centre.
- Fallow deer were introduced to Britain in the 11th century. There is a small population in the southern section of the Park, in Perthshire.

Deer numbers need to be managed to minimise negative effects on habitats, as well as to ensure there is sufficient food and shelter to maintain the health and welfare of the deer.

4.9.13 Other issues affecting biodiversity: diseases, non-native species

Non-native species can kill, harbour disease, and/or compete with native species.

4.9.14 Pathogens

Pathogens can cause death or reduce viability of populations of host species, which has implications for ecosystems and biodiversity. In the Park, the main issues relate to tree health:

- *Dothistroma* (red band) needle blight is a fungus that causes the premature loss of pine needles, weakening the tree which may lead to premature death.



- Ash die back or Chalara (*Hymenoecyphus fraxineus*) is a fungus causing dieback and mortality in ash trees.
- *Ramorum Phytophthora ramorum* is a fungal disease of larch.
- *Phytophthora austrocedraeon* is a fungus that causes dieback and mortality in juniper, where it attacks the roots and stems.

4.10. Landscape & Cultural Heritage

Landscape is the shape and diversity to our surroundings, the product of thousands of years of interaction between man and nature, encompassing the physical and cultural environment. Landscape is important, because it links culture with nature and the past with the present.

At 4,528 square kilometres, and comprising 6% of Scotland's land area, the Park is amongst the largest protected landscape in the UK.

4.10.1 Summary of the special qualities of the Park:

General qualities include:

- Magnificent mountains towering over moorland, forest and strath.
- Vastness of space, scale and height.
- Strong juxtaposition of contrasting landscapes.
- A landscape of layers, from inhabited strath to remote, uninhabited upland.
- 'The harmony of complicated curves'.
- Landscapes, both cultural and natural.

More defined qualities:

4.10.2 The Mountains and Plateaux

- The unifying presence of the central mountains.
- An imposing massif of strong dramatic character
- The unique plateaux of vast scale, distinctive landforms and exposed, boulder strewn high ground.
- The surrounding hills.
- The drama of deep corries.
- Exceptional glacial landforms and snowscapes.

4.10.3 Trees, Woods and Forests

- Dark and venerable pine forest (image below: mid-ground tree cover).
- Light and airy birch woods (image below: foreground trees).
- Parkland and policy woodlands.
- Long association with forestry.

4.10.4 Moorlands

- Extensive moorland, linking farmland, woodland and the high tops.
- A patchwork of muirburn.



4.10.5 Wildlife and Nature

- Dominance of natural landforms.
- Extensive tracts of natural vegetation.
- Association with iconic animals.
- Wild land.
- Wildness.

4.10.6 Glens and Straths

- Steep glens and high passes.
- Broad, farmed straths.
- Renowned rivers.
- Beautiful lochs.

4.10.7 Visual and Sensory Qualities

- Layers of receding ridge lines.
- Grand panoramas and framed views.
- A landscape of many colours.
- Dark skies.
- Attractive and contrasting textures.
- The dominance of natural sounds.

4.10.8 Culture and History

- Distinctive planned towns (e.g., Grantown).
- Vernacular stone buildings.
- Dramatic, historical routes.
- The wistfulness of abandoned settlements.
- Focal cultural landmarks of castles, distilleries and bridges.
- The Royal connection.

4.10.9 Recreation

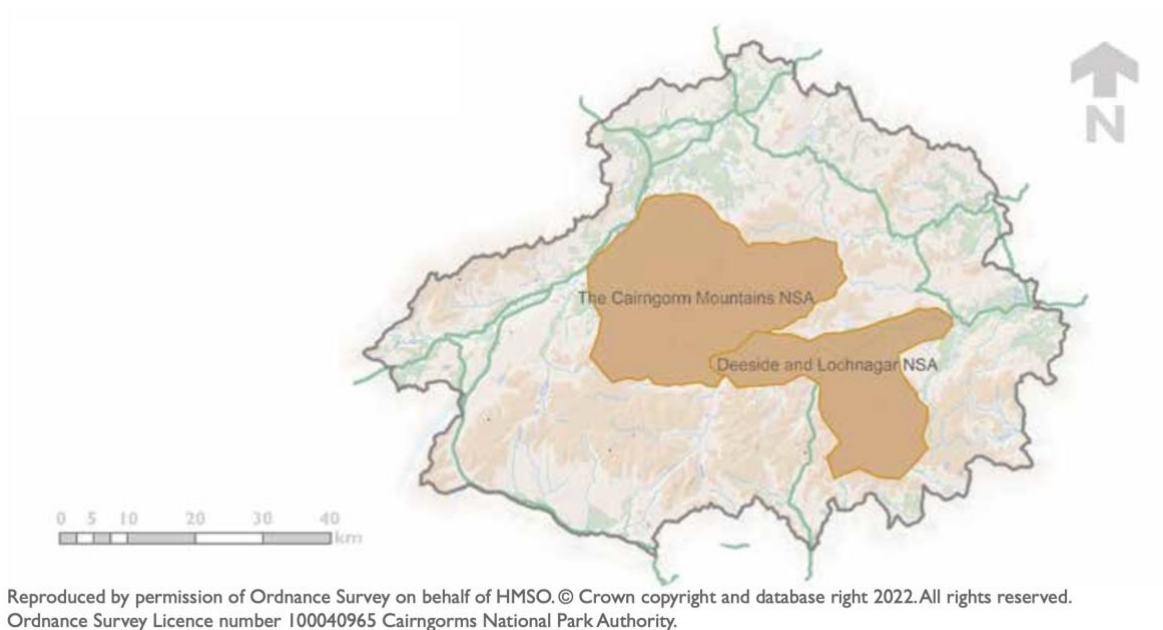
- A landscape of opportunities.
- Spirituality.

4.10.10 National Scenic Areas

Two National Scenic Areas (NSAs), the Cairngorm Mountains NSA and Deeside and Lochnagar NSA, are located entirely within the Park boundary, covering an area of around 1,072 square kilometres, which equates to just under 25% of the land area of the Park.



Figure 4.7 National Scenic Areas



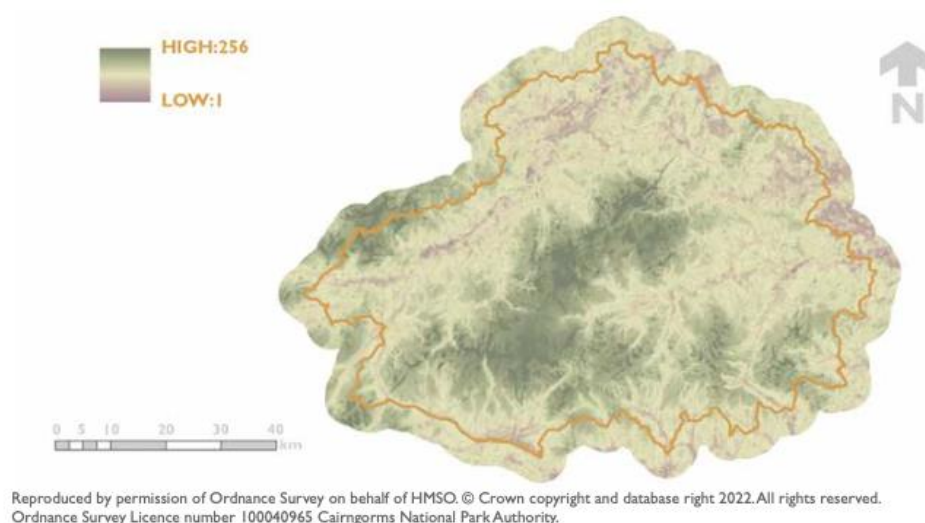
4.10.11 Wildness and Wild Land Areas

Wildness is a quality experienced by people, when visiting places of a certain character. Wildness is objectively considered through four physical attributes being present, namely;

- perceived naturalness of the land cover;
- ruggedness of the terrain;
- remoteness from public roads, ferries or railway stations and the visible lack of buildings, roads, pylons, and other modern artefacts.

Figure 4.8 shows the wildness of the National Park, on a scale of 1-256, indicating relative levels of wildness.

Figure 4.8 Relative Wildness Mapping

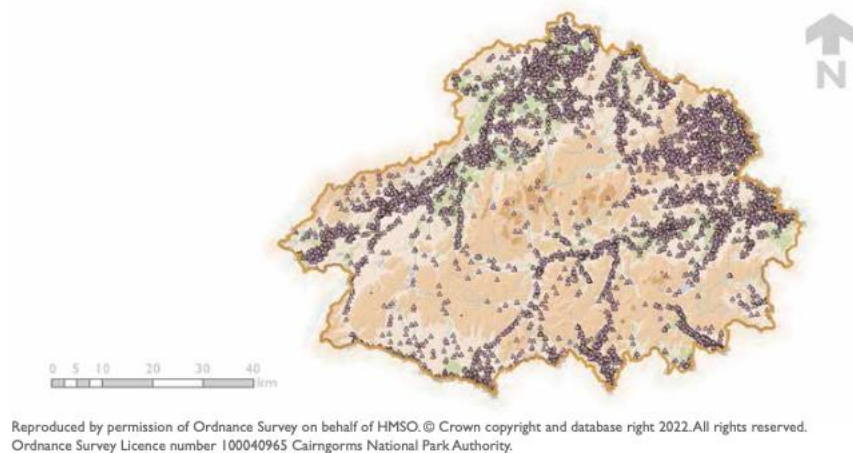




4.10.12 Historic landscape

The landscape seen today is the result of a complex interplay of climate, geology, geomorphology, soil development, vegetation succession and herbivore impacts, along with human elements linked to settlement, transport, farming and forestry. Figure 4.9 identifies where historical archaeological records, as held by the Historic Environment Scotland, occur in the Park. These provide an indication of where human activity has occurred in the past. (There are also other historical features that are not mapped, but which contribute to a sense of place and are important to local people.)

Figure 4.9



Of note, across the National Park, there exists: 110 Scheduled Monuments, 753 Listed Buildings, 11 Gardens and designed landscapes, 2 records on the Inventory of Historic Battlefields, and 5 Planned Towns (Ballater, Blair Atholl, Tomintoul, Grantown-on-Spey and Kingussie).

4.10.13 Conservation Areas

Parts of the planned towns of Ballater, Grantown-on-Spey and Blair Atholl have been designated as Conservation Areas, which are protected under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. The Park also has a further two Conservation Areas within its boundary, at Braemar and Inverey.

4.10.14 Buildings at Risk

The Buildings at Risk Register (BARR) for Scotland highlights properties of architectural or historic merit, throughout the country, that are considered to be at risk or under threat. To be at risk, a building does not necessarily need to be in poor condition, it may simply be standing empty with no clear, future use. Many buildings at risk are in this latter category. From the latest available data, 31 buildings were recorded as being at risk in the Park.

4.10.15 Linguistic Heritage

Located near the centre of Scotland and owing to the restrictive nature of its mountainous terrain, the Cairngorms National Park occupies a position where many of the linguistic and cultural differences found in Scotland intersect. The language used in place names in the Park often has historical meaning that describes the landscape, place, wildlife or activities that could be, or are still found there.



4.10.16 Spoken Languages

Gaelic

Recorded in the Park to be the language spoken by a minority of the population (around 2.2% in the 2011 Census, down from around 3.1% in 2001 Census), Gaelic is a visible and inseparable part of the identity of the area, as it continues to dominate the names of places, both built and natural.

Scots (Doric)

Doric is stronger in the east, where the influence of the lowlands is greatest. The language has also seen a fall in use, with around 29.3% (5,400 people) of the National Park's population claiming to be able to speak it, in the 2011 Census.

4.11. Population and human health

4.11.1 Population

The mid-year estimate of the population of the Cairngorms National Park in 2018 was 18,654 people, with around 50% female and 50% male. This is similar to the Scottish population where 49% of the population, in 2019, were estimated to be male and 51% female.

The age profile of the people living in the Park differs from the national population of Scotland, as a whole. A larger proportion of the population in the Park is made up of people within the 70 years and over age range, compared to the Scottish population, which is thought to reflect the attractiveness of the Park as somewhere to retire to.

It should be noted that the mid-year population estimates, for the working age category, may also be skewed by the time of year that data is collected, as this is when the working population increases to service tourism. Therefore, the proportion of pensionable age people, resident in the National Park year-round, compared to working age people, is likely to be greater than the 21% reported.

During the 21st century, the National Park has experienced a significant net increase in its resident population, rising by approximately 2,321 people, a growth of around 14%, between 2001 and 2019. This is above the overall Scottish rate, which saw an increase of around 7.8%, over the same period. However, after steady 1-2% annual increases, during most of the first decade, the National Park population has plateaued.

Population growth in the Park is not spread evenly, with areas of decline and areas of growth. The overall National Park population figures are also skewed by the Aviemore area, which saw far greater (48.9%) population growth compared to the National Park overall (14.2%). During this period, deaths have exceeded births every year, indicating that the population growth of the Park is driven by migration of people *into* the National Park.

The most recent population projection for the National Park was based on 2018 data, published in October 2019. The National Records of Scotland 'medium' projection is that between 2018 and 2043, the population of Park will increase by around 5% (with the low and high migration figures being +4 and +7%).



The National Park projected population compares at a higher rate of increase to the Scottish projections, which predict a 0, +3 or +5% population change between 2018 and 2043, under the low, medium and high migration scenarios.

The National Park is likely to encounter similar population trends to Scotland as a whole, but to a greater degree, with the population of children and those of working ages dropping by 3% and 6% respectively, and those of a pensionable age increasing by up to 10%.

4.11.2 Health & Housing

Human health depends on a number of general and local environmental factors, including access to services such as health, education, access to good quality outdoor recreational facilities and a high-quality and safe environment, with good quality air, soil and water. Influences, such as income, nutrition, occupation, housing conditions, sleep, weight and culture can additionally make a difference to the overall good health and wellbeing of the population. It is well recognised that the quality of housing, deprivation and health are linked. The SNHS considers that housing costs and quality, along with fuel poverty, influence health inequality in Scotland.

There is a low level of housing related deprivation within the Park, with no data zones falling within the 20% most deprived. However, there are areas where indicators of housing deprivation exceed the national average. In particular, at 4.3%, many areas of the National Park have relatively high percentages of the household population living in homes with no central heating, higher than the Scottish average of 2.3%.

A significant barrier in reducing household deprivation is the availability and affordability of enough new housing to enable people to move from housing that does not meet their needs (such as overcrowded or lacking central heating) into more suitable homes that are within their means.

4.11.3 Housing occupancy & second homes

Between 2010 and 2020, the number of dwellings in the Park grew from 9888 to 10273 (an increase of around 4%), with occupancy levels remaining between 83% – 84%, across the period, compared to 96% for Scotland as a whole. Over the same period, the number of second homes has declined by 10.1% (128 dwellings), with the percentage reducing from 12.8% to 11.1%. The number of vacant dwellings has increased, from 409 to 493 (20.5%), with the percentage increasing from 4.1% to 4.8%.

4.11.4 Housing Affordability

Affordability is a recognised issue in the Park. Between 1993 and 2015, the median price of a property in the Cairngorms National Park saw a net rise of almost 230%, with a peak, in 2015, of £192,500. In 2018 it had reduced slightly to £190,000.

When the Park was established, in 2003, the median Park house price was already £13,197 above the Scottish average. This gap has since increased to £37,500 in 2018, placing many houses outwith the financial reach of workers in the Park wishing to buy a home there.

The National Park is looking to address this issue via the NPPP via the following policies:



- Providing a housing land supply that supports young people and workers and maintains vibrant communities.
- Reducing the proportion of vacant and second homes to support community vibrancy, ensuring that new housing development best meets local needs.
- Maximising the proportion of new housing development that is affordable in perpetuity, using short-term let control areas and licensing of short-term let properties to manage the impact of second homes and short-term lets on the housing market (and the availability of housing for residents and workers).

4.11.5 Employment

8,100 people were employed in the National Park in 2020, with fulltime jobs the most numerous, employing 4,900 people; a level of fulltime employment of 60%, compared to 74% in Scotland as a whole. Part-time jobs were held by 3,200 people, or 40% of those employed.

The Park has a higher proportion of part time and self-employed people (both around 15%) than the Scottish population (around 13%). This may reflect the makeup of the main employment sectors in the Park (accommodation and food; arts, entertainment, recreation and other; skilled trades), which tend to be fulfilled by part time and self-employed workers.

There are fewer fulltime students in the Park, compared to Scotland as a whole (2% compared with 4%), accurately reflecting both the numbers of young people in the area, compared to Scotland, and the availability of higher education options in the locale.

Levels of unemployment are lower than Scotland overall, (3.5% compared with 4.9%), reflecting the higher-than-average numbers of people of a pensionable age in the Park and high levels of availability of seasonal work (the dates in which data were collected may also be a contributing factor).

4.11.6 Education and Training

Across the Park the mean adult educational score and attainment of school leavers are above the national averages and significantly below national average in terms of adults with no qualifications. There is a very low proportion of young people (16–19-year-olds) not participating in employment, education and training (NEET). Factors that may be contributing to this include:

- High average educational/ vocational qualifications.
- Low unemployment rate and high availability of employment, in particular, in the tourism sector.
- Outward migration of young people.

As part of the NPPP, the National Park is looking to undertake a just transition to net zero. The nature of many jobs will change in the National Park, over the coming years, as a low carbon economy is created. This means that there will likely be opportunities for new jobs, but also that some traditional jobs (including those in land use and tourism) may evolve over time.

4.11.7 Labour Market

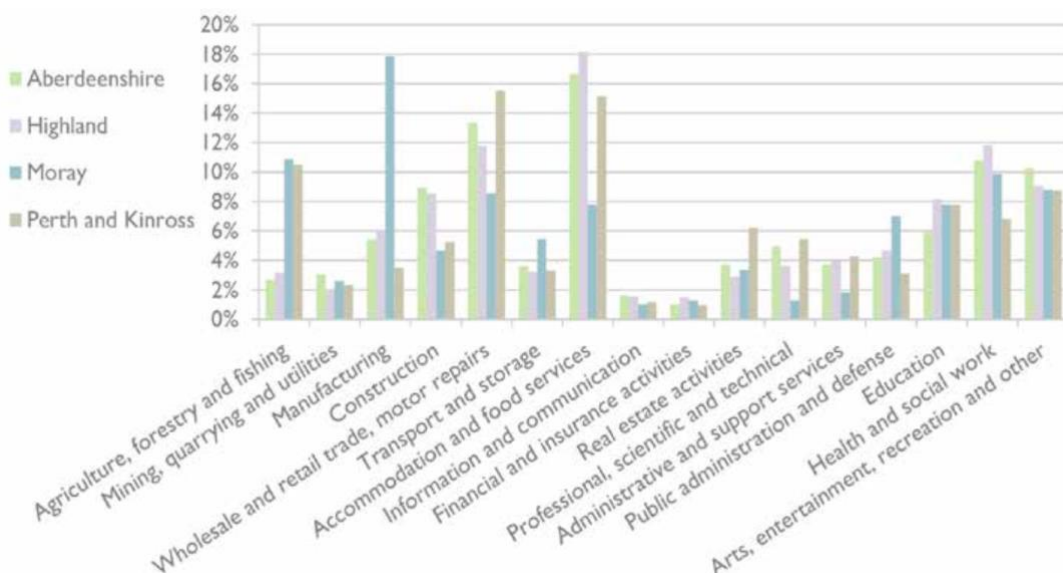
The importance of certain employment sectors varies both between the different industries and between the different Local Authority areas, within the Park (Figure 4.9). Moray has a different profile to that of the other Local Authority areas. The largest differences are seen in the



manufacturing and the accommodation and food services sectors. Manufacturing is a key sector for Moray, contributing 18%, compared to between 3% and 6% for the other Local Authority areas. In contrast, accommodation and food services contribute far less, at 8%, compared to between 15% and 18% for the other Local Authority areas. This may reflect the reliance the other areas in the Park have on tourism, which influences the accommodation and food services sector, whereas Moray has traditionally had a different economic focus and specialist manufacturing expertise, pertaining to its proximity to several military bases in the area.

The workforce shrank by 2.7%, between 2019- 2020, largely caused by a decrease in the prominent Accommodation and Food Service Activity Sector. Over a third of occupations (36%) were 'higher level', 33% were 'mid-level' and 31% were 'lower-level' This is compared to 45% 'higher level' and 35% 'lower level' occupations across Scotland.

Figure 4.9. Percentage of employment by Industry by Local Authority (2011 data)



The labour market of the National Park is forecast to face some challenges, in the immediate term, with macroscale events, such as Brexit and the COVID-19 pandemic, resulting in job losses and limiting economic growth.

The forecast, for the mid-term (2020-2023), suggests there could be some job growth (100 people) and opportunities created, as a result of the need to replace workers leaving the labour market, due to retirement and other reasons (expected at 800 people). These are expected to be centred around the Accommodation & Food, Wholesale & Retail, Arts, Construction, Agriculture, Forestry & Fishing and Education sectors.

The forecast, for the long-term (2023-2030), predicts a halt in growth. However, there may be an ongoing requirement for skilled people to fill opportunities created by people leaving the labour market. This feature of the labour market, known as the replacement requirement, is a symptom of demographic change. It is forecast that there will be a requirement of 1,800 people to fill job



openings between 2023 and 2030. As the forecast expansion demand is zero, all 1,800 potential job openings are forecast to be a result of the replacement demand.

4.11.8 Unemployment

Unemployment levels within the Park are relatively low, with the 2011 Census finding that only around 3% of the population, aged 16-74, were unemployed, compared to around 5% for Scotland. Around 0.3% had never worked, compared to around 1% for Scotland, with around 1% being long-term unemployed, compared to around 2% for Scotland. There is a variation between the Local Authority areas, with Moray experiencing higher rates of unemployment than Scotland and the other Local Authority areas, within the Park and Perth and Kinross, experiencing much lower rates.

The nature of employment within the Park is, however, extremely seasonal, with Job Seekers Allowance (JSA) claimants peaking in the winter months. Unemployment is at its lowest in July, which coincides with Scottish school and public holidays and key tourism months.

4.11.9 Commuting to work

Data, from the 2011 Census, found that, of the 18,712 people aged 16-74, in employment in the Park, around 52% of them commuted to work via car, van or motorbike. This is lower than the Scottish level of 56%, a reflection of the fact that the Park has a relatively high level of home working at around 23.4%. The use of public transport is particularly low within the Park, at around 3%, a reflection of the difficulties of providing good service in such a rural area.

A breakdown of the other methods of transport was not available, so it is not possible to say how many people in the Park walk or cycle to work.

The largest proportion of people commuting within the Park travel less than 2km to their work, and, at around 23%, the Park figure is higher than the Scottish level of around 17%. However, in the Park, a greater proportion of people commute further, when compared to the Scottish average; in Scotland around 50% of commuters travel less than 10km to their work, whereas, for the Park, around 36% of commuters travel that distance. In the Park, around 16% of commuters travel more than 30km, compared to the Scottish average of 7%.

4.11.10 Recreation Opportunities

In addition to the usual measures of deprivation, related to employment, finances and transport, other factors can influence human health, such as opportunities to access the outdoors for recreation, leisure and exercise. Being outside and physical activity are well known to improve physical and mental health, as well as addressing health inequalities.

Figure 4.10 shows several Walking and Cycle Routes throughout the Park. The Dava Way, around 41 miles in length, follows the old railway route that used to link Grantown on Spey, in the Park, with Forres, in Moray. The Speyside Way, around 65 miles in length, follows the River Spey from Buckie, on the Moray coast, to Newtonmore, in the Park. There is also a spur off the main route, which goes from around Ballindalloch, through Glenlivet to Tomintoul. A section of the Speyside Way forms part of the off-road National Cycle Network route 7. The CATERAN Trail, around 64 miles in length, is a circular route, following old drove roads and ancient tracks through Perthshire and the Angus Glens, between Blairgowrie, Alyth and Spittal of Glenshee. The Deeside Way,

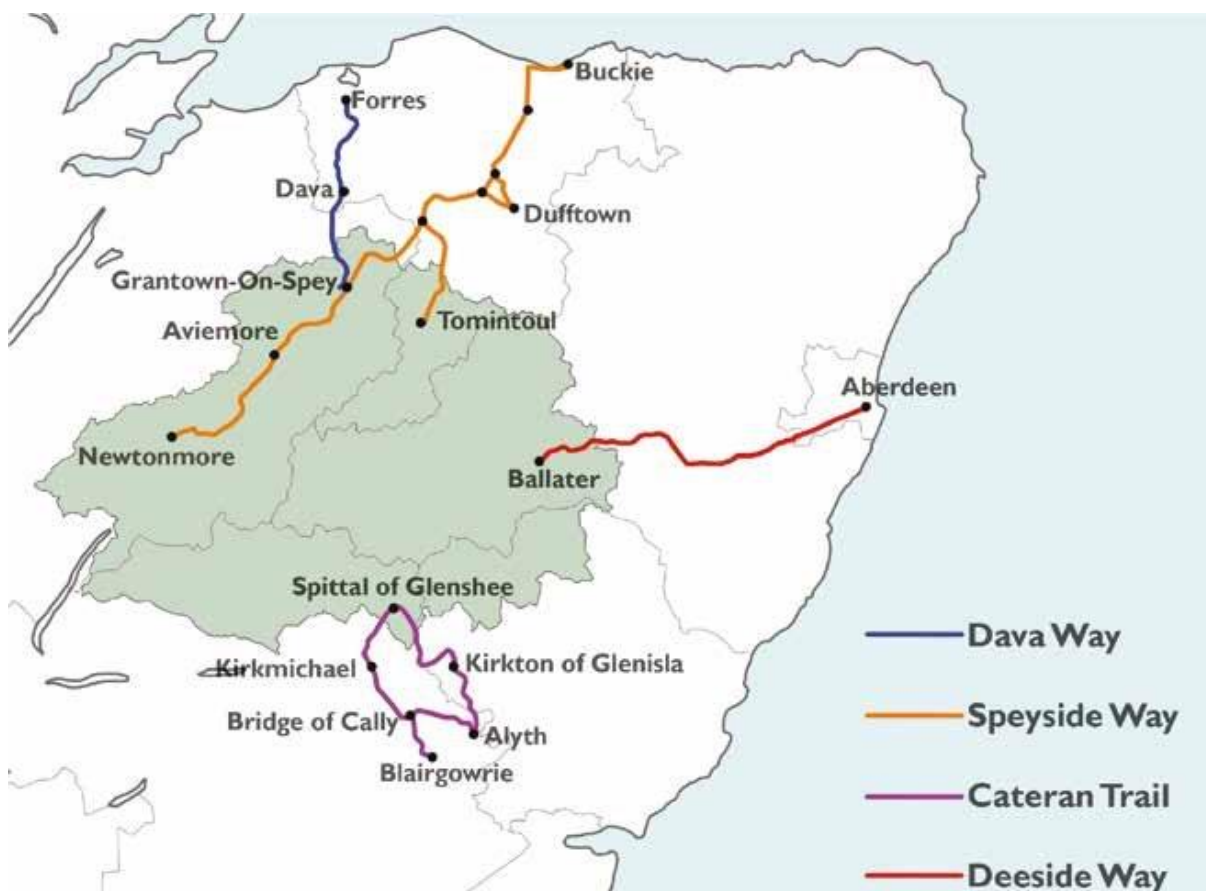


around 41 miles in length, follows the old railway route the used to link Ballater, in the Park, with Aberdeen. It also forms part of National Cycle Network route 195.

As well as the long-distance routes, there are numerous path networks, associated with settlements, providing shorter routes for exercise or getting around. Some of the path networks also link settlements, offering opportunities for commuting by active travel. Many of the paths in the Park are multi-user paths, providing opportunities for cyclists, as well as pedestrians, to be active. National Cycle Network route 7 goes between Inverness and Sunderland, passing through the Park, while the shorter route, 195, provides opportunities in Aberdeenshire.

There are also two water sports centres that facilitate non-motorised water sports through teaching and equipment hire, at Loch Insh and Loch Morlich.

Figure 3.10. Walking and Cycle Routes throughout the Park





4.12. Key environmental Issues, Receptors, Opportunities and Implications

A summary of the key issues affecting the Cairngorms National Park, as raised in the above baseline assessment, are highlighted in Table 4.11, with an indication of the likely affected receptors and the potential opportunities, within the Cairngorms 2030 programme, to address such issues.

Table 4.10: Key Environmental Issues and Receptors

Identified issue / cause	Affected receptor	Opportunities and implications
Climatic Factors		
<p>The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services issued a warning about the damage human beings are causing to the planet. It found that the drivers of damage have accelerated over the past 50 years. Climate change is one of the top three causes.</p> <p>The trend in CO₂ equivalent emissions in the Park is encouraging, with a marked decline since 2001 overall. However this is not represented equally among all sectors. There have been recent increases in Transport, Waste and Development emissions, within the Park, which have eaten into the decreases made through more tree planting and renewable energy.</p> <p>The CNPA were unable to attract any suitable peatland contractors for other legacy projects carried over from 2019 or for new projects, and there remains a significant lack of contractors. Actual restoration management totalled only 131 hectares in 2020/21. Degraded peatlands in the mountain areas are emitting carbon dioxide, adding to the emissions in the National Park.</p>	<p>Cumulative in nature on the cause and effect of climate change, secondary & trans-boundary effects on human health, water, soil and geodiversity, biodiversity, flora and fauna.</p>	<p>The 2030 Programme will set out action to mitigate the impacts of climate change, promoting appropriate improvement and adaptation measures across all areas. It will look to build climate resilience across communities, businesses and the natural environment.</p> <p>Woodland expansion is a crucial component of the Cairngorms National Park journey to net zero, with an aim to increase the cover of biodiverse native woodland, within the Park, by at least 1,000 hectares between 2023 and 2028.</p> <p>The catchments of the River Dee, Spey and South Esk together cover 90% of the National Park and the Climate Resilient Catchments project will bring direct benefit by reducing the local flood risk, storing water to improve drought resilience, and engaging local communities in their landscape through improved access and interpretation.</p> <p>Peatland restoration in the National Park will deliver 1,300 hectares of high-quality peatland restoration, each year, through the delivery phase.</p>



<p>By 2030 it will likely be too late to limit global warming to 1.5 degrees.</p>		<p>CNPA aims to deploy landscape scale, nature-based solutions to reduce carbon emissions and improve human and ecological wellbeing.</p> <p>The Green Investment project will develop innovative new strategies to work with private finance investors for environmentally sustainable projects, technologies and businesses that aim to reduce greenhouse gas emissions, mitigate climate change and deliver nature restoration.</p> <p>The Cairngorms Future Farming project will trial methods of climate-resilient farming, ensuring that the fragile economics of farm business management is enhanced to support a more sustainable approach to farming in the future.</p> <p>An effective way to engage and empower communities is to give them the financial responsibility to develop projects that meet their needs in their local area.</p> <p>The Community Managed Climate Grants scheme will link with other C2030 projects to give communities the power to define, design, fund and deliver projects that build resilience and mitigate climate impacts.</p> <p>The Climate Learning and Education Project aims to create educated and knowledgeable young people who understand the need for climate action, and who recognise the connections between biodiversity loss and the impacts on health and wellbeing.</p>
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		<p>The Community Arts and Culture project will build capacity and collaboration in the art and culture sector and strengthen people's connection to landscape and place, inspiring involvement in community-based climate action activity and encouraging behaviour change.</p> <p>The delivery phase of the Climate Conscious Communities Project will ensure that these programmes and organisations are well co-ordinated and working towards the Net Zero ambitions of C2030 and guided by the aims of the National Park Partnership Plan.</p> <p>Cycle Friendly Cairngorms will deliver a package of workstreams that together will both encourage and make it easier to use a bike or e-bike to get around in the Park.</p> <p>The Changing Travel Behaviours project aims to engage, empower and inspire residents and visitors to make a modal shift to active and sustainable travel options.</p>
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Identified issue / cause	Affected receptor	Opportunities and implications
Air		
<p>The highest emissions are located along the A9 and within the main settlements of Aviemore, Grantown-on-Spey and Ballater, where traffic volumes are greatest. However, these emissions are still well below the World Health Organisation levels that would have adverse effects on human health.</p> <p>Dualling of the A9, and how this could change traffic levels and visitor numbers in the Park, means that air quality could be a future concern. In particular, the potential for increasing pollutants associated with traffic emissions such as PM₁₀ and nitrogen dioxide (NO₂).</p>	Cumulative effects relating to air issues.	<p>Cycle Friendly Cairngorms will create the conditions where cycling, as a method of sustainable transport, is an accessible option for all. It will enable residents and visitors to embrace travelling by cycle, as a realistic alternative to car use, resulting in a reduction of personal car use for short journeys and improvements to air quality.</p> <p>By improving active travel infrastructure and public spaces, it will become more enjoyable for everyone to walk, cycle or get around using a wheelchair, helping to place active travel at the heart of a greener and healthier future.</p>
Identified issue / cause	Affected receptor	Opportunities and implications
Water		
<p>The Cairngorms National Park encompasses the headwaters of three of Scotland's major rivers, the Tay, Dee and Spey, as well as many smaller ones.</p> <p>Between 2013 and 2017 the number of waterbodies in the Park in high status have increased slightly, the number in good and moderate status have declined, while the number in poor status have increased four-fold.</p> <p>All of the rivers and watercourses in the Park have the potential to flood, to some degree. When the main rivers break their banks, they often cause damage to land, building and infrastructure, resulting in economic cost.</p>	Cumulative, synergistic and trans-boundary effects on human health, water, soil and geodiversity, climate change and flora and fauna	<p>The Climate Resilient Catchments project will bring direct benefit, by reducing the local flood risk, storing water to improve drought resilience, and engaging local communities in their landscape, through improved access and interpretation.</p>



Identified issue / cause	Affected receptor	Opportunities and implications
Soil & Geodiversity		
<p>The soils of the Park are particularly rich in soil organic matter because the cool, moist climate encourages the retention of decomposed organic materials. Peat, the most carbon rich soil, covers an extensive area of the Park.</p> <p>Climate is important in determining the equilibrium of soil organic matter content. Changes in climate, such as the increase in heavy rainfall events during winter are likely to disrupt the equilibrium.</p>	<p>Cumulative, synergistic and trans-boundary effects on human health, water, soil and geodiversity, climate change and flora and fauna</p>	<p>Peatland restoration in the National Park will deliver 1,300 hectares of high-quality peatland restoration, each year, through the delivery phase.</p>
Identified issue / cause	Affected receptor	Opportunities and implications
Material Assets		
<p>In order to safeguard the special landscape qualities of the Park, the Park Authority has historically implemented restrictive policies on large scale renewable energy development in the Park. As a result, developments of energy generating infrastructure have been relatively minor in scale and number.</p> <p>The geography of the Park means that links, between certain parts of the Park, are relatively poor due to topography and climate affecting their travel times and navigability in poor weather.</p> <p>4G Not Spots remain a significant problem in the Cairngorms National Park and there are still areas, within the Park, that have no 4G coverage with any of the four main carriers.</p>	<p>Cumulative with secondary impacts on population and human health, air, and climatic factors.</p>	<p>Installing certain renewable energy technologies, such as solar panels and biomass boilers, is within the permitted development rights of householders and businesses, provided certain conditions are met.</p> <p>Cycle Friendly Cairngorms, Active Communities, Sustainable Travel and Changing Travel Behaviours projects seek to address and improve rural use of, and access to, a number of alternatives to cars, across the park, including the delivery of a range of sustainable transport initiatives across the Park, further development of the sustainable transport model for Aviemore to Cairngorm Mountain, options in Deeside and the introduction of greener buses.</p>



		A lack of digital infrastructure will impact the ability for people to conduct remote working and the implications this will have on rolling out a wellbeing economy could potentially be significant.
Identified issue / cause	Affected receptor	Opportunities and implications
Biodiversity, Flora & Fauna		
<p>A wide range of pressures affect qualifying interests and notified features of protected areas, resulting in unfavourable conditions, most of which relate to land/water use and management.</p> <p>Around 340 square km of the National Park's woodlands are identified as being ancient, according to the Ancient Woodland Inventory. Ancient woodland is of great and irreplaceable importance for biodiversity, due to its antiquity and lack of significant disturbance to the soil structure. Once destroyed, it cannot be recreated.</p> <p>Since 2015, the number of waterbodies in high, good or moderate ecological status has increased by around 8% while the number in bad or poor status has increased by 1.3%.</p>	<p>Cumulative effects on sensitive habitats and individual species, synergistic effects with human health, climate change.</p>	<p>One of the core goals of the 2030 Programme is aiming to work towards a sustainable future – to protect our natural world and develop local solutions to take action on biodiversity loss, in the face of the climate emergency.</p>



Pathogens can cause death or reduce viability of populations of host species, which has implications for ecosystems and biodiversity. In the Park, the main issues relate to tree health		The 'Nature' theme projects, in particular, look to address and respond to the biodiversity crises, via a range of projects including: woodland expansion as a crucial component, peatland restoration (sequestering large amounts of CO ₂), the restoration of four river catchments across the Park, projects to develop strategies for land management that increases the biodiversity and ecological health of the Park, trialling innovative approaches to seek more sustainable farming practices, and a Green Investment project, designed to create new strategies to work with private finance investors for environmentally sustainable projects, technologies and businesses that aim to reduce greenhouse gas emissions, mitigate climate change and deliver nature restoration, in ways that support socially inclusive, sustainable changes in land use.
Identified issue / cause	Affected receptor	Opportunities and implications
Cultural Heritage		
<p>The National Park provides a rich sense of cultural, linguistic, artistic and historical identity, which is important for enhancing the quality of life across the wider region.</p> <p>Two National Scenic Areas (NSAs), the Cairngorm Mountains NSA and Deeside and Lochnagar NSA, are located entirely within the Park boundary, covering an area of around 1,072 square kilometres, which equates to just under 25% of the land area of the Park.</p>	Cumulative effects on historic and cultural assets, synergistic effects on population and human health.	<p>The 2030 Programme can help protect the cultural and historic heritage of the area, from protecting ancient woodland to building climate resilience to the impacts of climate change for cultural and heritage sites.</p> <p>The Programme, along with partners and communities, will promote the historic, natural and cultural heritage of the National Park to improve people's lives, health and wellbeing.</p>



<p>The area has a rich heritage with a number of designated sites, listed buildings and scheduled monuments. Parts of the planned towns of Ballater, Grantown-on-Spey and Blair Atholl have been designated as Conservation Areas, which are protected under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. The Park also has a further two Conservation Areas, within its boundary, at Braemar and Inverey.</p> <p>The Park further comprises a wide range of 'special qualities', which combined, create the sense of place found in the Park and is likewise home to a range of wildness/wild land areas where artefacts of modernity are not present.</p>		
Identified issue / cause	Affected receptor	Opportunities and implications
Population and human health		
<p>A larger proportion of the population in the Park is made up of people within the 70 years and over age range, compared to the Scottish population.</p> <p>Population growth in the Park is not spread evenly, with areas of decline and areas of growth.</p> <p>The overall National Park population figures are also skewed by the Aviemore area, which saw far greater (48.9%) population growth compared to the National Park overall (14.2%). Growth of the Park is driven by migration of people into the National Park.</p>	<p>Cumulative effects on human health and community wellbeing; and synergistic and transboundary effects on climate change and biodiversity.</p>	<p>The 2030 Programme will aim to protect and enhance local environments, to sustain an increasing population and help promote community health and wellbeing. The programme aims to encourage more sustainable and active lifestyles, including the Cycle Friendly Cairngorms project, which will create the conditions where cycling, as a method of sustainable transport, is an accessible option for all. It will enable residents and visitors to embrace travelling by cycle as a realistic alternative to car use, resulting in a reduction of personal car use for short journeys.</p>



<p>There is a low level of housing related deprivation within the Park, with no data zones falling within the 20% most deprived. 4.3% of homes have no central heating, higher than the Scottish average of 2.3%.</p> <p>Between 2010 and 2020 the number of dwellings in the Park grew around 4%, with occupancy levels remaining between 83% – 84% across the period compared to 96% for Scotland as a whole. Over the same period, the number of second homes has declined by 12.8% to 11.1%. The number of vacant dwellings has increased from 409 to 493 (20.5%).</p> <p>Unemployment levels within the Park are relatively low, with around 3% of the population aged 16-74 unemployed, compared to around 5% for Scotland.</p> <p>The use of public transport is particularly low within the Park, at around 3%.</p> <p>In Scotland, around 50% of commuters travel less than 10km to their work, whereas, for the Park, around 36% of commuters travel that distance.</p>		<p>By encouraging more people to walk, wheel, and cycle for everyday journeys, the ‘place’ projects will improve health, create safer communities, and reduce environmental impacts. ‘Changing Travel Behaviours’ and ‘Active Communities’ aims to reconnect individuals to their local heritage, by making active travel and sustainable transport the natural choice for everyday journeys across the National Park.</p> <p>The ‘Sustainable Travel’ project will support the delivery of a range of sustainable transport initiatives across the Park, including further development of the sustainable transport model for Aviemore to Cairngorm Mountain, options in Deeside and the introduction of greener buses.</p> <p>The overarching ‘Wellbeing Economy’ project that ties into all of the 2030 Programme projects, recognises that housing, access to transport, human health, energy use, biodiversity and the climate crises are intricately linked.</p> <p>The 2030 Programme will take into consideration the changing demographic of the area and the potential this will have on the environmental needs of local communities and service provision and delivery.</p>
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		The 2030 programme will promote health improvements with a particular emphasis on tackling poverty and inequality, through closer integration of health and environmental objectives, and promoting the importance of good quality local environments and neighbourhoods, providing links to the wider community planning partnerships.
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4.13. Key Issues Relating to the 2030 Programme

Schedule 3 (4) of the SEA Act requires the Environmental Report to include a description of existing environmental issues, particularly those relating to any areas of specific environmental importance. The existing environmental issues (refer to the above, in Table 4.11) require to be considered in relation to the draft 2030 Programme and whether it will potentially aggravate, reduce, or otherwise affect current problems.

It is considered that, through the SEA process, existing environmental concerns shall be taken into account and, where necessary, mitigation measures will ensure that concerns highlighted will not be aggravated, and, in some instances, may be reduced. At the same time, opportunities to further enhance positive environmental effects will be considered.

4.13.1 Climatic Factors

The 2030 Programme is on a larger scale than anything previously attempted in the UK and aims to inspire rural and urban communities, throughout Scotland and beyond, to take action and make a difference, impacting on a vast range of climate-focussed sectors, including farming, river catchment restoration, woodland enhancement, peatland restoration and lower emission travel.

4.13.2 Biodiversity, Flora & Fauna

The ecological emergency is a central issue within the CNP and impacts on biodiversity, through the loss and fragmentation of a variety of habitats, is a major concern. Loss of biodiversity can result in reduced ecosystem function and the degradation of key ecosystem services. The 2030 Programme will support the safeguarding of the area's rich, varied and vulnerable biodiversity, through the promotion of nature-based solutions and landscape-scale restoration projects, to tackle the climate emergency and to enable people to get closer to nature and the benefits it brings.

4.13.3 Population and Human Health

The resident and visitor populations of the CNP are at the core of the 2030 Programme's means of delivery. The 2030 Programme is in direct response to the immediate pressures on the majority of society, including the two million visitors which travel to the Cairngorms, from all over the world, each year. Crucially, the Programme coincides with the most acute cost-of-living crisis in a



generation coupled with the after-effects of the Covid-19 pandemic, the climate emergency and nature crisis.

The 2030 Programme can influence these impacts, for example, by driving collaborative working across CNP resources, with partners and communities, to reduce disadvantage and inequalities, supporting a wellbeing economy, where society and nature live in harmony, where people enjoy a fair distribution of resources and live in healthy, affordable and resilient communities, and by promoting active lifestyles and travel, connecting a sustainable National Park that works for residents and visitors alike. Linked to this, is the safeguarding of cultural, historic and landscape assets, which are important for local people and tourists.

Furthermore, with transport accounting for over a third of Scotland's carbon emissions, how residents and visitors travel to, and within, the National Park will need to change, in order to achieve Scotland's net zero targets. By changing the way people travel, the aim for the 2030 Programme is to make the Park both a rural exemplar for sustainable and active travel, and to reduce transport-related carbon emissions.

One of the ways in which the 2030 Programme aims to achieve this, is by creating the conditions where cycling, as a method of sustainable transport, is an accessible option for all, enabling residents and visitors to embrace travelling by cycle as a realistic alternative to car use, resulting in a reduction of personal car use for short journeys. The Programme further seeks to work with local communities to make it easier and safer for residents and visitors to get around without a vehicle.

In order to reduce private car dependency, residents and visitors need to be able to access reliable and appropriate public transport that meets their needs. The 2030 Programme aims to support delivery of a range of sustainable transport initiatives, across the Park, including further development of the sustainable transport model for Aviemore to Cairngorm Mountain, options in Deeside and the introduction of greener buses.

A key aim of the 2030 Programme is the long-term modal shift to active and sustainable travel options, such that these become the automatic and obvious choice for everyday journeys to school, work and leisure.

4.14. Likely Evolution of the Environment Without the C2030 Programme

The SEA process involves an assessment of the evolution of the environment without the 2030 Programme being implemented. In relation to the current trends, identified in the existing Cairngorms National Park environment, with no 2030 Programme, several environmental indicators, including vulnerable priority species and landscape-scale ecosystems would either deteriorate or would not achieve their full environmental potential through receiving the appropriate support.

The 2030 Programme is the result of an extended process of community engagement and listening, which saw the CNPA visit communities the length and breadth of the National Park.

There is a real opportunity, through the 2030 Programme, to increase citizen participation, empower local communities and directly engage people in making decisions that affect their local area, addressing issues that matter to them and shaping the way the CNPA engages with people in the National Park, ensuring individuals and communities feel empowered, want to contribute,



and have the resources to effect real change. There is a potential for this to be acutely overlooked, if the programme were not to be enacted.

Without the 2030 Programme, there would be a less cohesive and collaborative approach to tackling environmental issues and embedding the principles, not only across all CNPA resources, but also with existing partners and our communities.

As the UK's largest and most ambitious response to the climate emergency, the 2030 programme is leading the way to tackle the climate and nature crises and place the ability to do so in the hands of the people who live, visit and work in the UK's largest national park. Although the current trend and high priority associated with actions to improve and respond to the climate emergency are ongoing and may continue to improve in a fragmented and incohesive manner, the level of progress achieved may well be less without the strategic direction and far-reaching vision set out in the 2030 Programme. The Programme will strengthen the importance placed on the environment, sustainable development and tackling climate change and the role these have on health and wellbeing and other environmental indicators, including biodiversity, heritage and culture, air, water and soils. The links between the climate, ecological emergencies and human wellbeing is emphasised in the 2030 Programme.

The 2030 Programme reinforces the importance of climate change to the other environmental indicators, as well as the inextricable links and synergies between climate change and the Sustainable Development Goals and Climate Action Plan. The 2030 Programme provides the strategic framework for a collaborative approach in tackling the climate crises, as well as addressing the ecological emergency and concurrent social issues at a local level.



5. Development of the Assessment Criteria

5.1. Considering hierarchy of key environmental issues

The purpose of the SEA is to inform the development of the draft Cairngorms 2030 Programme and related projects, by assessing the potential impacts they may have upon the environment. A useful way to undertake the assessment (describing, analysing and comparing the environmental effects of the draft Cairngorms 2030 Programme) is through the use of environmentally specific objectives (referred to as SEA objectives) and a series of indicator questions.

The SEA objectives are separate from the Cairngorms 2030 Programme priorities and outcomes, although they can influence each other and even overlap. To fulfil the requirements of the SEA Directive, the SEA objectives cover the environmental issues set out in Schedule 3 of the 2005 Act, including the interrelationship between them.

5.2. Development of the SEA Objectives

The 2030 Cairngorms Programme recognises the urgent importance of addressing the climate and nature crises, and the requirement to act at unprecedented speed and scale across all parts of society. That is why the Cairngorms 2030 programme was designed to undertake the appropriate actions at scale, whilst encouraging and supporting the people who live, work in and visit the Park, to create a National Park that will be a place where ecological recovery, climate consciousness, social justice and inclusive decision-making are at the centre of the Park's agenda for the future: that is, to fulfil a shared ambition for a future that is rich in nature, gifting a legacy of healthier people and place for future generations.

The C2030 Programme is intended to provide the strategic framework to inform and guide action, across CNPA resources and services, to address the key issues relating to the Park and set out agreed priorities and policies to address and guide them. The C2030 Programme will be supported by a detailed action plan and monitoring system as noted in Section 8.1.

As such, the SEA objectives have been set at an appropriate level for assessing the C2030 Programme, without creating an overburden for it, where other Plans, Programmes and Strategies within the CNPA are the key drivers, which have undergone SEA in their own right. Due to the funding mechanism through the Heritage Lottery Fund, the C2030 Programme is separate from any other CNPA plans, programmes or strategies. The C2030 Programme is not dependent on any other CNPA plans, programmes or strategies and vice versa. However, the outcomes of the delivery stage of the C2030 Programme would contribute towards the aims and objectives of a number of CNPA plans, programmes and strategies, such as the National Park Partnership Plan, Cairngorms Nature Action Plan, Local Development Plan, Forest Strategy and Peatland Action Programme.

5.3. Refinement of the SEA Objectives

Following discussion with the wider CNPA C2030 Programme team, minor amendments to the original SEA sub-objectives have been incorporated: i.e., sub-objective 6a, 'will there be an effect on Cairngorms Nature Action Plan bird and mammal and species?' has been updated to include reference to invertebrates; whilst 7a, 'will there be an effect on the special qualities of the



National Park landscapes?’ has been amended to include specific reference to the Special Landscape Qualities¹⁶ (SLQs) of the National Park.

The assessment aims to identify such drivers to help ensure the environment is adequately promoted and protected and the results of the SEA are considered at the correct level, to ensure the promotion of wider social and environmental benefits for the area.

The requirements of the SEA Directive, through representing the environmental issues set out in Schedule 3 of the 2005 Act, are presented within the SEA objectives. The SEA objectives for the C2030 Programme were initially developed by participants at the scoping workshop and these were confirmed following consultation on the Scoping Report, with minor amendments, as noted above, incorporated during the iterative SEA process. The finalised main SEA objectives, sub-objectives and assessment criteria are presented in Table 5.1. These SEA objectives, sub-objectives and criteria were used as measures by which the environmental impacts of the draft C2030 Programme were assessed.

¹⁶ <https://cairngorms.co.uk/caring-future/cairngorms-landscapes/cairngorms-special-landscape-qualities/>



5.4. SEA Objectives and Sub-objectives by Topic

Table 5.1: SEA Objectives and Sub-objectives by Topic

Topic	Objective no.	Main Objective(s)	SEA Sub-objective(s)
Climatic factors	1a	Reduce the emissions of greenhouse gases with particular focus on emissions from buildings, transport, energy generation and industry (especially CO ₂), but also from natural carbon sinks (such as woodlands and peatlands).	Will there be an effect on energy conservation and efficiency in new development?
			Will there be an effect on the production of renewable energy of appropriate scale for the Park?
			Will there be an effect on local production and use of materials and food produce?
			Will there be an effect on carbon sinks (such as woodlands and peatlands)?
			Will there be an effect on travel that produces greenhouse gas emissions?
Climatic factors	1b	Ensure existing and proposed infrastructure and buildings are located and designed to cope with future climate conditions.	Considering future implications of climate change (e.g. increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?
			Considering future implications of climate change (e.g. increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?
Air	2a	To maintain or improve air quality and reduce emissions of key pollutants.	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?
			Will there be an effect on the levels of other types of air pollution (e.g. particulates)?
Water	3a	Maintain and improve the quality of water resources and to protect and enhance the state of the water environment.	Will there be an effect on the water quality of rivers, lochs and groundwater from diffuse and point source pollution?
			Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?
			Will there be an effect on public water supplies?



Water	3b	Reduce demand for water and minimise unnecessary water use.	Will there be an effect on demand for water from development (residential and business)?
			Will there be an effect on sustainable use of water resources?
Water	3c	To reduce the impact of invasive non-native species on the water environment.	Will there be an effect on the water environment from invasive non-native species?
Soil and geodiversity	4a	Minimise contamination and safeguard and improve soil, peat quality and geodiversity.	Will there be an effect on carbon rich soils, in particular peat?
			Will there be an effect on soil sealing, soil structure and soil loss?
			Will there be an effect on the levels of soil contamination?
			Will there be an effect on soil erosion and landslides?
			Will there be an effect on geodiversity interests (e.g. GCRs)?
Material assets	5a	Encourage the sustainable use and reuse of material assets.	Will there be an effect on sustainable use of natural resources (e.g. water, timber, aggregates)?
			Will there be an effect on the sustainable use and management of existing and proposed infrastructure (e.g. water, heat, energy or flood protection infrastructure)?
			Will there be an effect on the use of finite resources through the use of secondary and recycled materials?
Biodiversity flora and fauna	6a	Protect and enhance the biodiversity of the National Park.	Will there be an effect on the favourable condition of areas protected for nature conservation?
			Will there be an effect on protected species?
			Will there be an effect on Cairngorms Nature Action Plan habitats and plants?
			Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?
			Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?
			Will there be an effect on deer management practices that seek to reduce environmental effects?
			Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?



Landscape and cultural heritage	7a	Protect and enhance the character, diversity and special qualities of the landscapes of the Park.	Will there be an effect on the special qualities of the National Park landscapes?
			Will there be an effect on landscape character and local distinctiveness?
Landscape and cultural heritage	7b	Protect and enhance the historic and cultural environment and assets (including linguistic) of the Park.	Will there be an effect on the historic and cultural environment and assets (including linguistic)?
Population and human health	8a	Support and enhance the health and wellbeing of residents and visitors to the Park through housing, recreation and employment opportunities.	Will there be an effect on housing for local needs?
			Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?
			Will there be an effect on employment opportunities local to places of residence?



6. Assessment of Alternatives

6.1. Assessing alternatives

The SEA Act requires that an Environmental Report is prepared to identify, describe and evaluate the likely significant effects on the environment of implementing a plan, policy or programme, such as the C2030 Programme, together with assessing reasonable alternatives.

The C2030 Programme serves as the comprehensive document that consolidates all aspects of the Cairngorms 2030 initiative. It serves as a blueprint, providing a detailed explanation of the overarching programme's purpose, methodology, timeline, and implementation strategies and those of each of the individual plans that make up the programme. The report encompasses the extensive groundwork conducted to develop the projects, outlines the planned delivery of outcomes and establishes criteria for measuring success. It not only highlights the broader context, necessity, and justification for this transformative endeavour, but also elucidates the funding and management mechanisms involved, as well as the key stakeholders.

Referred to as the "full programme report," the C2030 Programme effectively integrates all 20 plans under the Cairngorms 2030 umbrella and showcases their collaborative synergy, which is anticipated to generate impacts that far exceed the cumulative effects.

Two reasonable alternatives to the proposed 2030 Programme were considered, outlined in Table 6.1, and discussed in detail below.

Table 6.1

Alternative	Type	Description
1	Status Quo	The status quo option maintains current practices in the Cairngorms region without significant changes. The proposed Heritage Horizons 2030 programme is not progressed. This approach may not effectively address the global nature crises or maximise transformative potential. Evaluating its consequences is crucial.
2	No Public Consultation	Under this alternative option, the Cairngorms 2030 programme would proceed without engaging in any public consultation processes. Decisions regarding the project's development, implementation, and outcomes would be made solely by the CNPA, without seeking input or feedback from the wider public or affected communities.



6.2. Identified Key Issues with the Alternatives

6.2.1 Status Quo

The global nature crisis, which is principally caused by human activities, poses a significant threat to both people and the natural world. It is crucial for individuals to recognise their integral role within nature, rather than considering themselves separate from it. This requires fostering inclusivity, connectivity, motivation, and empowerment among individuals and communities, enabling them to play a central role in driving ecological transformation. The solution will require collaborating with nature, with a focus on ensuring that human activities contribute more to the well-being of living systems than they deplete. Taking decisive action is imperative to address these challenges effectively and the 2030 Programme seeks to do so.

The status quo option, however, represents maintaining the existing approach and practices within the Cairngorms region without any significant changes or interventions. Under this option, current land uses, conservation measures, tourism activities, and climate change responses would continue as they are. However, it is essential to consider that the status quo may not effectively address the challenges posed by the global nature crisis and the specific issues faced by the Cairngorms. It may not fully capitalise on the potential for transformative change or maximize the positive impacts that alternative options could offer. Therefore, carefully evaluating the potential consequences and limitations of maintaining the status quo is crucial.

6.2.2 No Public Consultation

The second alternative option of proceeding with the Cairngorms 2030 programme without public consultation offers certain advantages. Firstly, it allows for expedited decision-making, leading to quicker implementation and potentially faster results. Additionally, by forgoing public consultation, the administrative burden and associated costs can be minimised, resulting in more efficient resource allocation and utilisation.

However, this alternative option also brings forth several disadvantages. By not involving stakeholders via public consultation, there is a lack of meaningful engagement and a missed opportunity to foster a sense of ownership and buy-in from local communities, residents, and visitors. Their concerns, needs and aspirations may not be adequately addressed, potentially undermining the success of the project.

Additionally, public consultation serves as a valuable platform for capturing diverse perspectives, knowledge, and expertise. By excluding public input, the alternative option runs the risk of overlooking valuable insights and innovative ideas that could enhance the outcomes of the Cairngorms 2030 programme.

Transparency and trust are crucial elements in any project, and public consultation plays a pivotal role in fostering them. By bypassing this process, there is a potential lack of transparency, reduced accountability and diminished public trust in the decision-making and implementation of the Cairngorms 2030 programme.

Lastly, public consultation provides opportunities to assess, monitor and mitigate potential environmental impacts. Without the input of the public, this alternative option may result in an incomplete assessment of ecological concerns and unintentional negative consequences for the environment.



While the alternative option of no public consultation may offer advantages, such as efficiency and reduced administrative burdens, it carries significant drawbacks. These include limited stakeholder involvement, missed opportunities for diverse perspectives, potential lack of transparency and trust, and incomplete assessment of environmental impacts. Considering the transformative nature of the Cairngorms 2030 programme and its goal of involving and empowering communities, it is essential to carefully evaluate the implications and potential trade-offs associated with bypassing public consultation. Meaningful and inclusive engagement with stakeholders can significantly enhance the effectiveness, legitimacy and long-term success of the project.



7. Assessment of Cairngorms 2030 Programme

7.1. SEA Compatibility Assessment Criteria

The C2030 Programme was assessed for its environmental effects and likely significance upon the environmental baseline. The Programme was assessed against the range of environmental issues set out in Schedule 3 of the SEA Act, using the SEA objectives which formed the assessment criteria. The SEA objectives, noted in Section 3, were developed to measure the environmental performance of the Programme. The assessment was informed by the following steps:

- Predicting potential environmental effects.
- Determining the magnitude of the effects and the sensitivity of the receptors.
- Evaluating the significance of the effects of implementation.
- Predicting the inter-relationship (cumulative, synergistic, transboundary or neutralising) effects of the C2030 Programme.
- Developing mitigation measures to prevent, reduce or offset effects; or suggesting enhancements to provide effective and actionable recommendations.

The SEA evaluated the magnitude of any potential significant environmental effects, determined a pre-and post-mitigation/enhancement significance score, using the symbology in Table 7.1, and addressed what form any mitigation/enhancement would take, for the 2030 programme's three overarching themes; related high-level values, aims and objectives, and the connected 20 plans, providing easy-to-read visual signifiers for potential environmental effects, ensuring consistency across the environmental assessments within the Environmental Report.

7.2. Compatibility Assessment of the 2030 Programme

The assessment drew out specific issues that may require further consideration within the drafting of the 2030 Programme and recommended mitigation or enhancements to the programme scope, where applicable, within the assessment templates. The key result of the assessment is the finding that the Programme is fully compatible with the SEA objectives.

The compatibility assessment identified that the 2030 Programme places strong emphasis on several key aspects:

- **Nature Conservation and Restoration:** The programme prioritises the conservation and restoration of vital native habitats and ecosystems within the Cairngorms National Park. It seeks to protect endangered species and promote biodiversity, at a landscape scale, and ensure the long-term sustainability of natural resources.
- **Climate Change Mitigation and Adaptation:** The programme recognises the urgent need to address the climate crisis and strives to reduce carbon emissions and promote climate resilience. It focuses on implementing innovative and collaborative measures to combat climate change and adapt to its impacts within the park.
- **Community Empowerment and Engagement:** The programme aims to actively involve local communities, residents and visitors in decision-making processes and project implementation. It seeks to empower individuals and communities, encouraging their active participation in shaping the future of the Cairngorms region and fostering a sense of ownership and responsibility.



- Sustainable Land and Resource Management: The programme promotes sustainable practices in land management, including sustainable agriculture, active and sustainable travel, and responsible tourism. It seeks to strike a balance between conservation and economic development, ensuring the responsible use of natural resources, while preserving the integrity of the park.

7.3. Evaluating the potential environmental effects

At this stage of the SEA, consideration was given to the overall level of impact across the Programme and the SEA objectives in relation to:

- Direction of impact (positive or negative),
- Intensity of impact (major or minor positive or negative),
- Duration of impact (short (1-2 years), medium (2-5 years) or long term (5 years +)),
- Prediction of the cumulative effects and the development of mitigation and enhancement measures.

Through predicting and evaluating the potential environmental effects of the C2030 Programme, consideration was given to the three proposed overarching themes, within the Programme, that will shape the projects that emerge from the programme and how they will deliver on environmental issues.

7.4. Assessment of Potential Environmental Effects

As the world experiences rapid changes and faces unprecedented crises related to climate, human health and ecology, the need for swift and comprehensive action became evident. The Cairngorms 2030 programme emerged as a response to these challenges, aiming to make significant strides in line with the Scottish Government's net-zero carbon targets. Recognising the interconnectedness of Nature, People, and Place, the programme was designed to address these issues holistically, ensuring the active participation and support of the park's residents, workers and visitors, to create a shared commitment to a future that is abundant in nature, leaving a lasting legacy of health and vitality for future generations.

The assessment approach uses the aforementioned overarching themes of Nature, People, and Place that have shaped the 2030 programme, to consider how these could potentially affect the local environment. The full assessment tables are shown in Appendices A & B. A summary of the key environmental effects is shown in Tables 7.2 to 7.4.

Table 7.1: Summary of key environmental effects and receptors

Key	
Element would have a major positive environmental effect in its current form as it would resolve an existing issue or maximise opportunities. SIGNIFICANT.	++
Element would have a minor positive environmental effect.	+
Effect of Element is uncertain.	?
No connectivity with the environmental Topic/Objective being assessed.	x



Element would have no predicted environmental effects.			0
Element would have a minor adverse environmental effect.			-
The Element would have a major adverse environmental effect as it would create significant new problems, or substantially exacerbate existing problems. Consider exclusion of option. SIGNIFICANT.			--
S: Short term (0 – 2 years)	M: Medium term (2 – 5 years)	L: Long term (5+ years)	

Table 7.2: Nature Theme Assessment

Theme 1: Nature	
SML	<p>Population and human health: The nature theme projects in the Cairngorms 2030 programme will have a significant impact on population and human health in the Cairngorms National Park. The creation of "bigger, better, and more joined up" habitats leads to providing opportunities for nature-based recreational activities that promote physical activity, stress reduction, and overall well-being for the population. The projects emphasise community involvement and engagement, ensuring that residents have a voice in decision-making processes and policies related to rural areas. This fosters a sense of empowerment, social cohesion, and improved mental well-being within the population. A programme of training and skills development will flow throughout the nature theme to ensure that people have the skills to deliver these projects and continue them well into the future. This will include new grassland management techniques for farmers and species identification and recording for conservation volunteers. The latter may include high value IT and GIS skills to allow them to plot survey results. Staff upskilling is likely to include GIS, engagement and media communication skills. Many of these skills will be common to several Nature based Solutions projects and include staff, partners and volunteers and will be coordinated across the theme.</p>
SML	<p>Biodiversity, fauna and flora: The nature theme, within the Cairngorms 2030 programme, aims to have a significant positive impact on biodiversity, fauna, and flora in the Cairngorms National Park. By creating "bigger, better, and more joined up" habitats, the programme will enhance biodiversity and provide suitable conditions for a diverse range of species to thrive. It focuses on the protection of vulnerable and protected species through habitat restoration and conservation measures. The restoration of degraded habitats and the creation of new ones will contribute to the recovery of populations and promote overall ecosystem health. The programme also emphasises improving ecological connectivity within the park, by creating corridors and removing barriers to movement. This will facilitate species migration and genetic exchange, supporting biodiversity and healthy populations. Citizen science initiatives will involve volunteers in species identification and monitoring, providing valuable data for targeted conservation efforts. The enhancement of biodiversity, fauna, and flora will have positive cascading effects on ecosystem services such as pollination, carbon sequestration, and water purification. Overall, the nature theme will contribute to the conservation and sustainable management of the park's natural resources, ensuring resilient and healthy ecosystems for present and future generations.</p>



SML	<p>Soil: The nature theme of the Cairngorms 2030 programme focuses on improving soil health through initiatives such as peatland restoration, catchment restoration and regenerative farming practices and will have significant impact. By restoring degraded peatlands, and restoring functionality to floodplains, the programme aims to enhance soil structure, increase organic matter content and improve water-holding capacity. This contributes to healthier and more resilient soils that can support diverse vegetation and wildlife. Regenerative farming practices, including cover cropping and reduced tillage, also prioritise soil health by promoting soil biodiversity, nutrient retention, and water infiltration. These practices lead to improved soil fertility and sustainability. Healthy soils not only support the growth of diverse vegetation but also act as a carbon sink, helping to mitigate climate change by sequestering carbon. By targeting soil health, the nature theme in the Cairngorms 2030 programme aims to enhance biodiversity, support agricultural productivity and create a healthier environment for both human and natural communities.</p>
SML	<p>Water: The nature theme projects within the Cairngorms 2030 programme have significant impacts on water resources in the region. Through initiatives such as peatland restoration, woodland expansion, and climate-resilient catchments, the programme aims to enhance water quality, mitigate flooding, and ensure the availability of clean water. Peatland restoration plays a vital role in water management by restoring degraded peatlands, which act as natural sponges, slowing down water flow and reducing flood risks. This helps regulate water levels in rivers and streams. Woodland expansion contributes to water management by intercepting rainfall, reducing runoff and allowing water to seep into the soil. This replenishes groundwater reserves and maintains stable water flows in rivers, ensuring a sustainable water supply for humans and ecosystems. Climate-resilient catchments focus on sustainable land management practices to improve water quality and reduce pollution. Measures like buffer strips, riparian planting, and sustainable farming techniques minimise the impact of agricultural activities on water resources, promoting water quality and ecological health.</p>
SML	<p>Air, noise and light: The nature theme projects within the Cairngorms 2030 programme also have significant impacts on air quality, noise pollution, and light pollution in the region. By promoting woodland expansion and nature recovery, the programme helps improve air quality by enhancing the natural filtering capabilities of trees and vegetation. Trees absorb pollutants and release oxygen, contributing to cleaner and healthier air for both humans and wildlife. Efforts to restore and protect natural habitats also have a positive impact on reducing noise pollution. As vegetation and habitats thrive, they act as buffers, absorbing and dispersing sound, thereby reducing the impact of noise on local communities and wildlife.</p>
SML	<p>Climatic factors: The nature theme projects within the Cairngorms 2030 programme have significant impacts on climatic factors, contributing to climate change mitigation and adaptation efforts in the region. One key impact is the reduction of greenhouse gas emissions through initiatives such as sustainable land management practices, reforestation and peatland restoration. These projects help sequester carbon dioxide from the atmosphere, effectively mitigating the effects of climate change. The expansion of woodlands also plays a vital role in regulating local microclimates. Trees provide shade, evaporative cooling, and windbreaks, which help moderate temperature extremes, reduce the urban heat island effect, and provide a more comfortable environment for both human and ecological communities. The nature theme projects focus on enhancing the resilience of ecosystems and landscapes to climate change impacts. By restoring and protecting natural habitats, such as wetlands and forests, these initiatives improve water retention, reduce the risk of flooding, and enhance the capacity of ecosystems to adapt to changing climate conditions.</p>



SML	<p>Historic and cultural heritage: The nature theme projects within the Cairngorms 2030 programme also have significant impacts on the historic and cultural heritage of the region, preserving and enhancing its rich history and cultural significance. By adopting nature-based solutions, the projects aim to ensure that the natural and cultural heritage of the Cairngorms National Park is protected and celebrated. This includes promoting sustainable land management practices that respect the historic landscape and cultural heritage features. The restoration and conservation of habitats and landscapes not only contribute to the ecological value of the area but also help to preserve important cultural sites and heritage assets. These projects consider the historical context and cultural significance of the land, ensuring that conservation efforts are aligned with the region's heritage values. Additionally, the involvement of local communities and stakeholders in decision-making processes allows for their input and engagement in preserving and interpreting the historic and cultural heritage of the Cairngorms. This participatory approach ensures that the local knowledge and traditions are respected and integrated into the projects. By valuing and protecting cultural assets alongside the natural environment, the Cairngorms 2030 programme seeks to create a harmonious balance between conservation, heritage and the well-being of present and future generations.</p>
SML	<p>Material assets: The nature theme projects within the Cairngorms 2030 programme have minor impacts on material assets, particularly extractive resources, in the region. The aim is to ensure the sustainable management and responsible use of these resources to support the long-term well-being of both the environment and local communities. The projects recognise that extractive resources, such as minerals and timber, play a role in the economic development and livelihoods of the region. However, they emphasize the need for careful planning and management to minimise negative impacts and promote sustainable practices. By adopting nature-based solutions, the projects seek to integrate environmental considerations into the extraction and utilisation of resources. This includes implementing practices that reduce environmental harm, such as responsible mining techniques and sustainable forestry practices. Furthermore, the projects aim to enhance the resilience and diversity of the region's economy by exploring opportunities for alternative and innovative approaches to resource management. This may involve promoting circular economy principles, encouraging the use of renewable resources, and supporting the development of sustainable industries.</p>
SML	<p>Landscape: The nature theme projects within the Cairngorms 2030 programme have significant impacts on the landscape of the Cairngorms National Park. The aim is to protect, enhance, and sustainably manage the unique and diverse landscapes within the region. The projects recognise that the Park's landscape features are a key asset, underpinning the identity, character, and attractiveness of the Cairngorms National Park. They seek to promote landscape conservation, restoration, and enhancement to ensure the long-term resilience and beauty of the area. Through nature-based solutions, the projects aim to create "bigger, better, and more joined-up" habitats, which can contribute to a more diverse and resilient landscape. This involves measures such as habitat restoration, woodland expansion, and peatland restoration, which can improve biodiversity, provide ecological connectivity, and enhance visual aesthetics. Additionally, the projects aim to involve communities in decision-making processes related to the landscape, ensuring that their perspectives and values are considered. By engaging local residents, visitors to the Park, land managers, and stakeholders, the projects promote a sense of ownership and stewardship, leading to a landscape that is cherished and protected. Furthermore, the projects strive to address landscape-related challenges, such as climate change impacts and land use conflicts. By implementing sustainable land management practices, promoting responsible tourism and integrating landscape considerations into planning and development processes, the projects aim to minimise negative impacts on the landscape while maximising its potential for ecological, social, and economic benefits.</p>



SML	<p>Inter-relationship issues: The nature theme projects within the Cairngorms 2030 programme will have significant impacts arising from the inter-relationship of their implementation. By adopting a holistic approach, the nature theme projects recognise that multiple individual impacts can collectively have significant effects on the overall ecosystem and community well-being. The nature theme projects within the programme have the potential to have further transboundary effects on areas outside the Cairngorms National Park. These effects may manifest in several ways:</p> <p>Ecological Connectivity: Enhancing biodiversity and creating "bigger, better, and more joined up" habitats within the park can promote ecological connectivity. This means that wildlife populations and species may benefit from improved habitat connectivity and have the potential to migrate or disperse beyond the park boundaries, influencing ecosystems in neighbouring areas.</p> <p>Water Quality and Flow: The projects' focus on flood reduction, flow regulation, and cleaner rivers can have downstream effects on water quality and hydrological regimes. Changes in water flow patterns, sediment transport, and pollutant levels within the park may impact water bodies and ecosystems located outside the park, particularly those that rely on water resources originating from the Cairngorms.</p> <p>Climate Change Mitigation: By sequestering more greenhouse gases and enhancing carbon storage in the long term, the nature theme projects contribute to climate change mitigation. While the immediate impact may be localised within the park, the reduction in greenhouse gas emissions can have broader implications by contributing to global efforts to mitigate climate change and reduce the transboundary effects of climate-related impacts.</p> <p>Cultural and Recreational Experiences: The enhancement of landscapes, habitats, and cultural heritage within the Cairngorms National Park can attract visitors from outside the area. The increased tourism and recreational activities may influence the socio-cultural fabric of neighbouring communities and have economic implications beyond the park's boundaries.</p>
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Table 7.3: People Theme Assessment

Theme 2: People	
SML	<p>Population and human health: The People Theme projects, within the Cairngorms 2030 programme, aim to have significant impacts on population and human health. By involving and empowering people in practical projects, the projects aim to foster a sense of ownership, responsibility, and empowerment, leading to pro-environmental behaviours. This engagement will create a stronger connection between people and the National Park, promoting a culture of care and stewardship. The projects will prioritise people's health and well-being, offering opportunities to improve living and working conditions, while achieving net-zero targets. Initiatives such as green health initiatives, a dementia resource centre, climate learning, arts and cultural events, and community-led climate action will directly contribute to enhancing people's health and well-being. These activities will encourage active lifestyles, provide access to nature and the outdoors and promote mental and physical well-being. Furthermore, the projects will inform people through workshops, training and resources, increasing awareness and understanding of climate, biodiversity and health issues. By enhancing knowledge and understanding, individuals will be better equipped to make informed decisions about their own health and contribute to the resilience of their communities. The People Theme projects have the potential to create a positive ripple effect, with benefits extending beyond individual well-being. Engaging communities and involving them in decision-making processes will foster a sense of community cohesion and resilience. This collective action can lead to increased social capital, improved community relationships and greater social support networks, all of which contribute to better population health outcomes.</p>



SML	<p>Biodiversity, fauna and flora: The People Theme projects within the Cairngorms 2030 programme have significant potential to positively impact biodiversity, fauna, and flora in the region. By involving people in practical projects and fostering a sense of ownership and responsibility, the projects aim to create a stronger connection between people and the natural environment, leading to a greater appreciation and understanding of biodiversity. Through initiatives such as community engagement, arts and culture programmes and community-managed climate grants, the projects can raise awareness about the importance of biodiversity, fauna, and flora and seek to fund community-led projects. This increased awareness can lead to more responsible behaviours and a greater willingness to protect and conserve local ecosystems. The Wellbeing Economy project, for example, focuses on promoting circular economic practices that support biodiversity conservation. By prioritising the well-being of both people and nature, the project aims to create economic systems that are in harmony with the environment, reducing the negative impacts on biodiversity and supporting the flourishing of fauna and flora. The Community Arts and Culture project can also play a role in highlighting the significance of biodiversity and ecosystems through creative expressions. Artistic endeavours, such as exhibitions, performances, and installations, can inspire people to appreciate and value the diverse flora and fauna present in the Cairngorms National Park.</p>
SML	<p>Soil: The People Theme projects within the Cairngorms 2030 programme can have significant impacts on soil health and quality. By involving people in practical projects and promoting sustainable practices, the projects aim to enhance soil conservation and fertility. The Wellbeing Economy project, for example, focuses on developing economic systems that prioritise the well-being of both people and the environment. This approach includes promoting sustainable land use practices that help maintain soil health and prevent erosion. By implementing regenerative agriculture techniques, such as cover cropping and rotational grazing, the project can improve soil structure, organic matter content, and nutrient cycling, leading to healthier and more productive soils. Furthermore, the Community Managed Climate Grant Scheme can support initiatives that focus on soil health and conservation. This could include projects aimed at promoting soil carbon sequestration, implementing agroforestry systems, or restoring degraded soils. By providing financial support and resources, the scheme enables communities to undertake projects that enhance soil quality and contribute to long-term soil health improvement. Overall, the People Theme projects have the potential to positively impact soil health within the Cairngorms National Park. By promoting sustainable land management practices, raising awareness, and providing resources, the projects can contribute to the conservation and restoration of soils, ensuring their long-term fertility and resilience.</p>
SML	<p>Water: The People Theme projects within the Cairngorms 2030 programme can have significant impacts on water resources and quality. Projects such as the Community Managed Climate Grant Scheme can support water-related initiatives, such as river restoration projects, wetland conservation, and water conservation programmes. These efforts can contribute to flood reduction, flow regulation, and the overall improvement of water ecosystems within the National Park. By informing and involving people in the importance of water resources, the People Theme projects help foster a sense of responsibility and stewardship towards water bodies within the Cairngorms National Park. Through community engagement, education, and the implementation of sustainable practices, these projects have the potential to positively impact water availability, quality and the overall health of aquatic ecosystems in the region.</p>



SML	Air, noise and light: The people theme projects in the Cairngorms National Park, particularly Climate Conscious Communities and Climate Learning & Education, will have minor positive effects on local air (and noise) quality, with more people in the Park minded to use less polluting forms of travel. As the Park generally has very good air quality, relative benefits may be minor. Overall, this will benefit local residents and visitors and will have direct positive benefits for people in terms of reducing respiratory illnesses and for young children, whose lungs are more susceptible to air pollution. Awareness raising, about the health and wellbeing impacts of poor air, noise and light quality on people, will lead to improvements.
SML	Climatic factors: The People Theme projects within the Cairngorms 2030 programme are expected to have significant impacts on climatic factors. By promoting sustainable practices and engaging communities, these projects aim to contribute to climate change mitigation and adaptation efforts. By giving people more control over their lives and the decisions that affect them, the People projects will create more resilient communities. They will increase the understanding between CNPA and its communities, increasing the potential and resilience of both and their combined ability to deliver net-zero successfully within the Park. Connecting people with their traditional culture and heritage helps deepen their sense of belonging and is essential in encouraging positive and sustainable behaviour required to support net zero, biodiversity and wellbeing ambitions. The People projects will build capacity and collaboration in the sector and strengthen people's connection to landscape and place, inspiring involvement in community-based climate action activity and encouraging behaviour change.
SML	Historic and cultural heritage: The People Theme projects within the Cairngorms 2030 programme are expected to have significant impacts on historic and cultural heritage within the National Park. For Cairngorms 2030, Heritage is the connection between people, place and nature - summed up in the word Dùthchas - the place, land or country one was born in/feels akin to and the custom, tradition, manner, or language that has been passed down through generations. The People projects recognise the importance of preserving and celebrating the rich heritage of the area, while promoting sustainable practices and community engagement. Within the Cairngorms National Park there is a wealth of cultural heritage which is a direct result of the people's interaction with the landscape, both in the present and in the past. To ensure that the unique qualities of the communities are retained for future generations the project team, and The Park Authority as a whole, will work to understand how best to engage with the people who live and work the CNP, as well as those who visit the Park. Specifically, the Climate Learning and Education project has at its core a Learning for Sustainability scheme which will encourage young people, supported by their educators (and other facilitators in their local communities), to identify and develop strong connections with the social, economic and natural heritage priorities that are most important to them. Their action plans will give them a route map of actions to strengthen, conserve and celebrate these connections.
SML	Material assets: The People Theme projects within the Cairngorms 2030 programme primarily focus on the well-being of people, community empowerment, and environmental sustainability. While the projects do not directly target material assets or extractive resources, their overall impact on material assets can be understood in the context of promoting sustainable practices and enhancing the long-term economic viability of the region. The Wellbeing Economy project aims to promote sustainable economic practices within the Cairngorms National Park. This includes supporting local businesses and industries that prioritise responsible resource management and reducing reliance on extractive resources. By encouraging sustainable practices, the projects contribute to the preservation of material assets. Likewise, the focus on community empowerment and climate-conscious initiatives can enhance the resilience of local businesses and economies. By promoting diversification and innovation, the projects may help to create a more robust and sustainable economic framework, reducing dependency on finite material assets.



SML	Landscape: The People Theme projects within the Cairngorms 2030 programme aim to create a stronger connection between people and the National Park, fostering a sense of ownership, care, and stewardship. While the primary focus of these projects is on community well-being and engagement, their impacts on the landscape can be significant. Several projects emphasise the importance of nature and environmental conservation. By engaging local communities and empowering them to participate in conservation activities, the projects contribute to the preservation and restoration of the landscape. The underlying premise of the People Theme is to make people feel more connected to the National Park, in order to engender a sense of ownership and care which then encourages people to want to look after and get involved in projects and opportunities that benefit both people and nature, with subsequent additional benefits across the landscape of the Cairngorms National Park.
SML	Inter-relationship issues: The People theme projects within the Cairngorms 2030 programme will have significant impacts arising from the inter-relationship of their implementation. By involving people in codesigning and delivering practical projects, such as skills development, green health initiatives, climate learning, arts and cultural events, community engagement and community led climate action, a sense of ownership, responsibility and empowerment will form, leading to more pro-environmental behaviours. Combined with progressive and sustainable active transport projects and landscape scale restoration and conservation, there are multiple stacking cumulative benefits to be realised. By acting as an exemplar for community resilience and engagement, there is also significant scope for the CNP People theme to have transboundary effects in inspiring others to act decisively at the local, regional, national and international levels.

Table 7.4: Place Theme Assessment

Theme 3: Place	
SML	Population and human health: The implementation of the Place Theme projects within the Cairngorms National Park is expected to have significant effects on population and human health. By prioritising active and sustainable travel options, these projects aim to bring about several positive outcomes. Firstly, the promotion of active travel, such as walking, wheeling and cycling, will encourage physical activity among residents and visitors. Increased physical activity has been associated with numerous health benefits, including improved cardiovascular fitness, reduced risk of chronic diseases and enhanced mental well-being. By providing high-quality active travel routes and supporting infrastructure, the projects will make it easier and more attractive for people to engage in physical activity as part of their daily routines, leading to improved overall health and fitness levels. Secondly, the reduction of private vehicle use and the increase in public transportation options will contribute to improved air quality within the park. By minimising carbon emissions and reducing pollution from vehicles, the projects will help create a cleaner and healthier environment for residents and visitors. Improved air quality has direct implications for respiratory health and can alleviate symptoms associated with respiratory conditions such as asthma and allergies. Furthermore, the shift towards sustainable travel choices is likely to have indirect effects on population and human health. By reducing car dependency and promoting active travel, the projects will contribute to decreased traffic congestion and road accidents, creating safer and more pleasant environments for pedestrians and cyclists. This, in turn, can enhance the overall well-being and safety of the community. Increased connectivity across the park can open up job opportunities, further boosting local economic well-being. Overall, the implementation of the Place Theme projects is expected to have positive impacts on population and human health by promoting physical activity, improving air quality, and creating safer and more sustainable transportation options. These effects have the potential to enhance the overall quality of life for residents and visitors of the Cairngorms National Park.



SML	<p>Biodiversity, fauna and flora: The Enacting the Place Theme projects within the Cairngorms National Park is likely to have minor positive effects on biodiversity, as the focus on sustainable and active travel, along with the associated infrastructure developments, can contribute to the conservation and enhancement of the park's natural habitats and species. One of the key impacts is the reduction of private vehicle use, which can help minimise habitat fragmentation and disturbance. By encouraging alternative modes of transportation, such as walking, wheeling and cycling, the projects aim to decrease the negative impacts of road networks on wildlife populations and their habitats. This reduction in traffic can lead to improved connectivity between habitats and less road related deaths to wildlife, allowing for the movement and dispersal of species and promoting biodiversity conservation. The promotion of active travel routes and infrastructure can also create opportunities for the restoration and enhancement of ecological corridors. These corridors can serve as important pathways for wildlife movement, facilitating gene flow and enabling the exchange of individuals between populations. Consequently, this can contribute to the maintenance of genetic diversity and the long-term viability of species within the park. Additionally, the projects' emphasis on sustainable practices aligns with the conservation objectives of the Cairngorms National Park. By reducing carbon emissions and promoting environmentally friendly transportation options, the projects contribute to mitigating climate change, which is a significant driver of biodiversity loss. The conservation of biodiversity is closely linked to climate change mitigation efforts, as healthy ecosystems can act as carbon sinks and support the adaptation of species to changing environmental conditions.</p>
SML	<p>Soil: Enacting the Place Theme projects in the Cairngorms National Park is likely to have minor positive impacts on soils. While the specific effects may vary, depending on the nature of individual projects, there are some general outcomes that can be anticipated. Firstly, the promotion of sustainable and active travel, including the development of walking, cycling and wheeling infrastructure, can help reduce soil erosion. By encouraging alternative modes of transportation that minimise vehicle use, the projects aim to decrease the need for road construction and maintenance, thereby reducing soil disturbance and erosion associated with traditional transportation infrastructure.</p>
SML	<p>Water: The Place Theme projects within the Cairngorms 2030 programme can have minor indirect positive impacts on water resources and quality. In addition, the promotion of sustainable and active travel options can contribute to reducing the carbon footprint associated with transportation. This, in turn, helps mitigate climate change, which has implications for water resources. Climate change can affect the availability and distribution of water, leading to changes in precipitation patterns, increased frequency of extreme weather events, and altered hydrological cycles. By addressing climate change through sustainable practices, the projects indirectly contribute to the preservation of water resources. A reduction in overall motor vehicle use, due to an increase in walking, cycling and wheeling will also reduce the amount of pollutants in road run-off, i.e. the water the flows across and off roads—which a danger to the water environment, as it carries pollutants onto adjacent land, as well as into watercourses and drains.</p>



SML	Air, noise and light: The implementation of the Place Theme projects in the Cairngorms National Park is likely to have significant impacts on air quality, noise levels and light pollution, ultimately leading to a more favourable environment for both humans and wildlife. Improving air quality is a likely result of the projects, due to a reduction in overall traffic numbers and subsequent air pollution. This directly benefits the health and well-being of the population. This reduction in emissions can lead to improved air quality, particularly in areas with high traffic or congestion, resulting in a healthier and cleaner atmosphere for residents and visitors. Although not a primary focus of the projects, noise pollution levels may be indirectly mitigated. By promoting active and sustainable travel modes, such as walking and cycling, the projects can contribute to reducing noise from motorised vehicles. Encouraging quieter and more environmentally friendly modes of transportation can help create a quieter environment, especially in urban and residential areas, leading to improved quality of life and well-being for individuals.
SML	Climatic factors: The implementation of the Place Theme projects in the Cairngorms National Park is expected to have significant impacts on climatic factors, particularly in terms of reducing greenhouse gas emissions and adapting to the effects of climate change. One of the key goals of the projects is to promote sustainable and low-carbon practices, such as active and sustainable transportation, energy efficiency, and renewable energy generation. By encouraging the use of public transport, walking and cycling, the projects aim to reduce reliance on fossil fuel-based vehicles, leading to a decrease in greenhouse gas emissions. This can contribute to mitigating climate change and achieving Scotland's net-zero carbon targets. By addressing both mitigation and adaptation, the Place Theme projects in the Cairngorms National Park aim to reduce the Park's contribution to climate change, while enhancing its ability to cope with the impacts of a changing climate. This comprehensive approach is crucial in ensuring the long-term sustainability and resilience of the park's ecosystems, economies and communities, in the face of the climate crisis.
SML	Historic and cultural heritage: The Place Theme projects in the Cairngorms National Park are likely to have minor positive impacts on the historic and cultural heritage of the area. Increasing sustainable and active travel options may help to open up access to a wider breadth of the Park's visitors and residents, increasing their awareness of the cultural heritage of the area. The positive impacts on the local communities and visitors may also include an increased sense of pride and connection to their heritage, fostering a stronger sense of place and belonging. This can contribute to improved well-being and quality of life for residents, as well as enhancing the visitor experience and attracting cultural tourism.
	Material assets: The Place Theme projects within the Cairngorms 2030 programme are not predicted to have any effects, positive or negative, on material assets in the Park.
SML	Landscape: The shift towards active travel modes will also have positive effect on the landscape. As people engage in walking, cycling and wheeling, they will have a closer connection to the natural surroundings and a greater appreciation for the scenic beauty of the park. The Place theme projects include the development of high-quality walking and cycling routes, the enhancement of trail networks and the improvement of infrastructure to support active travel, all of which contribute to a more sustainable and visually appealing landscape. Moreover, reducing private car use and promoting active travel will alleviate the pressure on road networks and parking facilities, resulting in less infrastructure development and land consumption. This can help preserve the natural character and integrity of the landscape, preventing further fragmentation and disturbance.



SML

Inter-relationship issues: When considering the inter-relationship impacts of the Place theme, several significantly positive effects can be anticipated. The Place theme focuses on delivering improved transport choices for all, with an increase in use of public transport in the Park and walking, wheeling and cycling becoming the preferred choice for short journeys. This will result in reduced social inequalities, improved health and wellbeing for individuals and a greater connection and appreciation of local heritage. The integration of the Place theme can help address social inequalities and promote social inclusion. For example, providing accessible and inclusive active travel infrastructure can ensure that individuals from diverse backgrounds and abilities have equal opportunities to engage with nature and enjoy the benefits of the park. The Place theme may also strengthen the connection between people and the park, fostering a sense of place and cultural identity. By promoting the preservation of, access to and celebration of cultural heritage, traditions and local knowledge, there is a potential for increased pride, attachment and stewardship, among residents and visitors in the CNP. Increased access to the physical environment, including green spaces, recreational areas and access to nature, can also have positive impacts on human well-being. The Place theme projects can provide opportunities for relaxation, physical activity and connection with nature, leading to improved mental and physical health outcomes. The Place theme projects also aim to engage communities and stakeholders in decision-making processes, empowering them to actively shape the future of the park. By fostering social cohesion and community resilience, the projects can contribute to a sense of collective responsibility, cooperation and shared goals. There is also the potential for conflicts and trade-offs between different aspects of the themes. For example, while promoting active travel and reducing private car use can have positive environmental impacts, it may require changes in land use and infrastructure development that could impact certain natural habitats or cultural heritage sites. Balancing these considerations is crucial to minimise conflicts and maximise overall benefits.

7.5. Proposed mitigation and enhancement measures

Schedule 3 (7) of the SEA Act requires an explanation of the measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment of implementing the Plan. To increase the functionality of the SEA process, it was further decided, following consultation with the wider SEA team, to include suggested enhancements to the projects, where applicable. These are included in the project level assessment in Appendix B. The overall assessment highlighted that 2030 Programme will be a vital resource to address the climate and nature crises, with its focus on Nature, People and Place as one linked system.

The SEA demonstrated that the C2030 Programme should result in positive effects across the full range of environmental issues, particularly in terms of population and human health, climatic factors, biodiversity, air, soils, water, landscape and cultural and historic heritage. No negative environmental effects from the implementation of the Programme were identified.

The findings of the assessment have assisted in the further development of the C2030 Programme and helped to focus communications and actions across CNPA Resources. This will help ensure the successful delivery of the C2030 Programme and will facilitate the enhancement, reduction and offsetting of key environmental issues identified through the SEA process.



Preparing the C2030 Programme in tandem with the SEA allowed greater synergy and clarity and resulted in better consistency in approach to considering environmental issues. The SEA process has reinforced the importance of local environmental issues to people and communities and has helped to shape the C2030 Programme to have a more holistic approach. The process has helped to underline that the climate crisis must be addressed alongside the ecological emergency and that nature-based solutions are essential to mitigate negative environmental effects and to enhance positive effects, whilst ensuring that deep community engagement is at the core of delivering the C2030 Programme.

Development of the C2030 Programme was carried out in tandem with the SEA process. There were a lot of benefits in the process, particularly with regards to the SEA informing the development of the C2030 Programme's priorities and outcomes. This enabled the priorities and outcomes to be refined and more focussed and facilitated a series of actions which will be included within the final Programme, following public consultation of the C2030 Programme and this Environmental Report.

The SEA also informed aspects of the C2030 Programme's development:

Population and human health

The SEA helped to provide a wider perspective on how the C2030 Programme's themes are expected to have a significant impact on the SEA objective of population and human health in the context of creating a thriving environment that promotes the well-being of both residents and visitors, aligning with the goal of providing improved human health within the park.

Biodiversity

The SEA reinforced the need to have a collaborative and widespread approach to address the climate emergency in tandem with the ecological emergency, to get optimum results for people and nature. The SEA affirmed the key role that biodiversity has in adapting to and mitigating climate change and underlined the need for biodiversity to be considered at the core of the C2030 Programme.

Water

The SEA underlined and promoted the vast benefits likely to occur on the water environment through a variety of projects, notably peatland and catchment restoration and the importance of good quality water environments for people, communities and nature.

Air, noise and light

The SEA highlighted benefits likely to accrue from the active and sustainable transport projects, particular on the reduction of particulate matter and impacts on local air quality.

Climatic factors

The SEA underlined the approach that addressing the climate crises is ultimately, the cornerstone that underpins the success of the proposed programme as a whole.



Material assets

The SEA highlighted the need for collaborative working across the CNPA and wider partners to ensure sustainable land use and the benefits of a circular economy, in regard to finite and renewable resources.

Historic and cultural heritage

The SEA was in tandem with the CNPA team's understanding that deep community engagement and a people-focussed approach would likely result in the most enduring benefits across all sectors, ensuring long-lasting community buy-in and support.

Landscape

The SEA supported the need to consider multiple stakeholder opinions and suggested means to explore the complexity of subjectivity in a systematic and in-depth way, where there are multiple and differing views, or contentious or sensitive viewpoints on a topic.



8. Monitoring

It is a requirement of the Environmental Assessment (Scotland) Act 2005 that the significant environmental effects of implementing a plan or program are monitored.

SEA monitoring should be undertaken for the following reasons:

- To identify whether the SEA's predictions of environmental effects were accurate.
- To identify unforeseen adverse effects and to enable appropriate remedial action to be taken.
- To identify whether the plan is contributing to the achievement of the SEA Objectives.
- To identify whether mitigation measures are performing as well as expected.
- To identify whether any adverse effects are within acceptable limits or whether remedial action is required.
- To compile a baseline for future plans and programmes.
- To provide information for the EIAs of projects.

Extensive monitoring has been proposed for the projects within the C2030 Programme to date and is detailed in Table 8.1. The monitoring programme is being developed to help prevent, reduce or offset significant adverse effects and enhance positive effects for the C2030 Programme's projects. These include an action plan and an outcome monitoring plan, with a range of indicators which will measure progress against each environmental factor and the success of the projects as a whole.

The monitoring of the projects will assist in the early identification of any environmental issues (either positive or negative) associated with the implementation of the C2030 Programme.

Finalisation of these monitoring plans will consider appropriate comments received through the consultation process.



Table 8.1: Monitoring and Evaluation Overview

Project #	Project Name	Monitoring proposed
1a	Wellbeing economy	<ul style="list-style-type: none"> Monitoring and evaluation will require development through MB Associates /wellbeing Economy Working Group /SEFARI, over spring 2023.
1b	Public health & the Outdoors	<ul style="list-style-type: none"> Numbers of referrals will be monitored; numbers of referrals from each participating practice; numbers of patients engaging in referral; number of completed action plans. Each patient referred, through the Nature Prescriptions programme, will be asked to complete a short “entry questionnaire”, which will include some questions about current contact with nature, physical activity, perceived barriers and the short 7-question Warwick and Edinburgh Mental Wellbeing Scale (WEMWBS). An equivalent follow-up questionnaire will be completed, at the patient review session (following an appropriate timescale agreed with the patient), so that comparative/progress data can be captured, and impact ascertained. Individual case studies / personal stories will be captured, in agreement with patients. UHI Centre for Rural Health (Prof Sarah-Anne Munoz) investigating deeper evaluation of use of the Primary Care Vision system, through application for a research grant from the National Institute for Health and Care Research under the “Health and health inequalities impact of place-based interventions” application process, throughout 2023. Research would commence Feb/March 24. Quality improvement projects, intended to be undertaken in 2023, during the early stages of pilot and delivery: 1) the patient experience, and 2) the practitioner experience.
1c	Dementia Resource Centre	<p>Progress towards achieving each of the designated 8 outputs will be monitored by the following processes and tools:</p> <ul style="list-style-type: none"> Fortnightly C2030 People Theme meetings. Fortnightly Project team meetings. Quarterly project reports including financial reporting and RAID reporting. Click Up tool. Internal monitoring through monthly reports and Shared Information System. There will be further input from MB Associates and UHI regarding indicators.
2a	Climate Learning & Education	<p>Monitoring and evaluation will be through the following indicators:</p> <ul style="list-style-type: none"> Strand 1 Indicator: Each school will have an annual implementation plan of activity that is taken from their LfS action plans.



		<ul style="list-style-type: none"> • Strand 2 Indicator: By Year 5 of delivery, 70% of feeder schools will be able to demonstrate progress with their own LfS learning framework (possibly collaborating with the High School Action Plans or developing their own). • Strand 3 Indicator: Each participating school will have a story of change to share that demonstrates the change they have managed to bring about. • Strand 4 Indicator: Collaborative and supportive networks established, as per recommendations from delivery phase. <p>Young People and Educators</p> <ul style="list-style-type: none"> • 4a. Self-reported changes to behaviour due to 'climate consciousness'. • 7a. Perceptions of connection to heritage among students and educators. • 7b. Demographic profile of programme participants & sample completing the evaluation questions for 7a. • 9a. Sustainable behaviour change index, combining qualitative and quantitative data. <p>Young People</p> <ul style="list-style-type: none"> • 3c. Number of CLE activity plan completed projects, funded by CNPA/Programme (grant scheme). • 11a. Number & diversity of collective responses to climate change across action plans 11b. Perceptions of ability to act collectively on climate change. <p>Schools</p> <ul style="list-style-type: none"> • 16a. Number of partnerships/networks established & number of/diversity of actors/types within them • 16b. Amount of external funding and support leveraged • 19b. Actual and proposed change reported by partners.
2b	Effective Community Engagement	<ul style="list-style-type: none"> • To be developed during Summer/ Autumn 2023.
2c	Communities Arts & Culture	<p>Monitoring and evaluation will be through the following indicators:</p> <ul style="list-style-type: none"> • Strand 1 Indicator – A creative network is established across the National Park and 3/4 network sessions are delivered annually. • Strand 2 Indicator – See NPPP4 (National Park Partnership Plan 4) C10 Cultural Heritage Indicator. • Increasing number of community led cultural heritage projects are delivered • Strand 3 Indicator – A Park wide “festival” concept is established/in planning by Year 5. • Strand 4 Indicator - Annual Creative Residency is implemented, collaborating with Bothy Project. <p>Creative Practices</p> <ul style="list-style-type: none"> • 7a. Perceptions of connection to heritage among residents and visitors. • 7b. Demographic profile of programme participants & sample completing the evaluation questions for 7a.



		<ul style="list-style-type: none"> 10a. Number of people employed on the living wage (% increase) / (% of total employment) (& demographic spread) - specific to creative practices 16a. Number of partnerships/networks established & number of/diversity of actors/types within them 16b. Amount of external funding leveraged <p>Participants and Audiences</p> <ul style="list-style-type: none"> 1a. Involvement of specific EDI (Equalities, Diversity and Inclusion) groups in the programme. 4a. Self-reported changes to behaviour due to 'climate consciousness'. 6a. Total number of people volunteering in the programme/ total volunteer hours. 16a. Number of partnerships/networks established & number of/diversity of actors/types within them 21a. Sustained collaborations across projects for delivery of holistic approaches to tackling climate change.
3a	Climate Conscious Communities	<p>Monitoring and evaluation will be through the following criteria:</p> <p>Individuals:</p> <ul style="list-style-type: none"> 4a. Self-reported changes to behaviour due to 'climate consciousness' 8a. Perceptions of living, working & visiting the Park, pre & post programme. 8b. Community wellbeing index or Place Standard Tool. 8c. Sentiment on social media in response to programme activity. 9a. Sustainable behaviour change index, combining qualitative and quantitative data. <p>Groups:</p> <ul style="list-style-type: none"> 11a. Number & diversity of collective responses to climate change. 11b. Perceptions of ability to act collectively on climate change. 14a. CNPA skills matrix. 15a. Number and diversity of responses to consultation on community action places 15b. Numbers and demographics of those participating in engagement activities. Numbers volunteering on projects via Volunteer Cairngorms
3c	Community Managed Climate Grants	To be developed during Summer/ Autumn 2023.
4b	Green Financing & Investment	<ul style="list-style-type: none"> Uptake of private investment support for Nature Restoration projects within CNP.
5a	Woodland expansion	<ul style="list-style-type: none"> By number of hectares of woodland planted. Forestry Grant Scheme contract award checks, as per standard Scottish Forestry schedule of checks. 'Biodiversity value' surveys intended for before and after planting.



5b	Peatland Restoration	<ul style="list-style-type: none"> The main metric for success from this project will be the area of drained and degraded peat that is restored within the National Park. This data, along with costs and the number of projects, will be collated at the end of each year. Each project will have a formal end of project report that will detail its outcomes, including costs and information on those involved and wider engagement. Date will be reported to key project partners such as the Scottish Government Peat Action team, NatureScot and the International Union for Conservation of Nature.
5c	Climate Resilient Catchments	<p>Monitoring and evaluation for the project outcomes will be as follows:</p> <ul style="list-style-type: none"> Habitat Outcomes: Habitat will be created and improved instream, on the floodplain and in the riparian zone for a variety of key groups (e.g., waders, invertebrates and species linked to river designation, e.g., salmon, pearl mussel, otter, sea lamprey). Created and improved habitats will increase connectivity with surrounding habitats. Monitoring: records will be kept of the extent and types of each habitat created or improved. Mapping will be conducted to monitor linkages with surrounding habitats (e.g., by drone or satellite aerals). Monitoring will be conducted for key invertebrate, wading bird and fish species and will be contextualised within regional trends. eDNA will be used to enable wider surveys of some species groups e.g., macroinvertebrates. Evaluation: success will be measured by an increase in the various habitats (riparian woodland, wetlands, wader scrapes, instream habitats) and their connectivity to wider habitats in the catchment. Flooding and Drought Outcomes: contribution to wider catchment's improvements to reduce flooding impacts and increase drought resilience. Monitoring: project construction will be designed to maximise the modelled reduction in flooding and increase in drought resilience and progress towards this will be monitored through delivery of the project to the design specifications. Directly measuring the changes to flooding or drought is outwith the scope of this project as it would require intensive monitoring at control sites or similar. Therefore, monitoring will be conducted, through delivery of the project, to the modelled outcomes. Evaluation: success will be catchment projects that have been delivered to their design criteria and thus deliver the modelled reduction in flooding and drought increase. Community outcomes: increased amenity value for local community and visitors and increased awareness of climate-resilient catchments. Monitoring: extent of amenity value created (e.g., length of path created, area of car park improved) and type of interpretation (e.g., information boards) will be recorded. Increased awareness of healthy catchments will be monitored through recording the type and number of hours of community engagement delivered (e.g., educational visits to sites by schools, hours of volunteering conducted by community members, number of social media posts and engagement with these). Evaluation: success will be measured by an increase in access (e.g., path lengths) and interpretation (e.g., boards erected) installed and a measure of the proportion of the immediate local community engaged in learning about climate-resilient catchments.



5d	Nature Recovery	<ul style="list-style-type: none"> • Peatland restoration and woodland expansion applications through established Scot Govt support schemes and associated periodic review procedures. • Establishment of biodiversity baselines to enable future review and quantification of progress. • Uptake of private investment support for Nature Restoration projects within CNP. • Uptake of recommendations resulting from Development Phase data collection and applied science.
5e	Cairngorms Future Farming	<p>Monitoring of the project's three key objectives and evaluation of their successes is summarised below:</p> <ul style="list-style-type: none"> • Each pilot farm will have a lower carbon footprint and higher biodiversity and habitat connectivity, whilst ensuring the farm business remains profitable. • Monitoring: carbon audits will be repeated annually and extended phase 1 habitat surveys will be repeated at the middle and end of the project. Additional monitoring to be conducted at the start of the delivery phase and repeated near its end will include soil sampling for carbon and nutrients and nutrient management plans. More regular monitoring of certain species/ groups will also be conducted, e.g., bee transect lines, plant diversity surveys. • Evaluation: success will be demonstrated by: a reduction in carbon and other greenhouse gas emissions; an increase in carbon storage or sequestration; an improvement in habitat quality and connectivity; and stability or improvement in the farms' finances. • Establish a peer-peer knowledge exchange framework to encourage more National Park farmers to up-take similar nature and climate- friendly farming practices. • Monitoring: progress towards the knowledge exchange framework establishment by various milestones, with some or all pilot farmers signed up to take part. Development of network of farms who are interested in being part of knowledge exchange network. • Success: A knowledge exchange framework set up. Some, if not all, of the 6 farms actively taken part in sharing their practical experiences of implementing nature and climate- friendly farming practices, as part of the project, to their neighbours or further afield. Success would be an appreciable number of farmers in various areas of the park being engaged. • Communicate the challenges, successes and practicalities of implementing these nature and climate-friendly practices, to influence farmers across the Highlands and relevant Government policy and funding. • Monitoring: Development of case-studies for some, or all, of the 6 pilot farms suitable for different audiences. Recording of outreach to agricultural students. Recording number and potential audiences or reach of social media posts and articles in local or wider publications, including monitoring numbers of views/ likes/ shares etc on posts. • Success: The case-studies and learnings from the project have been communicated with farming groups outside the CNP, and with relevant policymakers.



5f	Landscape and Communities	<p>The project will monitor and evaluate success towards each of the seven project-specific outcomes:</p> <ul style="list-style-type: none"> • 1. Better understanding of how communities perceive, experience and value the Special Landscape Qualities (SLQs) of the Cairngorms National Park, through engaging with representatives of all communities which have an interest in the landscape of the National Park. • Monitoring: records of communities reached, numbers and demographics of individuals engaged against specified targets of each of these. Target numbers of communities will be set for relevant quarters. • Success: All pre-identified communities of place and interest and all target audiences reached, including statistically representative numbers of each. • 2. Identification/ confirmation of the SLQs of the Cairngorms National Park and community preferences for different SLQ attributes and the creation of a predictive model for future landscape change options. • Monitoring as for 1 but for the community preferences study. • Success as for 1, plus the production of an updated list of SLQs that reflects how communities perceive, experience and value SLQs, and their preferences for change for each, and production of a predictive model for future change options. • 3. Maps of the SLQs of the Cairngorms National Park to enable future monitoring of change. • Monitoring: progress towards the production of maps of each SLQ. • Success: maps of each SLQ (or group) output and framework for updating maps (related to regularity that relevant datasets are updated), designed and agreed upon with GIS Team. • 4. Improved engagement with everyone with an interest in the landscape of the National Park, regarding the SLQs using different formats or tools. • Monitoring: engagement with knowledge and awareness outputs, e.g., views/ shares of social media posts, visitors to web pages and guidance sheets, views of videos, etc. • Success: a structured programme of engagement delivered. • 5. Establish framework for continued landscape knowledge exchange within the National Park. • Monitoring: records of connections made with potential landscape champions and volunteers, progress towards establishing a landscape forum, records of events with volunteers etc. • Success: Network of landscape champions from across the park actively engaged. Landscape forum/panel established. • 6. Contribute to organised events to promote and engage on SLQs of the National Park. • Monitoring: register of events attended and types of engagement conducted, plus reflection on success of events and numbers/ demographics of people engaged. • Success: variety of events attended, with positive engagement, with broad range of people.
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		<ul style="list-style-type: none"> • 7. Exchange of information and provision of landscape advice for other Heritage Horizons Cairngorm 2030 projects (HH projects), so interim findings input nature-based solutions across the programme. • Monitoring: records of provision of advice to other HH projects. • Success: Siting and design of other projects' schemes adapted to respond to SLQs of the National Park.
6h	Cycle Friendly Cairngorms	<ul style="list-style-type: none"> • Number of spot hire hubs schemes established. • Number of bike hires. • Number of businesses participating in cycle friendly welcome scheme. • Number of people trained/upskilled. • Feedback survey from participants.
6i	Active Communities	<ul style="list-style-type: none"> • Number of communities engaged. • Length of improved active travel routes.
6j	Sustainable Travel	<ul style="list-style-type: none"> • Number of public transport routes that carry bikes. • Number of bus passengers travelling within the National Park. • Number of rail passengers travelling to/from rail stations within the National Park. • Number of cycle parking stands at public transport interchanges (e.g. stations, bus stops).
6k	Changing Travel Behaviours	<ul style="list-style-type: none"> • Number of activities delivered. • Number of engagement events. • Number of participants. • Follow up surveys to determine lasting impact of programme.
	Knowledge Exchange	<p>A success on this project will be for all projects to show their baseline data, measurements, learning and evaluation and for these results to be shared. Furthermore:</p> <ul style="list-style-type: none"> • 1. There will be clear evidence and reporting on 'where we started from'. • 2. There will be clear evidence and reporting on 'what we achieve', through both individual project level outputs and wider programme level outcomes. • 3. There will be clear evidence and reporting on the journey, changes and learning, as each project progresses towards the outcomes. • 4. The information and learning will be shared in diverse networks across research, policy and practice, at all geographical scales.



8.1. Consultation / Next Steps

The SEA Environmental Report will be submitted to the SEA Gateway and consulted on, with the Consultation Authorities, for a period of 6 weeks, between July and mid-August. Following consultation on the ER, the Park Authority will consider any comments received and will amend the ER, where appropriate. This will take place in the summer of 2023. All documents will be available for inspection in the Park Authority's main office, in Grantown-on-Spey, and in on its website.

Once the SEA has been adopted, an Adoption Statement will be published. The Adoption Statement will summarise how the Park Authority took the findings of the SEA process into account and how environmental considerations more generally have been integrated into the C2030 Programme. It will also be stated, within the Post-adoption Statement, if any changes have been made to the Programme as a result of the SEA process and following responses to consultation. If changes have been rejected, this will also be explained.

It will also be necessary for the Park Authority to monitor significant effects following the adoption of the C2030 Programme, in accordance with the Scottish Government's SEA Guidance (2013).

8.2. Future milestones in the development and adoption of the 2030 Programme

Table 8.2 outlines completed and projected next steps in the SEA process.

Table 8.2: Future milestones in the development and adoption of the Programme

Proposed timescale	Community Plan	SEA process
June 2023	Finalise C2030 Programme	Carry out SEA and prepare Environmental Report
July - August 2023	Formal consultation on the draft C2030 Programme	Submit Environmental Report to the Consultation Authorities, via SEA Gateway, for six weeks consultation
September 2023	Consider consultation feedback and reflect in C2030 Programme, where appropriate	Consider comments and revise Environmental Report, as appropriate
September 2023	Approval of C2030 Programme	Finalise the monitoring programme and prepare the Post Adoption Statement
September 2023	C2030 Programme implementation	Post Adoption Statement finalised and issued to SEA Gateway
Annually thereafter	Monitor and review	Monitor and review



9. Habitats Regulations Assessment

9.1. Introduction

The Cairngorms National Park Authority (CNPA) is currently developing their 2030 Programme and as the responsible authority, the CNPA is also tasked with undertaking Habitats Regulation Assessment to comply with Regulation 105 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[1], hereafter referred to as the Habitats Regulations.

This report covers the area of the programme that relates to the Outdoor Dementia Resource Centre within the Cairngorms National Park.

This HRA report includes the Stage 1 Screening (see Section 9.11) of the HRA process, outlining the designated European Site[s] identified within the first Screening stage which could potentially be impacted by the project.

Habitats Regulations Assessment is also commonly referred to as Appropriate Assessment (AA) although the requirement for AA is first determined by an initial 'screening' stage undertaken as part of the full HRA. This report addresses the future requirements Appropriate Assessment stage of the HRA; it outlines the key tasks undertaken and the key findings/ recommendations emerging from the assessment.

9.2. Overview of HRA

The Habitats Regulations Appraisal (HRA) is a precautionary, rigorous, and legally binding process designed to protect Scotland's European sites¹⁷. It ensures that competent authorities carefully consider the potential impacts of plans and projects on Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or Ramsar Sites (Ramsar sites support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971)) before granting authorisation. The HRA consists of a series of stages summarised below in section 9.3.

For ease of reference during HRA, these three designations (SACs, SPAs, and Ramsar sites) are collectively referred to as European sites, despite Ramsar designations being at the international level.

The overall purpose of the HRA is to conclude whether or not a proposal or policy, or the whole development plan, would adversely affect the integrity of the European site in question either alone or in combination with other plans and projects.

This is judged in terms of the implications of the plan for the 'qualifying features' for which the European site was designated, i.e.:

- SACs – Annex I habitat types and Annex II species.

¹⁷ Special Areas of Conservation and Special Protection Areas are sites of European importance: there is no change to the standard of protection as a result of EU Exit. The term 'European site' is being used to refer to what were previously known as 'Natura' sites. This recognises that Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) protect species and habitats shared across Europe and were originally designated under EU legislation.



- SPAs – Annex I birds and regularly occurring migratory species not listed in
- Annex I.
- Ramsar sites – the reasons for listing the site under the Convention.

9.3. European sites

Nearly half of the Cairngorms National Park is designated as European sites, which form part of a wider network of such sites that are considered the best for wildlife in Europe.

There are two types of European Site within the National Park: Special Areas of Conservation (SACs, figure 1) and Special Protection Areas (SPAs, figure 2).

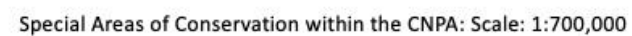
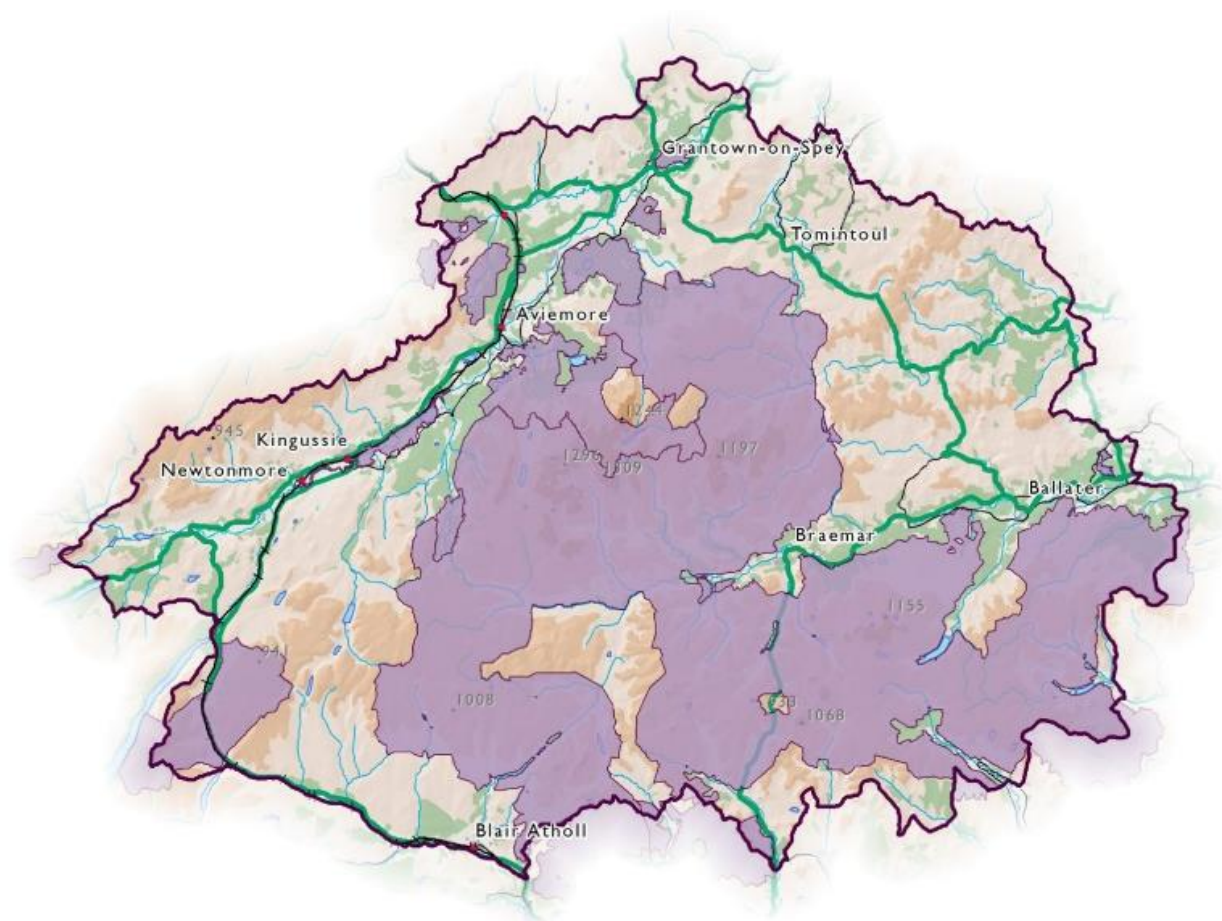


Figure 9.2: CNPA SPAs



Special Protection Areas within the CNPA: Scale: 1:700,000



There are over 20 SACs within or overlapping the National Park covering an area of around 1,063 km² (or 24% of the National Park's area). Around 53% of the land area protected as an SAC falls within the Cairngorms SAC, which is the third largest in Scotland. There are 16 SPAs within or overlapping the National Park (Figure XX), covering an area of around 2,013 km² (or 45% of the National Park's area).

With around 1,733 km² of its 1,875 km² within the National Park, The Cairngorms Massif SPA contributes 68% of the land protected as an SPA within the National Park. It is the largest in Scotland.

Table 9.1 provides information on SACs and SPAs both within and overlapping the Cairngorms National Park. Sites are listed with their qualifying interests, the latest assessment of their respective conditions and when the assessments took place.

Table 9.1: SACs & SPAs within the Cairngorms National Park (as of March 2023).

SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
SAC	Ballochbuie	Blanket bog	Favourable Recovered	23/06/2017
		Bog woodland	Unfavourable No change	02/08/2011
		Caledonian forest	Unfavourable No change	08/08/2011
		Dry heaths	Unfavourable No change	01/10/2006
		Otter (Lutra lutra)	Favourable Maintained	12/11/2011
		Plants in crevices on acid rocks	Favourable Maintained	23/06/2017
		Plants in crevices on base-rich rocks	Favourable Maintained	23/11/2004
		Wet heathland with cross-leaved heath	Unfavourable No change	01/11/2006
SAC	Beinn a' Ghlo	Acidic scree	Favourable Maintained	03/07/2017
		Alpine and subalpine heaths	Favourable Maintained	03/07/2017
		Base-rich fens	Favourable Recovered	26/08/2015
		Blanket bog	Favourable Recovered	22/07/2010
		Dry grasslands and scrublands on chalk or limestone	Unfavourable Recovering	22/07/2010
		Dry heaths	Unfavourable No change	19/08/2004



		Geyer's whorl snail (<i>Vertigo geyeri</i>)	Favourable Maintained	03/07/2017
		Hard-water springs depositing lime	Unfavourable Recovering	26/08/2015
		High-altitude plant communities associated with areas of water seepage	Favourable Maintained	03/07/2017
		Montane acid grasslands	Favourable Recovered	03/07/2017
		Plants in crevices on acid rocks	Favourable Maintained	03/07/2017
		Plants in crevices on base-rich rocks	Favourable Maintained	03/07/2017
		Round-mouthed whorl snail (<i>Vertigo genesii</i>)	Favourable Maintained	19/06/2017
		Species-rich grassland with mat-grass in upland areas	Favourable Recovered	22/07/2010
SAC	Caenlochan	Acidic scree	Unfavourable Declining	30/08/2012
		Alpine and subalpine heaths	Unfavourable No change	16/07/2006
		Base-rich fens	Unfavourable No change	16/07/2006
		Base-rich scree	Favourable Maintained	16/07/2006
		Blanket bog	Unfavourable No change	16/07/2006
		Dry heaths	Unfavourable No change	16/07/2006
		Grasslands on soils rich in heavy metals	Favourable Maintained	16/07/2006
		High-altitude plant communities associated with areas of water seepage	Favourable Recovered	18/09/2012
		Montane acid grasslands	Unfavourable No change	08/09/2012
		Mountain willow scrub	Unfavourable No change	23/08/2012



		Plants in crevices on acid rocks	Favourable Maintained	16/07/2006
		Plants in crevices on base-rich rocks	Favourable Maintained	18/09/2012
		Species-rich grassland with mat-grass in upland areas	Unfavourable No change	16/07/2006
		Tall herb communities	Favourable Maintained	18/09/2012
SAC	Cairngorms	Acid peat-stained lakes and ponds	Favourable Maintained	09/09/2014
		Acidic scree	Favourable Maintained	08/09/2015
		Alpine and subalpine heaths	Favourable Recovered	21/08/2021
		Blanket bog	Unfavourable Recovering	21/09/2021
		Bog woodland	Favourable Maintained	05/09/2002
		Caledonian forest	Unfavourable Recovering	05/10/2015
		Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained	23/06/2010
		Dry grasslands and scrublands on chalk or limestone	Unfavourable Recovering	15/09/2021
		Dry heaths	Unfavourable Recovering	14/09/2021
		Green shield-moss (Buxbaumia viridis)	Favourable Maintained	02/05/2006
		Hard-water springs depositing lime	Favourable Maintained	03/04/2007
		High-altitude plant communities associated with areas of water seepage	Unfavourable Recovering	01/09/2021



		Juniper on heaths or calcareous grasslands	Favourable Maintained	01/09/2021
		Montane acid grasslands	Favourable Recovered	06/09/2021
		Mountain willow scrub	Unfavourable Recovering	01/09/2021
		Otter (Lutra lutra)	Unfavourable Declining	22/09/2011
		Plants in crevices on acid rocks	Favourable Maintained	03/09/2021
		Plants in crevices on base-rich rocks	Unfavourable No change	01/09/2021
		Species-rich grassland with mat-grass in upland areas	Unfavourable Declining	15/08/2021
		Tall herb communities	Favourable Maintained	01/09/2021
		Very wet mires often identified by an unstable 'quaking' surface	Favourable Maintained	28/09/2021
		Wet heathland with cross-leaved heath	Favourable Recovered	24/09/2021
SAC	Coyles of Muick	Grasslands on soils rich in heavy metals	Favourable Maintained	03/08/2006
SAC	Creag Meagaidh	Acidic scree	Favourable Recovered	29/09/2015
		Alpine and subalpine heaths	Favourable Recovered	02/10/2015
		Blanket bog	Unfavourable No change	30/09/2005
		Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained	10/06/2010
		Dry heaths	Unfavourable No change	30/09/2005
		Montane acid grasslands	Favourable Maintained	02/10/2015



		Mountain willow scrub	Unfavourable No change	01/09/2005
		Plants in crevices on acid rocks	Favourable Maintained	02/10/2015
		Plants in crevices on base-rich rocks	Favourable Maintained	02/10/2015
		Tall herb communities	Favourable Recovered	29/09/2015
		Wet heathland with cross-leaved heath	Unfavourable No change	30/09/2005
SAC	Creag nan Gamhainn	Hard-water springs depositing lime	Favourable Maintained	26/06/2013
SAC	Dinnet Oakwood	Western acidic oak woodland	Favourable Maintained	12/07/2002
SAC	Drumochter Hills	Acidic scree	Favourable Maintained	06/07/2006
		Alpine and subalpine heaths	Unfavourable No change	05/07/2006
		Blanket bog	Unfavourable No change	06/07/2006
		Dry heaths	Unfavourable No change	06/07/2006
		Montane acid grasslands	Favourable Recovered	08/08/2013
		Mountain willow scrub	Unfavourable Declining	08/08/2013
		Plants in crevices on acid rocks	Favourable Maintained	08/08/2013
		Species-rich grassland with mat-grass in upland areas	Unfavourable No change	08/08/2013
		Tall herb communities	Unfavourable Recovering	08/08/2013
		Wet heathland with cross-leaved heath	Unfavourable No change	07/06/2006
SAC	Glen Tanar	Blanket bog	Unfavourable Declining	19/06/2017
		Caledonian forest	Favourable Maintained	08/04/2010
		Dry heaths	Favourable Maintained	23/10/2003
		Otter (Lutra lutra)	Favourable Maintained	23/09/2012



		Wet heathland with cross-leaved heath	Favourable Maintained	21/11/2009
SAC	Green Hill of Strathdon	Dry heaths	Favourable Maintained	15/08/2008
		Grasslands on soils rich in heavy metals	Favourable Maintained	15/08/2008
		Juniper on heaths or calcareous grasslands	Favourable Maintained	02/08/2002
SAC	Insh Marshes	Alder woodland on floodplains	Unfavourable Recovering	19/05/2009
		Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained	30/07/2010
		Otter (Lutra lutra)	Favourable Declining	17/08/2011
		Very wet mires often identified by an unstable 'quaking' surface	Favourable Maintained	04/10/2014
SAC	Kinveachy Forest	Bog woodland	Unfavourable Recovering	24/06/2008
		Caledonian forest	Unfavourable Recovering	24/06/2008
SAC	Ladder Hills	Alpine and subalpine heaths	Favourable Maintained	03/09/1999
		Blanket bog	Favourable Maintained	03/09/1999
		Dry heaths	Unfavourable Declining	09/04/2007
SAC	Monadhliath	Blanket bog	Unfavourable No change	18/10/2020
SAC	Morrone Birkwood	Alpine and subalpine heaths	Favourable Maintained	01/07/2008
		Base-rich fens	Favourable Declining	03/06/2014
		Dry grasslands and scrublands on chalk or limestone	Favourable Maintained	03/06/2014
		Geyer's whorl snail (Vertigo geyeri)	Unfavourable Declining	30/06/2013



		Hard-water springs depositing lime	Favourable Maintained	03/06/2014
		High-altitude plant communities associated with areas of water seepage	Favourable Declining	03/06/2014
		Juniper on heaths or calcareous grasslands	Favourable Recovered	14/07/2014
SAC	Morven and Mullachdubh	Juniper on heaths or calcareous grasslands	Favourable Maintained	25/01/2005
SAC	Muir of Dinnet	Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained	25/06/2004
		Degraded raised bog	Favourable Maintained	30/06/2000
		Dry heaths	Unfavourable Declining	16/02/2001
		Otter (<i>Lutra lutra</i>)	Favourable Maintained	04/10/2012
		Very wet mires often identified by an unstable 'quaking' surface	Favourable Maintained	10/09/2014
SAC	River Dee	Atlantic salmon (<i>Salmo salar</i>)	Favourable Maintained	21/07/2011
		Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	Unfavourable No change	07/08/2003
		Otter (<i>Lutra lutra</i>)	Favourable Declining	06/10/2012
SAC	River South Esk	Atlantic salmon (<i>Salmo salar</i>)	Unfavourable Recovering	29/07/2011
		Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	Unfavourable No change	13/09/2009



SAC	River Spey	Atlantic salmon (<i>Salmo salar</i>)	Unfavourable Recovering	04/09/2011
		Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	Unfavourable Declining	30/09/2014
		Otter (<i>Lutra lutra</i>)	Favourable Maintained	18/09/2011
		Sea lamprey (<i>Petromyzon marinus</i>)	Favourable Maintained	07/09/2011
SAC	River Tay	Atlantic salmon (<i>Salmo salar</i>)	Favourable Maintained	19/09/2011
		Brook lamprey (<i>Lampetra planeri</i>)	Favourable Maintained	30/11/2007
		Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained	12/08/2009
		Otter (<i>Lutra lutra</i>)	Favourable Maintained	03/09/2012
		River lamprey (<i>Lampetra fluviatilis</i>)	Favourable Maintained	30/11/2007
		Sea lamprey (<i>Petromyzon marinus</i>)	Favourable Maintained	30/11/2007
SAC	The Maim	Dry heaths	Favourable Declining	02/12/2020
SAC	Tulach Hill and Glen Fender Meadows	Base-rich fens	Favourable Maintained	11/07/2017
		Dry grasslands and scrublands on chalk or limestone	Unfavourable Declining	01/06/2017
		Dry heaths	Favourable Recovered	24/08/2010
		Geyer's whorl snail (<i>Vertigo geyeri</i>)	Favourable Maintained	10/06/2017
		Limestone pavements	Favourable Maintained	24/08/2010



		Round-mouthed whorl snail (Vertigo genesii)	Favourable Maintained	10/06/2017
SPA	Abernethy Forest	Capercaillie (Tetrao urogallus), breeding	Favourable Maintained	28/04/2009
		Osprey (Pandion haliaetus), breeding	Favourable Maintained	31/05/2007
		Scottish crossbill (Loxia scotica), breeding	Favourable Maintained	28/03/2012
SPA	Anagach Woods	Capercaillie (Tetrao urogallus), breeding	Unfavourable Declining	29/04/2015
SPA	Ballochbuie	Capercaillie (Tetrao urogallus), breeding	Unfavourable Declining	14/04/2014
		Scottish crossbill (Loxia scotica), breeding	Favourable Maintained	01/03/2015
SPA	Caenlochan	Dotterel (Charadrius morinellus), breeding	Unfavourable Declining	04/07/2011
		Golden eagle (Aquila chrysaetos), breeding	Favourable Maintained	04/12/2009
SPA	Cairngorms	Capercaillie (Tetrao urogallus), breeding	Favourable Maintained	25/04/2011
		Dotterel (Charadrius morinellus), breeding	Unfavourable Declining	01/07/2011
		Golden eagle (Aquila chrysaetos), breeding	Favourable Maintained	31/07/2009
		Merlin (Falco columbarius), breeding		



		Osprey (Pandion haliaetus), breeding	Favourable Maintained	01/06/2006
		Peregrine (Falco peregrinus), breeding	Favourable Maintained	30/06/2002
		Scottish crossbill (Loxia scotica), breeding	Favourable Maintained	14/03/2012
SPA	Cairngorms Massif	Golden eagle (Aquila chrysaetos), breeding	Favourable Maintained	31/07/2015
SPA	Craigmore Wood	Capercaillie (Tetrao urogallus), breeding	Unfavourable Declining	20/04/2015
SPA	Creag Meagaidh	Dotterel (Charadrius morinellus), breeding	Unfavourable Declining	01/07/2011
SPA	Drumochter Hills	Dotterel (Charadrius morinellus), breeding	Unfavourable Declining	04/07/2011
		Merlin (Falco columbarius), breeding	Unfavourable No change	31/08/2004
SPA	Forest of Clunie	Hen harrier (Circus cyaneus), breeding	Unfavourable Declining	05/05/2015
		Merlin (Falco columbarius), breeding	Unfavourable No change	01/06/2015
		Osprey (Pandion haliaetus), breeding	Unfavourable Declining	01/06/2015
		Short-eared owl (Asio flammeus), breeding	Unfavourable No change	01/06/2015
SPA	Glen Tanar	Capercaillie (Tetrao urogallus), breeding	Unfavourable Declining	18/04/2011
		Hen harrier (Circus cyaneus), breeding	Favourable Maintained	19/07/2010



		Osprey (Pandion haliaetus), breeding	Favourable Maintained	13/10/2010
		Scottish crossbill (Loxia scotica), breeding	Favourable Maintained	23/03/2012
SPA	Kinveachy Forest	Capercaillie (Tetrao urogallus), breeding	Favourable Maintained	15/05/2008
		Scottish crossbill (Loxia scotica), breeding	Favourable Maintained	27/03/2012
SPA	Loch Vaa	Slavonian grebe (Podiceps auritus), breeding	Unfavourable No change	30/06/2007
SPA	Lochnagar	Dotterel (Charadrius morinellus), breeding	Unfavourable No change	04/07/2011
SPA	Muir of Dinnet	Greylag goose (Anser anser), non-breeding	Unfavourable Declining	05/11/2010
		Waterfowl assemblage, non-breeding	Unfavourable No change	01/12/2012
SPA	River Spey - Insh Marshes	Hen harrier (Circus cyaneus), non-breeding	Favourable Maintained	22/02/2010
		Osprey (Pandion haliaetus), breeding	Favourable Maintained	07/09/2009
		Spotted crane (Porzana porzana), breeding	Favourable Maintained	31/12/2000
		Whooper swan (Cygnus cygnus), non-breeding	Favourable Maintained	31/12/2000
		Wigeon (Anas penelope), breeding	Unfavourable No change	30/05/2009
		Wood sandpiper (Tringa glareola), breeding	Unfavourable Declining	31/12/2000

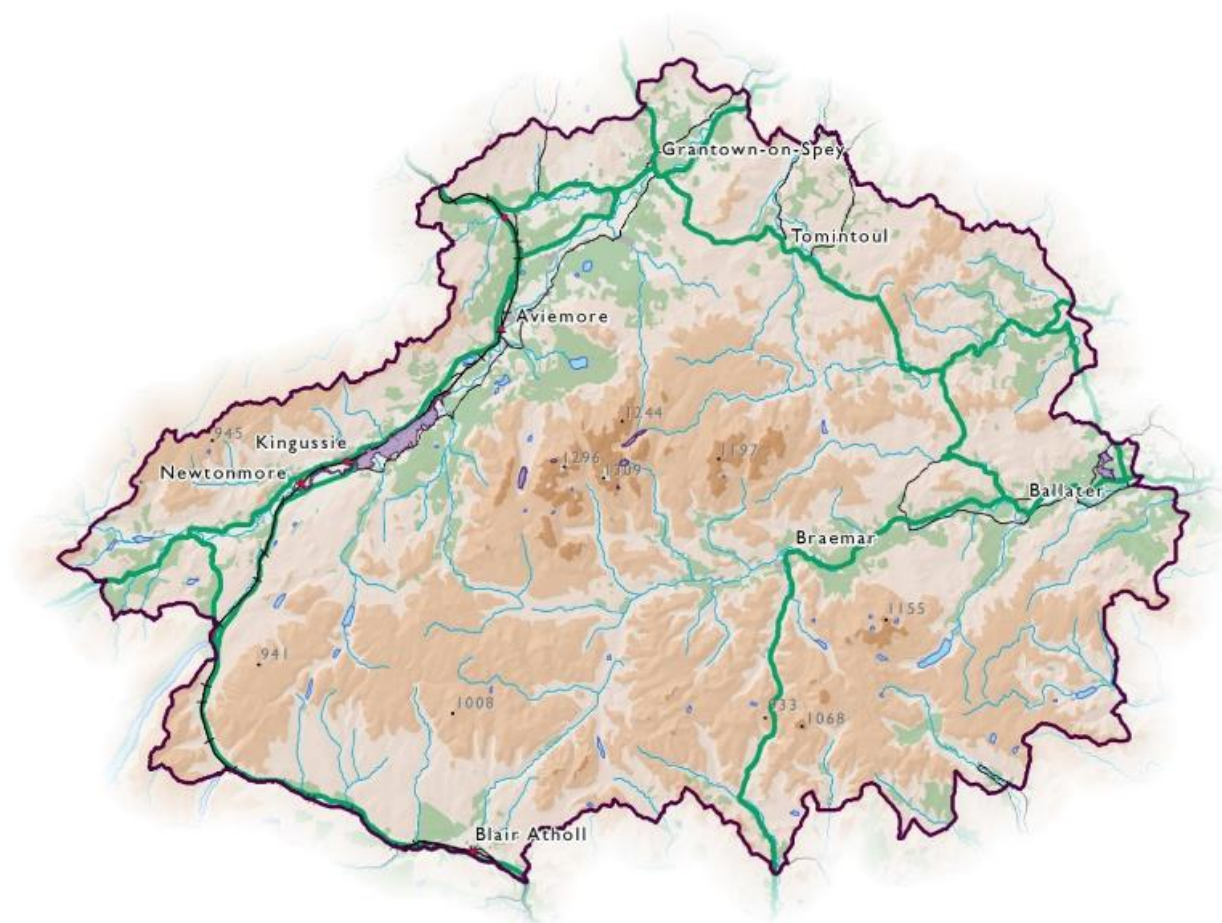


9.4. Ramsar Convention

The National Park is also home to three wetlands of international importance that have been designated under the Ramsar Convention (figure 3), all wholly located within the Cairngorms National Park and outlined in Table 9.2. The designation recognises the fundamental ecological functions of these areas as well as their economic, cultural, scientific, and recreational value. They are all also part of other sites protected for nature conservation.



Figure 9.3: Ramsar Sites in the CNPA



Ramsar Sites within the CNPA: Scale: 1:700,000



Table 9.2: Condition of RAMSAR Sites in the CNPA

Site Name	Feature Name	Assessed Condition	Assessed Visit Date
Cairngorm Lochs	Oligotrophic loch	Favourable Maintained	23/06/2010
Muir of Dinnet	Greylag goose (<i>Anser anser</i>), non-breeding	Unfavourable No change	12/10/2012
River Spey - Insh Marshes	Flood-plain fen	Favourable Maintained	10/08/2014
	Invertebrate assemblage	Favourable Maintained	20/08/2013
	Mesotrophic loch	Favourable Maintained	30/07/2010
	Osprey (<i>Pandion haliaetus</i>), breeding	Favourable Maintained	07/09/2009
	Otter (<i>Lutra lutra</i>)	Favourable Declining	17/08/2011
	Spotted crane (<i>Porzana porzana</i>), breeding	-	-
	Vascular plant assemblage	Favourable Maintained	10/08/2014
	Wet woodland	-	-
	Whooper swan (<i>Cygnus cygnus</i>), non-breeding	Favourable Maintained	28/03/2010
	Wigeon (<i>Anas penelope</i>) breeding	-	-
	Wood sandpiper (<i>Tringa glareola</i>) breeding	-	-

9.5. HRA Stages

The first stage of the HRA is to identify the plan or project under consideration (section 9.9). If the plan or project is directly connected with or necessary for the management of a European site for nature conservation, the process moves to the second stage. If not, it proceeds to stage three.

At stage two, the competent authority determines whether the plan or project is directly connected with or necessary for the management of the site. If it is, the process is complete, and consent may be granted. If not, the assessment moves to stage three.

Stage three involves assessing whether the plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect on a European site (section 9.11). If there is no likely significant effect, the process is complete, and consent may be granted. If there is a likely significant effect, the assessment moves to stage four.

Stage four requires the undertaking of an appropriate assessment of the implications for the site based on its conservation objectives. This assessment is carried out by the competent authority



with advice from NatureScot. The assessment considers the potential impacts on each qualifying interest and their conservation objectives. If the proposal is deemed to adversely affect the integrity of the site, the assessment moves to stage five.

At stage five, the competent authority determines whether the proposal will adversely affect the integrity of the European site. If it can be ascertained beyond reasonable scientific doubt that the proposal will not adversely affect the site's integrity, consent may be granted. If not, the assessment proceeds to stage six.

Stage six explores whether there are alternative solutions to the proposed plan or project. If alternative solutions exist, consent cannot be granted. If there are no alternative solutions, the assessment moves to stage seven.

Stage seven considers whether a priority habitat or species would be adversely affected by the proposal. Priority habitats have a higher level of protection under the Habitats Regulations. If a priority habitat or species would be adversely affected, the assessment proceeds to stages eight and nine.

Stages eight and nine focus on imperative reasons of overriding public interest. If it cannot be ascertained that the proposal will not adversely affect the integrity of the site, and there are no alternative solutions, the plan or project may proceed if there are imperative reasons of overriding public interest. Scottish Ministers must be consulted, and any necessary compensatory measures must be secured.

9.6. Competent Authority's Role

Throughout the HRA process, the competent authority must ensure that the plan or project will not adversely affect the integrity of the European site. If adverse effects cannot be ruled out, consent must be refused, unless there are imperative reasons of overriding public interest.

The HRA applies to any plan or project that could potentially impact a European site, *regardless of its proximity*. Competent authorities, such as local authorities, Scottish Forestry (for felling permissions), and the Scottish Environment Protection Agency (for Controlled Activities Regulations (CAR) licences), have the responsibility to determine whether a proposal can proceed. NatureScot can provide further assistance during the HRA process.

9.7. The Cairngorms 2030 Projects

9.8. Overview of the 2030 Programme

Of the nineteen focussed, and single overarching (Knowledge Exchange) plans that have emerged from the 2030 programme, only one, the Outdoor Dementia Resource centre, has been identified as potentially requiring HRA at this stage (Table 9.1). This is due primarily to the more developed nature of the project; the potential increase in the number of staff, visitors and service users to the centre, an increase in infrastructure to and across the site and associated potential impacts on local designated species and habitats.



Table 9.3: 2030 Programmes and HRA Requirements

Project	Description	HRA required?
1a. Wellbeing Economy	This project will develop a wellbeing economy that delivers social justice, drawing on the special natural and cultural qualities of the Cairngorms.	No
1b. Public Health & the Outdoors	The project will establish and strengthen the patient pathway from healthcare to health and wellbeing opportunities in nature and the outdoors.	No
1c. Outdoor Dementia Resource Centre	The Development Phase saw Scotland's first Outdoor Resource Centre for people with dementia successfully established at Badaguish Outdoor Centre. The Delivery Phase will build upon the success of the Design Phase.	Yes. See below, section 9.5.
2a. Climate Learning & Education	The Climate Learning and Education Project aims to create educated and knowledgeable young people who understand the need for climate action, and who recognise the connections between biodiversity loss and the impacts on health and wellbeing.	No
2b. Effective Community Engagement	The ultimate outcome of this project will be the increased sense of agency, ownership and involvement of various audiences and stakeholders as a result of the application of appropriate and innovative methods of engagement, which will be shared widely throughout the C2030 programme.	No
2c. Communities Arts & Culture	This project will build capacity and collaboration in the art and culture sector and strengthen people's connection to landscape and place, inspiring involvement in community-based climate action activity and encouraging behaviour change.	No
3a. Climate Conscious Communities	To co-ordinate and communicate activity across organisations and communities in the National Park with a remit for Climate Change	No
3c. Community Managed Climate Grants	The Community Managed Climate Grants scheme will link with other C2030 projects to give communities the power to define, design, fund and deliver projects that build resilience and mitigate climate impacts.	No



4b Green Finance	This project will develop innovative new strategies to work with private finance investors for environmentally sustainable projects, technologies and businesses that aim to reduce greenhouse gas emissions, mitigate climate change and deliver nature restoration in ways that support socially inclusive, sustainable changes in land use.	No
5a. Woodland Expansion	This project will increase the cover of biodiverse native woodland within the Park by at least 1,000 hectares between 2023 and 2028. By careful design, this project will add montane and riparian woodlands and a more diverse tree species mix to ultimately create a landscape scale native woodland of the highest nature conservation value.	No. At present, this project is in a conceptual stage, HRA may be required when final spatial boundaries of the projects have been determined and detailed design is in place. However, the competent authority may also determine that the plan or project is directly connected with or necessary for the management of the site and therefore HRA would not be deemed a requirement.
5b. Peatland Restoration	This project will deliver 1,300 hectares of high-quality peatland restoration in the National Park each year through the delivery phase. The project team will work with land managers to identify suitable areas, and then develop and deliver a specific project plan for each place.	As above.
5c Climate Resilient Catchments	The catchments of the River Dee, Spey and South Esk together cover 90% of the Cairngorms National Park. This project aims to preserve and restore floodplain and riverine habitat across the three proposed project catchment areas.	As above.
5d Nature Recovery	Nature Recovery will meet the C2030 objective of restoring landscapes: working with land managers to explore new ways of managing land as well as restoring and enhancing large areas of peatland and woodland.	As above.
5e Future Farming	The Cairngorms Future Farming project will work with six farms within the National Park to trial changes to farming practices that deliver practical improvements to carbon emissions and habitat quantity, quality and/or connectivity.	As above.



5f. Communities & Landscape Change	This project will engage with all communities that have an interest in the Cairngorms National Park landscape (living within and outwith the park) to obtain robust data on how different people perceive, experience and value the Special Landscape Qualities of the CNP.	No.
6h. Cycle friendly Cairngorms	Cycle Friendly Cairngorms will create the conditions where cycling, as a method of sustainable transport, is an accessible option for all. It will enable residents and visitors to embrace travelling by cycle as a realistic alternative to car use, resulting in a reduction of personal car use for short journeys.	While there is limited detail to enable meaningful assessment at present, there could be environmental effects from infrastructure improvements and concept designs causing built development and/or changes to the patterns of human activity having effects on sensitive environmental areas/receptors (e.g. areas protected for nature conservation or otherwise important for wildlife, sensitive habitats, cultural heritage, built environment, landscape effects, etc). HRA will likely be required when final spatial boundaries of the projects have been determined and detailed design is in place.
6i. Active Communities	This project will work with local communities to make it easier and safer for residents and visitors to get around without a vehicle.	As above.
6j. Sustainable Travel	This project will support delivery of a range of sustainable transport initiatives across the National Park including further development of the sustainable transport model for Aviemore to Cairngorm Mountain, options in Deeside and initiatives to enable multi modal journeys.	As above.
6k. Changing Travel Behaviours	Changing Travel Behaviours aims to reconnect individuals to their local heritage by making active travel and sustainable transport the natural choice for everyday journeys across the National Park.	As above.

9.9. Outdoor Dementia Resource Centre

9.10. Site Description and location

Bagaduish is located approximately 6km east of Aviemore. Badaguish Outdoor Centre is an established recreational site offering an environmental and outdoor education service for youth



and community groups with numerous existing facilities on site (offices, toilet/shower blocks, lodges, café, play area, camping, wigwams, paths etc.).

9.11. European Sites in Proximity to Bagaduish

Within 500m south of the Badaguish complex, areas are designated as a Special Protection Area, Site of Special Scientific Interest and Special Area of Conservation and the entire site lies within the Cairngorms National Scenic Area. HRA specific designations (i.e. European Sites) are outlined in Table 9.2.

Table 9.4: European Designated Sites with the potential to be impacted by the Plan

Cairngorms SAC	Acid peat-stained lakes and ponds	Favourable Maintained	09/09/2014
	Acidic scree	Favourable Maintained	08/09/2015
	Alpine and subalpine heaths	Favourable Recovered	21/08/2021
	Blanket bog	Unfavourable Recovering	21/09/2021
	Bog woodland	Favourable Maintained	05/09/2002
	Caledonian forest	Unfavourable Recovering	05/10/2015
	Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels	Favourable Maintained	23/06/2010
	Dry grasslands and scrublands on chalk or limestone	Unfavourable Recovering	15/09/2021
	Dry heaths	Unfavourable Recovering	14/09/2021
	Green shield-moss (<i>Buxbaumia viridis</i>)	Favourable Maintained	02/05/2006
	Hard-water springs depositing lime	Favourable Maintained	03/04/2007
	High-altitude plant communities associated with areas of water seepage	Unfavourable Recovering	01/09/2021
	Juniper on heaths or calcareous grasslands	Favourable Maintained	01/09/2021
	Montane acid grasslands	Favourable Recovered	06/09/2021
	Mountain willow scrub	Unfavourable Recovering	01/09/2021
	Otter (<i>Lutra lutra</i>)	Unfavourable Declining	22/09/2011
	Plants in crevices on acid rocks	Favourable Maintained	03/09/2021
	Plants in crevices on base-rich rocks	Unfavourable No change	01/09/2021
	Species-rich grassland with mat-grass in upland areas	Unfavourable Declining	15/08/2021
	Tall herb communities	Favourable Maintained	01/09/2021



	Very wet mires often identified by an unstable 'quaking' surface	Favourable Maintained	28/09/2021
	Wet heathland with cross-leaved heath	Favourable Recovered	24/09/2021
River Spey SAC	Atlantic salmon (<i>Salmo salar</i>)	Unfavourable Recovering	04/09/2011
	Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	Unfavourable Declining	30/09/2014
	Otter (<i>Lutra lutra</i>)	Favourable Maintained	18/09/2011
	Sea lamprey (<i>Petromyzon marinus</i>)	Favourable Maintained	07/09/2011
Cairngorms SPA	Capercaillie (<i>Tetrao urogallus</i>), breeding	Favourable Maintained	25/04/2011
	Dotterel (<i>Charadrius morinellus</i>), breeding	Unfavourable Declining	01/07/2011
	Golden eagle (<i>Aquila chrysaetos</i>), breeding	Favourable Maintained	31/07/2009
	Merlin (<i>Falco columbarius</i>), breeding		
	Osprey (<i>Pandion haliaetus</i>), breeding	Favourable Maintained	01/06/2006
	Peregrine (<i>Falco peregrinus</i>), breeding	Favourable Maintained	30/06/2002
	Scottish crossbill (<i>Loxia scotica</i>), breeding	Favourable Maintained	14/03/2012

9.12. Development of the Project

The Development Phase of this project has launched Scotland's first Outdoor Resource Centre (ODRC) for people with dementia at Badaguish Outdoor Centre. The Delivery Phase will build upon the success, developing green health services for people with dementia locally and contributing to the development of practice and policy in this field, so that people with dementia may benefit from green health services at national level. This will be achieved through the following key project outputs:

1. The monthly programme of therapeutic activities will continue to develop, incorporating nature-based interventions with a defined health or social outcome, incorporating the following into the monthly program:

- Working with Local Creatives
- John Muir Award
- Dementia Friends Program
- Brain Health Engagement
- Online and Outreach Sessions
- Outdoor Cognitive Stimulation Therapy (Cst)



- Implement Findings of Journey Associates Design Phase Report
2. The transport infrastructure for dementia friendly outdoor activities and their participants at Badaguish will improve, and the carbon footprint reduced. In addition, feasibility studies exploring the possibility of creating a network of dementia friendly paths at Badaguish are planned.
 3. The ODRC building will evolve, becoming more dementia friendly by implementing the findings of the dementia friendly environment audit, providing a workshop space and adequate storage.
 - This will involve a refurb of the ODRC to make the building more dementia friendly and address issues such as storage capacity. Erecting storage structures will require a planning application to be made.
 4. A green health referral pathway for people with dementia will be established locally.
 5. A business plan to secure long-term funding will be developed.
 6. A national community of practice for those providing green health for people with dementia will develop across Alzheimer Scotland.

Key project outputs 1, 2, and 3 above have the potential to impact upon designated species through increased numbers of people to the site, increased access through the site, and development works on the site, respectively.

9.13. Recommended next steps

When the operational plans are finalised for the dementia centre, a formal Appropriate Assessment will be required.



10. Ecosystems Services Assessment

10.1. Overview of the Assessment

The following assessment will examine the Cairngorms 2030 (C2030) Programme's applicable projects using a desktop Ecosystems Service Assessment (ESA).

The Millennium Ecosystem Assessment¹⁸ (2005) and later TEEB¹⁹ (The Economics of Ecosystem Services and Biodiversity 2010) grouped ecosystem services into four main categories: provisioning services; regulatory services; cultural services; and supporting services. These typologies provide a broadly inter-comparable set of services across bioregions and ecosystem types. They also exposes the complexity and multiplicity of interactions between social and natural systems:

- Provisioning services are those things that can be extracted from ecosystems to support human needs and are more or less synonymous with a prior definition of ecosystem 'goods' including such tangible assets as fresh water, food (crops, fish, etc.), fibre and fuel.
- Regulatory services include those processes that regulate the natural environment such as the natural regulation of air quality, climate, water flows, erosion, and pests.
- Cultural services include diverse aspects of aesthetic, inspirational, recreational, and other cultural values.
- Supporting services do not necessarily have direct or proxy economic worth but include processes essential for the maintenance of the integrity, resilience and functioning of ecosystems (such as soil formation, photosynthesis, and water recycling), and so the delivery of all other services.

10.2. Rationale of the Assessment

An ecosystems perspective ensures that the full range of ecosystem services is recognised in assessment, not just a selected few of particular interest. The reason for this is that failing to retain an overview of interactions with the full system risks maximising some focal benefits at unaccounted cost to other ecosystem services and their beneficiaries.

Economic and non-economic valuation of ecosystem services is often demanded by policy makers and practitioners as supporting information to guide decisions in urban planning and governance. Ways in which ecosystems valuation can inform urban planning include awareness raising, economic accounting, priority-setting, incentive design, and litigation, thus broadly reflecting the objectives of "recognising, demonstrating, and capturing value" as suggested in the TEEB report.

Using ecosystem services in SEA has the potential to explain to decision makers why the environment matters and to demonstrate that SEA can add value to the plan or programme making process. This profile-raising potential should result in a more integrated and valuable SEA process and outcome.

¹⁸ <https://www.millenniumassessment.org/en/index.html>

¹⁹ <http://teebweb.org>



Using ecosystem services allows us to consider how the environment supports the delivery of a variety of Plans, Programmes and Strategies (PPS) and how various PPS can support this. This can lead to more resilient, risk proofed projects.

Ecosystem services is part of the policy landscape – and much of Scotland’s natural environment policy, and other areas like spatial planning (including the National Planning policy Framework and some Local Plans) refer to or uses the concept of ecosystem services.

10.3. Policy Context

The Ecosystem Approach is synonymous with sustainability and feeds directly into the UN’s Sustainable Development Goals which set a framework for society to ‘meet the needs of the current generation, without compromising the needs of future generations’²⁰, while the Ecosystem Approach adopted by the Convention on Biological Diversity (CBD), and subsequently NatureScot²¹, has a broad scope that goes beyond ecosystems themselves to encompass social, cultural and economic factors that are fully interdependent with biodiversity and ecosystem services. This latter, more detailed approach has been utilised in the following assessment due to the expansive and multi-collaborative scope of the Cairngorms 2030 Programme.

The Convention on Biological Diversity (CBD) describes the Ecosystem Approach as ‘a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way’²². It recognises that humans, are an integral component of ecosystems. Ecosystem services are the multiple benefits that natural environments supply to human beings. These include, for example, production of clean water and many raw materials used in economic activities, regulation of climate and flooding, a healthy biodiversity, soil formation and crop pollination, and cultural benefits such as aesthetic value and recreational opportunities.

The overarching policy surrounding climate change, biodiversity and development in Scotland is aspirational, with Scotland’s Fourth National Planning Framework outlining that:

‘the health of the planet’s ecosystems is declining faster than at any point in human history and our natural environment is facing significant challenges, including ongoing loss of biodiversity. Since the 1990s alone, wildlife populations in Scotland have declined, on average, by around a quarter. This threatens the capacity of the natural environment to provide the services we all rely on and reduces our resilience to the impacts of climate change... We need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration’²³.

The 2020 Challenge for Scotland’s Biodiversity²⁴ enshrines the Ecosystem Approach with plans and decisions about land use to be based on an understanding of ecosystems, taking ‘full account

²⁰ <https://sdgs.un.org/topics/biodiversity-and-ecosystems>

²¹ <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/ecosystem-approach>

²² <https://www.cbd.int/ecosystem>

²³ <https://www.gov.scot/publications/scotland-2045-fourth-national-planning-framework>

²⁴ <https://www.gov.scot/publications/2020-challenge-scotlands-biodiversity-strategy-conservation-enhancement-biodiversity-scotland/>



of land use impacts on the ecosystems services that underpin social, economic and environmental health’.

10.4. Assessment Methodology

Of the twenty projects in the scope of the 2030 Programme, four were determined to have definite impacts on ecosystem services across the Park. The assessed projects all fell under the ‘Nature’ theme and encompassed the following:

- 5a. Woodland Expansion
- 5b. Peatland Restoration
- 5c. Climate Resilient Catchments
- 5e. Future Farming Project

The ESA evaluated the magnitude of any potential significant changes to services, using the symbology in Table 10.1 (significance scoring system adapted from Defra’s ‘likelihood of impact²⁵’ scoring system and aligned with the CNPA’s SEA template), providing easy-to-read visual signifiers for potential changes to ecosystem services, ensuring consistency across the environmental assessments within the Environmental Report.

Table 10.1: Ecosystem services significance matrix

Significance of Effect	
Likely to produce a significant uptake in the availability of a particular service in relation to the project.	++
Likely to produce a minor positive uptake in the availability of a particular service in relation to the project.	+
Change to service is uncertain	?
No connectivity with the ecosystem service being assessed.	O
Not an applicable ecosystem service to the project	X
Likely to produce a minor adverse impact on the availability of a particular service in relation to the project.	-
Likely to produce a major adverse impact on the availability of a particular service in relation to the project.	--

The assessment was applied using the full suite of ecosystem services to provide a ‘read out’ of the likely magnitude and positive/negative tendency of impacts.

At this stage of the projects (i.e., development rather than delivery), of more value in day-to-day decision-making are assessments of ‘marginal’ changes. Marginal change recognises the difference between a ‘baseline’ state and a ‘post-intervention’, i.e., predicted, state. Marginal assessments of observed or anticipated changes in ecosystem services are more robust as the large number of assumptions and uncertainties used in any such study are applied to both the ‘baseline’ and ‘outcome’ states which, to a certain extent, cancels them out during comparison.

²⁵

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69192/pb12852-eco-valuing-071205.pdf



Therefore, a marginal change narrative assessment was undertaken using expert knowledge and utilised the baseline work carried out by the CNPA in the SEA Topic Paper research and the individual Project Action Plans and associated material to produce an assessment of impacts across the whole of the system of services to avoid making potentially erroneous prejudgements about which services are the 'most important'. This resulted in a broad, systems-level overview - a more granular approach encompassing a full economic valuation could be applied once the projects have progressed to a later stage.

10.5. Summary

Due to the specific focus of the projects within the 'Nature' theme of the C2020 Programme, the assessment found that there is strong evidence to suggest that there will be substantial and significantly positive effects on the majority of ecosystems services across the range of projects with no significantly negative effects. The full assessment tables are below in Tables 10.2 - 10.5.



10.6. Assessment Tables

Table 10.2: Ecosystem Services Assessment - Woodland Expansion Project

Project 5a Woodland Expansion			
Provisioning services	Baseline	Predicted	(These are the products obtained from ecosystems)
Fresh water			An ecosystem service approach has the potential to strengthen freshwater management which aims to coordinate the conservation, management and sustainable development of water, land and resources across entire river basins. Such integrated approaches are designed to maximise the social and economic outputs of freshwater ecosystems whilst preserving and restoring their ecological status. Woodland expansion can help reduce soil erosion, enhance water infiltration, and stabilise riverbanks, thus improving the overall water quality of the ecosystem. Note that Woodland expansion may also lead to increased competition for resources such as water, especially in areas where water availability is limited, or may become so. This could have implications for other users, such as farmers or industries that rely on water for irrigation or production processes.
Food (e.g. crops, fruit, fish, etc.)			Virtually all ecosystems provide the conditions for growing, collecting, hunting or harvesting food and ecosystems provide a diverse range of food resources, including crops, fisheries, livestock, wild game, and foraged plants. These resources support human nutrition and food security. Woodland expansion can support food as a provisioning service by increasing pollinator abundance, the availability of forest foods such as wild mushrooms and providing shelter and shade to livestock, which in turn, will provide food to people.
Fibre and fuel (e.g. timber, wool, etc.)			Forest ecosystems supply timber for construction, furniture, and paper products. Additionally, they provide fibres that are used in the production of textiles, ropes, and other materials.
Genetic resources			The preservation of genetic resources in agriculture, forestry, and animal husbandry is a priority to ensure the continuity of genes and species. There is an ongoing loss of genetic diversity caused by the emphasis on productive species in agriculture and forestry practices to the detriment of native species. Native species play a crucial role in preserving genetic diversity as they possess unique characteristics such as disease resistance, efficient nutrient utilisation, and adaptation to local climate conditions. The preservation and promotion of genetic resources through woodland expansion may be extremely useful in safeguarding this service in the future.



Ornamental resources (e.g. shells, flowers, etc.)			Animal and plant products, such as skins, shells and flowers can be used as ornaments and whole plants are used for landscaping and ornaments. It is unlikely for the woodland expansion project to significantly impact upon this service.
Regulatory services			(These are the benefits obtained from the regulation of ecosystem processes)
Air quality regulation			The woodland expansion project is expected to have a positive impact on air quality regulation as an ecosystem service. As trees grow, they play a vital role in the process of photosynthesis, absorbing carbon dioxide from the atmosphere and releasing oxygen. This process helps to reduce the concentration of carbon dioxide, a greenhouse gas, in the air. Moreover, trees act as natural air filters by trapping and removing pollutants from the air, such as particulate matter and various gases. The foliage and bark of trees can capture and retain these pollutants, preventing them from being released back into the atmosphere. By expanding woodlands, the project will increase the density and diversity of vegetation, thereby enhancing the air purification capacity of the ecosystem.
Climate regulation			Woodland expansion can contribute to mitigating climate change by acting as a carbon sink, sequestering carbon dioxide from the atmosphere and storing it in tree biomass and soil. This reduces the overall greenhouse gas emissions and helps to regulate the global climate. By increasing the cover of biodiverse native woodlands within the project area, the woodland expansion project will enhance the capacity of the ecosystem to absorb and store carbon.
Water regulation			Woodland cover prevents soil erosion through root structure and increases soil health and complexity through mycorrhizal networks. Soil erosion is a key factor in the reduction of water quality, loss of soil fertility and contributes to decreased productivity of downstream fisheries. Water flow regulation is also a crucially important service provided by woodlands, and expanding the extant range of woodlands in the CNP will likely benefit downstream communities by the reduction in overall flow during storm periods. An increase in woodland cover may also reduce the pressure on downstream drainage systems by slowing water, with the underlying soil acting as a sponge by storing water in the pore spaces until it percolates as through-flow and base-flow.
Natural hazard regulation			The woodland expansion project is expected to have a positive impact on natural hazard regulation as an ecosystem service. Healthy woodlands play a significant role in mitigating and regulating natural hazards such as landslides, avalanches, forest fires. By expanding woodlands, the project can enhance these natural processes of natural hazard regulation. The increased coverage of trees and related vegetation can provide additional protection against landslides, avalanches, and fire, reducing the vulnerability of human communities and infrastructure to these hazards.



Pest regulation			Agricultural production relies not only on crops but on associated biodiversity in agro-ecosystems. Pests, diseases and weeds limit crop production, and are themselves limited by the action of their natural enemies, mostly arthropods and micro-organisms. Biological control, through an ecosystem approach, is a way to reduce pesticide use and enhance biodiversity while ensuring production. In addition, woodlands influence pest populations through ecological interactions and natural processes. One way in which woodlands contribute to pest regulation is by providing a habitat for a diverse range of natural predators, including birds, bats, insects, and other small mammals. These predators feed on pests such as insects, rodents, and other organisms that can cause damage to crops, trees, and other vegetation. By expanding woodlands, the project can create and enhance habitat for these natural predators, increasing their populations and their ability to regulate pest populations.
Disease regulation			The woodland expansion project is expected to have a positive impact on disease regulation as an ecosystem service. Woodlands play a crucial role in regulating diseases by influencing disease dynamics, promoting biodiversity, and providing habitat for natural enemies of pathogens. Promoting biodiversity within woodlands is another important factor in disease regulation. High biodiversity can reduce the impact of diseases by increasing ecosystem resilience. A diverse range of plant species can limit the build-up of specific pathogens by disrupting their life cycles and providing natural barriers. Biodiversity also supports a variety of beneficial organisms, such as insects and microorganisms, which can act as natural enemies of pathogens or help suppress their growth and spread.
Erosion regulation			Woodland cover plays an important role in soil retention and the prevention of landslides. The woodland expansion project is expected to have a positive impact on erosion regulation as an ecosystem service. Woodlands play a crucial role in preventing and mitigating soil erosion by stabilising the soil, reducing surface runoff, and promoting the infiltration of water into the ground. Tree roots help bind the soil particles together, providing structural support and reducing the likelihood of soil erosion. The extensive root systems of trees anchor the soil, preventing it from being easily washed away by wind or water. This is particularly important on sloping terrain where erosion is more prone to occur.
Water purification and waste treatment			Woodlands can be a source of impurities (e.g., in fresh water) but also can help to filter out and decompose organic wastes introduced into inland waters and assimilate and detoxify compounds through soil and sub-soil processes. By expanding woodlands, the project can enhance water purification and waste treatment. The increased tree cover and organic matter accumulation will contribute to improved water quality by filtering out pollutants, reducing sedimentation, and promoting natural processes of water purification. The woodlands will also aid in the decomposition of organic waste materials, enhancing nutrient cycling and waste treatment within the ecosystem.



Pollination services			The woodland expansion project is expected to have a positive impact on pollination services as it creates a more diverse and habitat-rich environment for pollinators such as bees, butterflies, birds, and other insects. Woodlands provide valuable floral resources, including nectar and pollen, that support pollinator populations. By expanding woodlands, the project increases the availability of flowering plants, shrubs, and trees that serve as food sources for pollinators throughout their life cycles. The diverse array of plant species in woodlands ensures a continuous and varied supply of nectar and pollen, sustaining pollinators throughout the year. The structure and composition of woodlands also play a role in supporting pollinators. Different tree species, understory plants, and vegetation layers create a variety of microhabitats that attract and support a diverse range of pollinator species.
Cultural services			(These are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience)
Cultural heritage			Many societies place high value on the maintenance of either historically important landscapes (cultural landscapes) or culturally significant species. Woodlands have deep-rooted cultural significance in Scottish society. They often hold historical, archaeological, and spiritual value, still serving as important sites for cultural practices, rituals, and traditions. Woodland expansion can contribute to the preservation and restoration of cultural heritage, including sacred sites, cultural landscapes, and traditional ecological knowledge associated with forests. This helps to maintain and strengthen the cultural identity and sense of place for local communities.
Recreation and (eco) tourism			People often choose where to spend their leisure time based in part on the characteristics of the natural or cultivated landscapes in a particular area. Woodlands provide opportunities for various recreational activities, such as hiking, nature walks, wildlife observation, and picnicking. The expansion of woodlands creates new areas for people to engage in outdoor activities, promoting physical exercise, relaxation, and a sense of connection with nature. Accessible and well-maintained trails and recreational facilities within the expanded woodlands can further enhance the cultural value and recreational opportunities for visitors and local communities.
Aesthetic value			Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, scenic drives, and the selection of housing locations. Woodland expansion enhances the visual appeal of the landscape, adding natural beauty and diversity. The presence of lush forests, vibrant foliage, and a variety of tree species can contribute to the aesthetic value of the surroundings. People often find solace and inspiration in the serene and picturesque qualities of woodlands, which can enhance their overall well-being and enjoyment of the natural environment.
Spiritual and religious value			Many religions attach spiritual and religious values to ecosystems or their components. Although overtly religious connections to ecosystems are less prevalent today, woodlands still offer solitude and seclusion, providing individuals with opportunities for contemplation, reflection, and seeking inner peace. The tranquillity and beauty of the woodland environment can facilitate spiritual experiences, mindfulness practices, and a sense of unity with the natural world.



Inspiration of art, folklore, architecture, etc.			Woodlands have long been a source of inspiration for art and folklore, capturing the imaginations of artists, writers, and storytellers throughout history. The enchanting and mysterious nature of woodlands lends itself to the creation of captivating artworks and the development of rich folklore. The story of the Giant of Kinveachy Forest, located between Aviemore, Boat of Garten and Carrbridge is just one of many.
Social relations (e.g. fishing, grazing, or cropping communities)			Ecosystems influence the types of social relations that are established in particular cultures. Less noticeable today in the developed world due to the homogenisation of culture, particularly in regards to woodlands.
Supporting services			(Supporting services are those that are necessary for the production of all other ecosystem services. They differ from provisioning, regulating, and cultural services in that their impacts on people are often indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people. (Some services, like erosion regulation, can be categorised as both a supporting and a regulating service, depending on the time scale and immediacy of their impact on people))
Soil formation			Humans do not directly use this as a service, but changes in soil formation would indirectly affect people through the impact on other services such as the provisioning service of food production. Because many provisioning services depend on soil fertility, the rate of soil formation influences human well-being in many ways. Woodlands contribute to the accumulation of organic matter in the soil. As trees shed leaves, twigs, and branches, these organic materials decompose on the forest floor, adding organic matter to the soil. This organic matter enhances soil fertility, improves its structure, and increases its water-holding capacity. The expansion of woodlands through the project will lead to a greater input of organic matter, promoting soil formation and nutrient cycling.
Primary production			The assimilation or accumulation of energy and nutrients by organisms. Primary production provides the basis of the food web for all higher consumers – herbivores as well as carnivores. Woodland expansion leads to an increase in the primary production of organic matter through photosynthesis. Trees and understory vegetation capture sunlight and convert it into energy, which fuels the growth and productivity of the ecosystem. This increased primary production provides a greater energy source for organisms within the woodland, supporting their assimilation and accumulation of energy.
Nutrient cycling			This indirect supporting service is required e. g. as the basis for crop production and plant growth. Woodland ecosystems have efficient nutrient cycling mechanisms. As organic matter, such as leaf litter and fallen branches, decomposes on the forest floor, nutrients are released back into the soil. This nutrient cycling promotes the availability of essential elements like nitrogen, phosphorus, and potassium, which are vital for organismal growth and metabolism.



Water recycling			Water cycles through ecosystems and is essential for living organisms. Woodland expansion can store water for longer allowing a more expansive distribution of water across the ecosystem.
Photosynthesis			Production of atmospheric oxygen through photosynthesis is often categorised as a supporting service since oxygen forms the basis for any animal life on Earth. Any impacts on the concentration of oxygen in the atmosphere through woodland expansion would only occur over an extremely long time.
Provision of habitat			Habitat provision has vital long-term effects on diversity and species richness, and woodland systems play a significant role as refuge for many species of birds, mammals, amphibians, bees, and butterflies. Woodland expansion creates new habitats and increases the overall availability of habitat for a wide range of plant and animal species. By establishing new woodlands or expanding existing ones, there is an increase in the total area of suitable habitat, providing opportunities for species to find shelter, food, breeding sites, and nesting locations. Woodland habitats support diverse communities of plant and animal species. The expansion of woodlands contributes to biodiversity enhancement by providing habitats for a variety of species, including trees, shrubs, understory plants, birds, mammals, insects, and fungi. Woodlands offer a range of microhabitats within their different layers, such as tree canopies, understory vegetation, fallen logs, and forest floors, supporting a wide array of species with different ecological requirements. Woodland expansion also allows for ecological succession to occur, leading to the development of more complex and mature habitats over time. As woodlands expand, pioneer species colonise the area, followed by intermediate species, and eventually steady-state species that are characteristic of mature woodlands. This progression provides a succession of habitats, benefiting species that rely on specific successional stages for feeding, nesting, and other ecological processes. Woodland expansion helps establish and enhance habitat connectivity in fragmented landscapes. By creating corridors of woodlands or connecting existing patches, species can move more freely between habitats, promoting gene flow, genetic diversity, and population resilience. Habitat connectivity is particularly crucial for species with large home ranges, migratory patterns, or those that depend on multiple habitats for their life cycle. Woodlands further offer a wide range of niche habitats, each with its own set of environmental conditions, microclimates, and ecological niches. The expansion of woodlands increases the availability of these niche habitats, such as deadwood habitats, tree cavities, forest edges, and understory vegetation. These specialised habitats support various species with specific adaptations and ecological requirements, including cavity-nesting birds, saprophytic fungi, and understory plants.



Table 10.3: Ecosystem Services Assessment - Peatland Restoration Project

Project 5b Peatland Restoration			
Provisioning services	Baseline	Predicted	(These are the products obtained from ecosystems)
Fresh water			An ecosystem service approach has the potential to strengthen freshwater management which aims to coordinate the conservation, management and sustainable development of water, land and resources across entire river basins. Such integrated approaches are designed to maximise the social and economic outputs of freshwater ecosystems whilst preserving and restoring their ecological status. The peatland restoration project is expected to have positive effects on freshwater as an ecosystem service within the Cairngorms National Park. Peatlands act as natural filters, trapping sediments, and pollutants from water as it flows through their spongy vegetation and organic-rich soils. Peatlands provide unique habitats for a variety of plant and animal species, including specialised wetland plants, insects, birds, and amphibians. Restoring peatlands can create or improve habitats for freshwater-dependent species, contributing to the conservation and enhancement of freshwater biodiversity. Increased biodiversity in freshwater ecosystems can enhance ecosystem functioning and resilience. By restoring peatlands, the project can help improve water quality by reducing the amount of sediment, nutrients, and pollutants reaching freshwater systems. This leads to cleaner and healthier water, benefiting both aquatic organisms and human users.
Food (e.g. crops, fruit, fish, etc.)			Virtually all ecosystems provide the conditions for growing, collecting, hunting or harvesting food and ecosystems provide a diverse range of food resources, including crops, fisheries, livestock, wild game, and foraged plants. These resources support human nutrition and food security. Restored peatlands have the potential to regulate water flows and maintain more consistent water availability, even during dry periods. This can be beneficial for agricultural activities that rely on sufficient water supply for irrigation, livestock watering, and aquaculture. Adequate water availability supports crop growth, livestock health, and fish production. Restored peatlands have higher organic matter content, improved water retention capacity, and enhanced microbial activity. These factors promote soil fertility and nutrient availability, which can positively influence the growth, yield, and quality of agricultural crops.
Fibre and fuel (e.g. timber, wool, etc.)			Peatland restoration promotes sustainable resource management practices, including responsible timber harvesting. By implementing sustainable practices within the project area, the availability of timber can be maintained in the long term without compromising the integrity and functioning of the peatland ecosystem.



Genetic resources			The preservation of genetic resources in agriculture, forestry, and animal husbandry is a priority to ensure the continuity of genes and species. There is an ongoing loss of genetic diversity caused by the emphasis on productive species in agriculture and forestry practices to the detriment of native species. Native species play a crucial role in preserving genetic diversity as they possess unique characteristics such as disease resistance, efficient nutrient utilisation, and adaptation to local climate conditions. Peatland restoration can contribute to the preservation and conservation of plant genetic resources. By restoring degraded peatlands, the project may create favourable conditions for the growth and development of various plant species, including those with valuable genetic traits. The restored peatland areas can serve as habitats for a diverse range of plant species, promoting biodiversity and maintaining genetic diversity within the ecosystem. This genetic diversity is important for the long-term adaptation and resilience of plant populations to environmental changes.
Ornamental resources (e.g. shells, flowers, etc.)			Animal and plant products, such as skins, shells and flowers can be used as ornaments and whole plants are used for landscaping and ornaments. It is unlikely for the peatland restoration project to significantly impact upon this service.
Regulatory services			(These are the benefits obtained from the regulation of ecosystem processes)
Air quality regulation			Peatlands are important carbon sinks, storing large amounts of carbon dioxide (CO ₂) from the atmosphere. When peatlands are degraded or drained, carbon is released back into the atmosphere, contributing to greenhouse gas emissions. By restoring peatlands, the project helps to sequester and store carbon, reducing the amount of CO ₂ in the atmosphere. This carbon sequestration process plays a crucial role in mitigating climate change and improving air quality. Peatland restoration can also help reduce air pollutants, including particulate matter (PM), nitrogen dioxide (NO ₂), and sulphur dioxide (SO ₂). Peatlands act as natural filters, trapping and retaining these pollutants, preventing them from being released into the air. The restoration of degraded peatlands can enhance their filtering capacity, improving air quality in the surrounding areas and reducing the potential negative impacts on human health and ecosystems.
Climate regulation			Peatlands are highly effective carbon sinks, meaning they absorb and store large amounts of carbon dioxide (CO ₂) from the atmosphere. By restoring degraded peatlands, the project can enhance carbon sequestration, helping to mitigate climate change by reducing the concentration of CO ₂ in the atmosphere. Healthy peatlands accumulate organic matter over time, which helps to lock away carbon for long periods. When peatlands are degraded or drained, they release carbon stored in the peat into the atmosphere as CO ₂ . Additionally, the decomposition of peat in oxygen-deprived conditions can produce methane (CH ₄), another potent greenhouse gas. By restoring peatlands, the project can minimise these emissions, helping to reduce the overall greenhouse gas emissions and mitigate climate change.



Water regulation			Restoring degraded peatlands can help improve water quality by reducing the amount of pollutants, such as sediment, nutrients, and organic matter, that are carried into water bodies. The project can help filter and retain these pollutants within the peatland system, preventing them from entering streams, rivers, and lakes. This contributes to cleaner and healthier water resources. Healthy peatlands also contribute to groundwater recharge by allowing water to infiltrate and replenish underground aquifers. This helps to maintain groundwater levels and supports the availability of freshwater for various uses, including drinking water supply and irrigation. By restoring peatlands, the project can enhance groundwater recharge processes, contributing to the overall water availability in the region.
Natural hazard regulation			Peatlands are typically wet environments with high water content, making them less susceptible to wildfires. Restoring peatlands helps maintain their moisture levels and prevents the drying out of peat, reducing the risk of peatland fires. By minimising the occurrence of wildfires, the project contributes to natural hazard regulation and helps protect surrounding ecosystems and communities from fire-related risks. Restoring peatlands can help mitigate the risk of flooding. Peatlands act as natural sponges, absorbing and storing large amounts of water during periods of heavy rainfall. By restoring degraded peatlands, their water-holding capacity is increased, allowing them to retain more water. This reduces the volume and peak flow of water entering rivers and streams, thereby decreasing the likelihood of flooding downstream.
Pest regulation			Agricultural production relies not only on crops but on associated biodiversity in agro-ecosystems. Pests, diseases and weeds limit crop production, and are themselves limited by the action of their natural enemies, mostly arthropods and micro-organisms. Biological control, through an ecosystem approach, is a way to reduce pesticide use and enhance biodiversity while ensuring production. Restoring peatlands involves improving the overall ecological health and biodiversity of the area. By creating a more diverse and balanced ecosystem, the project enhances the presence of natural predators, such as birds, bats, and insects, which play a crucial role in regulating pest populations. These predators help control pests by feeding on them or by creating an ecological balance that limits pest outbreaks. Peatland restoration can also provide suitable habitats for beneficial organisms, including insects, microbes, and other invertebrates, which are important for pest regulation. Many of these beneficial organisms serve as natural enemies of pests, either by preying on them, parasitising them, or competing with them for resources. By creating a favourable environment for these beneficial organisms, the project indirectly supports pest regulation.



Disease regulation			Peatland restoration aims to improve the overall biodiversity and ecological health of the area. A diverse and balanced ecosystem supports a wide range of species, including beneficial organisms such as insects, birds, and mammals. This increased biodiversity can help regulate disease dynamics by providing a buffer against the spread of pathogens. For example, diverse insect populations can help control disease-carrying pests or act as natural predators of disease vectors. Peatland restoration also involves improving the health and functionality of peat soils. Healthy soils with balanced nutrient cycling and microbial activity contribute to the overall resilience of plants and can help prevent the establishment and spread of soil-borne diseases. Disease-causing organisms may struggle to thrive in healthy soils, reducing the risk of disease outbreaks in agricultural or natural systems.
Erosion regulation			Peatlands are characterised by the presence of vegetation, such as mosses, grasses, and shrubs, which play a crucial role in preventing erosion. By restoring peatlands and promoting the growth of vegetation, the project helps to establish a dense cover that protects the soil surface from erosion caused by wind and water.
Water purification and waste treatment			Peatlands act as natural filters, removing pollutants and impurities from water as it passes through their porous and organic-rich layers. By restoring peatlands, the project enhances their ability to filter and purify water, improving its quality. The vegetation and peat layers in peatlands help to trap and retain pollutants, sediment, and excess nutrients, preventing them from reaching water bodies. This will help to maintain clean and healthy water sources within the Cairngorms National Park. Peatlands also play a crucial role in nutrient cycling, particularly the cycling of nitrogen and phosphorus. Through natural processes, peatlands can retain and store excess nutrients, preventing their release into water bodies where they can cause eutrophication and harm aquatic ecosystems. The restoration project helps to maintain the nutrient regulation capacity of peatlands, contributing to water purification by reducing nutrient pollution.
Pollination services			Restored peatlands can offer suitable habitats for pollinators, such as bees, butterflies, moths, beetles, and flies. The presence of flowering plants and the restoration of native vegetation provide important food sources and nesting sites for these pollinators. The project contributes to creating or enhancing suitable habitats that support the life cycles and populations of pollinating species. Peatland restoration often involves reconnecting fragmented habitats and creating ecological corridors. These corridors can facilitate the movement of pollinators between different habitats, allowing for gene flow and genetic diversity among populations. Improved connectivity can enhance the resilience and stability of pollinator communities, ensuring their long-term survival and functioning.
Cultural services			(These are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience)



Cultural heritage			Many societies place high value on the maintenance of either historically important landscapes (cultural landscapes) or culturally significant species. Peatlands have a long history of human interaction and utilisation. They have been an integral part of the cultural heritage of local communities, often associated with traditional practices such as peat cutting and traditional land management. The restoration of peatlands can help preserve, and, if not revive, these traditional practices, then ensure the conservation of their historical import for future generations.
Recreation and (eco) tourism			People often choose where to spend their leisure time based in part on the characteristics of the natural or cultivated landscapes in a particular area. The scenic appeal of these landscapes can captivate visitors and residents alike, offering a sense of awe and appreciation for the natural world. Restored peatlands can also serve as key attractions for ecotourism. Eco-tourists who seek sustainable and nature-focused experiences are often drawn to destinations that prioritise conservation and offer unique ecological features. By promoting restored peatlands as ecotourism sites, the project can attract visitors interested in learning about peatland ecosystems, conservation practices, and their role in mitigating climate change.
Aesthetic value			Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, scenic drives, and the selection of housing locations. Peatlands often exhibit distinct visual features that add to their aesthetic value. These can include undulating terrain, patterned vegetation, vibrant mosses and lichens, colourful flowering plants, and atmospheric phenomena such as mist and reflections on water surfaces. The restoration of peatlands can highlight and amplify these dramatic features, creating visually captivating scenes. Peatland restoration also contributes to the preservation and enhancement of the natural beauty of the Cairngorms National Park. Restored peatlands showcase unique and visually striking landscapes, characterised by diverse vegetation, water features, and atmospheric conditions
Spiritual and religious value			Many religions attach spiritual and religious values to ecosystems or their components. Peatland restoration fosters a deeper connection with nature, which can be spiritually enriching. The serene and untouched nature of restored peatlands offers individuals an opportunity for contemplation, meditation, and a sense of harmony with the natural world. The tranquil atmosphere, the presence of diverse flora and fauna, and the unique visual and sensory experiences can evoke a spiritual connection and a sense of awe and reverence.
Inspiration of art, folklore, architecture, etc.			Peatlands have often held a place in folklore and cultural narratives. The restoration of peatlands can revive and enhance local folklore and mythological stories associated with these landscapes: see the <i>Goddess of Ballachulish</i> . Folktales, legends, and oral traditions that revolve around bog creatures, mystical beings, and the significance of peatlands in local history may be celebrated through cultural events, storytelling sessions, and community engagements.



Social relations (e.g. fishing, grazing, or cropping communities)			Ecosystems influence the types of social relations that are established in particular cultures. Less noticeable today in the developed world due to the homogenisation of culture.
Supporting services			(Supporting services are those that are necessary for the production of all other ecosystem services. They differ from provisioning, regulating, and cultural services in that their impacts on people are often indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people. (Some services, like erosion regulation, can be categorised as both a supporting and a regulating service, depending on the time scale and immediacy of their impact on people))
Soil formation			Humans do not directly use this as a service, but changes in soil formation would indirectly affect people through the impact on other services such as the provisioning service of food production. Because many provisioning services depend on soil fertility, the rate of soil formation influences human well-being in many ways. Peatlands are unique ecosystems characterized by the accumulation of partially decomposed organic matter called peat. Through the restoration of degraded peatlands, the process of peat accumulation can be revived. As peat accumulates over time, it contributes to the formation of organic-rich soil layers known as peat soils. These soils have unique characteristics and provide essential functions in ecosystems.
Primary production			The assimilation or accumulation of energy and nutrients by organisms. Primary production provides the basis of the food web for all higher consumers – herbivores as well as carnivores. Peatland restoration involves the re-establishment of vegetation in degraded or drained peatlands. By restoring the natural hydrological conditions and water levels, vegetation, including mosses, sedges, and shrubs, can recolonise the area. As vegetation regrows, it contributes to primary production by capturing sunlight and converting it into chemical energy through photosynthesis.
Nutrient cycling			This indirect supporting service is required e. g. as the basis for crop production and plant growth. Peatland restoration can improve nutrient availability in the ecosystem, which can positively influence primary production. Through the restoration of natural hydrological conditions, nutrient cycling processes, such as mineralisation and nutrient uptake by plants, are enhanced. Adequate nutrient availability supports the growth and productivity of vegetation, contributing to increased primary production.
Water recycling			Water cycles through ecosystems and is essential for living organisms. Peatlands have natural filtration properties that improve water quality. As water flows through the peat soil, it undergoes filtration and purification processes. Peat acts as a physical filter, removing sediments, pollutants, and excess nutrients from the water. The vegetation in restored peatlands further enhances water quality by absorbing and filtering pollutants, such as heavy metals and agricultural runoff. This natural filtration process contributes to water recycling by improving the overall quality of water within the ecosystem.



Photosynthesis			Production of atmospheric oxygen through photosynthesis is often categorised as a supporting service since oxygen forms the basis for any animal life on Earth. Any impacts on the concentration of oxygen in the atmosphere through peatland restoration would only occur over an extremely long time.
Provision of habitat			Habitat provision has vital long-term effects on diversity and species richness, and woodland systems play a significant role as refuge for many species of birds, mammals, amphibians, bees, and butterflies. Peatland restoration plays a crucial role in providing habitat provision as an ecosystem service. Peatlands are unique and valuable ecosystems that support a wide range of specialised plant and animal species. Through restoration efforts, degraded or damaged peatlands can be rehabilitated, creating suitable habitats for these species to thrive. Restoration involves re-establishing the hydrological conditions, promoting the growth of peat-forming vegetation, and enhancing the overall ecological functioning of the peatland. The recovery of peat-forming vegetation, such as sphagnum mosses and other wetland plants, provides suitable habitats for a range of specialised species, including insectivorous plants, bog orchids, and rare bird species. Peatlands also offer unique niche habitats that support specialised species adapted to the specific ecological conditions found in these wetland ecosystems. Restoring peatlands helps recreate these niche habitats, such as acidic bog pools, fen meadows, and open water areas. These habitats provide breeding grounds, feeding areas, and shelter for various organisms, including amphibians, insects, birds, and rare flora. Peatland restoration further contributes to habitat provision by enhancing landscape connectivity. Restored peatlands can act as stepping-stones or corridors, connecting fragmented habitats and facilitating the movement of species across the landscape. This connectivity is particularly important for species with large home ranges or those that depend on multiple habitats for their life cycle.



Table 10.4: Ecosystem Service Assessment - Climate Resilient Catchments

Project 5c Climate Resilient Catchments			
Provisioning services	Baseline	Predicted	(These are the products obtained from ecosystems)
Fresh water			An ecosystem service approach has the potential to strengthen freshwater management which aims to coordinate the conservation, management and sustainable development of water, land and resources across entire river basins. Such integrated approaches are designed to maximise the social and economic outputs of freshwater ecosystems whilst preserving and restoring their ecological status. The Climate Resilient Catchments project emphasises the restoration and improvement of floodplains and riverine habitat and in doing so, the project can improve ecosystem resilience and maintain or enhance the quality of freshwater resources. This benefits the ecosystem service of fresh water by ensuring clean and safe water for various uses, including drinking water, aquatic habitats, and recreational activities.
Food (e.g. crops, fruit, fish, etc.)			Virtually all ecosystems provide the conditions for growing, collecting, hunting or harvesting food and ecosystems provide a diverse range of food resources, including crops, fisheries, livestock, wild game, and foraged plants. These resources support human nutrition and food security. The project's efforts to improve water quality, reduce pollution, and restore freshwater ecosystems contribute to the health and sustainability of fish populations. By restoring natural habitats, promoting responsible fishing practices, and reducing the impacts of climate change on aquatic ecosystems, the project will help to maintain or enhance fish stocks. This supports the provision of fish as an important food resource and helps sustain local aquaculture.
Fibre and fuel (e.g. timber, wool, etc.)			No connectivity between the restoration of catchments in the CNP and the provision of fibre and fuel as an ecosystem resources.
Genetic resources			The project aims to restore and protect natural habitats within the catchment area, which plays a crucial role in conserving genetic resources. By preserving diverse ecosystems and their associated flora and fauna, the project helps safeguard the genetic diversity of terrestrial and aquatic plant and animal species. Genetic resources are the heritable materials within these species that provide valuable traits, genetic variation, and potential resilience to environmental changes. The project focuses on promoting the conservation and restoration of native species (freshwater mussel, Atlantic salmon) within the catchment area. Native species often possess unique genetic characteristics and adaptations to local environmental conditions. Protecting and restoring their habitats ensures the preservation of their genetic resources.



Ornamental resources (e.g. shells, flowers, etc.)			Animal and plant products, such as skins, shells and flowers can be used as ornaments and whole plants are used for landscaping and ornaments. It is unlikely for the catchment project to significantly impact upon this service.
Regulatory services			(These are the benefits obtained from the regulation of ecosystem processes)
Air quality regulation			The Climate Resilient Catchment project may focus on the restoration and conservation of riparian zones and wetlands within the catchment area. These ecosystems act as natural buffers and filters, trapping pollutants and sediment before they reach water bodies and the atmosphere. Wetlands, in particular, have the ability to remove excess nutrients and pollutants from water, preventing their release into the air. By protecting and restoring these habitats, the project indirectly contributes to improving air quality by reducing the transport of pollutants.
Climate regulation			The project's focus on catchment management can contribute to regulating the water cycle, which is closely linked to climate regulation. By implementing measures to enhance water retention, such as restoring wetlands and improving soil water-holding capacity, the project helps regulate the flow of water within the catchment area. This can mitigate the impacts of extreme weather events, such as floods and droughts, which are influenced by climate change. Maintaining a balanced water cycle supports climate regulation by stabilising regional climate patterns and reducing the vulnerability of ecosystems and communities to climate-related risks.



Water regulation			<p>The Climate Resilient Catchment project can play a significant role in water regulation as an ecosystem service. One of the primary goals of the project is to reduce the risk of flooding within the catchment area. It does so by implementing measures that enhance natural water regulation processes. For example, the restoration of wetlands, creation of floodplains, and reforestation can increase water storage capacity and slow down the movement of water during heavy rainfall events. These interventions help to reduce the peak flow of water, alleviate pressure on river systems, and mitigate the risk of flooding downstream. By managing water more effectively, the project contributes to maintaining water balance and regulating the flow of water within the catchment. The Climate Resilient Catchment project also focuses on improving water retention within the catchment area. By restoring and conserving wetlands, improving soil health, and implementing sustainable land management practices, the project helps to increase the capacity of the landscape to retain water. This enhanced water retention contributes to drought resilience by ensuring a more sustainable water supply during dry periods. By regulating the availability of water resources, the project supports both ecological functioning and human water needs within the catchment. The project also contributes to water regulation by improving water quality. The project recognises the critical role of healthy ecosystems in water regulation. By restoring and conserving riparian zones, wetlands, and forests, the project supports the natural functioning of these ecosystems in water regulation processes. Vegetation and soil within these ecosystems act as natural filters, absorbing excess nutrients and pollutants and improving water quality. Additionally, the project's focus on preserving and restoring natural hydrological features, such as rivers and wetlands, contributes to maintaining the hydrological balance and overall water regulation within the catchment.</p>
Natural hazard regulation			<p>The relationship between natural hazard regulation and the catchment project is significant. By implementing specific interventions and measures, such as floodplain restoration, water storage, and improved land management practices, the project seeks to reduce the impacts of natural hazards, particularly flooding, on local communities. The catchment project recognises that historic changes in land management, including woodland loss and peatland degradation, have contributed to a reduction in the natural capacity of catchments to mitigate the impacts of climate change. This has led to increased flood events and other natural hazards in the affected communities. Through the project's interventions, such as the restoration of floodplains and the implementation of water storage mechanisms, the catchment's ability to regulate water flow and reduce flood risks is improved. This helps in mitigating the impact of natural hazards on communities living within the catchment areas. Moreover, by focusing on land management strategies that enhance biodiversity and ecological health, the catchment project indirectly contributes to natural hazard regulation. Healthy ecosystems, with diverse habitats and species, are better equipped to withstand and buffer against natural hazards such as storms, fires and erosion. They provide natural protection and resilience to the surrounding areas, reducing the vulnerability of communities to these hazards.</p>



Pest regulation			Agricultural production relies not only on crops but on associated biodiversity in agro-ecosystems. Pests, diseases and weeds limit crop production, and are themselves limited by the action of their natural enemies, mostly arthropods and micro-organisms. Biological control, through an ecosystem approach, is a way to reduce pesticide use and enhance biodiversity while ensuring production. In addition, creating or restoring ecological corridors within the catchment areas can facilitate the movement of beneficial organisms, such as predators and pollinators, which play a crucial role in pest regulation. These corridors provide pathways for the natural dispersal of beneficial species, allowing them to reach areas affected by pests.
Disease regulation			Diverse ecosystems tend to have a greater resilience to diseases as they support a wide range of species and ecological interactions. By preserving natural habitats and promoting biodiversity, the catchment project contributes to maintaining a healthy ecosystem that can better resist and regulate diseases.
Erosion regulation			One of the key strategies in erosion regulation is the establishment and management of vegetation. By planting native vegetation, such as trees, shrubs, and grasses, in catchment and floodplain areas, the project can help stabilise the soil and reduce erosion. The roots of the vegetation bind the soil particles together, preventing their detachment and transport by water. The vegetation also helps slow down water flow, allowing sediments to settle and reducing the erosive force of the water. Restoring riparian buffer zones along rivers and streams is also an effective measure to regulate erosion. These zones consist of vegetation, including trees and bushes, along the banks of water bodies. They act as natural buffers, trapping sediments and reducing the impact of water flow on the banks. By establishing and maintaining riparian buffer zones, catchment and floodplain restoration projects help protect the banks from erosion, maintain water quality, and create habitat for wildlife.
Water purification and waste treatment			Wetlands are known for their exceptional capacity to purify water and treat wastewater naturally. Catchment and floodplain restoration projects often focus on restoring and conserving wetland areas. Wetlands are effective at removing pollutants, excess nutrients, and sediments from water. They provide a range of physical, chemical, and biological processes that contribute to water purification. Wetlands also serve as habitat for various microorganisms, plants, and animals that assist in breaking down organic matter and filtering water. Restoring riparian vegetation helps trap and filter pollutants, sediment, and nutrients before they reach water bodies. The roots of riparian plants also enhance water infiltration and stabilise the soil, reducing erosion and preventing the transport of pollutants.



Pollination services			Catchment and floodplain restoration projects can have positive impacts on pollination services, which are crucial for the reproduction of many plants and the production of fruits, seeds, and other agricultural crops. Catchment restoration projects often involve the establishment or enhancement of diverse vegetation communities, including native flowering plants. These vegetation patches provide habitat and food resources for a wide range of pollinators, including bees, butterflies, moths, and other insects. By creating or expanding suitable habitats, restoration projects can attract and support a diverse pollinator community, increasing the availability of pollinators in the surrounding areas. Restoration projects that prioritise native plant species, especially those with high nectar and pollen production, can significantly increase the availability of floral resources for pollinators. By promoting the growth of native flowering plants, restoration efforts provide a diverse and abundant supply of food for pollinators throughout their active seasons. This abundance of flowers increases the chances of successful pollination and promotes the health and diversity of pollinator populations. Catchment and floodplain restoration projects also often aim to create ecological connectivity between different habitats. By establishing green corridors and connecting fragmented habitats, these projects facilitate the movement of pollinators between different areas, allowing for more efficient and widespread pollination. Increased connectivity also benefits plants by facilitating gene flow and genetic diversity, which is essential for their long-term survival and adaptation to changing environmental conditions.
Cultural services			(These are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience)
Cultural heritage			Many societies place high value on the maintenance of either historically important landscapes (cultural landscapes) or culturally significant species. Many catchment and floodplain areas have significant historical and cultural value and the CNP is home to several large catchments areas. By restoring the natural ecosystems and associated cultural elements, such as traditional angling practices these projects help maintain the cultural identity and heritage of the local communities.
Recreation and (eco) tourism			People often choose where to spend their leisure time based in part on the characteristics of the natural or cultivated landscapes in a particular area. Catchment restoration can improve the ecological health and beauty of catchments and floodplain areas. This enhancement creates more appealing and diverse natural landscapes that attract visitors interested in outdoor recreational activities and nature-based experiences. The restored areas offer opportunities for hiking, wildlife watching, bird watching, kayaking, photography, and other recreational pursuits, providing visitors with memorable experiences in a scenic and revitalised environment.
Aesthetic value			Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, scenic drives, and the selection of housing locations. Catchment and floodplain restoration projects aim to restore natural landscapes by re-establishing native vegetation, improving water features, and revitalising the overall ecological balance. These efforts result in visually pleasing environments that showcase the beauty of natural elements such as forests, wetlands, rivers, and meadows. The restored landscapes provide a sense of harmony, tranquility, and scenic beauty.



Spiritual and religious value			Restoring catchments and floodplains brings attention to the importance of nature and its intricate ecological processes. These projects emphasise the interconnectedness of all living beings and the natural world, aligning with spiritual and religious beliefs that recognise the sacredness of nature. By promoting the restoration and conservation of these ecosystems, they encourage a sense of stewardship and reverence for the Earth and its natural resources. Restored catchments and floodplains often offer serene and tranquil environments. The presence of flowing rivers, rejuvenated wetlands, and restored habitats creates a sense of peace and harmony. Such tranquil settings can be conducive to contemplation, meditation, and spiritual reflection, providing individuals with opportunities to connect with their inner selves and find solace in nature.
Inspiration of art, folklore, architecture, etc.			The restored landscapes, diverse ecosystems, and natural beauty found in river catchments and floodplains can inspire artists of various disciplines, including painters, photographers, sculptors, and writers. The unique flora and fauna, changing seasons, and the interplay of light and shadow provide rich subject matter for artistic interpretation. Artists may capture the essence of restored landscapes, wildlife, or water bodies in their works, conveying the beauty and significance of these environments to a wider audience. Restoration projects can also rekindle interest in folklore narratives, allowing communities to reconnect with their cultural heritage (e.g. the Spey Kelpies and Spey Stone). Folklore and storytelling serve as a means to transmit knowledge, values, and beliefs related to the land, fostering a sense of identity and strengthening the connection between people and their restored environments.
Social relations (e.g. fishing, grazing, or cropping communities)			Ecosystems influence the types of social relations that are established in particular cultures. Less noticeable today in the developed world due to the homogenisation of culture.
Supporting services			(Supporting services are those that are necessary for the production of all other ecosystem services. They differ from provisioning, regulating, and cultural services in that their impacts on people are often indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people. (Some services, like erosion regulation, can be categorised as both a supporting and a regulating service, depending on the time scale and immediacy of their impact on people))



Soil formation			Humans do not directly use this as a service, but changes in soil formation would indirectly affect people through the impact on other services such as the provisioning service of food production. Because many provisioning services depend on soil fertility, the rate of soil formation influences human well-being in many ways. Catchment and floodplain restoration projects play a significant role in soil formation as an ecosystem service. Restoration projects often involve the diversion of water flow and the creation of channels, wetlands, and floodplains. These areas serve as natural sediment traps, allowing sediment-laden water to slow down and deposit sediment particles. Over time, this sediment builds up, contributing to the formation of new soil layers. The deposition of sediments enhances soil fertility and nutrient content, creating a favourable environment for plant growth and ecosystem development.
Primary production			Floodplain restoration projects often involve planting native vegetation, including grasses, shrubs, and trees, within catchments and floodplains. The establishment of vegetation increases primary production by supporting photosynthesis, the process through which plants convert sunlight, carbon dioxide, and water into organic matter and oxygen. As vegetation cover expands, primary producers such as plants and algae thrive, leading to higher rates of primary production. The project may also improve soil fertility and nutrient cycling within catchments and floodplains by increasing sediment deposition and organic matter accumulation to enhance nutrient availability in the ecosystem. Nutrients, such as nitrogen, phosphorus, and potassium, are essential for plant growth and primary production. Increased nutrient availability facilitates the uptake and utilisation of these resources by primary producers, leading to enhanced primary production rates.
Nutrient cycling			This indirect supporting service is required e. g. as the basis for crop production and plant growth. By enhancing sediment and nutrient retention, promoting organic matter accumulation, facilitating nutrient uptake by vegetation, supporting microbial activity, and protecting riparian zones and wetlands, catchment and floodplain restoration projects positively influence nutrient cycling. These projects help maintain nutrient balance, improve soil fertility, and sustain the availability of essential nutrients for plants, animals, and other organisms within the ecosystem.
Water recycling			Water cycles through ecosystems and is essential for living organisms. The project may involve the creation of ponds, wetlands, and floodplains that act as natural reservoirs for water storage. These areas help to capture and retain water during periods of high precipitation, such as heavy rainfall or snowmelt. By storing water, these habitats ensure a continuous water supply during drier periods, promoting water recycling within the ecosystem.
Photosynthesis			Production of atmospheric oxygen through photosynthesis is often categorised as a supporting service since oxygen forms the basis for any animal life on Earth. Any impacts on the concentration of oxygen in the atmosphere through floodplain restoration would only occur over an extremely long time.



Provision of habitat			<p>Floodplain restoration projects aim to recreate or enhance natural floodplain ecosystems. By restoring floodplains to their natural state, including wetlands, meadows, and riparian areas, a diverse range of habitats can be created. These habitats provide suitable conditions for various plant and animal species, leading to increased biodiversity. Floodplain restoration projects often involve reconnecting rivers and streams to their floodplains, allowing for the movement of water, sediments, and organisms. This increased connectivity between aquatic and terrestrial habitats promotes the exchange of species, facilitates migration, and enhances ecological processes. Floodplain restoration also typically involves the establishment and conservation of riparian vegetation along watercourses. Riparian zones serve as important habitats for a wide range of species, including birds, mammals, amphibians, and insects. These vegetated areas provide food, nesting sites, and shelter, supporting the life cycles of numerous organisms. Furthermore, the restoration project may include the creation of wetlands, which are highly productive and biodiverse ecosystems. Wetlands provide habitat for a variety of plant and animal species, including waterfowl, amphibians, fish, and insects. They offer feeding grounds, breeding sites, and refuge for many species, contributing to overall habitat provision. Restored floodplains perform essential ecological functions that support habitat provision. They help regulate water flows, improve water quality, and provide nutrient cycling, creating favourable conditions for diverse plant and animal communities. These ecological processes contribute to the functioning and resilience of habitats within the floodplain.</p>
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Table 10.5: Ecosystem Service Assessment - Cairngorms Future Farming

Project 5e Cairngorms Future Farming			
Provisioning services	Baseline	Predicted	(These are the products obtained from ecosystems)
Fresh water			An ecosystem service approach has the potential to strengthen freshwater management which aims to coordinate the conservation, management and sustainable development of water, land and resources across entire river basins. Such integrated approaches are designed to maximise the social and economic outputs of freshwater ecosystems whilst preserving and restoring their ecological status. Sustainable farming practices, such as reduced fertiliser use and improved management of floodplains, can contribute to better water quality in freshwater ecosystems. By minimising the application of agrochemicals, the project helps to reduce the risk of nutrient runoff and the subsequent eutrophication of water bodies. This is beneficial for both aquatic species and human water consumption. The restoration of floodplains and the management of grazing regimes can also contribute to the preservation and restoration of riparian zones and wetlands. These habitats play a crucial role in regulating water flow, filtering pollutants, and providing habitat for numerous species. By enhancing these areas, the project indirectly supports the quality and functioning of freshwater ecosystems within the park.
Food (e.g. crops, fruit, fish, etc.)			Virtually all ecosystems provide the conditions for growing, collecting, hunting or harvesting food and ecosystems provide a diverse range of food resources, including crops, fisheries, livestock, wild game, and foraged plants. These resources support human nutrition and food security. The Cairngorms Future Farming project directly relates to food as a provisioning ecosystem service. The project's focus on sustainable farming practices and improved land management techniques can have significant implications for the production of crops, fruits, and fish within the Cairngorms National Park. The project promotes sustainable agricultural practices that aim to reduce the environmental impact of farming while ensuring the long-term productivity of agricultural lands. By implementing methods such as organic farming, agroforestry, and reduced fertiliser use, the project supports the cultivation of crops and fruits in an environmentally friendly manner that aims to ensure the long-term feasibility of extensive farming practices.
Fibre and fuel (e.g. timber, wool, etc.)	x		Agroforestry, an approach that combines trees and agricultural crops or livestock, is promoted by the project. Agroforestry systems provide multiple benefits, including the potential production of timber and other fibre resources. The integration of trees within agricultural landscapes may allow for sustainable timber production alongside food and livestock production. Agroforestry can provide fuelwood, timber, and other woody biomass, contributing to local energy needs and reducing reliance on non-renewable energy sources.



Genetic resources			The relationship between the Cairngorms Future Farming project and genetic resources as an ecosystem service lies in their mutual recognition of the importance of preserving and utilising genetic diversity within the agricultural and natural systems of the Cairngorms National Park. The Future Farming project emphasises the conservation and restoration of biodiversity within the national park. This includes protecting and managing the genetic diversity of wild plant and animal species, which serve as valuable genetic resources. By safeguarding the diversity of native species, the project helps maintain the resilience of ecosystems and ensures the availability of genetic resources for future use. The project acknowledges the value of traditional crop and livestock varieties that have adapted to local conditions over generations. These varieties often possess unique genetic traits, such as disease resistance or tolerance to harsh climates, which can be utilised in breeding programs to enhance the resilience and productivity of agricultural systems. The project supports the conservation and promotion of traditional varieties, ensuring the availability of genetic resources for future agricultural development. The project promotes sustainable farming practices that help maintain and enhance genetic diversity. For example, by implementing agroforestry systems, crop rotation, and mixed farming methods, farmers can support a wide range of plant and animal species, increasing the genetic diversity within agricultural landscapes. This approach not only benefits the ecological balance but also provides opportunities for the discovery and utilisation of new genetic resources. Lastly, the Cairngorms Future Farming project encourages collaboration among farmers, researchers, and local communities. Through knowledge exchange and partnerships, the project facilitates the sharing of information on genetic resources. This may include traditional knowledge about local crop varieties, as well as scientific research on genetic diversity and its importance for sustainable agriculture.
Ornamental resources (e.g. shells, flowers, etc.)			Animal and plant products, such as skins, shells and flowers can be used as ornaments and whole plants are used for landscaping and ornaments. It is unlikely for the future farming project to significantly impact upon this service.
Regulatory services			(These are the benefits obtained from the regulation of ecosystem processes)



Air quality regulation			<p>The Future Farming project can have a positive impact on air quality regulation through various practices and initiatives that aim to reduce air pollution and promote sustainable farming methods. The Future Farming project emphasises the adoption of sustainable agricultural practices that minimise the use of synthetic fertilisers and pesticides. By promoting organic farming methods, precision agriculture techniques, and integrated pest management, the project helps reduce the release of air pollutants associated with conventional farming practices. This includes the emission of greenhouse gases (GHGs) such as carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄), as well as volatile organic compounds (VOCs) and ammonia (NH₃). The Future Farming project encourages the implementation of agroforestry systems and the planting of windbreaks. Trees and hedgerows act as natural barriers, reducing wind speed and can help in minimising the dispersion of airborne pollutants from agricultural activities. They also contribute to carbon sequestration, enhancing overall air quality and mitigating climate change impacts.</p>
Climate regulation			<p>The Future Farming project can have significant impacts on climate regulation as an ecosystem service. Climate regulation refers to the ability of ecosystems to absorb and store carbon dioxide (CO₂) and other greenhouse gases (GHGs) from the atmosphere, mitigating climate change impacts. The project promotes practices that enhance carbon sequestration in agricultural landscapes. By adopting agroforestry systems, cover cropping, and conservation tillage, farmers can increase the organic matter content in the soil, leading to enhanced carbon storage. Trees and vegetation play a crucial role in sequestering carbon through photosynthesis, helping to reduce the concentration of CO₂ in the atmosphere. The Future Farming project emphasises the adoption of sustainable agricultural practices that minimise the release of GHGs. By reducing the use of synthetic fertilisers and pesticides, optimising nutrient management, and practicing precision agriculture, farmers can decrease GHG emissions, such as nitrous oxide and methane. These gases have significantly higher global warming potentials compared to CO₂, and their reduction contributes to climate regulation.</p>



Water regulation			<p>The Future Farming project can have significant impacts on water regulation as an ecosystem service. Water regulation refers to the ability of ecosystems to regulate the flow, quality, and availability of water within a watershed. The project emphasises sustainable water management practices in agriculture. By promoting efficient irrigation techniques, such as drip irrigation and precision irrigation, farmers can minimise water wastage and improve water use efficiency. This helps to conserve water resources and maintain the natural flow of water within the ecosystem. The project encourages the adoption of conservation practices that help reduce water runoff and erosion. By implementing measures such as contour ploughing, terracing, and cover cropping, farmers can prevent soil erosion and retain water within the landscape. This helps to recharge groundwater reserves and maintain the natural hydrological cycle. The project also promotes the protection and restoration of riparian zones—the areas along rivers, streams, and water bodies. These zones play a critical role in water regulation by filtering pollutants, reducing sedimentation, and stabilising riverbanks. By implementing buffer strips and vegetation conservation measures, farmers can help maintain water quality and regulate water flow. Wetlands are important for water regulation as they act as natural filters and reservoirs, and The Future Farming project encourages the preservation and restoration of wetlands within agricultural landscapes. By protecting these areas, farmers can promote water purification, flood mitigation, and habitat conservation.</p>
Natural hazard regulation			<p>The Future Farming project can have an impact on natural hazard regulation as an ecosystem service. Natural hazard regulation refers to the ability of ecosystems to mitigate and regulate the impacts of natural hazards such as floods, landslides, and wildfires. Trees, forests, and other vegetation provide important natural barriers and can help regulate natural hazards. They can act as windbreaks, reducing the impact of strong winds and protecting against storm damage. They also help stabilise slopes, reducing the risk of landslides, and provide shade that can moderate temperature extremes and reduce the risk of wildfires.</p>



Pest regulation			Agricultural production relies not only on crops but on associated biodiversity in agro-ecosystems. Pests, diseases and weeds limit crop production, and are themselves limited by the action of their natural enemies, mostly arthropods and micro-organisms. Biological control, through an ecosystem approach, is a way to reduce pesticide use and enhance biodiversity while ensuring production. The Future Framing project emphasises the preservation and restoration of natural habitats within agricultural landscapes. Maintaining diverse ecosystems and providing suitable habitats for natural enemies of pests, such as birds, bats, and beneficial insects, can enhance pest regulation. These organisms act as natural predators and help control pest populations by feeding on them or parasitising them. By preserving natural habitats, the project supports the presence of these natural enemies and promotes pest regulation. The Future Farming project may also encourage practices such as crop rotation and polyculture, where different crops are grown together in the same field. These practices disrupt pest life cycles and reduce the build-up of pests that are specific to certain crops. Additionally, diverse crop mixtures can confuse and deter pests, making it harder for them to locate and attack their preferred hosts. By implementing these practices, farmers can naturally reduce pest pressures and improve pest regulation and overall resilience.
Disease regulation			Diverse ecosystems tend to have a greater resilience to diseases as they support a wide range of species and ecological interactions. The Future Farming project emphasises the importance of soil health and the use of organic practices. Healthy soils support robust plant growth and resilience, making crops less susceptible to diseases. By enhancing soil fertility, organic matter content, and nutrient availability, farmers can improve the overall health and vitality of their crops, making them more resistant to diseases. Healthy plants have stronger immune systems, allowing them to better defend against pathogens and reduce disease incidence.
Erosion regulation			The Future Farming project can have positive impacts on erosion regulation as an ecosystem service. Erosion regulation refers to the ability of ecosystems to prevent or mitigate soil erosion, which is the process of soil being displaced by wind or water. The Future Farming may project promotes the establishment of buffer zones and riparian areas along water bodies. Buffer zones are areas of vegetation, such as grasses, trees, or shrubs, that act as a barrier between agricultural fields and water bodies. These zones help filter sediment, nutrients, and other pollutants, reducing their transport into water bodies and minimising erosion. Riparian areas, which are strips of vegetation along rivers and streams, provide similar erosion control functions by stabilising the banks and reducing sediment runoff.
Water purification and waste treatment			The Future Farming project may have positive impacts on water purification and waste treatment as ecosystem services. Water purification and waste treatment refer to the ability of ecosystems to filter and cleanse water, removing contaminants and improving water quality. By adopting precision agriculture techniques, farmers could optimise the application of fertilisers and potentially minimise nutrient runoff into water bodies. This has the potential to reduce the risk of nutrient pollution, such as excessive nitrogen and phosphorus, which can degrade water quality and cause harmful algal blooms. Proper nutrient management may help maintain a balanced nutrient load in agricultural runoff, potentially enhancing water purification.



			The project may also promote the establishment and conservation of riparian zones and wetlands. Riparian zones are vegetated areas along rivers, streams, and water bodies, while wetlands are water-saturated habitats. These ecosystems can act as natural filters, trapping sediments, nutrients, and pollutants from agricultural runoff before they enter water bodies. Riparian vegetation and wetland plants have the potential to absorb and metabolise contaminants, potentially improving water quality and promoting water purification.
Pollination services			The Future Farming project could potentially have positive impacts on pollination services as an ecosystem service. The project may promote biodiversity conservation by implementing practices that support diverse habitats and ecosystems. Maintaining a variety of flowering plants, altering mowing schedules to allow them to bloom and providing suitable nesting sites and habitats for pollinators can enhance their abundance and diversity. By preserving natural areas, creating wildflower strips, or incorporating hedgerows and flowering cover crops, the project could attract and support a diverse range of pollinators, including bees, butterflies, and other insects. The Future Farming project may also encourage the reduction of pesticide use or the adoption of alternative pest management strategies. Pesticides, particularly insecticides, can have negative impacts on pollinators by directly harming them or affecting their behaviour and reproductive capabilities. By implementing integrated pest management (IPM) techniques, farmers may use targeted pest control methods while minimising the impact on beneficial insects like pollinators. This approach could help protect pollinators and maintain healthy populations for efficient pollination.
Cultural services			(These are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experience)
Cultural heritage			The Future Farming project may have indirect impacts on cultural heritage as an ecosystem service. Cultural heritage refers to the cultural practices, traditions, knowledge, and artifacts that are passed down through generations and contribute to a community's identity and sense of place. While the project primarily focuses on sustainable farming practices and ecosystem services, it can indirectly influence cultural heritage. The project recognises and seeks to support traditional farming practices that have deep cultural significance. Many farming communities have unique methods and knowledge that have been developed and refined over generations. By acknowledging and integrating traditional practices into the project, it can help preserve cultural heritage associated with farming techniques. The project's emphasis on sustainable farming practices and environmental stewardship may also attract visitors and tourists interested in experiencing authentic agricultural traditions and cultural heritage. This increased tourism can provide economic opportunities for local communities and contribute to the preservation and promotion of cultural heritage. Additionally, educational initiatives and interpretive materials associated with the project can raise awareness among visitors and locals about the cultural significance of farming practices and their connection to the land.



Recreation and (eco) tourism			People often choose where to spend their leisure time based in part on the characteristics of the natural or cultivated landscapes in a particular area. The Future Farming project may have impacts on recreation and (eco) tourism as an ecosystem service. Recreation and tourism are important aspects of ecosystem services as they provide opportunities for people to engage with and enjoy natural environments. The Future Farming project may encourage farm-based tourism initiatives that allow visitors to experience rural life, learn about sustainable farming practices, and engage in agricultural activities. Farm tours, farm stays, or farm-to-table experiences can provide recreational and educational opportunities, allowing tourists to connect with the land, understand food production processes, and appreciate the cultural heritage associated with farming. The project may also contribute to the preservation and enhancement of natural landscapes, including farmland, forests, wetlands, and other natural habitats. These well-managed and visually appealing landscapes can attract tourists and visitors who seek opportunities for outdoor activities such as hiking, birdwatching, nature photography, or simply enjoying the scenic beauty of the area.
Aesthetic value			Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, scenic drives, and the selection of housing locations. The project may contribute to the preservation and enhancement of landscapes, including farmland, forests, meadows, and other natural habitats. By implementing sustainable farming practices, such as agroforestry, organic farming, or landscape design that integrates natural elements, the project can help maintain visually pleasing and harmonious landscapes. Preserving the scenic beauty of the environment can contribute to its aesthetic value and create a sense of tranquillity and visual enjoyment for both locals and visitors.
Spiritual and religious value			The Future Farming project may provide opportunities for communities to engage in rituals and ceremonies related to farming, harvest, or other agricultural practices. These rituals often have spiritual and religious significance, symbolising gratitude, renewal, or the cyclical nature of life. By supporting and preserving traditional rituals and ceremonies, the project can reinforce spiritual and religious values that are closely tied to the land and agricultural practices.



Inspiration of art, folklore, architecture, etc.			<p>Sustainable farming practices often have deep cultural and historical roots, intertwined with local traditions and folklore. The project may revive or preserve traditional stories, myths, and folktales associated with farming, nature, and the land. These narratives can highlight the importance of sustainable practices, the wisdom of past generations, and the enduring relationship between humans and the environment. Folklore can be passed down through generations, fostering a sense of cultural identity and connection to the land. The principles of sustainability, ecological balance, and community well-being promoted by the Future Farming project may also influence architectural design in the surrounding areas. Architects and urban planners may draw inspiration from the project's sustainable farming practices and incorporate elements of nature, such as green roofs, vertical gardens, or natural building materials, into their designs. The result could be buildings and structures that seamlessly blend with the natural environment, promoting a sense of harmony between human-made spaces and the surrounding landscape. The project may further support artistic and cultural activities that celebrate the beauty of the landscape and promote local creativity. This can support in organising art exhibitions, photography contests, or cultural events that focus on the natural environment and farming traditions. By highlighting the aesthetic qualities of the landscape through art and cultural expressions, the project can foster a deeper appreciation for the visual appeal of the area and its cultural significance.</p>
Social relations (e.g. fishing, grazing, or cropping communities)			<p>Ecosystems influence the types of social relations that are established in particular cultures. Less noticeable today in the developed world due to the homogenisation of culture - with the probable exception of farming which maintains highly social interactions and communities. With the project's focus on active community engagement and participation, it should help in fostering a sense of ownership and collaboration among farming communities. By involving community members in decision-making processes, their perspectives, knowledge, and experiences can be incorporated, leading to more inclusive and locally relevant solutions. This participatory approach can strengthen social bonds, promote community cohesion, and enhance trust between stakeholders. The Future Farming project may also create new economic opportunities within fishing, grazing, or cropping communities. Sustainable farming practices can increase productivity, diversify income sources, and enhance the economic viability of agricultural activities. This, in turn, can contribute to the well-being of community members, improve their livelihoods, and strengthen local economies. Economic stability and prosperity often have positive effects on social relations, fostering cooperation and reducing conflicts within communities. Finally, sustainable farming practices often have cultural and historical significance for local farming communities. The project's emphasis on preserving traditional knowledge, cultural heritage, and local practices can contribute to the cultural identity and well-being of these communities. By valuing and incorporating cultural elements into the project, it can help maintain and revitalise cultural traditions, strengthen community ties, and promote intergenerational knowledge transfer.</p>



Supporting services			(Supporting services are those that are necessary for the production of all other ecosystem services. They differ from provisioning, regulating, and cultural services in that their impacts on people are often indirect or occur over a very long time, whereas changes in the other categories have relatively direct and short-term impacts on people. (Some services, like erosion regulation, can be categorised as both a supporting and a regulating service, depending on the time scale and immediacy of their impact on people))
Soil formation			Humans do not directly use this as a service, but changes in soil formation would indirectly affect people through the impact on other services such as the provisioning service of food production. Because many provisioning services depend on soil fertility, the rate of soil formation influences human well-being in many ways. The project Future Farming Project can promote sustainable soil management practices, such as organic farming, cover cropping, and reduced tillage. These practices can promote soil health and fertility by increasing organic matter content, improving soil structure, and enhancing nutrient cycling. By implementing such practices, the project may contribute to the formation of fertile and productive soils, which are essential for sustaining agricultural productivity and supporting ecosystem functioning. Soil formation is a complex and time-dependent process influenced by various factors, including climate, geology, vegetation, and land management practices. The success of the Future Farming project in enhancing soil formation as an ecosystem service will depend on the adoption of appropriate soil conservation and management practices, as well as the integration of local soil characteristics and conditions into the decision-making process.
Primary production			The project may emphasise effective nutrient management practices, including the use of organic fertilisers, precision nutrient application, and nutrient recycling. Proper nutrient management ensures that crops have access to essential elements for growth and development. By providing adequate nutrients while minimising nutrient losses, the project can enhance primary production by optimising plant nutrition and promoting healthy crop growth.
Nutrient cycling			This indirect supporting service is required e. g. as the basis for crop production and plant growth. The project may prioritise the use of organic matter, such as compost or cover crops, to enhance soil health and fertility. Organic matter acts as a source of nutrients and promotes the growth of beneficial microorganisms that aid in nutrient cycling. By incorporating organic matter into the soil, the project can increase nutrient availability and promote the decomposition and recycling of organic materials. The project may encourage practices that promote the recycling of nutrients within the agricultural system. For example, crop residues or livestock manure can be returned to the soil as organic amendments, replenishing nutrient stocks and improving soil fertility. Nutrient recycling minimises nutrient losses from the system and ensures that nutrients are utilised efficiently, reducing the need for external inputs.



Water recycling			Water cycles through ecosystems and is essential for living organisms. The project may encourage practices and technologies that promote efficient water use in agricultural activities. This could include the use of precision irrigation systems, such as drip or micro-irrigation, which deliver water directly to the plant roots, minimising water loss through evaporation or runoff. By maximising water use efficiency, the project can reduce the overall water demand and enhance water recycling within the system. The project may also encourage on-site water treatment facilities or technologies to treat and recycle water used in agricultural processes. For example, wastewater generated from various farm activities, such as irrigation runoff or livestock operations, can be treated and reused for irrigation purposes. By treating and recycling water on-site, the project can minimise the need for freshwater withdrawals and reduce the discharge of potentially polluted water into natural water bodies.
Photosynthesis			Production of atmospheric oxygen through photosynthesis is often categorised as a supporting service since oxygen forms the basis for any animal life on Earth. Any impacts on the concentration of oxygen in the atmosphere through associated farming activities would only occur over an extremely long time.
Provision of habitat			<p>The Future Farming project could have significant positive impacts on the provision of habitat as an ecosystem service. The project may implement measures to enhance biodiversity on agricultural lands. This can include creating and maintaining habitat features such as hedgerows, field margins, or wildflower strips. These habitats can provide shelter, food, and breeding grounds for a variety of plant and animal species, including pollinators, birds, insects, and small mammals. By incorporating diverse habitats into the agricultural landscape, the project can support biodiversity and contribute to the provision of habitat for various species. The project may involve the restoration of degraded or fragmented habitats within and around the farming area. This can include re-establishing native vegetation, restoring wetlands, or revitalising riparian zones. These efforts can help recreate or expand natural habitats, providing suitable conditions for native flora and fauna to thrive. By restoring and conserving native ecosystems, the project can contribute to the provision of habitat for a wide range of species.</p> <p>The project may identify and protect ecologically important areas within the farming landscape. These areas could include wetlands, forests, or other unique ecosystems that support high levels of biodiversity or provide critical habitat for endangered or threatened species. By designating and conserving these areas, the project can safeguard important habitats and contribute to the overall provision of habitat services. Finally, the project may promote ecological connectivity by creating corridors or linkages between different habitat patches. These connections can facilitate the movement of species, allowing for gene flow, migration, and dispersal. By enhancing ecological connectivity, the project can support the exchange of genetic material, maintain species populations, and ensure the provision of habitat across larger landscapes.</p>



11. Appendix A - Aims and Objectives Assessment Templates

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12. Appendix B - Project Assessment Templates

Assessor(s): <i>Insert assessor(s)'s name</i> Date of Assessment: <i>Insert date(s) of assessment</i>		SECTION OF PLAN BEING ASSESSED: <i>(eg Vision, Policy X, Option 1A, etc)</i>		1a Wellbeing Economy				
ASSESSMENT OF ENVIRONMENTAL EFFECTS								
SEA objective	SEA sub-objective	Nature of effect <i>Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.</i>	Scoring: significance of effect before mitigation <i>Insert scoring for the significance of the environmental effect BEFORE mitigation (using the symbology in Table 1)</i>	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.	Scoring: residual significance of effect after mitigation <i>Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1)</i>	CNPA response to recommendation: <i>Either agree or disagree with recommended mitigation and enhancement (as proposed in column 5). If disagreeing, provide justification as to why.</i>	
1a	Will there be an effect on energy conservation and efficiency in new development?	The creation of a wellbeing economy is intrinsically linked to all other work which takes place in CNPA, with potential positive impacts on how new development responds to, for example, the drive to net-zero within a just transition.	+	A wellbeing economy may promote the integration of renewable energy sources into new development projects. This can include the installation of solar panels, micro wind turbines, or other systems to generate clean energy on-site. By incorporating renewable energy into new developments, the reliance on fossil fuels can be reduced, leading to more sustainable and energy-efficient buildings. A wellbeing economy approach can also encourage sustainable building practices that prioritise energy efficiency. New developments can adopt design principles that minimise energy consumption, such as incorporating proper insulation, using energy-efficient appliances and lighting, and employing passive solar design strategies. This focus on sustainable building practices may result in reduced energy usage and lower carbon emissions.	The implementation and effectiveness of energy conservation and efficiency measures in new development depend on factors such as local regulations, funding, technological advancements and stakeholder collaboration. However, a wellbeing economy can provide a holistic framework that considers the social, environmental and economic aspects of development, which can contribute to a more sustainable and energy-efficient built environment.	++		
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	The creation of a wellbeing economy is intrinsically linked to all other work which takes place in CNPA, with potential positive effects on the production of renewable energy, of appropriate scale, for the National Park.	+	A wellbeing economy encourages decentralised energy generation and local energy initiatives. This can involve promoting community-owned renewable energy projects, encouraging small-scale renewable energy installers on buildings and supporting local energy cooperatives. These efforts can enhance the production of renewable energy, at a scale that aligns with the needs and characteristics of the National Park, reducing dependence on centralised energy sources.	The feasibility and scale of renewable energy production within the National Park depend on factors such as available resources, technological advancements, environmental considerations and community support. Careful planning, stakeholder engagement and comprehensive assessments should be undertaken, to ensure that the production of renewable energy aligns with the principles and goals of a wellbeing economy, while also respecting the unique characteristics and environmental sensitivities of the Cairngorms National Park.	++		
1a	Will there be an effect on local production and use of materials and food produce?	The creation of a wellbeing economy in the National Park may have a positive effect on the local production and use of materials and food produce.	+	A wellbeing economy places emphasis on sustainable and locally sourced food production. This can involve supporting local farmers and food producers who adopt environmentally friendly practices, such as organic farming, agroforestry, or permaculture. By prioritising local food production, the wellbeing economy promotes food security, reduces the reliance on long-distance transportation and supports the local agricultural sector. A wellbeing economy further encourages the adoption of circular economy principles, which aim to minimise waste, promote resource efficiency, and maximise the value of materials. This can involve initiatives such as recycling, upcycling, composting, and reducing single-use items. By implementing circular economy practices, the local production and use of materials can become more sustainable and environmentally friendly.	The specific impacts on local production and use of materials and food produce will depend on various factors, including local regulations, consumer preferences, market demand and the level of engagement and collaboration among stakeholders. Implementing a wellbeing economy approach should involve working closely with local communities, businesses and relevant organizations, to create an environment that supports sustainable and locally oriented production and consumption patterns within the National Park.	++		
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	Creating a wellbeing economy in the National Park may have potential positive effects on carbon sinks, such as woodlands and peatlands.	+	The creation of a wellbeing economy involves raising public awareness about the importance of carbon sinks and their role in mitigating climate change. Education programs and campaigns can highlight the value of woodlands and peatlands as vital carbon sinks and emphasize the need for their protection and restoration. By promoting understanding and appreciation for carbon sinks, the wellbeing economy can generate support for conservation efforts and sustainable land management practices. A wellbeing economy approach promotes sustainable transport infrastructure and encourages the use of low-carbon modes of transportation. This can involve improving public transportation options, developing cycling and walking infrastructure and promoting the use of convenient and sustainable alternatives to private car travel, helping to reduce greenhouse gas emissions associated with transportation.	The specific impact on carbon sinks will depend on the implementation of policies, collaborations and the level of commitment to sustainability within the wellbeing economy framework of the CNP. Effective monitoring, enforcement of regulations and stakeholder engagement are essential to ensure the long-term preservation and enhancement of carbon sinks within the National Park.	++		
1a	Will there be an effect on travel that produces greenhouse gas emissions?	The creation of a wellbeing economy in the National Park may have a positive effect on travel patterns and greenhouse gas emissions.	+	A wellbeing economy may also involve raising public awareness about the environmental impact of travel and promoting behaviour change towards more sustainable travel and transport choices. Encouraging carpooling, using public transport, cycling, walking and using electric and businesses about the benefits of reducing greenhouse gas emissions from travel and provide practical tips for making sustainable travel choices. By influencing travel behaviour, the wellbeing economy can contribute to lower greenhouse gas emissions from transportation.	The specific impacts on travel-related greenhouse gas emissions will depend on factors such as the effectiveness of sustainable transport measures, public engagement and the willingness of individuals and businesses to adopt more sustainable travel practices. The successful implementation of sustainable active transport strategies within the wellbeing economy framework can help reduce the carbon footprint associated with travel in the National Park.	++		
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	Considering future implications of climate change, the creation of a wellbeing economy may have a positive effect on existing infrastructure and buildings.	+	A wellbeing economy approach can prioritise retrofitting existing infrastructure and buildings, to enhance their resilience to climate change impacts. This may involve improving insulation, upgrading heating and cooling systems, installing renewable energy technologies and implementing water management measures. Retrofitting can help minimise energy consumption, reduce greenhouse gas emissions and improve the adaptability of infrastructure and buildings to changing climate conditions. As temperatures increase, the wellbeing economy can promote strategies to mitigate heat stress in urban areas. This can involve the creation of green spaces, the incorporation of urban forests or green roofs, and the development of cool pavements or reflective surfaces. Such measures help mitigate the urban heat island effect and the impact of extreme temperatures on existing infrastructure and buildings.	The specific effects on existing infrastructure and buildings will depend on factors such as the scale of climate change impacts, local vulnerabilities, available resources and the relative level of commitment to climate resilience within the wellbeing economy framework. Implementing comprehensive climate adaptation strategies and integrating climate resilience into infrastructure planning and construction practices are crucial, for ensuring the long-term sustainability and functionality of existing built environments.	++		
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	Considering the future implications of climate change, the creation of a wellbeing economy in the National Park may have a positive effect on infrastructure and buildings proposed in the Local Development Plan.	+	A wellbeing economy approach can prioritise climate-resilient design principles for proposed infrastructure and buildings in the Local Development Plan. This may involve incorporating measures to mitigate the impacts of increased flooding, periods of drought and extremes of temperature. Examples include designing sustainable flood-resilient structures, implementing sustainable drainage systems, integrating green infrastructure to manage stormwater and utilising energy-efficient and passive cooling strategies. By adopting climate-resilient design, proposed infrastructure and buildings can better withstand and adapt to future climate challenges.	The specific effects on proposed infrastructure and buildings will depend on factors such as local regulations, planning policies, available resources and the level of commitment to climate resilience within the wellbeing economy framework. By integrating climate resilience into the planning and development process, the wellbeing economy can contribute to the creation of infrastructure and buildings that are better prepared to withstand and adapt to future climate challenges in the National Park.	++		
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO2, PM10, PM2.5, SO2)?	The creation of a wellbeing economy in the National Park can potentially have positive effects on the levels of UK National Air Quality pollutants.	+	A wellbeing economy approach can prioritise climate-resilient design principles for proposed infrastructure and buildings in the Local Development Plan. This may involve incorporating measures to mitigate the impacts of increased flooding, periods of drought and extremes of temperature. Examples include designing sustainable flood-resilient structures, implementing sustainable drainage systems, integrating green infrastructure to manage stormwater and utilising energy-efficient and passive cooling strategies. By adopting climate-resilient design, proposed infrastructure and buildings can better withstand and adapt to future climate challenges. A wellbeing economy approach encourages sustainable transport options, such as promoting active travel (walking, cycling) and improving public transport services. By reducing reliance on private cars, the wellbeing economy can contribute to reducing emissions of transport, the wellbeing economy may help decrease emissions of pollutants like nitrogen dioxide (NO2) and particulate matter (PM10 and PM2.5) from road traffic. Furthermore, a wellbeing economy may prioritise sustainable land management practices, including the reduction of agricultural emissions and the adoption of environmentally friendly farming techniques. Reducing emissions from agriculture, such as using optimised fertiliser use and improved livestock management, the wellbeing economy can contribute to reducing emissions of pollutants like ammonia (NH3) and nitrous oxide (N2O) from agricultural activities.	The specific impacts on air quality will depend on the implementation and effectiveness of measures within the wellbeing economy framework, as well as the cooperation and participation of various stakeholders. Monitoring air quality, enforcing regulations and promoting ongoing improvements in air pollution control would be required for achieving significant and sustained reductions in pollutants and improving air quality in the National Park.	++		
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	The creation of a wellbeing economy in the National Park may have a positive effect on the levels of other types of air pollution, including particulate matter (PM).	+	A wellbeing economy approach can prioritise sustainable land management practices, including the reduction of agricultural emissions and the adoption of environmentally friendly farming techniques. Reducing emissions from agriculture, such as using optimised fertiliser use and improved livestock management, the wellbeing economy can contribute to reducing emissions of pollutants like ammonia (NH3) and nitrous oxide (N2O) from agricultural activities. A wellbeing economy approach can prioritise sustainable industrial practices that aim to minimise emissions of particulate matter. This can involve implementing cleaner production technologies, improving emission control measures and promoting the use of low-emission fuels. By reducing industrial emissions, the wellbeing economy contributes to lowering the levels of particulate matter in the environment. The restoration and expansion of existing woodlands within the National Park can have a positive impact on air quality. Trees and plants help capture and filter particulate matter from the air, improving overall air quality in the surrounding areas. The wellbeing economy can support initiatives that enhance green spaces and promote vegetation, leading to a reduction in particulate matter concentrations.	The specific effects on air quality will depend on the implementation and effectiveness of measures within the wellbeing economy framework, as well as the cooperation and participation of various stakeholders. Monitoring air quality, enforcing regulations and promoting ongoing improvements in air pollution control would be required for achieving significant and sustained reductions in pollutants and improving air quality in the National Park.	++		
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	The creation of a wellbeing economy in the National Park may have a positive effect on the water quality of rivers, lochs and ground-water, by addressing diffuse and point source pollution.	+	The creation of a wellbeing economy can influence sustainable urban planning practices within the National Park. This includes implementing stormwater management systems, promoting green infrastructure and adopting low-impact development techniques. By managing stormwater runoff effectively and reducing urban pollutants, the wellbeing economy helps prevent contamination of rivers, lochs and groundwater, thereby preserving water quality. A wellbeing economy approach may also promote sustainable land management practices that minimise pollution from agricultural activities. This includes implementing soil conservation techniques, proper waste management and optimized use of fertilisers and pesticides. By promoting sustainable farming practices, the wellbeing economy helps reduce diffuse pollution from agricultural runoff, thus improving water quality in rivers, lochs and groundwater.	The specific effects on water quality will depend on the implementation and effectiveness of measures within the wellbeing economy framework, as well as the cooperation and participation of various stakeholders. Implementing sustainable urban planning, enforcing regulations and promoting ongoing improvements in water quality management are essential to ensure the long-term sustainability of water resources within the National Park.	++		
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?	The creation of a wellbeing economy in the National Park may have a positive effect on the ability of river catchments to store water and the natural flood management services they provide.	+	A wellbeing economy can promote sustainable land management practices that minimise soil erosion and enhance water infiltration within river catchments. This may include techniques such as contour plowing, agroforestry and the creation of buffer strips. By reducing soil erosion and increasing water infiltration, the wellbeing economy helps retain water within catchments and mitigate the impacts of heavy rainfall events. Implementing a wellbeing economy will also likely require collaboration among various stakeholders, including local authorities, landowners, and communities. Through collaborative watershed management approaches, the wellbeing economy can facilitate coordinated efforts to manage water resources effectively, including long-term risk management. This collaboration may enhance the overall resilience of river catchments and their ability to store water during flood events.	The specific effects on water storage and natural flood management services will depend on factors such as the implementation of sustainable practices, land use planning, hydrological conditions and the level of cooperation among stakeholders. Monitoring and adaptive management strategies will be required, to assess the effectiveness of interventions and ensure the long-term resilience of river catchments in the National Park.	++		
3a	Will there be an effect on public water supplies?	The creation of a wellbeing economy in the National Park can potentially have positive effects on public water supplies.	+	The creation of a wellbeing economy involves collaboration among various stakeholders, including water authorities, local communities, and landowners. Through collaborative watershed management approaches, the wellbeing economy can facilitate coordinated efforts to manage water resources effectively, including long-term risk management. This collaboration may enhance the overall resilience of river catchments and their ability to store water during flood events. The creation of a wellbeing economy promotes water efficiency and conservation practices in both residential and business developments through encouraging circular principles. This includes implementing water-saving technologies, such as low-flow fixtures and appliances, as well as promoting behaviour changes to reduce water consumption. By prioritising water efficiency, the wellbeing economy may help to lower the overall demand for water, contributing to the creation of a more sustainable water future.	The specific effects on public water supplies will depend on the implementation and effectiveness of measures within the wellbeing economy framework, as well as the cooperation and participation of various stakeholders. Monitoring water usage, enforcing regulations and promoting ongoing improvements in water conservation are essential to ensure the long-term sustainability of water resources within the National Park.	++		
3b	Will there be an effect on demand for water from development (residential and business)?	The creation of a wellbeing economy in the National Park can potentially have an effect on the demand for water from development, both residential and business.	+	The wellbeing economy approach promotes water conservation practices to minimise water wastage and ensure the sustainable use of water resources. This includes encouraging efficient water use in homes, businesses and public facilities, through the adoption of water-saving technologies, such as low-flow fixtures and water-efficient appliances. By promoting responsible water conservation, the wellbeing economy helps to optimise the use of available water resources.	The specific effects on water demand from development will depend on factors such as the implementation and adoption of sustainable practices, the growth rate and scale of development, public attitudes and behaviours and the level of cooperation among stakeholders. Continuous monitoring of water demand, along with targeted measures to promote water efficiency and conservation, are necessary to ensure the long-term sustainability of water resources within the National Park.	++		
3b	Will there be an effect on sustainable use of water resources?	Yes, the creation of a wellbeing economy in the National Park may have a positive effect on the sustainable use of water resources.	+	The wellbeing economy approach promotes water conservation practices to minimise water wastage and ensure the sustainable use of water resources. This includes encouraging efficient water use in homes, businesses and public facilities, through the adoption of water-saving technologies, such as low-flow fixtures and water-efficient appliances. By promoting responsible water conservation, the wellbeing economy helps to optimise the use of available water resources.	The specific effects on the sustainable use of water resources will depend on the implementation and effectiveness of measures within the wellbeing economy framework, as well as the cooperation and participation of various stakeholders. Ongoing monitoring, adaptive management and continuous improvement are vital, for ensuring the long-term sustainability of water resources in the National Park.	++		
3c	Will there be an effect on the water environment from invasive non-native species?	The creation of a wellbeing economy in the National Park can potentially have an effect on the water environment, by addressing the issue of invasive non-native species.	+	A wellbeing economy approach can prioritise the restoration and enhancement of habitats in the water environment to support native species and reduce the vulnerability of ecosystems to invasive non-native species. By restoring degraded habitats, improving water quality, and promoting the growth of native vegetation, the wellbeing economy contributes to creating healthier ecosystems that are more resilient to invasive species.	The specific effects on the water environment from invasive non-native species will depend on the implementation and effectiveness of measures within the wellbeing economy framework, as well as the cooperation and participation of various stakeholders. Continuous monitoring, adaptive management, and ongoing efforts to raise awareness and engage the public are essential, for effectively managing invasive species and protecting the water environment within the National Park.	++		
4a	Will there be an effect on carbon-rich soils, in particular peat?	The creation of a wellbeing economy in the National Park may have a positive effect on carbon-rich soils, including peat.	+	The wellbeing economy approach will involve raising public awareness about the importance of carbon-rich soils, including peatlands, and their role in storing carbon and mitigating climate change. Education programs and campaigns can promote behaviour changes that contribute to the protection and restoration of carbon-rich soils. This includes reducing peat extraction, supporting peatland conservation efforts and promoting the use of peat alternatives in horticulture and landscaping.	The specific effects on carbon-rich soils, particularly peat, will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including landowners, conservation organizations and government agencies, is crucial for the successful restoration and management of peatlands. Continuous monitoring and adaptive management practices are necessary to ensure the long-term preservation of carbon-rich soils within the National Park.	++		
4a	Will there be an effect on soil sealing, soil structure and soil loss?	Yes, the creation of a wellbeing economy in the National Park may have a positive effect on soil sealing, soil structure and soil loss.	+	The wellbeing economy approach involves raising awareness and educating the public about the importance of soil conservation. By promoting soil-friendly practices, providing educational resources and engaging stakeholders, the wellbeing economy encourages individuals and communities to adopt soil conservation strategies. This includes promoting responsible gardening practices, composting, minimising chemical inputs and adopting organic fertilisers. Through education and awareness, the wellbeing economy fosters a culture of soil stewardship within the National Park.	The specific effects on soil sealing, soil structure and soil loss will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including landowners, farmers, developers and conservation organizations, is essential for implementing sustainable land management practices and minimising the negative impacts on soil within the National Park. Ongoing monitoring and adaptive management are crucial, to ensure the long-term health and preservation of soils.	++		
4a	Will there be an effect on the levels of soil contamination?	The creation of a wellbeing economy in the National Park may have a positive effect on the levels of soil contamination.	+	The wellbeing economy approach emphasises pollution prevention and sustainable practices, which can help reduce the introduction of contaminants into the soil. By promoting responsible waste management, proper disposal of hazardous substances and encouraging the use of environmentally friendly products, the implementation of a wellbeing economy may help to prevent soil contamination from occurring in the first place. In cases where soil contamination already exists, the wellbeing economy approach can prioritise remediation and cleanup efforts. This may involve identifying contaminated sites, assessing the extent of contamination and implementing appropriate remediation strategies. A wellbeing economy can support initiatives aimed at removing or neutralising contaminants in the soil, restoring soil health and minimising the potential risks to human health and the environment.	The specific effects on soil contamination will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including local government, environmental organisations, and local communities, is crucial for identifying and addressing soil contamination issues within the National Park. Ongoing monitoring and assessment are necessary, to ensure the successful reduction and management of soil contamination levels.	++		
4a	Will there be an effect on soil erosion and landslides?	The creation of a wellbeing economy in the National Park may have a positive effect on soil erosion and landslides.	+	The wellbeing economy approach promotes sustainable land management practices that aim to minimise soil erosion. This may include implementing erosion control measures such as terracing, contour plowing and using vegetation to stabilise slopes. By prioritising responsible land use, promoting soil conservation practices and encouraging sustainable agriculture and forestry, the wellbeing economy helps reduce soil erosion and the associated risks of landslides.	The specific effects on soil erosion and landslides will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including landowners, government agencies, conservation organizations and local communities, is essential for implementing sustainable land management practices and minimising the risks associated with soil erosion and landslides within the National Park. Ongoing monitoring, assessment and adaptive management are crucial, to ensure the long-term protection of soil resources.	++		
4a	Will there be an effect on geodiversity interests (eg GCRs)?	The creation of a wellbeing economy in the National Park may have a positive effect on geodiversity interests	+	A wellbeing economy approach often emphasises sustainability and environmental protection. This focus can lead to a greater emphasis on conserving and preserving geodiversity interests within the Cairngorms National Park. Efforts may be made to identify and protect GCRs, ensuring their long-term conservation and minimising the risk of damage or degradation.	To ensure the protection and conservation of geodiversity interests in the Cairngorms National Park, it will be necessary to integrate geodiversity considerations into land-use planning, policy development, and decision-making processes associated with the wellbeing economy. This may involve conducting thorough impact assessments, implementing strict guidelines for managing visitor management strategies and promoting responsible tourism practices.	++		
5a	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?	The creation of a wellbeing economy in the National Park may have a positive effect on the sustainable use of natural resources such as water, timber and aggregates.	+	The wellbeing economy approach encourages resource efficiency and the transition to a circular economy. This involves minimising waste, promoting reuse and recycling, and reducing the extraction of virgin resources. By prioritising resource efficiency, the wellbeing economy helps reduce the demand for natural resources, including water, timber and aggregates, and encourages the development of sustainable alternatives and practices.	The specific effects on the sustainable use of natural resources will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including regulators, resource managers, industries and local communities, is likely to be crucial for implementing sustainable resource management practices within the National Park. Ongoing monitoring, assessment and adaptive management are necessary, to ensure the sustainable use of natural resources in alignment with the goals of the wellbeing economy.	++		
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or food protection infrastructure)?	The creation of a wellbeing economy in the National Park may have a positive effect on the sustainable use and management of existing and proposed infrastructure, including water, heat, energy and food protection infrastructure.	+	The wellbeing economy approach can look to prioritise sustainable and resilient infrastructure planning and design. This may involve considering the long-term environmental and social impacts of infrastructure projects, as well as their compatibility with the goals of the wellbeing economy. Infrastructure projects can be designed to minimise resource consumption, optimise energy efficiency and incorporate renewable energy sources. By prioritising sustainable infrastructure, the wellbeing economy contributes to creating a more sustainable and resilient infrastructure system.	The specific effects on the sustainable use and management of infrastructure will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including government agencies, infrastructure providers, local communities, and regulators, is essential for integrating sustainable principles into infrastructure planning, design, and management. Ongoing monitoring, evaluation and adaptive management are necessary, to ensure the sustainable use and management of infrastructure within the National Park.	++		
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?	The creation of a wellbeing economy in the National Park may have a positive effect on the use of finite resources, through the promotion of secondary and recycled materials.	+	The creation of a wellbeing economy can foster the adoption of circular economy principles within the National Park. This involves designing products and infrastructure with the intention of reusing, refurbishing and recycling materials at the end of their cycle. By promoting the use of secondary and recycled materials, the wellbeing economy encourages the development of local recycling industries, reduces reliance on imported materials and minimises the environmental impact of resource extraction. The wellbeing economy approach can further influence procurement practices to prioritise the use of secondary and recycled materials in construction, infrastructure projects and public procurement. By setting criteria that require the use of sustainable and recycled materials, the wellbeing economy supports the development of markets for these materials and stimulates innovation in resource-efficient design and manufacturing.	The specific effects on the use of finite resources through the use of secondary and recycled materials will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Collaboration among stakeholders, including regulators, businesses, waste management facilities and the community, is likely to be crucial for establishing the necessary infrastructure, policies and incentives, to promote the use of secondary and recycled materials. Ongoing monitoring, evaluation and adaptation are necessary, to ensure the continuous improvement of resource management practices within the National Park.	++		
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?	The creation of a wellbeing economy in the National Park may have a positive effect on the favourable condition of areas protected for nature conservation.	+	The wellbeing economy approach recognises the importance of biodiversity and ecosystem health. By prioritising sustainable practices and ecosystem-based management, the wellbeing economy can contribute towards the conservation and enhancement of protected areas within the National Park. This includes maintaining and restoring habitats, protecting species of conservation concern and implementing measures to minimise disturbance and fragmentation of protected areas.	The specific effects on the favourable condition of protected areas will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Ongoing monitoring, evaluation and adaptive management are necessary, to ensure the continuous improvement of conservation practices within the National Park. Collaboration and cooperation among stakeholders, including regulators, conservation organisations and local communities, are key to achieving the shared goal of maintaining and enhancing the favourable condition of protected areas.	++		
6a	Will there be an effect on protected species?	The creation of a wellbeing economy in the National Park may have a positive effect on protected species	+	A wellbeing economy approach prioritises habitat restoration and enhancement. By restoring and improving habitats within the National Park, the wellbeing economy provides crucial habitats for protected species. This includes creating or restoring habitats such as woodlands, wetlands and grasslands that are important for the survival and reproduction of protected species.	The specific effects on protected species will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Ongoing monitoring, research and adaptive management are necessary, to assess the status of protected species and their response to conservation efforts. Collaboration among stakeholders is vital for the successful implementation of conservation measures and the protection of protected species within the National Park.	++		
6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?	Yes, the creation of a wellbeing economy in the National Park may have a positive effect on the habitats and plants identified in the Cairngorms Nature Action Plan	+	A wellbeing economy approach prioritises habitat restoration and enhancement. This can include activities such as reforestation, peatland restoration and the creation of wildlife corridors. By restoring and improving habitats identified in the CNAP, the wellbeing economy contributes to the conservation and expansion of important habitats for plants and wildlife within the National Park.	The specific effects on CNAP habitats and plants will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Ongoing monitoring, research and adaptive management are necessary, to assess the status of CNAP species and their response to conservation efforts. Collaboration among stakeholders is crucial for the successful implementation of CNAP measures and the protection of habitats and plants in the National Park.	++		
6a	Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?	Yes, the creation of a wellbeing economy in the National Park may have a positive effect on the bird, mammal and invertebrate species identified in the Cairngorms Nature Action Plan	+	A wellbeing economy approach prioritises habitat restoration and enhancement. By restoring and improving habitats identified in the CNAP, such as woodlands, wetlands and grasslands, the wellbeing economy provides important habitats for bird, mammal and invertebrate species. This includes creating diverse and suitable habitats that support their feeding, nesting, and breeding requirements.	The specific effects on CNAP bird, mammal and invertebrate species will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Ongoing monitoring, research and adaptive management are necessary, to assess the status of CNAP species and their response to conservation efforts. Collaboration among stakeholders is vital for the successful implementation of CNAP measures and the protection of species in the National Park.	++		
6a	Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?	The creation of a wellbeing economy in the National Park may have a positive effect on wider biodiversity beyond protected areas and the habitats and species identified in the Cairngorms Nature Action Plan.	+	The wellbeing economy approach can promote habitat connectivity and ecological corridors within the National Park. By creating wildlife corridors and maintaining connected habitats, the wellbeing economy supports the movement and dispersal of species across the landscape. This allows for gene flow, colonisation of new areas and enhances overall biodiversity.	The specific effects on wider biodiversity will depend on the implementation and effectiveness of measures within the wellbeing economy framework. Ongoing monitoring, research and adaptive management will likely be necessary, to assess the status of biodiversity and its response to conservation efforts. Collaboration among stakeholders is crucial for the successful implementation of biodiversity conservation measures in the National Park.	++		
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?	The creation of a wellbeing economy in the National Park may have an effect on deer management practices that seek to reduce environmental effects	+	The wellbeing economy approach recognises the importance of maintaining ecological balance. Deer populations, when present in excessive numbers, can have negative impacts on vegetation, particularly in sensitive habitats. By implementing deer management practices that aim to reduce environmental effects, the wellbeing economy contributes to maintaining a balanced and healthy ecosystem.	Collaboration among and with stakeholders, including landowners, wildlife managers and conservation organisations, is likely crucial for developing and implementing sustainable deer management practices within the wellbeing economy framework in the National Park.	++		
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?	The creation of a wellbeing economy in the National Park may have an effect on land management practices that aim to avoid the introduction and spread of invasive non-native species and tree diseases.	+	The wellbeing economy approach emphasises raising awareness about the risks and impacts of invasive non-native species and tree diseases. By promoting education and providing information to land managers, local communities and visitors, the wellbeing economy enhances understanding of the importance of preventing their introduction and spread. This increased awareness can lead to more informed land management decisions and practices.	Preventing the introduction and spread of invasive non-native species and tree diseases requires ongoing vigilance, monitoring and adaptive management. The wellbeing economy framework provides a platform for integrating these considerations into land management practices and promoting a proactive and coordinated approach to minimise the impacts of invasives within the National Park.	++		
7a	Will there be an effect on the special landscape qualities (SLQs) of the National Park landscapes?	The creation of a wellbeing economy in the National Park may have an effect on the special landscape qualities (SLQs) of the park landscapes	+	A wellbeing economy approach recognises the value of the natural and cultural landscapes within the National Park. It emphasises the enhancement and protection of these landscapes, including their special qualities. By prioritising sustainable land management practices, conservation efforts and landscape planning, the wellbeing economy contributes to the preservation and enhancement of the SLQs in the National Park.	The specific impacts on SLQs will depend on the specific strategies and actions implemented within the wellbeing economy framework. The engagement and collaboration of various stakeholders, including local communities, landowners, conservation organisations and government agencies, are key to ensuring that the creation of a wellbeing economy positively contributes to the special landscape qualities of the National Park.	++		
7a	Will there be an effect on landscape character and local distinctiveness?	The creation of a wellbeing economy in the National Park may have a positive effect on landscape character and local distinctiveness.	+	The wellbeing economy approach emphasises landscape planning and design that considers and enhances the local distinctiveness of the area. It recognises the importance of preserving and celebrating the unique features, patterns and elements that contribute to the character of the landscapes within the National Park. By incorporating local distinctiveness considerations into land use decisions, development plans and design guidelines, the wellbeing economy helps maintain and enhance the landscape character. A wellbeing economy further recognises the significance of cultural heritage and traditional landscapes in shaping the character of the National Park. It promotes the preservation and promotion of these elements, such as historic sites, traditional building practices and local heritage. By valuing and protecting overarching cultural heritage, and supporting the continuation of traditional land uses, the wellbeing economy contributes to the maintenance of landscape character and local distinctiveness.	Any specific impacts on landscape character and local distinctiveness will depend on the strategies and actions implemented within the wellbeing economy framework. The collaboration and engagement of various stakeholders, including local communities, landowners, conservation organisations and government agencies, are crucial to ensuring that the creation of a wellbeing economy positively contributes to the landscape character and local distinctiveness of the National Park.	++		
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?	The creation of a wellbeing economy in the National Park may have a positive effect on the historic and cultural environment and assets, including linguistic assets.	+	A wellbeing economy framework emphasises community engagement and empowerment. It recognises the importance of local communities as custodians of the historic and cultural environment. By involving communities in decision-making processes, including heritage management and interpretation activities, the wellbeing economy enables their active participation in preserving and promoting the cultural assets, including linguistic heritage.	Specific impacts on the historic and cultural environment and assets will depend on the strategies and actions implemented within the wellbeing economy framework. The collaboration and involvement of various stakeholders, including local communities, NGOs, linguistic experts and local government, are essential to ensuring that the creation of a wellbeing economy positively contributes to the preservation and promotion of the historic and cultural environment in the National Park.	++		
8a	Will there be an effect on housing for local needs?	The creation of a wellbeing economy in the National Park may have a significant positive effect on housing for local needs.	+	A wellbeing economy approach recognises the importance of providing affordable housing for local residents. It emphasises the need to address housing affordability issues and ensure that adequate housing options are available for those who live and work in the National Park. By prioritising affordable housing initiatives, such as affordable housing developments, rent control measures, a reduction in second or holiday homes, the wellbeing economy can help address the housing needs of the local community.	Any specific impacts on housing for local needs will depend on the strategies and actions implemented within the wellbeing economy framework. Collaboration among various stakeholders, including local authorities, community groups, housing associations and developers, is crucial to ensure that the creation of a wellbeing economy positively addresses housing needs in the National Park.	++		
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?	The creation of a wellbeing economy in the National Park may have a positive effect on recreation and active travel opportunities that support healthier lifestyle	+	A wellbeing economy approach recognises the importance of providing better access and connectivity within the National Park. This can involve the development and enhancement of trails, footpaths, cycling routes and other active travel infrastructure that promotes recreational activities and encourages healthier lifestyles. By improving access to natural and cultural attractions, the wellbeing economy enhances opportunities for outdoor recreation and active travel. Furthermore, the creation of a wellbeing economy encourages community engagement and participation in recreational planning and decision-making processes. It recognises the importance of involving local residents, community groups, and stakeholders in shaping the recreational opportunities within the National Park. By giving the local community a voice in the development and management of recreation and active travel initiatives, the wellbeing economy ensures that the opportunities align with their needs and aspirations.	Any specific impacts on recreation and active travel opportunities will depend on the strategies and actions implemented within the wellbeing economy framework. Collaboration among various stakeholders, including local authorities, community organisations, tourism bodies and health agencies, is crucial to ensure that the creation of a wellbeing economy enhances recreation and active travel opportunities that support healthier lifestyles in the National Park.	++		
8a	Will there be an effect on employment opportunities local to places of residence?	The creation of a wellbeing economy in the National Park may have a positive effect on employment opportunities local to places of residence.	+	A wellbeing economy approach emphasises the development of local economic opportunities. By promoting sustainable and diverse sectors such as tourism, recreation, sustainable agriculture, renewable energy and local crafts, the wellbeing economy can contribute to the creation of new jobs within the National Park. This can include positions in hospitality, guiding and interpretation, conservation, sustainable land management and other related fields.	Any specific impacts on local employment opportunities will depend on the strategies and actions implemented within the wellbeing economy framework. Collaboration among various stakeholders, including local authorities, businesses, community organisations and educational institutions, is crucial to ensure that the creation of a wellbeing economy maximises employment opportunities local to places of residence in the National Park.	++		

Assessor(s): Insert assessor(s)'s name								
Date of Assessment: Insert date(s) of assessment								
SECTION OF PLAN BEING ASSESSED: (eg Vision, Policy X, Option 1A, etc)		1b. Public Health and the Outdoors						
ASSESSMENT OF ENVIRONMENTAL EFFECTS								
SEA objective	SEA sub-objective	Nature of effect Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.	Scoring: significance of effect before mitigation Insert scoring for the significance of the environmental effect BEFORE mitigation (using the symbology in Table 1)	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.	Scoring: residual significance of effect after mitigation Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1)	CNPA response to recommendation: Either agree or disagree with recommended mitigation and enhancement (as proposed in column F). If disagreeing, provide justification as to why.	
1a	Will there be an effect on energy conservation and efficiency in new development?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
1a	Will there be an effect on local production and use of materials and food produce?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
1a	Will there be an effect on travel that produces greenhouse gas emissions?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
3a	Will there be an effect on public water supplies?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
3b	Will there be an effect on demand for water from development (residential and business)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
3b	Will there be an effect on sustainable use of water resources?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
3c	Will there be an effect on the water environment from invasive non-native species?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
4a	Will there be an effect on carbon rich soils, in particular peat?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
4a	Will there be an effect on soil sealing, soil structure and soil loss?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
4a	Will there be an effect on the levels of soil contamination?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
4a	Will there be an effect on soil erosion and landslides?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
4a	Will there be an effect on geodiversity interests (eg GCRs)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
4a	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or flood protection infrastructure)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?	Undertaking a Nature Prescribing' approach in supporting individuals to access, connect with and appreciate that the natural heritage of the Cairngorms can bring health and wellbeing benefits for the individual, may also nurture a sense of value and guardianship for the environment that may have significantly positive effects on areas protected for nature conservation.	+	There are likely to be multiple synergistic benefits to those referred, via a nature prescribing approach, and to protected areas and species, as the cascading benefits from being connected to nature and the outdoors are likely to create a lasting sense of stewardship to the wider environment, in those experiencing reduced stress and anxiety, improved mood, improved mental wellbeing, improved sleep and the ability to relax.	Maintaining the approach to the project, as specified in the project action plan, should help to nurture sustainable changes in the prescribing culture and approach to patient care.	++		
6a	Will there be an effect on protected species?	Undertaking a Nature Prescribing' approach in supporting individuals to access, connect with and appreciate that the natural heritage of the Cairngorms can bring health and wellbeing benefits for the individual, may also nurture a sense of value and guardianship for the environment that may have significantly positive effects on protected species	+	There are likely to be multiple synergistic benefits to those referred, via a nature prescribing approach, and to protected areas and species, as the cascading benefits from being connected to nature and the outdoors are likely to create a lasting sense of stewardship to the wider environment, in those experiencing reduced stress and anxiety, improved mood, improved mental wellbeing, improved sleep and the ability to relax.	Maintaining the approach to the project, as specified in the project action plan, should help to nurture sustainable changes in the prescribing culture and approach to patient care.	++		
6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?	Undertaking a Nature Prescribing' approach in supporting individuals to access, connect with and appreciate that the natural heritage of the Cairngorms can bring health and wellbeing benefits for the individual, may also nurture a sense of value and guardianship for the environment that may have significantly positive effects CNAP habitats and plants	+	There are likely to be multiple synergistic benefits to those referred, via a nature prescribing approach, and to protected areas and species, as the cascading benefits from being connected to nature and the outdoors are likely to create a lasting sense of stewardship to the wider environment, in those experiencing reduced stress and anxiety, improved mood, improved mental wellbeing, improved sleep and the ability to relax.	Maintaining the approach to the project, as specified in the project action plan, should help to nurture sustainable changes in the prescribing culture and approach to patient care.	++		
6a	Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?	Undertaking a Nature Prescribing' approach in supporting individuals to access, connect with and appreciate that the natural heritage of the Cairngorms can bring health and wellbeing benefits for the individual, may also nurture a sense of value and guardianship for the environment that may have significantly positive effects CNAP bird, mammal and invertebrate species	+	There are likely to be multiple synergistic benefits to those referred, via a nature prescribing approach, and to protected areas and species, as the cascading benefits from being connected to nature and the outdoors are likely to create a lasting sense of stewardship to the wider environment, in those experiencing reduced stress and anxiety, improved mood, improved mental wellbeing, improved sleep and the ability to relax.	Maintaining the approach to the project, as specified in the project action plan, should help to nurture sustainable changes in the prescribing culture and approach to patient care.	++		
6a	Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?	Undertaking a Nature Prescribing' approach in supporting individuals to access, connect with and appreciate that the natural heritage of the Cairngorms can bring health and wellbeing benefits for the individual, may also nurture a sense of value and guardianship for the environment that may have significantly positive effects on wider biodiversity in the Park	+	There are likely to be multiple synergistic benefits to those referred, via a nature prescribing approach, and to protected areas and species, as the cascading benefits from being connected to nature and the outdoors are likely to create a lasting sense of stewardship to the wider environment, in those experiencing reduced stress and anxiety, improved mood, improved mental wellbeing, improved sleep and the ability to relax.	Maintaining the approach to the project, as specified in the project action plan, should help to nurture sustainable changes in the prescribing culture and approach to patient care.	++		
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
7a	Will there be an effect on the special landscape qualities (SLQs) of the National Park landscapes?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
7a	Will there be an effect on landscape character and local distinctiveness?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
8a	Will there be an effect on housing for local needs?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?	Undertaking a Nature Prescribing' referral pathway, to support more people to engage with active travel and recreation, may, from a healthcare perspective, improve health outcomes across the Park.	+	By engaging a wider range of audiences with cycling, particularly those with health issues or low activity levels, who might need more support or specialised bikes, may lead to more people using bikes more often, thus improving uptake and health outcomes. Likewise, recreation opportunities such as community gardening, social forest or heritage walks, can have great mental and physical health benefits.	Maintaining the approach to the project, as specified in the project action plan should help to nurture sustainable changes in the prescribing culture and approach to patient care.	++		
8a	Will there be an effect on employment opportunities local to places of residence?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X		

Assessor(s): <i>Insert assessor(s)'s name</i>							
Date of Assessment: <i>Insert date(s) of assessment</i>							
SECTION OF PLAN BEING ASSESSED: <i>(eg Vision, Policy X, Option 1A, etc)</i>		1c. Outdoor Dementia Resource Centre					
ASSESSMENT OF ENVIRONMENTAL EFFECTS							
SEA objective	SEA sub-objective	Nature of effect <i>Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.</i>	Scoring: significance of effect before mitigation <i>Insert scoring for the significance of the environmental effect BEFORE mitigation (using the symbology in Table 1)</i>	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.	Scoring: residual significance of effect after mitigation <i>Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1)</i>	CNPA response to recommendation: <i>Either agree or disagree with recommended mitigation and enhancement (as proposed in column F). If disagreeing, provide justification as to why.</i>
1a	Will there be an effect on energy conservation and efficiency in new development?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on local production and use of materials and food produce?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on travel that produces greenhouse gas emissions?	Minor potential adverse effect, resulting from an increase in GHG emisisions from travel to the centre from participants and staff.	?	Transport arrangements for participants to access the ODRC are planned to be improved and the carbon footprint reduced.	With suitable mitigation, i.e. car sharing, active tavel, more bike use, any impacts are likley to be negligible.	0	
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?	Minor potential adverse effect, resulting from an increase in GHG emisisions from travel to the centre from participants and staff.	?	Transport arrangements for participants to access the ODRC are planned to be improved and the carbon footprint reduced.	With suitable mitigation, i.e. car sharing, active tavel, more bike use, any impacts are likley to be negligible.	0	
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	Minor potential adverse effect, resulting from an increase in GHG emisisions from travel to the centre from participants and staff.	?	Transport arrangements for participants to access the ODRC are planned to be improved and the carbon footprint reduced.	With suitable mitigation, i.e. car sharing, active tavel, more bike use, any impacts are likley to be negligible.	0	
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on public water supplies?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3b	Will there be an effect on demand for water from development (residential and business)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3b	Will there be an effect on sustainable use of water resources?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3c	Will there be an effect on the water environment from invasive non-native species?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on carbon rich soils, in particular peat?	The possibility of creating a network of dementia friendly paths at Badaguish raises potential effects on peatlands, if paths were placed in unsuitable areas.	?	With suitable mitigation and careful planning, there are unlikely to be any significant effects on carbon rich soils.	Any future plans to create a network of pathways in the Park would need to consider impacts on established peatlands.	0	
4a	Will there be an effect on soil sealing, soil structure and soil loss?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on the levels of soil contamination?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on soil erosion and landslides?	The possibility of creating a network of dementia friendly paths at Badaguish raises potential effects on soil stability, if paths were placed in unsuitable areas.	?	With suitable mitigation and careful planning, there are unlikely to be any significant effects on soils.	Any future plans to create a network of pathways in the Park would need to consider impacts on soil (particularly erosion).	0	
4a	Will there be an effect on geodiversity interests (eg GCRs)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or flood protection infrastructure)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?	An increase of service users and staff to the Bagaduish centre could potentially impact on the favourable condition of protected areas.	?	An increase of people accessing the centre, with associated increase of potential foot traffic on pathways around the centre, could impact negatively on sensitive species and habitat receptors, including capercaillie, raptors, wildcats, invertebrates, peatland, freshwater systems and woodlands.	Any future plans to create a network of pathways in the Park, or increase traffic flows to the area, would need to be undertaken with suitable appropriate assessment as to potential impacts on sensitive environmental receptors.	0	
6a	Will there be an effect on protected species?	An increase of service users and staff to the Bagaduish centre could potentially impact protected species.	?	An increase of people accessing the centre, with associated increase of potential foot traffic on pathways around the centre, could impact negatively on sensitive species and habitat receptors, including capercaillie, raptors, wildcats, invertebrates, peatland, freshwater systems and woodlands.	Any future plans to create a network of pathways in the Park, or increase traffic flows to the area, would need to be undertaken with suitable appropriate assessment as to potential impacts on sensitive environmental receptors.	0	
6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?	An increase of service users and staff to the Bagaduish centre could potentially impact CNAP habitats and plants.	?	An increase of people accessing the centre, with associated increase of potential foot traffic on pathways around the centre, could impact negatively on sensitive species and habitat receptors, including capercaillie, raptors, wildcats, invertebrates, peatland, freshwater systems and woodlands.	Any future plans to create a network of pathways in the Park or increase traffic flows to the area would need to be undertaken with suitable appropriate assessment as to potential impacts on sensitive environmental receptors, including SLQs.	0	
6a	Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?	An increase of service users and staff to the Bagaduish centre could potentially impact on CNAP species.	?	An increase of people accessing the centre, with associated increase of potential foot traffic on pathways around the centre could impact negatively on sensitive species and habitat receptors, including capercaillie, raptors, wildcats, invertebrates, peatland, freshwater systems and woodlands.	Any future plans to create a network of pathways in the Park, or increase traffic flows to the area, would need to be undertaken with suitable appropriate assessment as to potential impacts on sensitive environmental receptors.	0	
6a	Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?	An increase of service users and staff to the Bagaduish centre could potentially impact the wider biodiversity of the area.	?	An increase of people accessing the centre, with associated increase of potential foot traffic on pathways around the centre could impact negatively on sensitive species and habitat receptors, including capercaillie, raptors, wildcats, invertebrates, peatland, freshwater systems and woodlands.	Any future plans to create a network of pathways in the Park, or increase traffic flows to the area, would need to be undertaken with suitable appropriate assessment as to potential impacts on sensitive environmental receptors.	0	
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
7a	Will there be an effect on the special landscape qualities (SLQs) of the National Park landscapes?	An increase of service users and staff to the Bagaduish centre could potentially impact the special landscape qualities of the Park	?	An increase of people accessing the centre, with associated increase of potential foot traffic on pathways around the centre could impact negatively on sensitive species and habitat receptors, including capercaillie, raptors, wildcats, invertebrates, peat	Any future plans to create a network of pathways in the Park, or increase traffic flows to the area, would need to be undertaken with suitable appropriate assessment as to potential impacts on sensitive environmental receptors, including SLQs.	0	
7a	Will there be an effect on landscape character and local distinctiveness?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
8a	Will there be an effect on housing for local needs?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/ Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?	The ODRC project will focus upon enabling people with dementia to look out on nature, bringing the outdoors in and stepping out. There are plans to develop cycling activities to support people with dementia to cycle at Badaguish, including all- abilities bikes. The project team further seeks to enable people with dementia to be more physically active which will have a positive impact upon their experience of having a serious mental health condition. Some participants might also progress to regular contact with nature via a community event, such as a health walk outwith the project.	+	Integrating the ODRC with a range of other projects in the C2030 Programme may help to deliver multiple benefits and increase the impact of the project.	Continuing to link to, and collaborate with, other projects such as: 1a. Wellbeing economy 1b. Public health and the outdoors 2c. Community Arts and Culture 6h Cycle Friendly Cairngorms can produce multiple, stacking benefits and would be encouraged.	++	
8a	Will there be an effect on employment opportunities local to places of residence?	Potential increases to the scale of the centre may result in more staffing and employment opportunities at the heart of the Park.	+	At present the ODRC provides 1.5 FTE jobs, with future potential capacity for apprenticeships and volunteers opportunities.	Maintaining relevant staff, as per the Badaguish ODRC Staff and Vol Training Plan, may help to increase employment opportunities by providing high level and transferable skills to staff and volunteers.	++	

Assessor's: <i>(Insert assessor's name)</i>												
Date of Assessment: <i>(Insert date of assessment)</i>												
SECTION OF PLAN BEING ASSESSED: <i>(eg Vision, Policy X, Option 1A, etc)</i>												
ASSESSMENT OF ENVIRONMENTAL EFFECTS												
SEA objective	SEA sub-objective	Nature of effect <i>(Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.)</i>	Scoring: significance of effect before mitigation <i>(Insert scoring for the significance of the environmental effect BEFORE mitigation using the symbology in Table 1.)</i>	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.	Scoring: residual significance of effect after mitigation <i>(Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1.)</i>	CNPA response to recommendation: <i>(Either agree or disagree with recommended mitigation and enhancement (as proposed in column 7) if disagreeing, provide justification as to why.)</i>					
1a	Will there be an effect on energy conservation and efficiency in new development?	The Climate Learning and Education Project can have an effect on energy conservation and efficiency in new development. By educating and empowering young people to understand climate action and its connections to various aspects of sustainability, including energy conservation and efficiency, the project can influence their behaviours and decision-making processes related to new development.	+	By instilling a sense of agency and environmental responsibility in young people, the Climate Learning and Education Project can contribute to a shift in mindset and behaviours towards more sustainable and energy-efficient approaches in new development. The project's emphasis on a Learning for Sustainability framework and pathway encourages lifelong behaviours aligned with environmental sustainability. This includes promoting pro-environmental habits, such as energy-saving practices, both in personal lifestyles and in future decision-making processes related to new development.	Specific actions could include offsetting the environmental footprint of the project by implementing measures to reduce energy consumption, promote energy efficiency, and minimise greenhouse gas emissions associated with project activities, including transportation and travel.	++						
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	The Climate Learning and Education Project may indirectly have an effect on the production of renewable energy of appropriate scale for the Cairngorms National Park. By raising awareness and understanding of climate change, sustainability, and the importance of renewable energy sources, the project can inspire and empower young people to become advocates for renewable energy initiatives within the national park.	+	By integrating the principles of a wellbeing economy into the project, there can be a focus on promoting sustainable and locally-led renewable energy initiatives that prioritise the well-being of local communities and the natural environment. This can include exploring opportunities to connect with existing renewable energy projects, involve young people in community partnerships with local businesses and organisations to support the development and scaling up of renewable energy in the park.	While the Climate Learning and Education Project itself may not directly create renewable energy projects, it can contribute to a supportive environment for renewable energy initiatives by nurturing a generation of environmentally conscious and empowered individuals who understand the importance of renewable energy and actively promote its adoption within the Cairngorms National Park.	++						
1a	Will there be an effect on local production and use of materials and food produce?	The Climate Learning and Education Project may have a positive effect on the local production and use of materials and food produce within the Cairngorms National Park through a number of ways.	+	The project can promote the principles of sustainable consumption, emphasising the importance of locally sourced and ethically produced materials and food. By raising awareness about the environmental impact of resource-intensive production and long-distance transportation, the project can encourage participants to prioritise locally sourced products and services, thereby reducing carbon emissions associated with transportation and supporting local businesses and producers. The project can also educate young people about the benefits of local production and the positive impacts it can have on the environment, economy, and community resilience. By understanding the value of supporting local producers, participants can make informed choices and actively seek out locally made products, contributing to the growth of local industries and reducing the carbon footprint associated with long-distance supply chains.	By integrating these elements into the Climate Learning and Education Project, it may contribute to a shift towards more sustainable and locally focused production and consumption patterns, supporting the local economy, reducing environmental impacts, and fostering a sense of community and connection to the natural environment within the Cairngorms National Park.	++						
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	The Climate Learning and Education Project can have a positive effect on carbon sinks, such as woodlands and peatlands, within the Cairngorms National Park.	+	The project can raise awareness among young people about the critical role of carbon sinks in mitigating climate change. By providing educational materials and experiences that highlight the value of woodlands and peatlands as natural carbon storage systems, the project can foster a sense of appreciation and understanding of their importance. By providing expertise, case study resources and the site for school groups to better understand the role peatland restoration plays in carbon capture and habitat improvement, a deeper understanding of peatlands processes and their importance can be fostered in young people.	By incorporating these approaches into the Climate Learning and Education Project, it can play a significant role in fostering awareness, appreciation, and action towards the conservation and enhancement of carbon sinks like woodlands and peatlands in the Cairngorms National Park.	++						
1a	Will there be an effect on travel that produces greenhouse gas emissions?	The Climate Learning and Education Project may have a positive effect on travel patterns and contribute to reducing greenhouse gas emissions associated with transportation.	+	The project can raise awareness among young people about the environmental impact of travel-related emissions. By providing information and resources that highlight the importance of responsible travel choices, participants can make more informed decisions regarding their travel choices and consider the environmental consequences of their actions.	The project can educate young people and their communities about sustainable transportation options, such as walking, cycling, public transport, or using purpose-built vehicles. By emphasising the benefits of these modes of travel, and co-designing and supporting opportunities between schools and Active Travel projects around sustainable travel choices, the project can encourage individuals to choose low-carbon transportation methods for their daily commutes and other travel needs.	++						
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	Considering the future implications of climate change, the Climate Learning and Education Project can have a positive effect on existing infrastructure and buildings in the Cairngorms National Park.	+	The project can empower young people to advocate for climate-resilient infrastructure in their communities. By engaging in discussions, sharing knowledge, and participating in relevant forums, participants can contribute to the development of policies and proposals that prioritise climate resilience in infrastructure planning and investment.	There may be scope to provide hands-on and experiential learning opportunities for young people, such as field trips to local ecosystems, renewable energy installations, and sustainable agriculture projects. This may allow students to directly engage with real-world examples and gain practical skills in environmental stewardship.	++						
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	Considering the future implications of climate change, the Climate Learning and Education Project can have a positive effect on infrastructure and buildings proposed in the Local Development Plan?	+	The project can raise awareness among young people about the potential risks and challenges posed by climate change to existing infrastructure. By fostering an understanding of the importance of resilient infrastructure, participants can contribute to the long-term sustainability and resilience of the built environment.	Suggested enhancement could be the facilitation of collaboration and knowledge-sharing among participating schools, teachers, and students. Encouraging networking events, workshops, and online platforms, where participants can exchange ideas, share best practices, and learn from each other's experiences, maybe valuable.	++						
2a	Will there be an effect on levels of UK National Air Quality pollutants (eg, NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?	The Climate Learning and Education Project may have a positive effect on the levels of UK National Air Quality pollutants.	+	The project can provide education and awareness about the sources and impacts of air pollutants, including N ₂ O, PM ₁₀ , PM _{2.5} , and SO ₂ . By raising awareness among young people and educators, they can become more informed about the issue and take action to reduce pollution. The project can promote sustainable travel practices by encouraging students and their families to choose low-emission transportation options. This can include organising car-sharing initiatives, promoting public transport use, and advocating for infrastructure improvements that support active transportation.	While the direct impact of the project on air quality may be limited, it can play a crucial role in improving air awareness, educating young generations, and encouraging action towards the reduction of air pollution. By fostering a sense of responsibility and understanding among young people, the project can contribute to long-term efforts in raising air quality and creating a healthier environment.	++						
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	The Climate Learning and Education Project can have a positive effect on the levels of other types of air pollution, including particulate matter (PM).	+	The project can provide education on the sources and health impacts of particulate matter pollution. By increasing awareness among students and teachers, they can better understand the importance of reducing particulate emissions and take actions to address the issue. The project can also promote behaviour changes that help minimise particulate pollution. This can include encouraging students and their families to adopt cleaner cooking practices, such as using efficient stoves and avoiding open fires that produce excessive smoke and emissions. Additionally, promoting the proper maintenance of vehicles and ensuring eco-driving practices can help reduce particulate emissions without the need for additional vehicle purchases.	By integrating education, awareness, behaviour change, and advocacy, the project can play a role in reducing the levels of particulate matter in the air. While the direct impact may vary, the project can contribute to building a generation that is informed, engaged, and actively working towards cleaner air and a healthier environment.	++						
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	Yes, the Climate Learning and Education Project can have a positive effect on water quality in rivers, lochs, and groundwater by addressing diffuse and point source pollution.	+	The project can promote best management practices to minimise diffuse and point source pollution. This can include educating students and their families about proper wastewater management, encouraging the use of eco-friendly cleaning products, and promoting the adoption of sustainable farming practices that reduce runoff and chemical inputs.	By integrating education, behaviour change, best management practices, restoration efforts, monitoring, and collaboration, the project can contribute to improving water quality in rivers, lochs, and groundwater. While the direct impact may vary, the project can play a role in nurturing a generation that understands the importance of clean water and actively works towards protecting and restoring water resources.	++						
3a	Will there be an effect on the ability of river catchments to store water and provide natural flood management services they provide?	Yes, the Climate Learning and Education Project can have a positive effect on the ability of river catchments to store water and provide natural flood management services they provide.	+	The project can provide education on the importance of catchment management and the role of water storage and flood management. Students can learn about the natural processes that occur in river catchments and appreciate the value of preserving and restoring natural features within the landscape.	By providing education, promoting sustainable land management, engaging with local communities, and advocating for effective policies, the project can contribute to improving the ability of river catchments to store water and provide natural flood management services. This can help reduce the risk of flooding, enhance water availability during dry periods, and support the overall resilience of the ecosystem and local communities.	++						
3a	Will there be an effect on public water supplies?	The Climate Learning and Education Project can have a positive effect on public water supplies.	+	The project can empower students to become advocates for the protection of water resources. They can learn about the importance of safeguarding watersheds, preventing pollution, and preserving the quality of water sources. By engaging with policymakers and decision-makers, students can raise awareness about the need to prioritise the protection of public water supplies and advocate for sustainable water management practices.	By promoting water conservation, sustainable water management practices, advocacy for water resource protection, and collaboration with water authorities, the project can contribute to maintaining and safeguarding public water supplies. This can help ensure the availability of clean and reliable water for communities within the Cairngorms National Park and support the long-term sustainability of water resources.	++						
3b	Will there be an effect on demand for water from development (residential and business)?	The Climate Learning and Education Project may have a positive effect on demand for water from development.	+	The project can raise awareness among students, residents, and businesses about the importance of water conservation. By educating people about the finite nature of water resources and the need to use water responsibly, participants can contribute to a culture of responsible water consumption. This, in turn, can reduce the overall demand for water from development.	By promoting water conservation education, sustainable development practices, integrated water management, and collaboration with local authorities and developers, the project can help reduce the demand for water from residential and business development. This can contribute to more sustainable water use in the Cairngorms National Park and support the long-term availability of water resources for both present and future generations.	++						
3b	Will there be an effect on sustainable use of water resources?	The Climate Learning and Education Project can have a positive effect on the sustainable use of water resources.	+	The project can educate students, residents, and businesses about the importance of sustainable water use. By raising awareness about the value of water resources, the project can promote responsible water consumption practices. This can include teaching efficient water use habits, such as reducing water waste, fixing leaks, and using water-saving technologies and fixtures.	Through water conservation education, integrated water management, water efficiency in development, and monitoring efforts, the project can contribute to the sustainable use of water resources in the Cairngorms National Park. By promoting responsible water use practices and fostering a culture of water stewardship, the project can help protect and preserve this vital natural resource for future generations.	++						
3c	Will there be an effect on the water environment from invasive non-native species?	The Climate Learning and Education Project can have a positive effect on the water environment by addressing the issue of invasive non-native species.	+	The project can educate students, teachers, and the community about the risks associated with invasive non-native species in water ecosystems. By raising awareness about the negative impacts of these species on native biodiversity, water quality, and local management practices, the project can encourage proactive measures to prevent their introduction and spread. The project can educate students, teachers, and the community about the importance of carbon-rich soils, including peat, in carbon sequestration and climate change mitigation. By raising awareness about the benefits of these soils, the project can foster a sense of responsibility and promote actions to protect and restore them.	By integrating education, prevention, monitoring, and restoration efforts, the project can contribute to minimising the negative impacts of invasive non-native species on the water environment. By fostering a sense of responsibility and stewardship among participants, the project can help protect the biodiversity and ecological integrity of water ecosystems in the Cairngorms National Park.	++						
4a	Will there be an effect on carbon rich soils, in particular peat?	The Climate Learning and Education Project can have a positive effect on carbon-rich soils, especially peat.	+	The project can promote best management practices to minimise diffuse and point source pollution. This can include educating students and their families about proper wastewater management, encouraging the use of eco-friendly cleaning products, and promoting the adoption of sustainable farming practices that reduce runoff and chemical inputs.	By integrating education, behaviour change, best management practices, restoration efforts, monitoring, and collaboration, the project can contribute to improving water quality in rivers, lochs, and groundwater. While the direct impact may vary, the project can play a role in nurturing a generation that understands the importance of clean water and actively works towards protecting and restoring water resources.	++						
4a	Will there be an effect on soil sealing, soil structure and soil loss?	The Climate Learning and Education Project can have a positive effect on soil sealing, soil structure, and soil loss.	+	The project can promote best management practices to minimise diffuse and point source pollution. This can include educating students and their families about proper wastewater management, encouraging the use of eco-friendly cleaning products, and promoting the adoption of sustainable farming practices that reduce runoff and chemical inputs.	By integrating education, behaviour change, best management practices, restoration efforts, monitoring, and collaboration, the project can contribute to improving water quality in rivers, lochs, and groundwater. While the direct impact may vary, the project can play a role in nurturing a generation that understands the importance of clean water and actively works towards protecting and restoring water resources.	++						
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Assessor(s): <i>Insert assessor(s) name</i>		Date of Assessment: <i>Insert date(s) of assessment</i>		SECTION OF PLAN BEING ASSESSED: <i>(eg Vision, Policy X, Option 1A, etc)</i>											
ASSESSMENT OF ENVIRONMENTAL EFFECTS															
SEA objective	SEA sub-objective	Nature of effect <i>Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.</i>	Scoring: significance of effect before mitigation <i>Insert scoring for the significance of the environmental effect BEFORE mitigation (using the symbology in Table 1)</i>	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: <i>Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.</i>	Scoring: residual significance of effect after mitigation <i>Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1)</i>	CHPA response to recommendation: <i>Either agree or disagree with recommended mitigation and enhancement (as proposed in column 7). If disagreeing, provide justification as to why.</i>								
1a	Will there be an effect on energy conservation and efficiency in new development?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X									
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X									
1a	Will there be an effect on local production and use of materials and food products?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X									
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	Restoring peatlands may have a positive effect on carbon sinks, including woodlands and peatlands themselves.	+	Peatlands are highly effective at sequestering carbon dioxide from the atmosphere and storing it in the form of organic matter. When peatlands are drained or degraded, the carbon stored in the peat is released into the atmosphere as carbon dioxide, contributing to greenhouse gas emissions. By restoring peatlands, such as through re-wetting or re-vegetation, the process of carbon sequestration can be resumed, leading to increased carbon storage in the peat.	The success and effectiveness of peatland restoration in enhancing carbon sinks depend on various factors, including the extent of degradation, the specific restoration techniques employed, and ongoing management practices. Peatland restoration should be carried out based on sound scientific knowledge and best practices to ensure the long-term effectiveness of carbon sequestration and the preservation of these valuable ecosystems.	++									
1a	Will there be an effect on travel that produces greenhouse gas emissions?	Restoring peatlands may indirectly have an effect on travel that produces greenhouse gas emissions	+	The restoration of peatlands itself can act as a form of carbon offsetting. Peatlands have a high potential for carbon sequestration, effectively removing carbon dioxide from the atmosphere. By restoring degraded peatlands and promoting their long-term conservation, the net emissions from travel and other human activities can be offset by the carbon sequestration capacity of these restored ecosystems.	The overall impact of peatland restoration on travel-related greenhouse gas emissions will depend on several factors, including the scale and location of the restoration projects, the specific land management practices implemented, and the behaviour of individuals and businesses in response to restored peatland areas. Strategic planning and coordination among stakeholders can help ensure that peatland restoration projects are designed and managed in a way that minimises travel emissions and promotes sustainable practices.	++									
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	Restoring peatlands may have a positive effect on existing infrastructure and buildings in the face of future climate change implications.	+	Peatlands have a natural capacity to store and slowly release water, acting as natural sponges. By restoring peatlands, their water-holding capacity can be increased, helping to mitigate the impact of increased flooding caused by climate change. Restored peatlands can absorb and retain excess rainfall, reducing the volume and velocity of water entering rivers and downstream areas. This can alleviate pressure on existing infrastructure, such as drainage systems and flood defenses, and help prevent or minimise flood damage to buildings and infrastructure.	The effectiveness of peatland restoration in mitigating climate change impacts on infrastructure and buildings may vary depending on the specific local conditions, the scale of restoration efforts, and the design and maintenance of infrastructure itself. Integrated approaches that consider both infrastructure planning and peatland restoration can lead to more resilient and sustainable solutions in the face of future climate change challenges.	++									
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	Restoring peatlands may have a positive effect on proposed infrastructure and buildings in the face of future climate change implications.	+	Peatlands also play a crucial role in maintaining water availability during periods of drought. Restored peatlands can help retain water during winter periods and slowly release it during drier periods, sustaining water flows and maintaining groundwater levels. This can support the resilience of water supply systems, including reservoirs and wells, which are essential for meeting the water needs of buildings and infrastructure during drought events.	The effectiveness of peatland restoration in mitigating climate change impacts on infrastructure and buildings may vary depending on the specific local conditions, the scale of restoration efforts, and the design and maintenance of infrastructure itself. Integrated approaches that consider both infrastructure planning and peatland restoration can lead to more resilient and sustainable solutions in the face of future climate change challenges.	++									
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?	Restoring peatlands may have a positive effect on the levels of air pollutants, including nitrogen dioxide (NO ₂), particulate matter (PM ₁₀ and PM _{2.5}), and sulfur dioxide (SO ₂), which are common pollutants in the UK.	+	Restored peatlands act as carbon sinks, absorbing and storing carbon dioxide from the atmosphere. This helps reduce the overall concentration of greenhouse gases, including those that contribute to air pollution. Peatlands can also influence ammonia (NH ₃) emissions, which contribute to poor air quality and can have detrimental effects on human health and ecosystems. Restored peatlands, with higher water tables and improved vegetation cover, can reduce ammonia emissions from surrounding agricultural areas by limiting the conversion of organic nitrogen into ammonia.	While peatland restoration can have positive effects on air quality, the magnitude of these effects may vary depending on various factors, such as the extent of peatland restoration, the proximity of restored peatlands to pollution sources, and the overall air pollution context of the surrounding area.	++									
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	Restoring peatlands may have a positive effect on the levels of air pollutants, including particulate matter (PM ₁₀ and PM _{2.5}).	+	Peatland restoration involves re-establishing vegetation, including sphagnum mosses and other peat-forming plants. This vegetation acts as a natural filter and can help absorb certain pollutants from the air. This filtering effect can help reduce the levels of PM ₁₀ and PM _{2.5} in the immediate vicinity of peatland areas, leading to improved air quality. Additionally, restored peatlands support diverse plant and microbial communities, contributing to overall ecosystem health and functioning. Healthy ecosystems are better equipped to mitigate air pollution and maintain cleaner air quality.	While peatland restoration can have positive effects on air quality, it's important to note that the magnitude of these effects may vary depending on various factors, such as the extent of peatland restoration, the proximity of restored peatlands to pollution sources, and the overall air pollution context of the surrounding area.	++									
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	Restoring peatlands can have a positive effect on the water quality of rivers, lochs, and groundwater by mitigating diffuse and point source pollution.	+	Peatlands act as natural filters, trapping sediment, organic matter, and pollutants present in runoff water. As water flows through restored peatlands, the sediment and soil effectively remove pollutants, such as nitrogen and phosphorus, before they reach the water. This filtration and nutrient retention capacity can help reduce the levels of pollutants reaching rivers, lochs, and groundwater, leading to improved water quality.	The effectiveness of peatland restoration in improving water quality depends on various factors, including the extent and success of restoration efforts, the surrounding land use practices, and the connectivity of restored peatlands with water bodies. Integrated approaches, considering both peatland restoration and sustainable land management practices, are key to achieving significant and long-lasting improvements in water quality.	++									
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?	Restoring peatlands may have a positive effect on the ability of river catchments to store water and provide natural flood management services.	+	Restored peatlands act as natural buffers that can regulate water flow and alleviate flooding. During periods of heavy rainfall, the increased water storage capacity of peatlands allows them to absorb and retain excess water, reducing the volume and peak flows of water entering rivers. This regulation of water flow can help to mitigate flood risk downstream, protecting infrastructure, properties, and communities located in flood-prone areas.	The effectiveness of peatland restoration in providing natural flood management services depends on several factors, including the scale and success of restoration efforts, the connectivity of restored peatlands within the catchment, and the overall hydrological characteristics of the area. Integrated catchment management approaches, considering both peatland restoration and other land and water management strategies, are crucial for maximising the flood mitigation benefits of restored peatlands.	++									
3a	Will there be an effect on public water supplies?	Restoring peatlands may have both direct and indirect effects on public water supplies.	+	Restored peatlands can positively influence water quantity by enhancing water storage capacity and regulating water flow within a catchment. By raising the water table and re-wetting degraded peatlands, the ability of peat to retain water increases, leading to higher groundwater recharge rates. This can contribute to maintaining sustainable water levels in aquifers, which are important sources of public water supply.	The effectiveness of these benefits depends on various factors, including the location and connectivity of restored peatlands to water sources, the hydrological characteristics of the area, and the overall water management practices within the catchment. Integrated approaches that consider both peatland restoration and sustainable water resource management are crucial for maximising the positive impact on public water supplies.	++									
3b	Will there be an effect on demand for water from development (residential and business)?	Restoring peatlands may potentially have an effect on the demand for water from development, both residential and business sectors.	?	Restoring peatlands can contribute to increased water availability within a catchment. By re-wetting degraded peatlands and raising the water table, the overall water resources in the area can be replenished. This increased water availability can help meet the demands of development projects, reducing the risk of water scarcity and the need for alternative water sources.	The specific impact of peatland restoration on water demand from development will depend on the local context, the scale of restoration efforts, and the overall water management practices in place. Additionally, other factors such as population growth, land development patterns, and water-use efficiency measures implemented by the development sector will also influence water demand. A comprehensive approach that considers multiple factors would be necessary to manage water demand effectively while restoring peatlands.	+									
3b	Will there be an effect on sustainable use of water resources?	Restoring peatlands may have a positive effect on the sustainable use of water resources.	?	Peatland restoration enhances the provision of ecosystem services related to water resources. Restored peatlands can act as natural water filters, reducing the need for extensive water treatment processes. They also support biodiversity and habitat preservation, contributing to the ecological health of aquatic ecosystems. These services promote the sustainable use and management of water resources, ensuring their availability for future generations.	The effectiveness of peatland restoration in promoting the sustainable use of water resources depends on various factors, including the scale and success of restoration efforts, the connectivity of restored peatlands within the catchment, and the integration of restoration activities with broader water management strategies. Integrated approaches that consider both peatland restoration and sustainable water resource management are crucial for maximising the sustainable use of water resources.	+									
3c	Will there be an effect on the water environment from invasive non-native species?	Restoring peatlands can have a positive effect on the water environment by reducing the impact of invasive non-native species.	+	Restored peatlands can enhance biodiversity, including the diversity of native plant species and associated organisms. A diverse and healthy ecosystem is more resilient to invasion by non-native species. Restored peatlands with a rich variety of native species create a complex and balanced ecosystem, reducing the vulnerability of the water environment to invasive species colonisation.	While peatland restoration can help reduce the impact of invasive non-native species, ongoing monitoring and management efforts are necessary to ensure their long-term control. As outlined in the 2024-2028 Action Plan sections 3b and 3c, detailed restoration plans and appropriate remediation measures implemented, based on the specific contamination level and restoration goals.	++									
4a	Will there be an effect on carbon rich soils, in particular peat?	Restoring peatlands can have a significant positive effect on carbon-rich soils.	+	Peatlands are recognised as highly effective carbon sinks. The waterlogged conditions in peatlands slow down the decomposition of organic matter, facilitating the accumulation of carbon over time. By restoring peatlands, the process of carbon sequestration can be enhanced. The re-establishment of peat-forming vegetation and the reduction of disturbances help maintain and increase carbon storage in the peat soils.	The success of peatland restoration in enhancing carbon-rich soils depends on factors such as the extent and severity of peatland degradation, the quality of restoration techniques, and the ongoing management practices. Proper monitoring, reporting and management are necessary to ensure the long-term preservation and protection of carbon-rich soils within restored peatlands.	++									
4a	Will there be an effect on soil sealing, soil structure and soil loss?	Restoring peatlands may have a positive effect on soil sealing, soil structure, and soil loss.	+	Peatland restoration promotes the development of healthy soil structure. The re-wetting of degraded peatlands helps restore the natural water balance, preventing the compaction and degradation of soil structure. As water fills the pore spaces within the soil, it supports the formation of a more stable and resilient soil structure. This improved soil structure enhances soil fertility, increases water infiltration capacity, nutrient cycling, and root penetration, leading to healthier and more productive soils.	The specific effects of peatland restoration on soil sealing, soil structure, and soil loss will depend on various factors, including the specific restoration techniques employed, the scale of restoration efforts, and the overall land management practices in the surrounding area. Proper planning, monitoring, and ongoing management are essential to maximise the positive impacts of peatland restoration on soil-related factors.	++									
4a	Will there be an effect on the levels of soil contamination?	Restoring peatland may have a positive effect on reducing soil contamination.	+	Restored peatlands can act as natural filters, helping to remove contaminants from water that passes through the peat soil. Peat has a high organic matter content, which can absorb and retain pollutants, such as heavy metals and organic compounds. As water flows through the peatland, it undergoes natural filtration, reducing the transport of contaminants and improving soil quality.	The effectiveness of reducing levels of soil contamination will depend on various factors, including the specific contaminants involved, the extent of contamination, and the success of restoration efforts. Phase 1 site-specific assessments would be required in the first instance and appropriate remediation measures implemented, based on the specific contamination issues and restoration goals.	++									
4a	Will there be an effect on soil erosion and landslides?	Restoring peatlands may have a positive effect on reducing soil erosion and mitigating landslides.	+	Peatlands are wetland ecosystems, characterised by the accumulation of partially decayed plant material called peat. They act as natural buffers, absorbing and storing water, thus maintaining water levels and preventing excessive runoff. When peatlands are degraded, the accumulation of organic matter decreases, leading to the formation of thicker and more stable soil layers. This enhanced soil structure helps to prevent erosion and provides better stability against landslides.	The effectiveness of peatland restoration in mitigating soil erosion and landslides can vary, depending on various factors such as the extent of restoration, local climatic conditions, land management practices, and the surrounding landscape. However, overall, restoring peatlands can play an important role in reducing soil erosion and landslides by improving water regulation, enhancing vegetation cover, retaining sediment, and increasing soil stability.	++									
4a	Will there be an effect on geodiversity interests (eg GCRs)?	Restoring peatlands may have both positive and negative effects on geodiversity interests, or other areas of geological significance. The impact will depend on the specific characteristics of the peatland being restored and the geological features present in that particular area.	?	Peatlands can contain important geological features such as mineral deposits, fossil records, and unique soil profiles. Restored peatlands, efforts can be made to preserve and protect these geological features. Proper management practices can include measures to avoid disturbance or damage to the underlying geological formations, ensuring their long-term conservation.	Overall, the effects of peatland restoration on geodiversity interests can be complex and site-specific. It is essential to conduct thorough assessments, engage with geological experts, and develop restoration plans that consider the unique geological characteristics of the area to minimise potential negative impacts and maximise the conservation of both peatland ecosystems and significant geological features.	+									
5a	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?	Restoring peatlands may have both positive and negative effects on the sustainable use of natural resources, such as water and timber.	?	The process of restoring peatlands often involves plant machinery, excavation, or other forms of intervention. These activities could potentially disturb or damage geological features, if not carefully planned and executed. It is crucial to ensure that restoration activities are conducted with the guidance of geological experts, to minimise any negative impacts on significant geological sites.	The sustainable use of natural resources in restored peatlands requires careful planning, monitoring, and adherence to relevant regulations and guidelines. Balancing conservation objectives with resource utilisation is crucial to ensure the long-term sustainability of both the peatland ecosystem and the natural resource industries.	+									
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or flood protection infrastructure)?	Peatland restoration may have a positive effect on the sustainable use and management of water and flood infrastructure.	+	Water Resources: Peatlands play a crucial role in regulating water resources. By restoring peatlands, their water-holding capacity is increased, leading to better water retention and gradual release. This can have positive effects on sustainable water management by improving water availability during dry periods, regulating water flow, and reducing the risk of flooding. It can also contribute to maintaining water quality by filtering pollutants and reducing sediment runoff.	Balancing the benefits of peatland restoration with the requirements of infrastructure development is a complex task that requires careful planning, interdisciplinary collaboration, and adherence to environmental regulations. Integrating nature-based solutions and considering the ecological functions of peatlands in infrastructure planning can help maximise the benefits of both peatland restoration and infrastructure projects, while minimising negative impacts on the environment.	++									
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X									
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?	Restoring peatlands can have a positive effect on maintaining or enhancing the favourable condition of areas protected for nature conservation.	+	Peatlands are often recognised as important habitats for a variety of plant and animal species and can support high levels of biodiversity. Peatlands provide unique and specialised habitats for a wide range of species, including rare and threatened ones. Restoration activities, such as re-wetting drained peatlands or reintroducing native vegetation, can recreate or improve habitat conditions, allowing for the recovery of specific plant and animal communities. This can help maintain or enhance the favourable condition of protected areas by supporting the natural ecological processes and species interactions that are crucial for their conservation.	The specific outcomes of peatland restoration in protected areas can depend on factors such as the condition of the peatland prior to restoration, the restoration techniques employed, and the ecological context of the protected area. Comprehensive planning, monitoring, and adaptive management approaches are crucial to ensure that restoration efforts are tailored to the specific needs and objectives of the protected area, leading to positive outcomes for nature conservation.	++									
6a	Will there be an effect on protected species?	Restoring peatlands can have positive effects on protected species by providing or improving habitat conditions that are essential for their survival and well-being.	+	Peatlands can also serve as corridors for species movement and migration, allowing for ecological connectivity between different habitats. Restoration of peatlands can help maintain or enhance this connectivity, facilitating the movement of species within protected areas and promoting genetic exchange. This contributes to the long-term viability of populations and can strengthen the ecological resilience of protected areas.	The specific outcomes of peatland restoration on protected species can vary, depending on the characteristics of the peatland, the specific species involved, and the success of the restoration efforts. Thorough monitoring and adaptive management approaches may be necessary to evaluate the response of protected species to restoration activities and make adjustments, as needed, to optimise the outcomes for their conservation. Collaboration between restoration practitioners, conservation organisations, and relevant stakeholders is crucial for successful peatland restoration and the protection of vulnerable species.	++									
6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?	Restoring peatlands may have a significantly positive effect on the habitats and plants identified in the Cairngorms Nature Action Plan.	+	Peatlands are one of the key habitats in the Cairngorms and are essential for the conservation of biodiversity. Restoring degraded or drained peatlands in the Cairngorms can help restore or improve the habitat conditions required by the Action Plan's target species and vegetation, supporting the recovery of plant communities that are important for the habitat.	It's worth noting that the Cairngorms Nature Action Plan encompasses a range of habitats and species, and peatland restoration is just one aspect of the overall conservation efforts. A comprehensive, balanced and integrated approach, that addresses multiple habitat types and conservation priorities, will be required for achieving the objectives outlined in the Action Plan. Collaboration between conservation organisations, land managers, and stakeholders will be crucial for successful peatland restoration and the conservation of habitats and plants in the Cairngorms.	++									
6a	Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?	Restoring peatlands in the Cairngorms can have positive effects on bird, mammal, and invertebrate species that are part of the Cairngorms Nature Action Plan.	+	Peatlands provide a rich and diverse habitat for a wide range of species, including rare and threatened ones. Restoration activities, such as re-wetting drained peatlands or reintroducing native vegetation, can recreate or improve habitat conditions, allowing for the recovery of specific plant and animal communities. This can help maintain or enhance the favourable condition of protected areas by supporting the natural ecological processes and species interactions that are crucial for their conservation.	The specific outcomes of peatland restoration on bird, mammal, and invertebrate species will depend on factors such as the characteristics of the peatland, the restoration techniques employed, and the specific requirements of the target species. Monitoring and adaptive management approaches are crucial to evaluate the response of species to restoration activities and make adjustments, as needed, to optimise the outcomes for their conservation. A holistic approach that integrates ecological, cultural, and community perspectives is essential to ensure that peatland restoration aligns with and enhances the unique landscape character and local distinctiveness of the Cairngorms National Park.	++									
6a	Will there be an effect on wider biodiversity (within protected areas and the habitats and species identified in the CHPA) in the National Park?	Restoring peatlands in the Cairngorms National Park can have positive effects on wider biodiversity beyond protected areas and the specific habitats and species identified in the Cairngorms Nature Action Plan.	+	Peatlands are rich in invertebrate diversity, including numerous specialized and rare species. Restored peatlands can create or enhance the specific microhabitats required by different invertebrate groups, such as dragonflies, damselflies, butterflies, and beetles. These habitats support a variety of invertebrate species, including dipterans, coleopterans, lepidoptera, and hymenoptera.	The specific outcomes of peatland restoration on wider biodiversity in the National Park may vary, depending on various factors including the condition of the peatland prior to restoration, the restoration techniques employed, and the surrounding landscape context. Thorough monitoring and adaptive management approaches are necessary to evaluate the ecological response and maximize the positive impacts on wider biodiversity. Collaboration between restoration practitioners, conservation organisations, and stakeholders is crucial for successful peatland restoration and the conservation of biodiversity in the Cairngorms National Park.	++									
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?	Restoring peatlands may have an indirect effect on deer management practices aimed at reducing environmental impacts.	?	Peatlands are often considered iconic landscapes within the Cairngorms National Park. The restoration of degraded peatlands helps preserve and maintain these distinctive landscapes. By restoring the natural hydrology, vegetation, and landforms of peatlands, their unique features and scenic qualities can be preserved and celebrated, contributing to the overall landscape character of the park.	The specific outcomes of peatland restoration on deer management practices will depend on various factors, including the characteristics of the peatland, the behaviour and preferences of deer populations, and the effectiveness of deer management strategies. A holistic and adaptive approach, incorporating scientific knowledge, monitoring, and stakeholder engagement, is crucial for successful peatland restoration and the integration of deer management practices that seek to reduce environmental effects.	+									
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?	Restoring peatlands may have indirect effects on land management practices aimed at avoiding the introduction and spread of invasive non-native species and tree diseases.	?	Peatlands can play a vital role in regulating water flow and can help mitigate flooding by absorbing and slowly releasing water. By restoring peatlands, their water-holding capacity is enhanced, which can reduce the strain on existing water infrastructure, such as dams and reservoirs. Additionally, restored peatlands can act as natural filters, improving water quality and reducing the need for costly water treatment infrastructure.	While peatland restoration can contribute indirectly to land management practices related to invasive species and tree diseases, specific management strategies targeted at these issues may still be necessary. Land managers should continue to implement appropriate measures to prevent the introduction and spread of invasive species and tree diseases, such as practicing good biosecurity protocols, early detection and eradication efforts, and following relevant regulations and guidelines specific to the region.	+									
7a	Will there be an effect on landscape character and local distinctiveness?	Restoring peatlands in the Cairngorms National Park may have a positive effect on landscape character and local distinctiveness.	+	Peatlands are an integral part of the landscape and play a significant role in shaping its unique character and qualities. Restored peatlands contribute to the visual character of the landscapes in the National Park. The restoration of degraded peatlands can lead to improvements in the visual quality of the area. By restoring the natural hydrology and vegetation, peatlands can regain their characteristic features, such as vibrant colours, diverse plant communities, and unique landforms. This can enhance the visual quality and aesthetic value of the landscapes, contributing to their SLQs.	The specific effects of peatland restoration on the SLQs of National Park landscapes may vary depending on factors such as the condition of the peatland prior to restoration, the restoration techniques employed, and the cultural and historical context of the region. A comprehensive approach to peatland restoration, that considers both ecological and cultural values, is crucial for maximising the positive effects on the SLQs of the National Park landscapes.	+									
7a	Will there be an effect on landscape character and local distinctiveness?	Restoring peatlands in the Cairngorms National Park may have a positive effect on landscape character and local distinctiveness.	+	Peatlands are often considered iconic landscapes within the Cairngorms National Park. The restoration of degraded peatlands helps preserve and maintain these distinctive landscapes. By restoring the natural hydrology, vegetation, and landforms of peatlands, their unique features and scenic qualities can be preserved and celebrated, contributing to the overall landscape character of the park.	The specific effects of peatland restoration on landscape character and local distinctiveness in the Cairngorms National Park may vary depending on various factors, including the location, scale, and condition of the peatlands, as well as the involvement of local communities and stakeholders. A holistic approach that integrates ecological, cultural, and community perspectives is essential to ensure that peatland restoration aligns with and enhances the unique landscape character and local distinctiveness of the Cairngorms National Park.	++									
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?	Restoring peatlands in the Cairngorms National Park may have an effect on the historic and cultural environment and assets, including linguistic aspects. Peatlands are intertwined with the historical and cultural heritage of the region, and their restoration can contribute to the preservation and enhancement of these important assets.	+	Peatlands often have associated place names (e.g. A Munro Mhor - The Big Peat Bog) and linguistic references that reflect the cultural significance of these landscapes. By restoring peatlands, there can be renewed appreciation for these linguistic and place names. Language and terminology related to peatlands and associated cultural practices can be preserved, documented, and celebrated, contributing to the linguistic assets of the Cairngorms National Park.	The specific effects of peatland restoration on the historic and cultural environment and assets in the Cairngorms National Park may vary depending on factors such as the location of the peatlands, the involvement of local communities, and the integration of cultural heritage considerations into restoration planning and implementation. Engaging with relevant stakeholders, such as archaeologists, cultural heritage experts, and local communities, is crucial for ensuring that peatland restoration aligns with the preservation and enhancement of the historic and cultural environment and assets of the Cairngorms National Park.	++									
8a	Will there be an effect on housing for local needs?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X									
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?	Restoring peatlands in the Cairngorms National Park can have a positive effect on recreation and active travel opportunities that support healthier lifestyles.	+	Restored peatlands can provide new opportunities for walking and hiking. Peatland areas can be designated as nature trails or incorporated into existing trail networks, allowing visitors to explore and appreciate the unique landscapes. Walking and hiking in these areas offer physical exercise, exposure to nature, and opportunities for relaxation and enjoyment, promoting healthier lifestyles.	The specific effects on recreation and active travel opportunities may depend on the accessibility, location, and management of the restored peatlands. Collaborating with local communities, recreation and tourism organisations, and relevant stakeholders can help ensure that the restoration efforts align with the needs and preferences of recreational users, supporting healthier lifestyles in the Cairngorms National Park.	++									
8a	Will there be an effect on employment opportunities local to places of residence?	No connectivity with the environmental Topic/Objective being assessed.	X	n/a	n/a	X									

Lead assessors' name		Date of Assessment		Lead assessor's name		Date of Assessment	
SECTION OF PLAN BEING ASSESSED		SECTION OF PLAN BEING ASSESSED		SECTION OF PLAN BEING ASSESSED		SECTION OF PLAN BEING ASSESSED	
ASSESSMENT OF ENVIRONMENTAL EFFECTS		ASSESSMENT OF ENVIRONMENTAL EFFECTS		ASSESSMENT OF ENVIRONMENTAL EFFECTS		ASSESSMENT OF ENVIRONMENTAL EFFECTS	
SEA objective	SEA sub-objective	Nature of effect	Scoring: significance of effect before mitigation	Justification and/or reasoning for enhancement/improvement recommendations	Recommended mitigation and enhancement:	Scoring: reduced significance of effect after mitigation	CHPA response to recommendations
1a	Will there be an effect on energy conservation and efficiency in new development?	No connectivity with the environmental Topic/Objective being assessed.	X	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	X	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
1b	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	No connectivity with the environmental Topic/Objective being assessed.	X	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	X	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
1c	Will there be an effect on local production and use of materials and food products?	Yes, the Camargue Future Farming project is likely to have a positive effect on the local production and use of materials and food products in the National Park.	+	Additionally, the project aims to maintain viable and resilient farm businesses. This means supporting farmers in adopting the products to be more sustainable while ensuring the continued production of food. By enhancing the economic resilience of farm businesses, the project can contribute to the local production and availability of food products within the National Park.	Overall, the development phase of the Camargue Future Farming project has the potential to positively influence local production and use of materials and food products by promoting sustainable farming practices, enhancing biodiversity, and supporting resilient farm businesses within the National Park. In the later stages of the project, there may be the scope to explore opportunities to respect the project's impact beyond the initial farm farms. Partners to explore with a larger number of farms across the National Park to broaden the impact and gather more data on evidence on nature- and climate-friendly farming practices. This could involve engaging with additional farmers and providing them with support, incentives, and knowledge exchange opportunities.	++	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
1d	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	The Camargue Future Farming project, with its focus on halting changes to farming practices that deliver responses to carbon emissions and habitat connectivity, and connectivity, may have positive effects on carbon sinks such as woodlands and peatlands.	+	The project can encourage farmers to increase agroforestry efforts in their fields by encouraging carbon sequestration from the atmosphere, enhance biodiversity, improve soil health, and provide additional food products within the National Park.	As above, there may be scope in the later stages of the project to encourage farmers to adopt agroforestry practices on a larger scale. Providing support and resources to establish new plantations, hedgerows, and woodlands, and encourage farmers to maintain and restore peatlands within their farms while providing additional benefits such as wildlife habitat and erosion control.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
1e	Will there be an effect on travel that produces greenhouse gas emissions?	The Camargue Future Farming project may have some indirect effects on travel that produces greenhouse gas emissions, but the project primarily focuses on improving farming practices and enhancing the sustainability of agricultural activities, there may be no direct effect on travel.	?	While it is not possible to completely eliminate travel-related greenhouse gas emissions, implementing these measures can help minimise the project's overall carbon footprint. It is important to assess and consider the travel implications throughout the project's planning and implementation stages and prioritise sustainable transportation options wherever feasible.	Encourage farmers to explore local sourcing and distribution networks to reduce the need for long-distance transportation of agricultural products. Promote local food networks and collaborations between farmers, producers, and retailers to minimize transportation-related emissions.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
1f	Will there be an effect on the ability of river catchments to store water and the natural flood management systems to provide water?	Yes, the Future Farming project can potentially have an effect on the infrastructure and buildings provided in the Local Development Plan.	?	Overall, the Future Farming project can drive changes in existing infrastructure and buildings to make them more resilient, sustainable, and adaptable to the challenges posed by climate change.	Climate change will result in changes to temperatures, precipitation patterns, and extreme weather events. To adapt to these changes, farmers may need to modify existing farm buildings to ensure they are resilient and can withstand climate-related risks such as increased heat, heavy rainfall, or strong winds. This may involve retrofitting buildings with insulation, improving ventilation systems, or reinforcing structures to withstand extreme weather events.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?	The Future Farming project's impact on levels of UK National Air Quality pollutants such as NO ₂ , PM ₁₀ , PM _{2.5} , and SO ₂ is expected to be minimal, as the project focuses on agricultural activities and land management practices that are unlikely to result in significant emissions of these pollutants.	?	The project aims to reduce carbon emissions and improve biodiversity and habitat connectivity, which may indirectly contribute to lower levels of air pollution. By promoting sustainable farming practices, such as reducing the use of synthetic fertilisers and pesticides, optimising livestock management, and implementing agroforestry or cover cropping, the project can potentially mitigate the emissions of air pollutants associated with agricultural activities.	The primary focus of the Future Farming project is on carbon emissions reduction, biodiversity enhancement, and habitat connectivity. While these objectives indirectly contribute to improved air quality, addressing specific air pollutants like NO ₂ , PM ₁₀ , PM _{2.5} , and SO ₂ may require additional measures beyond the scope of the project. National and local air quality management strategies, however, as well as collaboration between the agricultural sector, local authorities, and environmental organisations, will play a crucial role in addressing and improving air pollution at a broader scale.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
2b	Will there be an effect on the levels of other types of air pollution (e.g. dust, noise, odour, etc.)?	The Future Farming project's impact on levels of other types of air pollution, such as particulate matter (PM), will depend on the specific farming practices implemented and the local environmental conditions.	?	The project can encourage sustainable land management practices that aim to minimize the use of pesticides and herbicides or promote the use of environmentally friendly alternatives. By establishing buffer zones along watercourses that can help filter and retain nutrients, and pollutants from agricultural runoff before they reach water bodies. The project may promote the creation or enhancement of these buffer zones, which can have a positive impact on water quality.	The Future Farming project primarily focuses on carbon emissions reduction, biodiversity enhancement, and habitat connectivity. While these objectives may have ancillary benefits in terms of reducing particulate matter emissions, addressing specific air pollutants like particulate matter requires comprehensive air quality management measures and collaboration between various stakeholders.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
2c	Will there be an effect on the water quality of rivers, lochs, and ground-water from diffuse and point source pollution?	The Future Farming project's impact on water quality will depend on the specific farming practices implemented and their effects on both diffuse and point source pollution.	?	Establishing buffer zones along watercourses can help filter and retain nutrients, and pollutants from agricultural runoff before they reach water bodies. The project may promote the creation or enhancement of these buffer zones, which can have a positive impact on water quality.	By promoting sustainable farming practices and better land management, the project can help reduce the potential for diffuse and point source pollution and enhance the overall health of rivers, lochs, and groundwater within the project's scope.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
2d	Will there be an effect on the ability of river catchments to store water and the natural flood management systems to provide water?	Yes, the Future Farming project's impact on the ability of river catchments to store water and the natural flood management systems to provide water is expected to be positive, as the project focuses on improving farming practices and enhancing the sustainability of agricultural activities.	+	The project aims to reduce carbon emissions and improve biodiversity and habitat connectivity, which may indirectly contribute to lower levels of air pollution. By promoting sustainable farming practices, such as reducing the use of synthetic fertilisers and pesticides, optimising livestock management, and implementing agroforestry or cover cropping, the project can potentially mitigate the emissions of air pollutants associated with agricultural activities.	By implementing these measures and other water-friendly farming practices, the Future Farming project can enhance the ability of river catchments to store water and provide natural flood management systems to provide water. This can contribute to more sustainable land and water management, and also help mitigate the impacts of climate change, including increased rainfall intensity and the associated risks of flooding.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
2e	Will there be an effect on public water supplies?	The Future Farming project's impact on public water supplies will depend on various factors, including the specific farming practices implemented and their effects on water quality and quantity.	?	The project may integrate initiatives to protect and enhance the quality of water sources used for public water supplies. This can include measures such as riparian buffer zone creation, wetland restoration, and land management practices that prevent contamination and maintain the integrity of water catchments. These efforts contribute to safeguarding the quality and availability of water resources for public supply systems.	The specific details and measures of the Future Farming project will determine the extent of its impact on public water supplies. However, by promoting sustainable farming practices, protecting water sources, and fostering collaboration, the project has the potential to contribute to the preservation and enhancement of water resources for public supply systems.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
2f	Will there be an effect on demand for water from development (residential and business)?	Yes, the Future Farming project has the potential to have an effect on the sustainable use of water resources. By implementing water-efficient farming practices and promoting responsible water management, the project can aim to reduce water consumption and optimize water use efficiency in agricultural activities. This can help minimise the impact on water resources and contribute to their long-term sustainability.	X	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	X	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
3a	Will there be an effect on sustainable use of water resources?	Yes, the Future Farming project has the potential to have an effect on the sustainable use of water resources. By implementing water-efficient farming practices and promoting responsible water management, the project can aim to reduce water consumption and optimize water use efficiency in agricultural activities. This can help minimise the impact on water resources and contribute to their long-term sustainability.	+	The project's emphasis on integrated land management plans and peer-to-peer knowledge exchange can facilitate the sharing of best practices in water resource management among farmers within the National Park. This can help disseminate innovative approaches and strategies that support sustainable water use across the farming community.	It's important to note that while the project can encourage sustainable water use within the agricultural sector, broader efforts and policies are also required to address water sustainability across various sectors and ensure the overall management of water resources in the region.	++	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
3b	Will there be an effect on the water environment from invasive non-native species?	The Future Farming project's focus on enhancing habitat quality, connectivity, and so on, may have a positive impact on the water environment by improving habitat conditions and connectivity, the project can aim to create a more favourable environment for native species, which can help reduce the establishment and spread of invasive species.	?	The Future Farming project's emphasis on sustainable farming practices and integrated land management plans can help minimise the introduction and spread of invasive non-native species. Through careful land management, including proper monitoring and control measures, farmers can reduce the risk of introducing or promoting invasive species within their farms.	It's important to note that the management of invasive non-native species is a complex and ongoing challenge that requires collaboration among various stakeholders, including farmers, land managers, conservation organisations, and government agencies. The Future Farming project can play a role in promoting awareness, knowledge exchange, and best practices to reduce the impact of invasive species on the water environment.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
3c	Will there be an effect on carbon rich soils, in particular peat?	The Future Farming project, with its focus on implementing changes to farming practices that deliver responses to carbon emissions and habitat connectivity, and connectivity, may have positive effects on carbon-rich soils, including peatlands.	+	Additionally, the project's emphasis on habitat surveys, monitoring and integrated land management plans can facilitate the identification and protection of peatland areas within the participating farms. This can include measures to avoid peatland disturbance and promote their ecological health and functioning.	It's worth noting that peatland conservation and restoration are complex and long-term processes that require a coordinated approach involving multiple stakeholders, including farmers, land managers, conservation organisations, and government agencies. The Future Farming project can play a role in promoting awareness, knowledge exchange, and best practices to reduce the impact of invasive species on the water environment.	++	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
3d	Will there be an effect on soil sealing, soil structure and soil loss?	The Future Farming project, with its focus on implementing changes to farming practices that deliver responses to carbon emissions and habitat connectivity, and connectivity, may have positive effects on soil sealing, soil structure, and soil loss.	+	Soil sealing, large areas of bare ground, and other factors can contribute to soil sealing, soil structure, and soil loss. The project can aim to create a more favourable environment for native species, which can help reduce the establishment and spread of invasive species.	Maintaining regular soil testing and analysis can provide valuable feedback to farmers and help track improvements in soil health over time.	++	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
3e	Will there be an effect on the levels of soil contamination?	Yes, the Future Farming project's impact on the levels of soil contamination is expected to be positive, as the project focuses on improving farming practices and enhancing the sustainability of agricultural activities.	?	It's important to note that the specific impact on soil contamination will depend on the existing conditions, farming practices, and historical land use in the area. Therefore, the project should conduct site-specific assessments and work with local authorities to address any identified soil contamination issues effectively.	Providing guidance and support to farmers in managing and remedying areas of land that may have pre-existing soil contamination. This may involve collaboration with relevant local authorities and experts to ensure appropriate remediation measures are taken.	+	CHPA response to recommendations: Enhance energy efficiency through energy audits and LED lighting.
3f	Will there be an effect on						

Assessor(s): Insert assessor(s)'s name							
Date of Assessment: Insert date(s) of assessment							
SECTION OF PLAN BEING ASSESSED: (eg Vision, Policy X, Option 1A, etc)							
ASSESSMENT OF ENVIRONMENTAL EFFECTS		5f Communities and Landscape Change					
SEA objective	SEA sub-objective	Nature of effect Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.	Scoring: significance of effect before mitigation Insert scoring for the significance of the environmental effect BEFORE mitigation (using the symbology in Table 1)	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.	Scoring: residual significance of effect after mitigation Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1)	CNPA response to recommendation: Either agree or disagree with recommended mitigation and enhancement (as proposed in column F). If disagreeing, provide justification as to why.
1a	Will there be an effect on energy conservation and efficiency in new development?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	The project may have an effect on the production of renewable energy of appropriate scale for the Park	?	By engaging with communities and obtaining robust data on their perceptions and values, the project can gather insights into community preferences and priorities regarding renewable energy development within the National Park. This information can help identify areas where renewable energy projects can be implemented in a manner that aligns with community aspirations and minimises potential impacts on the SLQs.	The project's focus on net-zero and community values may be able to promote the integration of renewable energy generation with other sustainable practices. For example, renewable energy projects can be designed in conjunction with energy efficiency measures, smart grid technologies, and sustainable transportation options to create a holistic and environmentally friendly approach to energy production within the National Park.	++	
1a	Will there be an effect on local production and use of materials and food produce?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	Yes, the project is likely to have an effect on carbon sinks such as woodlands and peatlands within the Cairngorms National Park.	+	The project's focus on understanding community perceptions and values related to the Special Landscape Qualities (SLQs) can contribute to the conservation and restoration of woodlands and peatlands. By engaging with communities and obtaining robust data on how people perceive and value these landscapes, the project can inform conservation efforts and prioritise the protection and restoration of carbon-rich habitats. The project may also influence land management practices that support the preservation and expansion of carbon sinks. By gathering data on community perceptions and experiences, it can inform land management plans and strategies that prioritise the sustainable management of woodlands and peatlands. This may include measures such as afforestation, rewilding initiatives, and peatland restoration projects that enhance carbon sequestration.	Overall, the project has the potential to positively influence the conservation, restoration, and sustainable management of carbon sinks such as woodlands and peatlands within the Cairngorms National Park. By engaging with communities, promoting awareness, fostering collaboration, and informing policy decisions, it can contribute to the protection and enhancement of these vital ecosystems for carbon sequestration.	++	
1a	Will there be an effect on travel that produces greenhouse gas emissions?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO ₂ , PM ₁₀ , PM _{2.5} , SO ₂)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on public water supplies?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3b	Will there be an effect on demand for water from development (residential and business)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3b	Will there be an effect on sustainable use of water resources?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3c	Will there be an effect on the water environment from invasive non-native species?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on carbon rich soils, in particular peat?	The Communities and Landscape Change project aims to engage with communities to understand their perceptions, experiences, and values of the Special Landscape Qualities (SLQs) in the Cairngorms National Park. While the project's focus is primarily on the social and cultural aspects of the landscape, there may be indirect effects on carbon-rich soils, including peat, through changes in land management practices and community engagement.	?	The project's engagement with communities can contribute to raising awareness about the importance of carbon-rich soils and peatlands as valuable natural resources. By fostering a sense of connection and appreciation for the landscape, there is potential for increased support for conservation and sustainable land management practices that can help protect carbon-rich soils.	While the Communities and Landscape Change project may not directly focus on carbon-rich soils and peatlands, its emphasis on community engagement and landscape stewardship can indirectly contribute to their protection and conservation.	+	
4a	Will there be an effect on soil sealing, soil structure and soil loss?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on the levels of soil contamination?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on soil erosion and landslides?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on geodiversity interests (eg GCRs)?	The Communities and Landscape Change project, which aims to engage with communities and understand their perceptions and values of the Special Landscape Qualities (SLQs) in the Cairngorms National Park, may have an indirect effect on geodiversity interests.	?	Through community engagement, the project can raise awareness about the importance of geodiversity and the unique geological features present in the National Park. By involving communities in discussions and activities related to the landscape, there is an opportunity to educate and inform people about the significance of GCR sites and other geodiversity interests. This increased awareness and understanding can lead to a greater appreciation for the geological heritage of the area and may encourage efforts to protect and conserve geodiversity. Local communities may become more involved in monitoring and conserving GCR sites, and initiatives can be developed to promote responsible access and enjoyment while preserving the geological features.	While the impact of the Communities and Landscape Change project on geodiversity interests may be indirect, it has the potential to raise awareness, promote conservation efforts, and foster collaboration to safeguard the unique geological features within the Cairngorms National Park.	+	
5a	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or flood protection infrastructure)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?	The Communities and Landscape Change project, which aims to engage with communities and understand their perceptions and values of the Special Landscape Qualities (SLQs) in the Cairngorms National Park, can have both direct and indirect effects on the favourable condition of areas protected for nature conservation.	+	By involving local communities in discussions and activities related to the landscape, there is an opportunity to educate and inform people about the value of protected areas and the species and habitats they support. This can lead to increased support and stewardship for these areas, which can contribute to their favourable condition. Furthermore, by involving communities in discussions about the landscape and its conservation, their perspectives and insights can contribute to the development of strategies and policies that prioritize the protection and enhancement of areas of ecological importance. This can indirectly support the favourable condition of protected areas by influencing land-use decisions, habitat restoration efforts, and conservation initiatives.	Clear processes and plans are in place for application of the findings of this project, as existing national and Park-wide policies require conservation and enhancement of SLQs, for example through the National Planning Framework, the National Park Partnership Plan and the Local Development Plan. Importantly, by improving the understanding of how communities perceive, experience and appreciate the SLQs of the Cairngorms National Park, it will be possible to ensure landscape changes proposed in the future, which are judged against these policies, reflect community values.	++	
6a	Will there be an effect on protected species?	As the landscape (and SLQs) of the area is projected to change, the Cairngorms National Park will continue contribute to net zero and biodiversity targets through landscape-scale enhancements to woodlands, peatlands, river catchments, uplands and farmlands. These targets will seek to conserve and protect protected species, habitats and wider biodiversity of the Park.	+	Specific impacts will depend on the actions and initiatives undertaken as part of the project outcomes	The effectiveness of the project's impact on protected species will depend on which of the selected options for change that will have the most positive effects on the SLQs of the National Park which are most important to communities and translate into positive outcomes for protected species, habitats and plants within the Cairngorms National Park are progressed	++	
6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?	As the landscape (and SLQs) of the area is projected to change, the Cairngorms National Park will continue contribute to net zero and biodiversity targets through landscape-scale enhancements to woodlands, peatlands, river catchments, uplands and farmlands. These targets will seek to conserve and protect protected species, habitats and wider biodiversity of the Park.	+	Specific impacts will depend on the actions and initiatives undertaken as part of the project outcomes	The effectiveness of the project's impact on protected species will depend on which of the selected options for change that will have the most positive effects on the SLQs of the National Park which are most important to communities and translate into positive outcomes for protected species, habitats and plants within the Cairngorms National Park are progressed	++	
6a	Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?	As the landscape (and SLQs) of the area is projected to change, the Cairngorms National Park will continue contribute to net zero and biodiversity targets through landscape-scale enhancements to woodlands, peatlands, river catchments, uplands and farmlands. These targets will seek to conserve and protect protected species, habitats and wider biodiversity of the Park.	+	Specific impacts will depend on the actions and initiatives undertaken as part of the project outcomes	The effectiveness of the project's impact on protected species will depend on which of the selected options for change that will have the most positive effects on the SLQs of the National Park which are most important to communities and translate into positive outcomes for protected species, habitats and plants within the Cairngorms National Park are progressed	++	
6a	Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?	As the landscape (and SLQs) of the area is projected to change, the Cairngorms National Park will continue contribute to net zero and biodiversity targets through landscape-scale enhancements to woodlands, peatlands, river catchments, uplands and farmlands. These targets will seek to conserve and protect protected species, habitats and wider biodiversity of the Park.	+	Specific impacts will depend on the actions and initiatives undertaken as part of the project outcomes	The effectiveness of the project's impact on protected species will depend on which of the selected options for change that will have the most positive effects on the SLQs of the National Park which are most important to communities and translate into positive outcomes for protected species, habitats and plants within the Cairngorms National Park are progressed	++	
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?	The Communities and Landscape Change project, with its focus on engaging with communities and understanding their values and perceptions of the landscape, can indirectly influence deer management practices.	+	The CNPA NPPP outlines the aim to reduce the negative impacts of red deer and other herbivores across the National Park to enable woodlands to expand, heather loss to be reversed, peatlands to recover and wider biodiversity and landscape enhancements to take place.	The project can facilitate knowledge exchange between scientific experts, land managers, and local communities regarding effective deer management practices. By disseminating research findings and best practices, the project can provide information on the ecological benefits of managing deer populations at sustainable levels. This knowledge exchange can empower communities to make informed decisions about deer management and encourage the adoption of practices that minimise environmental effects.	++	
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
7a	Will there be an effect on the special landscape qualities (SLQs) of the National Park landscapes?	Landscape are where people, place and nature-based solutions connect. National Parks are recognised specifically for their 'Special Landscape Qualities' (SLQ) but it is acknowledged that landscapes will change in the future, partly to address community needs as well as the climate and nature crises. To reconcile these factors, this project seeks to equitably select options for change that will have the most positive effects on the SLQs of the National Park which are most important to local communities.	+	Multiple innovative methods will be used to engage with all sectors of society (not just those confident or familiar with expressing their views) and the outputs will include written descriptions, maps, illustrations, statistics and a predictive model. The project will engage with all communities that have an interest in the Cairngorms National Park landscape (living within and outwith the park) to obtain robust data on how different people perceive, experience and value the SLQs, subsequently facilitating people to be more involved in their community's governance and practical activity.	Participatory mapping and visualisation could be used to allow communities to visually express their perceptions and values related to SLQs. This could involve mapping exercises where community members identify and mark areas of significance, create collages or mood boards representing their experiences, or use digital platforms to share their stories and connections to the landscape. These visual outputs can serve as powerful tools for communication and understanding.	++	
7a	Will there be an effect on landscape character and local distinctiveness?	Yes, the Communities and Landscape Change project is likely to have an effect on landscape character and local distinctiveness. By engaging with all sectors of society and obtaining robust data on how different people perceive, experience, and value the Special Landscape Qualities (SLQs) of the Cairngorms National Park landscape, the project can direct landscape change in the Park to reflect local interest.	+	Through the use of innovative methods such as written descriptions, maps, illustrations, and statistics, the project can capture the diverse perspectives and experiences of the community members. This data can help identify the elements that contribute to the landscape character and local distinctiveness, such as iconic landmarks, cultural heritage sites, traditional land uses, and unique natural features.	It may be useful to ensure that the collected data is comprehensively analyzed and interpreted to identify common themes, patterns, and areas of agreement or disagreement regarding landscape character and local distinctiveness. A Q methodology approach may be appropriate as it is highly suited to problems of complexity, where there are multiple and differing views, or contentious or sensitive viewpoints on a topic.	++	
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?	Yes, the Communities and Landscape Change project is likely to have an effect on the historic and cultural environment and assets, including linguistic aspects, within the Cairngorms National Park. The project's focus on engaging with all communities and obtaining robust data on how different people perceive, experience, and value the special landscape qualities (SLQs) will inherently involve the exploration and documentation of the area's historical and cultural heritage.	+	By integrating these approaches into the Communities and Landscape Change project, there may be a positive effect on the understanding, preservation, and celebration of the historic and cultural environment and assets, including linguistic aspects, within the Cairngorms National Park.	Facilitating oral history projects to capture the stories, memories, and traditional knowledge of local communities could be used to ensure a high-quality study of the area's linguistic heritage. Engaging with older generations, who possess valuable information about the area's cultural heritage, including traditional practices, dialects, and linguistic elements can also be valuable. These narratives can contribute to a better understanding and appreciation of the region's cultural history.	++	
8a	Will there be an effect on housing for local needs?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?	Yes, the Communities and Landscape Change project is likely to have an effect on recreation and active travel opportunities that support healthier lifestyles within the Cairngorms National Park. The project's aim, to engage with all sectors of society and obtain data on how people perceive and value the landscape, can help inform the development of recreational activities and infrastructure that promote active lifestyles and well-being.	+	With the landscapes of the park likely to change in the future, how aspects of the landscape are used, for differing recreational purposes, will need to be explored. From dog walking and associated impacts on protected species, to the angling and rock climbing communities, with their distinct opinions on what landscapes are preferable, it will be vital to try to navigate the discussion as equitably as possible.	A revealed-preferences valuation method may be trialled as it involves determining the value that consumers hold for an environmental good or service (i.e. outdoors recreation) by observing their purchase of goods in the market that directly (or indirectly) relate to an associated environmental quality. Collecting data on visitor numbers, user satisfaction and income raised via specific activities may help to inform future planning, infrastructure development, and improvements to ensure ongoing support for healthier lifestyles and active travel opportunities.	++	
8a	Will there be an effect on employment opportunities local to places of residence?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	

Assessor(s): <i>Insert assessor(s)'s name</i>							
Date of Assessment: <i>Insert date(s) of assessment</i>							
SECTION OF PLAN BEING ASSESSED: <i>(eg Vision, Policy X, Option 1A, etc)</i>							
6k. Changing Travel Behaviours							
ASSESSMENT OF ENVIRONMENTAL EFFECTS							
SEA objective	SEA sub-objective	Nature of effect <i>Insert a description of the nature of the potential effect the Option will have on the issue against the criteria set out by the SEA Objective. Include consideration of cumulative effects. Link to baseline information as necessary.</i>	Scoring: significance of effect before mitigation <i>Insert scoring for the significance of the environmental effect BEFORE mitigation (using the symbology in Table 1)</i>	Justification and/or reasoning for enhancement/mitigation recommendations	Recommended mitigation and enhancement: <i>Specific and actionable suggestions on how adverse effects will be mitigated and/or how enhancements will be used to create positive effects.</i>	Scoring: residual significance of effect after mitigation <i>Insert scoring for the residual significance of the environmental effect AFTER mitigation (using the symbology in Table 1)</i>	CNPA response to recommendation: <i>Either agree or disagree with recommended mitigation and enhancement (as proposed in column F). If disagreeing, provide justification as to why.</i>
1a	Will there be an effect on energy conservation and efficiency in new development?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on the production of renewable energy of appropriate scale for the Park?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on local production and use of materials and food produce?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on carbon sinks (such as woodlands and peatlands)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1a	Will there be an effect on travel that produces greenhouse gas emissions?	Yes, the implementation of the Changing Travel Behaviours Action Plan is expected to have a positive effect on travel behavior and, consequently, on the reduction of greenhouse gas emissions. The plan focuses on promoting active travel and sustainable transport options such as walking, wheeling, and cycling, which are low-carbon modes of transportation.	+	By encouraging more people to choose these environmentally friendly modes of transportation for their everyday journeys, the plan aims to reduce the reliance on private vehicles that contribute significantly to greenhouse gas emissions. Private vehicles, especially those powered by fossil fuels, are a major source of carbon dioxide and other greenhouse gases that contribute to climate change. By enabling a modal shift to active travel and sustainable transport, the plan seeks to decrease the overall carbon footprint associated with transportation in the Cairngorms National Park. It aims to achieve this by providing accessible and inclusive walking, wheeling, and cycling opportunities for residents and visitors, making these options more attractive and convenient compared to driving a car. The project also aligns with broader sustainability goals, including the reduction of transport-related carbon emissions, as part of the Cairngorms 2030 initiative. By placing active and sustainable travel at the heart of a greener future, the plan acknowledges the importance of mitigating the environmental impacts of transportation.	Overall, the Changing Travel Behaviours Action Plan is designed to change travel habits and encourage the adoption of low-carbon transportation options. By reducing reliance on private vehicles and promoting active travel and sustainable transport, the plan aims to have a positive effect on travel behaviors and contribute to the reduction of greenhouse gas emissions in the Cairngorms National Park.	++	
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on existing infrastructure and buildings?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
1b	Considering future implications of climate change (eg increased severity of weather resulting in more flooding, periods of drought and extremes of temperature), will there be an effect on infrastructure and buildings proposed in the Local Development Plan?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
2a	Will there be an effect on the levels of UK National Air Quality pollutants (e.g. NO _x , PM ₁₀ , PM _{2.5} , SO ₂)?	The Changing Travel Behaviours Action Plan in the Cairngorms National Park primarily focuses on promoting sustainable and active travel options to reduce greenhouse gas emissions. While these efforts can indirectly contribute to improvements in air quality, the specific impact on UK National Air Quality pollutants such as nitrogen dioxide (NO ₂), particulate matter (PM ₁₀ and PM _{2.5}), and sulfur dioxide (SO ₂) may vary.	+	Active travel modes like walking and cycling do not directly emit pollutants like NO ₂ , PM ₁₀ , PM _{2.5} , or SO ₂ . Therefore, by encouraging people to choose these modes of transport instead of private vehicles, the plan may help reduce local emissions of these pollutants. As a result, areas with increased active travel may experience improvements in air quality. Furthermore, the plan's emphasis on improving infrastructure and connectivity may have additional positive effects on air quality. For instance, by creating more pedestrian-friendly areas, introducing cycle lanes, and enhancing public transportation, the plan aims to reduce the overall reliance on cars. As a consequence, there may be fewer vehicles on the roads emitting pollutants and contributing to poor air quality. It is important to note that the direct impact on air quality will also depend on various factors such as the number of people adopting active travel, the reduction in private vehicle usage, and the prevailing air pollution levels in the region.	While the Changing Travel Behaviours Action Plan in the Cairngorms National Park primarily aims to reduce greenhouse gas emissions, the promotion of active travel and sustainable transport options can indirectly contribute to improvements in air quality. By reducing private vehicle usage and creating a supportive infrastructure, the plan may help decrease local emissions of pollutants like NO ₂ , PM ₁₀ , PM _{2.5} , and SO ₂ . To assess the specific impact on UK National Air Quality pollutants, it would be necessary to conduct comprehensive air quality monitoring before and after the implementation of the plan. This would help determine any changes in pollutant levels and their correlation with the promotion of sustainable and active travel.	++	
2a	Will there be an effect on the levels of other types of air pollution (eg particulates)?	The Changing Travel Behaviours Action Plan in the Cairngorms National Park, which promotes sustainable and active travel options, may have an effect on the levels of other types of air pollution, including particulate matter (PM) pollution.	+	Particulate matter can originate from various sources, including vehicle emissions, industrial processes, construction activities, and natural sources like dust and pollen. By encouraging active travel modes like walking and cycling and reducing the reliance on private vehicles, the Changing Travel Behaviours Action Plan aims to reduce the overall emissions of pollutants associated with transportation. Private vehicles, particularly those running on fossil fuels, can contribute significantly to particulate matter pollution through exhaust emissions and road dust resuspension. As a result, if the plan successfully promotes a shift towards sustainable travel options, there is a potential for a decrease in particulate matter pollution in the Cairngorms National Park. By reducing the number of vehicles on the road, the plan can help mitigate the emissions of particulates from vehicle exhausts and the disturbance of road dust.	The Changing Travel Behaviours Action Plan in the Cairngorms National Park has the potential to reduce particulate matter pollution by promoting sustainable and active travel options. By decreasing the number of vehicles on the road and mitigating emissions from exhaust and road dust, the plan can contribute to improving air quality. However, the specific impact on particulate matter pollution will depend on various factors, including the prevailing pollution sources in the area. Monitoring and analysis of particulate levels would be required to assess the plan's effectiveness in reducing this type of air pollution.	++	
3a	Will there be an effect on the water quality of rivers, lochs and ground-water from diffuse and point source pollution?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on the ability of river catchments to store water and the natural flood management services they provide?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3a	Will there be an effect on public water supplies?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3b	Will there be an effect on demand for water from development (residential and business)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3b	Will there be an effect on sustainable use of water resources?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
3c	Will there be an effect on the water environment from invasive non-native species?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on carbon rich soils, in particular peat?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on soil sealing, soil structure and soil loss?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on the levels of soil contamination?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on soil erosion and landslides?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
4a	Will there be an effect on geodiversity interests (eg GCRs)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on sustainable use of natural resources (eg water, timber, aggregates)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on the sustainable use and management of existing and proposed infrastructure (eg water, heat, energy or flood protection infrastructure)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
5a	Will there be an effect on the use of finite resources through the use of secondary and recycled materials?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on the favourable condition of areas protected for nature conservation?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on protected species?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on Cairngorms Nature Action Plan habitats and plants?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on Cairngorms Nature Action Plan bird, mammal and invertebrate species?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on wider biodiversity (outwith protected areas and the habitats and species identified in the CNAP) in the National Park?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on deer management practices that seek to reduce environmental effects?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
6a	Will there be an effect on land management practices that seek to avoid the introduction and spread of invasive non-native species and tree diseases?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
7a	Will there be an effect on the special landscape qualities (SLQs) of the National Park landscapes?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
7a	Will there be an effect on landscape character and local distinctiveness?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
7b	Will there be an effect on the historic and cultural environment and assets (including linguistic)?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
8a	Will there be an effect on housing for local needs?	No connectivity with the environmental Topic/Objective being assessed.	x	No connectivity with the environmental Topic/Objective being assessed.	No connectivity with the environmental Topic/Objective being assessed.	x	
8a	Will there be an effect on recreation and active travel opportunities that support healthier lifestyles?	Yes, the implementation of the Changing Travel Behaviours Action Plan in the Cairngorms National Park is expected to have a positive effect on recreation and active travel opportunities, ultimately supporting healthier lifestyles for residents and visitors.	+	The plan aims to promote sustainable and active travel options such as walking, cycling, and public transportation. By encouraging these modes of transportation, it creates opportunities for people to engage in physical activity as part of their daily travel routines. Walking and cycling, in particular, are forms of active transportation that provide numerous health benefits, including improved cardiovascular fitness, weight management, reduced risk of chronic diseases, and enhanced mental well-being. The plan also focuses on enhancing the infrastructure and facilities necessary to support active travel. This includes the development of walking and cycling paths, improved signage, and the provision of bike-sharing schemes. These initiatives make it easier and more convenient for individuals to choose active modes of transportation and engage in recreational activities. By providing alternative travel options and improving the infrastructure, the plan encourages people to incorporate physical activity into their daily lives. It supports recreational activities such as hiking, nature walks, cycling tours, and other outdoor pursuits that can be enjoyed within the beautiful landscapes of the Cairngorms National Park. These activities not only contribute to a healthier lifestyle but also allow individuals to connect with nature, reduce stress levels, and enhance overall well-being.	Overall, the Changing Travel Behaviours Action Plan is designed to create an environment that fosters healthier lifestyles through active travel and recreation. By providing opportunities for physical activity, promoting access to natural landscapes, and improving infrastructure, the plan encourages individuals to embrace active modes of transportation and engage in recreational activities that support their well-being.	++	
8a	Will there be an effect on employment opportunities local to places of residence?	Yes, the implementation of the Changing Travel Behaviours Action Plan in the Cairngorms National Park is expected to have an effect on employment opportunities local to places of residence. The plan's focus on promoting sustainable and active travel options can generate employment opportunities in various sectors.	+	By enhancing the travel experience and promoting sustainable modes of transportation, the plan aims to attract more visitors to the Cairngorms National Park. This can lead to increased demand for tourism and hospitality services, including accommodation, restaurants, cafes, guided tours, and outdoor activity providers. Local businesses can benefit from the growth in tourism and create job opportunities for residents in various roles, such as hotel staff, tour guides, chefs, and outdoor instructors. Encouraging active travel and reducing reliance on private vehicles can also contribute to the vitality of local businesses. As people choose to walk, cycle, or use public transportation, they are more likely to support local shops, cafes, and services located in their communities. This increased footfall can boost sales and create employment opportunities in retail, food services, and other sectors. The focus on reducing carbon emissions and promoting sustainable practices in transportation may also drive the demand for renewable energy and environmental services. Local businesses specializing in renewable energy installation, electric vehicle charging infrastructure, waste management, and environmental consulting can benefit from the transition towards sustainable travel behaviors.	Overall, the Changing Travel Behaviours Action Plan can have a positive impact on employment opportunities in the Cairngorms National Park. The plan's emphasis on active travel, tourism, sustainable transport, and local businesses creates a favourable environment for job creation. By promoting sustainable practices and supporting the local economy, the plan aims to enhance employment opportunities and contribute to the economic well-being of the communities within the park.	++	



13. Appendix C - Scoping Report Consultee Responses



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

By email to: sea_gateway@gov.scot

Nina Caudrey
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Our case ID: 300058899
Your ref: 01740 - Scoping
22 June 2022

Dear Nina Caudrey

[Environmental Assessment \(Scotland\) Act 2005](#)
[Cairngorms National Park Authority - Cairngorms 2030 plans](#)

Scoping Report

Thank you for your consultation which we received on 01 June 2022 about the above scoping report. We have reviewed this in our role as a Consultation Authority under the above Act. This letter contains our views on the scope and level of detail of the information to be included in the Environmental Report. Please note that our view is based on our main area of interest for the historic environment.

Scope and level of detail

We understand that this programme consists of a number of plans aimed at tackling issues such as climate change and the nature crisis. We note that the historic environment has been scoped into the assessment. On the basis of the information provided, we are content with this approach and are satisfied with the scope and level of detail proposed for the assessment, subject to the detailed comments provided in the attached annex.

Consultation period for the Environmental Report

We note that a consultation period of 6 to 8 weeks is proposed and we are content to agree with this timescale. Please note that, for administrative purposes, we consider that the consultation period commences on receipt of the relevant documents by the SEA Gateway.

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Andrew Stevenson who can be contacted by phone on 0131 668 8960 or by email on andrew.stevenson2@hes.scot.

Yours sincerely

Historic Environment Scotland

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

Annex

Topics Scoped In

We welcome that the historic environment has been scoped into the assessment. We note that it is considered under the heading of Landscape and Cultural Heritage which is in line with the prepared Environmental Assessment Topic Paper.

Environmental Baseline

The Environmental Assessment Topic Paper for Landscape and Cultural Heritage sets out an appropriate baseline for the assessment. It will be important that the assessment of the plans is tested against a baseline that is at a commensurate level. For example, where specific projects are proposed effects against specific assets can be considered (we note the commentary regarding forestry and peatlands suggests greater detail) as well as holistically considering the effects of such projects on the historic environment resource.

Methodology

A standard matrix approach to the assessment is proposed and we are content that this methodology is appropriate. In terms of the proposed environmental objectives and sub-objectives these will serve to test the content of the various plans and we particularly welcome the scoring of the assessment be prior to and following mitigation/enhancement.

In carrying out the assessment we would encourage the holistic consideration of effects on the historic environment, considering not just the effects that plan components can have on the historic environment but where the historic environment can actively aid in the delivery of plan aims, particularly in areas such as tourism, placemaking and active travel.

Relevant Plans, Programmes and Strategies

We welcome the inclusion of the [Historic Environment Policy for Scotland \(HEPS\)](#) here. In terms of the description of the policy document we would emphasise that HEPS contains the key policies and principles for the management of the historic environment and supports good decision making for all aspects of the historic environment, designated or not. We would also note that reference to SHEP should be updated to HEPS.

Historic Environment Scotland

22 June 2022



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E: SEA.Gateway@gov.scot

Nina Caudrey,
MRTPI,
Planning Officer (Development Planning and
Environmental Advice),
Cairngorms National Park Authority,
14 The Square,
Grantown on Spey,
PH26 3HG

Our ref: 01740 - Scoping - Cairngorms National Park Authority - Cairngorms 2030 plans

6th July 2022

Dear Nina Caudrey,

With reference to the Scoping report you submitted to the SEA Gateway on 1st June 2022.

In accordance with Section 15(2) of the **Environmental Assessment (Scotland) Act 2005** the Consultation Authorities have now considered the Scoping report you submitted. The individual responses from the Consultation Authorities to your report are attached to this letter.

As the Consultation Authorities have now expressed their views on the proposed scope and level of detail of the report, you should refer to the Act to consider what your next step should be. You should of course take into account the opinions offered by the Consultation Authorities.

Note, in accordance with Section 15(3) of the 2005 Act (when agreed) you are required to formally write to advise the Scottish Ministers of the period of consultation you intend to specify, both for the public and the Consultation Authorities.

If you have any queries or would like me to clarify any points, please call me on 07501497462.

Kind regards,

Clare Donnelly
SEA Gateway Administrator

